

# Sika AnchorFix®-1 N

## PRESTATIEVERKLARING

### Nr. 86553674

|    |                                                                                                          |                                                                             |
|----|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1  | UNIEKE IDENTIFICATIECODE<br>VAN HET PRODUCTTYPE:                                                         | 86553674                                                                    |
| 2  | BEOOGD(E) GEBRUIK(EN):                                                                                   | ETB 17/0327<br>Injectieankers voor gebruik in metselwerk                    |
| 3  | FABRIKANT:                                                                                               | Sika Services AG<br>Tüffenwies 16-22<br>8064 Zürich                         |
| 5  | HET SYSTEEM OF DE<br>SYSTEMEN VOOR DE<br>BEOORDELING EN<br>VERIFICATIE VAN DE<br>PRESTATIEBESTENDIGHEID: | Systeem 1                                                                   |
| 6b | EUROPEES<br>BEOORDELINGSDOCUMENT:                                                                        | ETAG 029, uitgave 2013, gebruikt als Europees<br>beoordelingsdocument (EBD) |
|    | Europese technische<br>beoordeling:                                                                      | ETB-17/0327                                                                 |
|    | Technische<br>beoordelingsinstantie:                                                                     | TECHNICKY A ZKUSEBNI USTAV STAVEBNI PRAHA s.p.                              |
|    | Aangemelde instantie(s):                                                                                 | 1020                                                                        |

#### Prestatieverklaring

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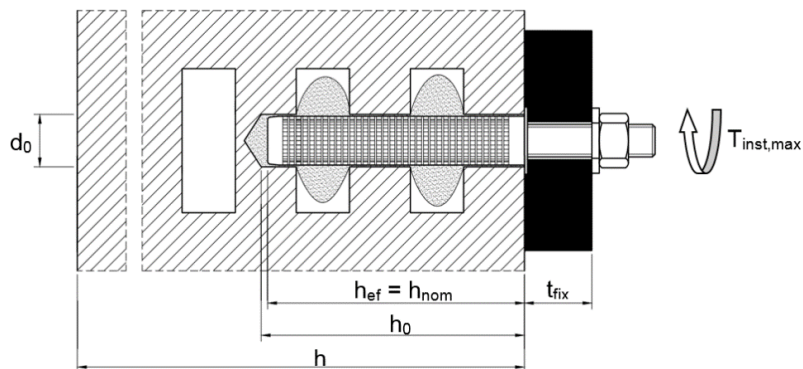
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## 7 AANGEGEVEN PRESTATIE(S)

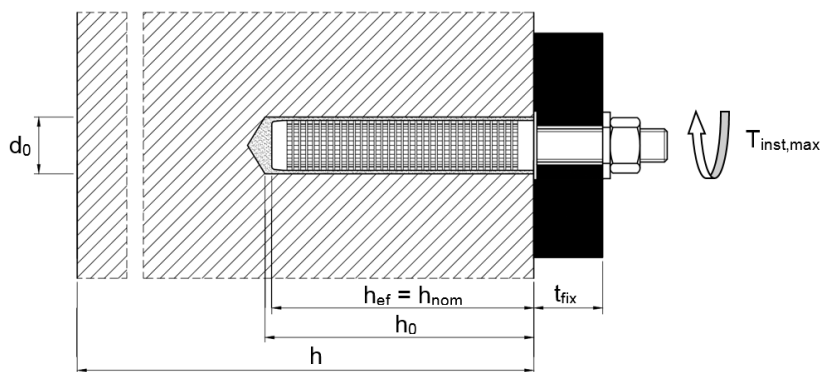
**Brandreactie** - ankers voldoen aan de eisen voor Klasse A1

**Brandwerendheid** - geen prestaties vastgesteld

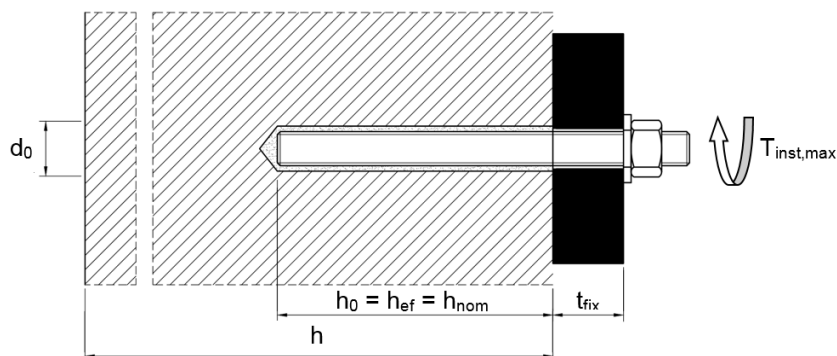
### Installatie in holle baksteen; draadstang met huls



### Installatie in massieve baksteen; draadstang met huls



### Installatie in massieve baksteen; draadstang zonder huls



$d_0$  = nominale boorgatdiameter  
 $t_{fix}$  = dikte van bevestiging  
 $T_{inst,max}$  = max. aanhaalmoment voor de installatie

$h$  = dikte van element  
 $h_0$  = diepte van boorgat aan schouder  
 $h_{ef}$  = effectieve verankeringsdiepte  
 $h_{nom}$  = totale verankeringsdiepte

### Prestatieverklaring

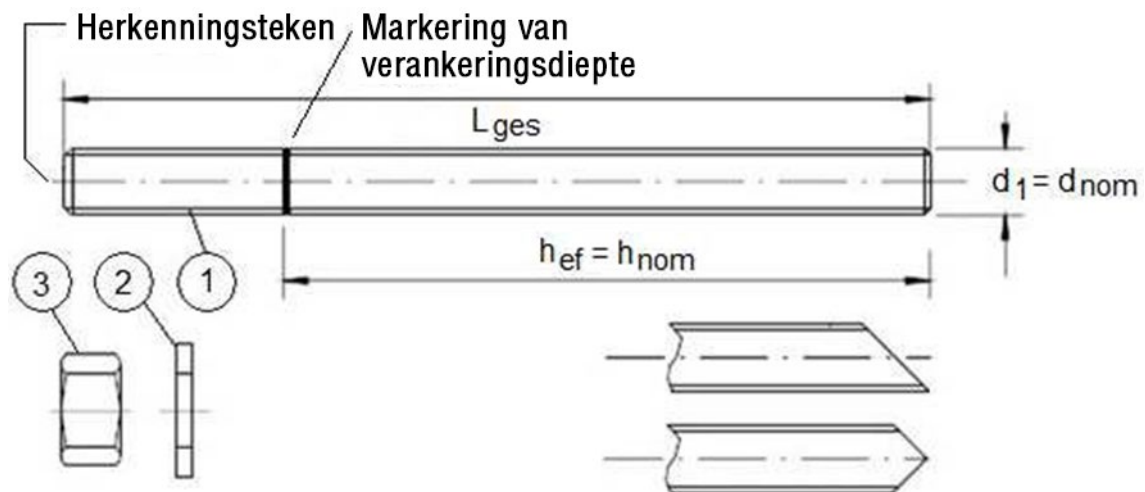
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## Draadstang M8 / M10 / M12 / M16



Commerciële standaard draadstang met:

- Materialen, afmetingen en mechanische eigenschappen in overeenst. met Tabel A1
- Keuringscertificaat 3.1 in overeenst. met EN 10204:2004. Het document moet worden bewaard.
- Markering van verankeringsdiepte

| Essentieel kenmerk | Prestaties                                 |
|--------------------|--------------------------------------------|
| Brandreactie       | Ankers voldoen aan de eisen voor Klasse A1 |
| Brandwerendheid    | Geen prestaties beoordeeld                 |

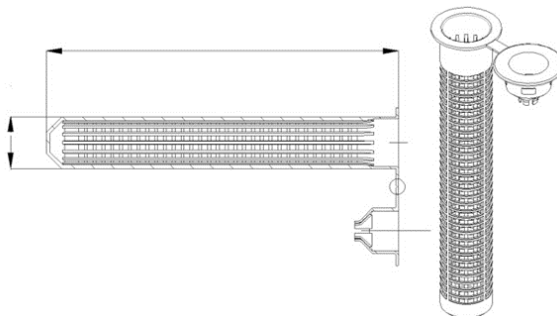
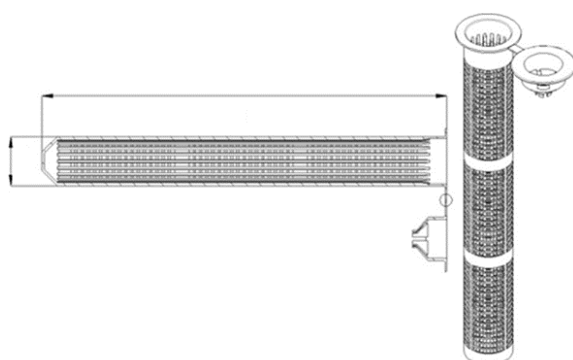
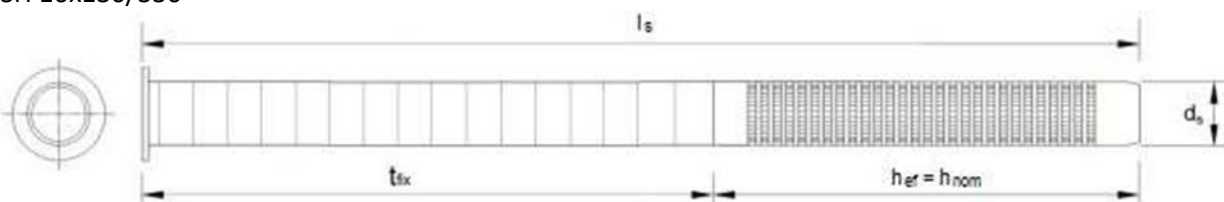
**Tabel A1: Materialen**

| Ond                                                                                                                                                                                                                     | Benaming                                                                             | Materiaal                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Staal, verzinkt <math>\geq 5 \mu\text{m}</math> in overeenst. met EN ISO 4042:2001 of staal, thermisch verzinkt <math>\geq 40 \mu\text{m}</math> in overeenst. met EN ISO 1461:2009 en EN ISO 10684:2011+AC:2009</b> |                                                                                      |                                                                                                                                                                                                                                                                     |
| 1                                                                                                                                                                                                                       | Ankerstang                                                                           | Staal, EN 10087:1998 of EN 10263:2001<br>Sterkteklasse 4.6, 4.8, 5.6, 5.8, 8.8 EN 1993-1-8:2005+AC:2009                                                                                                                                                             |
| 2                                                                                                                                                                                                                       | Zeskantmoer, EN ISO 4032:2012                                                        | Staal in overeenst. met EN 10087:1998 of EN 10263:2001<br>Sterkteklasse 4 (voor stang van klasse 4.6, 4.8) EN ISO 898-2:2012<br>Sterkteklasse 5 (voor stang van klasse 5.6, 5.8) EN ISO 898-2:2012<br>Sterkteklasse 8 (voor stang van klasse 8.8) EN ISO 898-2:2012 |
| 3                                                                                                                                                                                                                       | Sluitring, EN ISO 887:2006<br>EN ISO 7089:2000, EN ISO 7093:2000 of EN ISO 7094:2000 | Staal, verzinkt of thermisch verzinkt                                                                                                                                                                                                                               |
| <b>Roestvrij staal</b>                                                                                                                                                                                                  |                                                                                      |                                                                                                                                                                                                                                                                     |
| 1                                                                                                                                                                                                                       | Ankerstang                                                                           | Materiaal 1.4401 / 1.4404 / 1.4571, EN 10088-1:2014,<br>Sterkteklasse 70 EN ISO 3506-1:2009<br>Sterkteklasse 80 EN ISO 3506-1:2009                                                                                                                                  |
| 2                                                                                                                                                                                                                       | Zeskantmoer, EN ISO 4032:2012                                                        | Materiaal 1.4401 / 1.4404 / 1.4571 EN 10088-1:2014,<br>Sterkteklasse 70 (voor stang van klasse 70) EN ISO 3506-2:2009 Sterkteklasse 80 (voor stang van klasse 80) EN ISO                                                                                            |
| 3                                                                                                                                                                                                                       | Sluitring, EN ISO 887:2006<br>EN ISO 7089:2000, EN ISO 7093:2000 of EN ISO 7094:2000 | Materiaal 1.4401, 1.4404 of 1.4571, EN 10088-1:2014                                                                                                                                                                                                                 |
| <b>Zeer corrosiebestendig staal (HCR)</b>                                                                                                                                                                               |                                                                                      |                                                                                                                                                                                                                                                                     |
| 1                                                                                                                                                                                                                       | Ankerstang                                                                           | Materiaal 1.4529 / 1.4565, EN 10088-1:2014,<br>Sterkteklasse 70 EN ISO 3506-1:2009<br>Sterkteklasse 80 EN ISO 3506-1:2009                                                                                                                                           |
| 2                                                                                                                                                                                                                       | Zeskantmoer, EN ISO 4032:2012                                                        | Materiaal 1.4529 / 1.4565 EN 10088-1:2014,<br>Sterkteklasse 70 (voor stang van klasse 70) EN ISO 3506-2:2009 Sterkteklasse 80 (voor stang van klasse 80) EN ISO                                                                                                     |
| 3                                                                                                                                                                                                                       | Sluitring, EN ISO 887:2006<br>EN ISO 7089:2000, EN ISO 7093:2000 of EN ISO 7094:2000 | Materiaal 1.4529 / 1.4565, EN 10088-1:2014                                                                                                                                                                                                                          |

**Prestatieverklaring**

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## 1.1 HULS (KUNSTSTOF)

|                                     |                                                                                                              |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------|
| SH 12x80<br>SH 16x85<br>SH 20x85    | $l_s = h_{ef} = h_{nom}$   |
| SH 16x130<br>SH 20x130<br>SH 20x200 | $l_s = h_{ef} = h_{nom}$  |
| SH 16x130/330                       |                          |

**Tabel A2: Hulsmaten (mm)**

| Maat         | Huls          |               |                            |
|--------------|---------------|---------------|----------------------------|
|              | $d_s$<br>[mm] | $l_s$<br>[mm] | $h_{ef} = h_{nom}$<br>[mm] |
| SH12x80      | 12            | 80            | 80                         |
| SH16x85      | 16            | 85            | 85                         |
| SH16x130     | 16            | 130           | 130                        |
| SH16x130/330 | 16            | 330           | 130                        |
| SH20x85      | 20            | 85            | 85                         |
| SH20x130     | 20            | 130           | 130                        |
| SH20x200     | 20            | 200           | 200                        |

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**Ankers onderhevig aan:**

- Statische en quasi-statische belastingen

**Basismaterialen**

- Autoclaafgehard cellenbeton (Gebruikscategorie d) in overeenstemming met Bijlage B2.
- Metselwerk uit massieve bakstenen (Gebruikscategorie b), in overeenstemming met Bijlage B2 tot B4.
- Metselwerk uit holle bakstenen (Gebruikscategorie c), in overeenstemming met Bijlage B2 tot B4.
- Mortelsterkteklasse van het metselwerk minstens M2,5 in overeenstemming met EN 998-2:2010.
- Voor andere bakstenen in massief metselwerk en in hol of geperforeerd metselwerk kan de karakteristieke weerstand van het anker worden bepaald door tests op de werf in overeenstemming met ETAG 029, Bijlage B met inachtneming van de  $\beta$ -factor in overeenstemming met Bijlage C1, Tabel C1.

Opmerking: de karakteristieke weerstanden zijn ook geldig voor grotere baksteenformaten en een hogere drukvastheid van het metselwerk.

**Temperatuurbereik:**

- Ta: -40 °C tot +40 °C (max. temperatuur kortstondig +40 °C en max. temperatuur langdurig +24 °C)
- Tb: -40 °C tot +80 °C (max. temperatuur kortstondig +80 °C en max. temperatuur langdurig +50 °C)

**Gebruiksomstandigheden (omgevingsomstandigheden)**

- Droge en natte constructies (met betrekking tot injectiemortel).
- Constructies die onderhevig zijn aan droge omstandigheden binnen (verzinkt staal, roestvrij staal of zeer corrosiebestendig staal).
- Constructies die onderhevig zijn aan externe atmosferische blootstelling (met inbegrip van industriële en maritieme omgevingen) en permanent vochtige omstandigheden binnen, als er geen bijzondere agressieve omstandigheden zijn (roestvrij staal of zeer corrosiebestendig staal).
- Constructies die onderhevig zijn aan externe atmosferische blootstelling en permanent vochtige omstandigheden binnen, als er andere bijzondere agressieve omstandigheden zijn (zeer corrosiebestendig staal).

Opmerking: bijzondere agressieve omstandigheden zijn bv. permanente afwisselende onderdompeling in zeewater of de spatzone van zeewater, chlorideatmosfeer in overdekte zwembaden of omgevingen met extreme chemische verontreiniging (bijvoorbeeld in ontzwavelingsinstallaties of tunnels waar ontdooiprodukten worden gebruikt).

**Gebruikscategorieën met betrekking tot installatie en gebruik:**

- Categorie d/d: installatie en gebruik in droog metselwerk
- Categorie w/w: installatie en gebruik in nat metselwerk

**Ontwerp:**

- Verifieerbare berekeningsnotities en tekeningen worden vervaardigd rekening houdend met het relevante metselwerk in de buurt van de verankering, de over te dragen belastingen en de overdracht ervan op de steunen van de structuur. De positie van het anker wordt weergegeven op de ontwerptekeningen.
- De verankering wordt ontworpen in overeenstemming met ETAG 029, Bijlage C, Ontwerpmethode A onder de verantwoordelijkheid van een ingenieur die ervaring heeft met verankeringen en metselwerk.

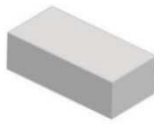
**Installatie:**

- Droge of natte constructies
- Ankers worden geïnstalleerd door naar behoren gekwalificeerde medewerkers en onder toezicht van de persoon die op de locatie verantwoordelijk is voor de technische aspecten.

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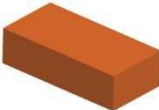
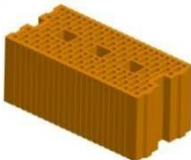
**Tabel B1: overzicht baksteentypes en -eigenschappen met overeenkomstige bevestigingselementen (ankers en hulzen)**

| Baksteenrnr.                                                              | Baksteentype                       | Afbeelding                                                                          | Baksteengrootte lengte x breedte x hoogte | Drukvastheid   | Bulkdichtheid | Type huls - anker                                                                                                                                                                          | Bijlage   |
|---------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------|----------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|                                                                           |                                    |                                                                                     | [mm]                                      |                |               |                                                                                                                                                                                            |           |
| Elementen uit autoclaafgehard cellenbeton in overeenstemming met EN 771-4 |                                    |                                                                                     |                                           |                |               |                                                                                                                                                                                            |           |
| 1                                                                         | Autoclaafgecellenbeton AAC6        |    | 499 x 240 x 249                           | 6              | 0,6           | M8 / M10 / M12 / M16                                                                                                                                                                       | C4 / C5   |
| Metselwerkelementen uit calciumsilicaat in overeenstemming met EN 771-2   |                                    |                                                                                     |                                           |                |               |                                                                                                                                                                                            |           |
| 2                                                                         | Massieve baksteen uit calciumsilic |    | 240 x 115 x 71                            | 10<br>20<br>27 | 2,0           | M8 / M10 / M12 / M16<br>SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16<br>SH 20x130 – M12 / M16<br>SH 20x200 – M12 / M16 | C6 / C7   |
| 3                                                                         | Holle baksteen uit calciumsilic    |   | 240 x 175 x 113                           | 8<br>12<br>14  | 1,4           | SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16<br>SH 20x200 – M12 / M16                         | C8 / C9   |
| 4                                                                         | Holle baksteen uit calciumsilic    |  | 498 x 175 x 238                           | 10<br>12<br>16 | 1,4           | SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16<br>SH 20x130 – M12 / M16<br>SH 20x200 – M12 / M16                         | C10 / C11 |

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**Tabel B1: overzicht baksteentypes en -eigenschappen met overeenkomstige bevestigingselementen (ankers en hulzen)**

| Baksteennr.                                                  | Baksteentype                                           | Afbeelding                                                                          | Baksteengroot<br>te lengte x<br>breedte x<br>hoogte | Drukvastheid       | Bulkdichtheid | Type huls - anker                                                                                                                                                                          | Bijlage      |
|--------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
|                                                              |                                                        |                                                                                     | [mm]                                                | [N/mm²]            | [kg/dm³]      |                                                                                                                                                                                            |              |
| Metselwerkelementen uit klei in overeenstemming met EN 771-1 |                                                        |                                                                                     |                                                     |                    |               |                                                                                                                                                                                            |              |
| 5                                                            | Massieve<br>baksteen<br>uit klei<br>Mz – DF            |    | 240 x 115 x 55                                      | 10<br>20<br>28     | 1,64          | M8 / M10 / M12 / M16<br>SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16 SH<br>20x200 – M12 / M16 | C12 /<br>C13 |
| 6                                                            | Holle<br>baksteen<br>uit klei<br>HLz-16DF              |    | 497 x 240 x 238                                     | 6<br>9<br>12<br>14 | 0,83          | SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16 SH<br>20x200 – M12 / M16                         | C14 /<br>C15 |
| 7                                                            | Holle<br>baksteen uit<br>klei<br>Porotherm<br>Homebric |   | 500 x 200 x 299                                     | 6<br>8<br>10       | 0,68          | SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                                                  | C16 /<br>C17 |
| 8                                                            | Holle<br>baksteen<br>uit klei<br>BGV Thermo            |  | 500 x 200 x 314                                     | 4<br>6<br>10       | 0,62          | SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                                                  | C18 /<br>C19 |
| 9                                                            | Holle<br>baksteen<br>uit klei<br>Calibric Th           |  | 500 x 200 x 314                                     | 6<br>9<br>12       | 0,62          | SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                                                  | C20 /<br>C21 |
| 10                                                           | Holle<br>baksteen uit<br>klei<br>Urbanbric             |  | 560 x 200 x 274                                     | 6<br>9             | 0,74          | SH 12x80 – M8<br>SH 16x85 – M8 / M10 SH<br>16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                                                  | C22 /<br>C23 |

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**Tabel B1: overzicht baksteentypes en -eigenschappen met overeenkomstige bevestigingselementen (ankers en hulzen)**

| Baksteenr.                                                   | Baksteentype                               | Afbeelding                                                                          | Baksteengrootte<br>te lengte x<br>breedte x<br>hoogte | Drukvastheid         | Bulkdichtheid | Type huls - anker                                                                                                                     | Bijlage   |
|--------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------|
|                                                              |                                            |                                                                                     | [mm]                                                  | [N/mm²]              | [kg/dm³]      |                                                                                                                                       |           |
| Metselwerkelementen uit klei in overeenstemming met EN 771-1 |                                            |                                                                                     |                                                       |                      |               |                                                                                                                                       |           |
| 11                                                           | Holle baksteen uit klei<br>Blocchi Leggeri |    | 250 x 120 x 250                                       | 4<br>6<br>8          | 0,55          | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16<br>SH 20x130 – M12 / | C24 / C25 |
| 12                                                           | Holle baksteen uit klei<br>Doppio Uni      |    | 250 x 120 x 120                                       | 10<br>16<br>20<br>28 | 0,92          | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16<br>SH 20x130 – M12 / | C26 / C27 |
| Licht beton in overeenstemming met EN 771-3                  |                                            |                                                                                     |                                                       |                      |               |                                                                                                                                       |           |
| 13                                                           | Hol licht beton Bloc creux B40             |   | 494 x 200 x 190                                       | 4                    | 0,80          | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 /                          | C28 / C29 |
| 14                                                           | Massief licht beton                        |  | 300 x 123 x 248                                       | 2                    | 0,63          | M8 / M10 / M12 / M16                                                                                                                  | C30 / C31 |
| 15                                                           | Hol licht Leca Lex harkko RUH-200          |  | 498 x 200 x 195                                       | 2,7                  | 0,62          | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 /                          | C32 / C33 |
| 16                                                           | Massief licht Leca Lex RUH-200 Kulma       |  | 498 x 200 x 195                                       | 3                    | 0,62          | M8 / M10 / M12 / M16<br>SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 /  | C34 / C35 |

## Installatie: staalborstel



**Tabel B2: installatie in autoclaafgehard cellenbeton AAC en massief metselwerk (zonder huls)**

| Draadstang                         |           |      | M8                                                 | M10  | M12  | M16  |
|------------------------------------|-----------|------|----------------------------------------------------|------|------|------|
| Nominale boorgatdiameter           | d0        | [mm] | 10                                                 | 12   | 14   | 18   |
| Boorgatdiepte                      | h0        | [mm] | 80                                                 | 90   | 100  | 100  |
| Effectieve verankeringsdiepte      | hef =     | [mm] | 80                                                 | 90   | 100  | 100  |
| Minimale muurdikte                 | hmin      | [mm] | hef +                                              |      |      |      |
| Diameter van gat in de bevestiging | df ≤      | [mm] | 9                                                  | 12   | 14   | 18   |
| Diameter van staalborstel          | db        | [mm] | 12                                                 | 14   | 16   | 20   |
| Minimale diameter van staalborstel | db,min    | [mm] | 10,5                                               | 12,5 | 14,5 | 18,5 |
| Max. aanhaalmoment                 | Tinst,max | [Nm] | Zie parameters van baksteen Bijlage C4 tot Bijlage |      |      |      |

**Tabel B3: installatieparameters in massief en hol metselwerk (met huls)**

| Draadstang                         |           |      | M8                                                     | M8 / M10          |                 |                            | M12 /               |                 |                 |
|------------------------------------|-----------|------|--------------------------------------------------------|-------------------|-----------------|----------------------------|---------------------|-----------------|-----------------|
| Huls                               |           | [mm] | VM-<br>SH12x80                                         | VM-<br>SH16x85    | VM-<br>SH16x130 | VM-<br>SH16x130<br>/ 330   | VM-<br>SH20x85      | VM-<br>SH20x130 | VM-<br>SH20x200 |
| Nominale boorgatdiameter           | d0        | [mm] | 12                                                     | 16                | 16              | 16                         | 20                  | 20              | 20              |
| Boorgatdiepte                      | ho        | [mm] | 85                                                     | 90                | 135             | 135<br>+tf <sub>x</sub> 1) | 90                  | 135             | 205             |
| Effectieve verankeringsdiepte      | hef =     | [mm] | 80                                                     | 85                | 130             | 130                        | 85                  | 130             | 200             |
| Minimale muurdikte                 | hmin      | [mm] | 115                                                    | 115               | 175             | 175                        | 115                 | 175             | 240             |
| Diameter van gat in de bevestiging | df ≤      | [mm] | 9                                                      | 9 (M8) / 12 (M10) |                 |                            | 14 (M12) / 18 (M16) |                 |                 |
| Diameter van borstel               | db        | [mm] | 14                                                     | 18                |                 |                            | 22                  |                 |                 |
| Minimale diameter van staalborstel | db,min    | [mm] | 12,5                                                   | 16,5              |                 |                            | 20,5                |                 |                 |
| Max. aanhaalmoment                 | Tinst,max | [Nm] | Zie parameters van baksteen Bijlage C4 tot Bijlage C39 |                   |                 |                            |                     |                 |                 |

1) tfix < 200 mm

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**Tabel B4: maximale werktijd en minimale uithardingstijd**

| Temperatuur in het basismateriaal | Max. werktijd    | Min. uithardi |
|-----------------------------------|------------------|---------------|
| -5 °C tot -1 °C                   | 90 min           | 6 u           |
| 0 °C tot +4 °C                    | 45 min           | 3 u           |
| +5 °C tot +9 °C                   | 25 min           | 2 u           |
| +10 °C tot +14 °C                 | 20 min           | 100 min       |
| +15 °C tot +19 °C                 | 15 min           | 80 min        |
| +20 °C tot +29 °C                 | 6 min            | 45 min        |
| +30 °C tot +34 °C                 | 4 min            | 25 min        |
| +35 °C tot +39 °C                 | 2 min            | 20 min        |
| Patroontemperatuur                | +5 °C tot +40 °C |               |

**Tabel C1:  $\beta$ -factoren voor tests op de werf onder spanningsbelasting**

| Baksteennr. | Installatie en gebruikscategorie | Anker grootte    | $\beta$ -factor   |                   |
|-------------|----------------------------------|------------------|-------------------|-------------------|
|             |                                  |                  | Ta: 24 °C / 40 °C | Tb: 50 °C / 80 °C |
| 1-3         | d/d                              | M8               | 0,82              | 0,70              |
|             |                                  | M10              |                   |                   |
|             |                                  | M12              | 0,70              | 0,60              |
|             |                                  | M16              |                   |                   |
|             | w/w                              | M8               | 0,82              | 0,70              |
|             |                                  | M10              | 0,63              | 0,54              |
|             |                                  | M12              | 0,48              | 0,41              |
|             |                                  | M16              |                   |                   |
| 4-18        | d/d<br>w/d<br>w/w                | Voor alle ankers | 0,72              | 0,50              |

**Tabel C2: karakteristieke spanning, afschuifsterkte en buigmoment van draadstang**

| Maat                                       |                    |      | M8   | M10 | M12 | M16 |
|--------------------------------------------|--------------------|------|------|-----|-----|-----|
| Karakteristieke spanningsweerstand         |                    |      |      |     |     |     |
| staal, sterkteklasse 4.6                   | NR <sub>k,s</sub>  | [kN] | 15   | 23  | 34  | 63  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 2,0  |     |     |     |
| staal, sterkteklasse 4.8                   | NR <sub>k,s</sub>  | [kN] | 15   | 23  | 34  | 63  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,5  |     |     |     |
| staal, sterkteklasse 5.6                   | NR <sub>k,s</sub>  | [kN] | 18   | 29  | 42  | 79  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 2,0  |     |     |     |
| staal, sterkteklasse 5.8                   | NR <sub>k,s</sub>  | [kN] | 18   | 29  | 42  | 79  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,5  |     |     |     |
| staal, sterkteklasse 8.8                   | NR <sub>k,s</sub>  | [kN] | 29   | 46  | 67  | 126 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,5  |     |     |     |
| Roestvrij staal A4 / HCR, sterkteklasse 70 | NR <sub>k,s</sub>  | [kN] | 26   | 41  | 59  | 110 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,87 |     |     |     |
| Roestvrij staal A4 / HCR, sterkteklasse 80 | NR <sub>k,s</sub>  | [kN] | 29   | 46  | 67  | 126 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,6  |     |     |     |
| Karakteristieke afschuifsterkte            |                    |      |      |     |     |     |
| staal, sterkteklasse 4.6                   | VR <sub>k,s</sub>  | [kN] | 7    | 12  | 17  | 31  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,67 |     |     |     |
| staal, sterkteklasse 4.8                   | VR <sub>k,s</sub>  | [kN] | 7    | 12  | 17  | 31  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,25 |     |     |     |
| staal, sterkteklasse 5.6                   | VR <sub>k,s</sub>  | [kN] | 9    | 15  | 21  | 39  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,67 |     |     |     |
| staal, sterkteklasse 5.8                   | VR <sub>k,s</sub>  | [kN] | 9    | 15  | 21  | 39  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,25 |     |     |     |
| staal, sterkteklasse 8.8                   | VR <sub>k,s</sub>  | [kN] | 15   | 23  | 34  | 63  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,25 |     |     |     |
| Roestvrij staal A4 / HCR, sterkteklasse 70 | VR <sub>k,s</sub>  | [kN] | 13   | 20  | 30  | 55  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,56 |     |     |     |
| Roestvrij staal A4 / HCR, sterkteklasse 80 | VR <sub>k,s</sub>  | [kN] | 15   | 23  | 34  | 63  |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,33 |     |     |     |
| Karakteristiek buigmoment                  |                    |      |      |     |     |     |
| staal, sterkteklasse 4.6                   | MR <sub>k,s</sub>  | [Nm] | 15   | 30  | 52  | 133 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,67 |     |     |     |
| staal, sterkteklasse 4.8                   | MR <sub>k,s</sub>  | [Nm] | 15   | 30  | 52  | 133 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,25 |     |     |     |
| staal, sterkteklasse 5.6                   | MR <sub>k,s</sub>  | [Nm] | 19   | 37  | 65  | 166 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,67 |     |     |     |
| staal, sterkteklasse 5.8                   | MR <sub>k,s</sub>  | [Nm] | 19   | 37  | 65  | 166 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,25 |     |     |     |
| staal, sterkteklasse 8.8                   | MR <sub>k,s</sub>  | [Nm] | 30   | 60  | 105 | 266 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,25 |     |     |     |
| Roestvrij staal A4 / HCR, sterkteklasse 70 | MR <sub>k,s</sub>  | [Nm] | 26   | 52  | 92  | 232 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,56 |     |     |     |
| Roestvrij staal A4 / HCR, sterkteklasse 80 | MR <sub>k,s</sub>  | [Nm] | 30   | 60  | 105 | 266 |
|                                            | γ <sub>Ms1</sub> ) | [-]  | 1,33 |     |     |     |

1) Bij afwezigheid van nationale regelgevingen

**Prestatieverklaring**

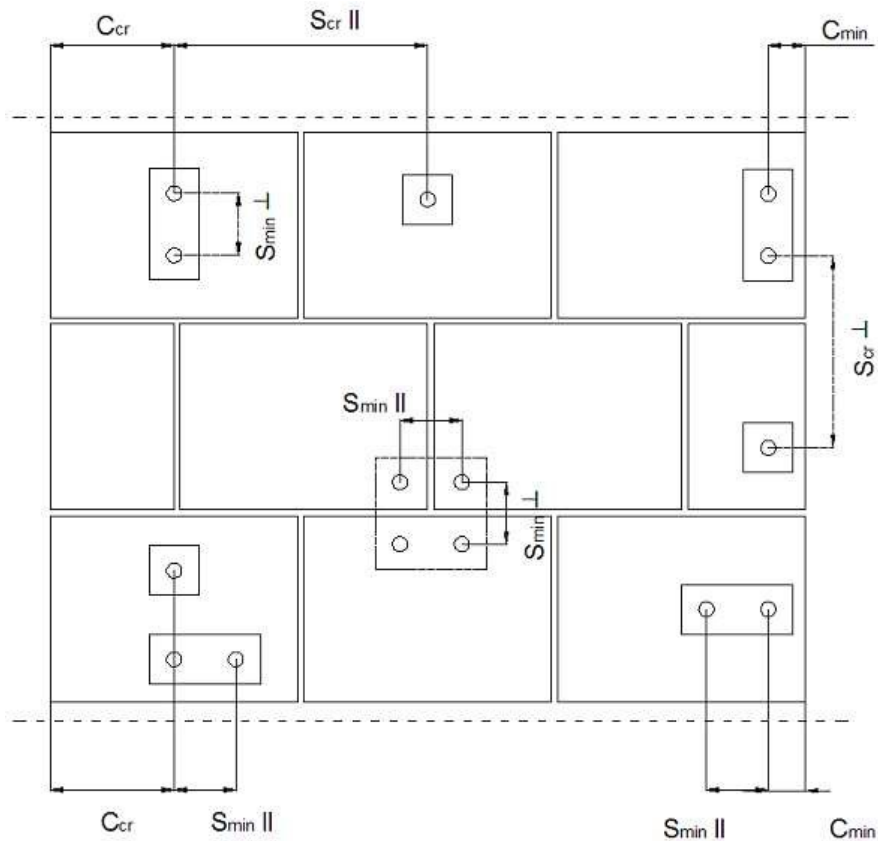
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## Tussenruimten en randafstanden



$C_{cr}$  = Karakteristieke randafstand

$s_{cr II}$  = Karakteristieke tussenruimte evenwijdig met de laagvoeg

$s_{cr \perp}$  = Karakteristieke tussenruimte loodrecht op de

laagvoeg  $c_{min}$  = Minimale randafstand

$s_{min II}$  = Minimale tussenruimte evenwijdig met de laagvoeg

$s_{min \perp}$  = Minimale tussenruimte loodrecht op de laagvoeg

### Prestatieverklaring

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## Baksteentype: autoclaafgehard cellenbeton AAC6 Tabel

### C3: beschrijving

|                         |                                  |                                                                                     |
|-------------------------|----------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype            | Autoclaafgehard cellenbeton AAC6 |  |
| Bulkdichtheid [kg/dm³]  | 0,60                             |                                                                                     |
| Drukvastheid [N/mm²]    | 6                                |                                                                                     |
| Code                    | EN 771-4                         |                                                                                     |
| Producent (landcode)    | bv. Porit (DE)                   |                                                                                     |
| Baksteenafmetingen [mm] | 499 x 240 x 249                  |                                                                                     |
| Boormethode             | Roterende boring                 |                                                                                     |

**Tabel C4: installatieparameter (randafstanden en tussenruimten)**

| Anker grootte | Effectieve verankeringsdiepte | Randafstand | Tussenruimte         | Maximaal aanhaalmoment voor de installatie |
|---------------|-------------------------------|-------------|----------------------|--------------------------------------------|
|               | hef                           | cmin = ccr  | scr = smin II = smin | Tinst,m                                    |
|               | [mm]                          |             |                      | [Nm]                                       |
| <b>M8</b>     | 80                            | 120         | 240                  | 2                                          |
| <b>M10</b>    | 90                            | 135         | 270                  |                                            |
| <b>M12</b>    | 100                           | 150         | 300                  |                                            |
| <b>M16</b>    | 100                           | 150         | 300                  |                                            |

**Tabel C5: verplaatsing**

| Effectieve verankeringsdiepte<br>$h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_\infty$ | V                                   | $\delta v_0$ | $\delta v_\infty$ |
|-------------------------------------------|-------------------------------------|--------------|-------------------|-------------------------------------|--------------|-------------------|
| [mm]                                      | [kN]                                | [mm]         | [mm]              | [kN]                                | [mm]         | [mm]              |
| 80                                        | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,54         | 1,09              | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 0,32         | 0,48              |
| 90                                        |                                     | 0,85         | 1,69              |                                     | 1,49         | 2,23              |
| 100                                       |                                     | 0,10         | 0,19              |                                     | 1,67         | 2,50              |

### Prestatieverklaring

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**Baksteentype: autoclaafgehard cellenbeton AAC6**

**Tabel C6: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker <span>grootte</span>                        | Effectieve<br>verankerin<br>gsdiepte | Karakteristieke<br>Gebruikscategorie |                   |                   |                   |                                 |
|---------------------------------------------------|--------------------------------------|--------------------------------------|-------------------|-------------------|-------------------|---------------------------------|
|                                                   |                                      | d/d                                  |                   | w/d<br>w/w        |                   | d/d<br>w/d<br>w/w               |
|                                                   |                                      | 40 °C / 24 °C                        | 80 °C / 50 °C     | 40 °C / 24 °C     | 80 °C / 50 °C     | Voor elk<br>temperatuur         |
|                                                   |                                      | N <sub>Rk,1</sub>                    | N <sub>Rk,1</sub> | N <sub>Rk,1</sub> | N <sub>Rk,1</sub> | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                   | h <sub>ef</sub>                      |                                      |                   |                   |                   |                                 |
|                                                   | [mm]                                 | [kN]                                 |                   |                   |                   |                                 |
| Drukvastheid f <sub>b</sub> ≥ 6 N/mm <sup>2</sup> |                                      |                                      |                   |                   |                   |                                 |
| <b>M8</b>                                         | 80                                   | 2,0                                  | 2,0               | 2,0               | 2,0               | 5,5                             |
| <b>M10</b>                                        | 90                                   | 3,0                                  | 2,5               | 2,5               | 2,0               | 9,0                             |
| <b>M12</b>                                        | 100                                  | 4,5                                  | 3,5               | 3,0               | 2,5               | 9,0                             |
| <b>M16</b>                                        | 100                                  | 5,5                                  | 4,5               | 3,5               | 3,0               | 11,0                            |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

**Prestatieverklaring**

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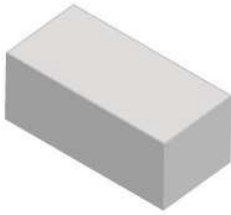
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# Baksteentype: massieve baksteen uit calciumsilicaat KS-NF

Tabel C7: beschrijving

|                         |                                             |                                                                                     |
|-------------------------|---------------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype            | Massieve baksteen uit calciumsilicaat KS-NF |  |
| Bulkdichtheid [kg/dm³]  | 2,0                                         |                                                                                     |
| Drukvastheid [N/mm²]    | 10, 20 of 27                                |                                                                                     |
| Code                    | EN 771-2                                    |                                                                                     |
| Producent (landcode)    | bv. Wemding (DE)                            |                                                                                     |
| Baksteenafmetingen [mm] | 240 x 115 x 71                              |                                                                                     |
| Boormethode             | Hamerboring                                 |                                                                                     |

Tabel C8: installatieparameter (randafstanden en tussenruimten)

| Anker grootte    | Huls          | Verankerings diepte | Randafstand        | Tussenruimte                          | Maximaal aanhaalmoment voor de installatie |
|------------------|---------------|---------------------|--------------------|---------------------------------------|--------------------------------------------|
|                  |               | $h_{ef}$            | $C_{min} = C_{cr}$ | $S_{cr} = S_{min II} = S_{min \perp}$ | $T_{inst,max}$                             |
|                  |               | [mm]                |                    |                                       | [Nm]                                       |
| <b>M8</b>        | -             | 80                  | 120                | 240                                   | 10                                         |
| <b>M10</b>       | -             | 90                  | 135                | 270                                   | 20                                         |
| <b>M12 / M16</b> | -             | 100                 | 150                | 300                                   |                                            |
| <b>M8</b>        | SH 12x80      | 80                  | 120                | 240                                   | 10                                         |
|                  | SH 16x85      | 85                  | 127                | 255                                   |                                            |
| <b>M10</b>       | SH 16x85      | 85                  | 127                | 255                                   | 20                                         |
| <b>M8 / M10</b>  | SH 16x130     | 130                 | 195                | 390                                   |                                            |
|                  | SH 16x130/330 | 130                 | 195                | 390                                   |                                            |
| <b>M12 / M16</b> | SH 20x85      | 85                  | 127                | 255                                   |                                            |
|                  | SH 20x130     | 130                 | 195                | 390                                   |                                            |
|                  | SH 20x200     | 200                 | 300                | 600                                   |                                            |

Tabel C9: verplaatsing

| Effectieve verankering diepte $h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_{\infty}$ | V                                   | $\delta V_0$ | $\delta V_{\infty}$ |
|----------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                   | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                     | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,08         | 0,16                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 3,07         | 4,61                |
| 85                                     |                                     | 0,26         | 0,52                |                                     | 1,46         | 2,19                |
| 90                                     |                                     | 0,09         | 0,18                |                                     | 1,50         | 2,25                |
| 100                                    |                                     | 0,10         | 0,20                |                                     | 1,03         | 1,53                |
| 130 ; 200                              |                                     | 0,22         | 0,44                |                                     | 1,16         | 1,74                |

## Prestatieverklaring

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**Baksteentype: massieve baksteen uit calciumsilicaat KS-NF**

**Tabel C10: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker grootte                             | Huls                    | Effectieve<br>verankerings-<br>diepte | Karakteristieke weerstand   |                    |                                   |
|-------------------------------------------|-------------------------|---------------------------------------|-----------------------------|--------------------|-----------------------------------|
|                                           |                         |                                       | Gebruikscategorie d/d; w/d; |                    |                                   |
|                                           |                         |                                       | 40 °C / 24 °C               | 80 °C / 50 °C      | Voor elk<br>temperatuur           |
|                                           |                         |                                       | N <sub>Rk 1</sub> )         | N <sub>Rk1</sub> ) | V <sub>Rk,b</sub> ) <sup>2)</sup> |
|                                           |                         | h <sub>ef</sub><br>[mm]               |                             |                    |                                   |
| Drukvastheid $f_b \geq 10 \text{ N/mm}^2$ |                         |                                       |                             |                    |                                   |
| M8                                        | -                       | 80                                    | 3,0                         | 2,0                | 3,0                               |
| M10                                       | -                       | 90                                    | 3,0                         | 2,0                | 3,0                               |
| M12                                       | -                       | 100                                   | 4,0                         | 2,5                | 3,5                               |
| M16                                       | -                       | 100                                   | 3,0                         | 2,0                | 3,5                               |
| M8                                        | SH 12x80                | 80                                    | 2,5                         | 2,0                | 2,5                               |
|                                           | SH 16x85                | 85                                    | 2,5                         | 2,0                | 3,0                               |
|                                           | SH16x130 / SH16x130/330 | 130                                   | 4,0                         | 2,5                | 4,0                               |
| M10                                       | SH 16x85                | 85                                    | 2,5                         | 2,0                | 3,0                               |
|                                           | SH16x130 / SH16x130/330 | 130                                   | 4,5                         | 3,0                | 4,0                               |
| M12 / M16                                 | SH 20x85                | 85                                    | 2,5                         | 2,0                | 3,0                               |
|                                           | SH 20x130 / SH 20x200   | 130 / 200                             | 4,5                         | 2,5                | 4,0                               |
| Drukvastheid $f_b \geq 20 \text{ N/mm}^2$ |                         |                                       |                             |                    |                                   |
| M8                                        | -                       | 80                                    | 4,5                         | 3,0                | 4,5                               |
| M10                                       | -                       | 90                                    | 4,5                         | 3,0                | 4,5                               |
| M12                                       | -                       | 100                                   | 5,5                         | 3,5                | 5,0                               |
| M16                                       | -                       | 100                                   | 4,5                         | 3,0                | 5,0                               |
| M8                                        | SH 12x80                | 80                                    | 4,0                         | 2,5                | 4,0                               |
|                                           | SH 16x85                | 85                                    | 4,0                         | 2,5                | 4,5                               |
|                                           | SH16x130 / SH16x130/330 | 130                                   | 6,0                         | 3,5                | 5,5                               |
| M10                                       | SH 16x85                | 85                                    | 4,0                         | 2,5                | 4,5                               |
|                                           | SH16x130 / SH16x130/330 | 130                                   | 6,0                         | 4,0                | 5,5                               |
| M12 / M16                                 | SH 20x85                | 85                                    | 4,0                         | 2,5                | 5,0                               |
|                                           | SH 20x130 / SH 20x200   | 130 / 200                             | 6,0                         | 4,0                | 5,5                               |
| Drukvastheid $f_b \geq 27 \text{ N/mm}^2$ |                         |                                       |                             |                    |                                   |
| M8                                        | -                       | 80                                    | 5,5                         | 3,5                | 5,0                               |
| M10                                       | -                       | 90                                    | 5,5                         | 3,5                | 5,5                               |
| M12                                       | -                       | 100                                   | 6,5                         | 4,5                | 6,0                               |
| M16                                       | -                       | 100                                   | 5,5                         | 3,5                | 6,0                               |
| M8                                        | SH 12x80                | 80                                    | 4,5                         | 3,0                | 4,5                               |
|                                           | SH 16x85                | 85                                    | 4,5                         | 3,0                | 5,5                               |
|                                           | SH16x130 / SH16x130/330 | 130                                   | 6,5                         | 4,5                | 6,5                               |
| M10                                       | SH 16x85                | 85                                    | 4,5                         | 3,0                | 5,5                               |
|                                           | SH16x130 / SH16x130/330 | 130                                   | 6,5                         | 4,5                | 6,5                               |
| M12 / M16                                 | SH 20x85                | 85                                    | 4,5                         | 3,0                | 5,5                               |
|                                           | SH 20x130 / SH 20x200   | 130 / 200                             | 6,5                         | 4,5                | 6,5                               |

**Prestatieverklaring**

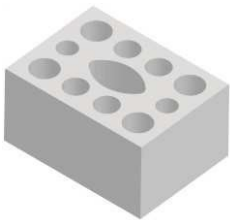
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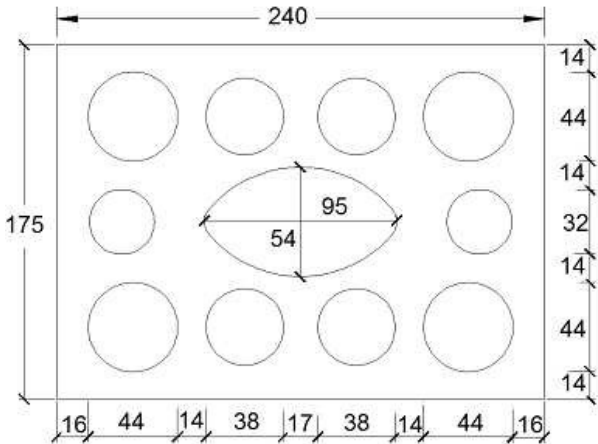
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**Baksteentype: holle baksteen uit calciumsilicaat KS L-3DF**
**Tabel C11: beschrijving**

|                                     |                                             |                                                                                     |
|-------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype                        | Holle baksteen uit calciumsilicaat KS L-3DF |  |
| Bulkdichtheid [kg/dm <sup>3</sup> ] | 1,4                                         |                                                                                     |
| Drukvastheid [N/mm <sup>2</sup> ]   | 8, 12 of 14                                 |                                                                                     |
| Code                                | EN 771-2                                    |                                                                                     |
| Producent (landcode)                | bv. Wemding (DE)                            |                                                                                     |
| Baksteenafmetingen [mm]             | 240 x 175 x 113                             |                                                                                     |
| Boormethode                         | Roterende boring                            |                                                                                     |

  

**Tabel C12: installatieparameter (randafstanden en tussenruimten)**

| Anker grootte    | Huls          | Verankeringsdiepte | Randafstand        | Tussenruimte          |                 | Maximaal aanhaalmoment voor de installatie |
|------------------|---------------|--------------------|--------------------|-----------------------|-----------------|--------------------------------------------|
|                  |               | $h_{ef}$           | $C_{min} = C_{cr}$ | $S_{cr} = S_{min II}$ | $S_{min \perp}$ | $T_{inst,max}$                             |
|                  |               |                    | [mm]               |                       |                 | [Nm]                                       |
| <b>M8</b>        | SH 12x80      | 80                 | 100                | 240                   | 113             | 8                                          |
| <b>M8 / M10</b>  | SH 16x85      | 85                 |                    |                       |                 |                                            |
|                  | SH 16x130     | 130                |                    |                       |                 |                                            |
|                  | SH 16x130/330 | 130                |                    |                       |                 |                                            |
| <b>M12 / M16</b> | SH 20x85      | 85                 | 120                | 240                   | 113             | 8                                          |
|                  | SH 20x130     | 130                |                    |                       |                 |                                            |
|                  | SH 20x200     | 200                |                    |                       |                 |                                            |

**Tabel C13: verplaatsing**

| Effectieve verankeringsdiepte $h_{ef}$ | <b>N</b>                            | $\delta N_0$ | $\delta N_{\infty}$ | <b>V</b>                            | $\delta v_0$ | $\delta v_{\infty}$ |
|----------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                   | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                     | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,36         | 0,73                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 0,82         | 1,23                |
| 85                                     |                                     | 1,62         | 3,24                |                                     | 1,83         | 2,75                |
| 130 ; 200                              |                                     | 1,70         | 3,40                |                                     | 1,98         | 2,98                |

**Prestatieverklaring**

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**Baksteentype: holle baksteen uit calciumsilicaat KS L-3DF**

**Tabel C14: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker grootte                                      | Huls                  | Effectieve<br>verankeringsdiepte | Karakteristieke weerstand           |                   |                                 |
|----------------------------------------------------|-----------------------|----------------------------------|-------------------------------------|-------------------|---------------------------------|
|                                                    |                       |                                  | Gebruikscategorie d/d<br>w/d<br>w/w |                   |                                 |
|                                                    |                       |                                  | 40 °C / 24 °C                       | 80 °C / 50 °C     | Voor elk<br>temperatuur         |
|                                                    |                       | h <sub>ef</sub>                  | N <sub>Rk 1)</sub>                  | N <sub>Rk1)</sub> | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                    |                       | [mm]                             | [kN]                                |                   |                                 |
| Drukvastheid f <sub>b</sub> ≥ 8 N/mm <sup>2</sup>  |                       |                                  |                                     |                   |                                 |
| M8                                                 | SH 12x80              | 80                               | 1,5                                 | 0,9               | 2,0                             |
|                                                    | SH 16x85              | 85                               | 1,5                                 | 0,9               | 2,5                             |
|                                                    | SH 16x130             | 130                              | 2,5                                 | 1,5               | 3,0                             |
|                                                    | SH 16x130/330         | 130                              | 2,5                                 | 1,5               | 3,0                             |
| M10                                                | SH 16x85              | 85                               | 1,5                                 | 0,9               | 2,5                             |
|                                                    | SH 16x130             | 130                              | 2,5                                 | 1,5               | 3,0                             |
|                                                    | SH 16x130/330         | 130                              | 2,5                                 | 1,5               | 3,0                             |
| M12                                                | SH 20x85              | 85                               | 1,5                                 | 0,9               | 3,0                             |
|                                                    | SH 20x130 / SH 20x200 | 130 / 200                        | 2,5                                 | 1,5               | 3,0                             |
| M16                                                | SH 20x85              | 85                               | 1,5                                 | 0,9               | 3,0                             |
|                                                    | SH 20x130 / SH 20x200 | 130 / 200                        | 2,5                                 | 1,5               | 4,0                             |
| Drukvastheid f <sub>b</sub> ≥ 12 N/mm <sup>2</sup> |                       |                                  |                                     |                   |                                 |
| M8                                                 | SH 12x80              | 80                               | 2,0                                 | 1,2               | 2,5                             |
|                                                    | SH 16x85              | 85                               | 2,0                                 | 1,2               | 3,5                             |
|                                                    | SH 16x130             | 130                              | 3,5                                 | 2,0               | 4,5                             |
|                                                    | SH 16x130/330         | 130                              | 3,5                                 | 2,0               | 4,5                             |
| M10                                                | SH 16x85              | 85                               | 2,0                                 | 1,2               | 3,5                             |
|                                                    | SH 16x130             | 130                              | 3,5                                 | 2,0               | 4,5                             |
|                                                    | SH 16x130/330         | 130                              | 3,5                                 | 2,0               | 4,5                             |
| M12                                                | SH 20x85              | 85                               | 2,0                                 | 1,2               | 3,5                             |
|                                                    | SH 20x130 / SH 20x200 | 130 / 200                        | 3,5                                 | 2,0               | 4,5                             |
| M16                                                | SH 20x85              | 85                               | 2,0                                 | 1,2               | 3,5                             |
|                                                    | SH 20x130 / SH 20x200 | 130 / 200                        | 3,5                                 | 2,0               | 5,0                             |
| Drukvastheid f <sub>b</sub> ≥ 14 N/mm <sup>2</sup> |                       |                                  |                                     |                   |                                 |
| M8                                                 | SH 12x80              | 80                               | 2,5                                 | 1,5               | 3,0                             |
|                                                    | SH 16x85              | 85                               | 2,5                                 | 1,5               | 4,0                             |
|                                                    | SH 16x130             | 130                              | 4,0                                 | 3,0               | 5,0                             |
|                                                    | SH 16x130/330         | 130                              | 4,0                                 | 3,0               | 5,0                             |
| M10                                                | SH 16x85              | 85                               | 2,5                                 | 1,5               | 4,0                             |
|                                                    | SH 16x130             | 130                              | 4,0                                 | 3,0               | 5,0                             |
|                                                    | SH 16x130/330         | 130                              | 4,0                                 | 3,0               | 5,0                             |
| M12                                                | SH 20x85              | 85                               | 2,5                                 | 1,5               | 4,5                             |
|                                                    | SH 20x130 / SH 20x200 | 130 / 200                        | 4,0                                 | 3,0               | 5,0                             |
| M16                                                | SH 20x85              | 85                               | 2,5                                 | 1,5               | 4,5                             |
|                                                    | SH 20x130 / SH 20x200 | 130 / 200                        | 4,0                                 | 3,0               | 6,0                             |

**Prestatieverklaring**

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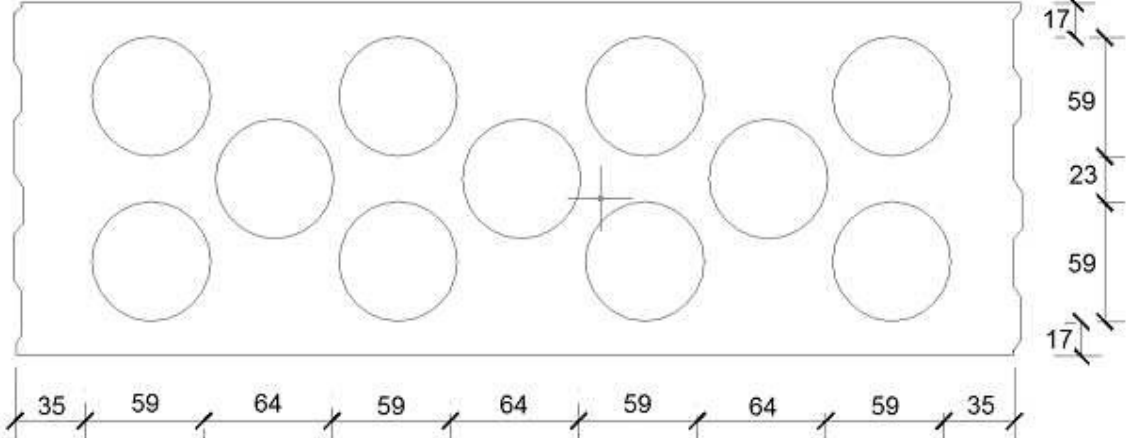
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**Baksteentype: holle baksteen uit calciumsilicaat KS L-12DF**
**Tabel C15: beschrijving**

|                                     |                                              |                                                                                     |
|-------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype                        | Holle baksteen uit calciumsilicaat KS L-12DF |  |
| Bulkdichtheid [kg/dm <sup>3</sup> ] | 1,40                                         |                                                                                     |
| Drukvastheid [N/mm <sup>2</sup> ]   | 10, 12 of 16                                 |                                                                                     |
| Code                                | EN 771-2                                     |                                                                                     |
| Producent (landcode)                | bv. Wemding (DE)                             |                                                                                     |
| Baksteenafmetingen [mm]             | 498 x 175 x 238                              |                                                                                     |
| Boormethode                         | Roterende boring                             |                                                                                     |

  

**Tabel C16: installatieparameter (randafstanden en tussenruimten)**

| Anker <span>grootte</span> | Huls          | Verankerings<br>diepte | Randafstand                        | Tussenruimte              |                    | Maximaal<br>aanhaalmoment voor<br>de installatie |
|----------------------------|---------------|------------------------|------------------------------------|---------------------------|--------------------|--------------------------------------------------|
|                            |               | h <sub>ef</sub>        | C <sub>min</sub> = C <sub>cr</sub> | Scr = S <sub>min</sub> II | S <sub>min</sub> ⊥ |                                                  |
|                            |               |                        | [mm]                               |                           |                    |                                                  |
| M8                         | SH 12x80      | 80                     | 100                                | 498                       | 238                | 2                                                |
| M8 / M10                   | SH 16x85      | 85                     |                                    |                           |                    | 4                                                |
|                            | SH 16x130     | 130                    |                                    |                           |                    |                                                  |
|                            | SH 16x130/330 | 130                    |                                    |                           |                    |                                                  |
| M12 / M16                  | SH 20x85      | 85                     | 120                                |                           |                    | 4                                                |
|                            | SH 20x130     | 130                    |                                    |                           |                    |                                                  |
|                            | SH 20x200     | 200                    |                                    |                           |                    |                                                  |

**Tabel C17: verplaatsing**

| Effectieve<br>verankering<br>gdiepte<br>h <sub>ef</sub> | N                                   | δN <sub>0</sub> | δN <sub>∞</sub> | V                                | δv <sub>0</sub> | δv <sub>∞</sub> |
|---------------------------------------------------------|-------------------------------------|-----------------|-----------------|----------------------------------|-----------------|-----------------|
| [mm]                                                    | [kN]                                | [mm]            | [mm]            | [kN]                             | [mm]            | [mm]            |
| 80                                                      | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,21            | 0,42            | $V_{Rk}$<br>$1,4 \cdot \gamma_M$ | 1,77            | 2,66            |
| 85                                                      |                                     | 0,13            | 0,26            |                                  | 3,89            | 5,83            |
| 130                                                     |                                     | 0,22            | 0,44            |                                  | 4,35            | 6,52            |

**Prestatieverklaring**

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**Baksteentype: holle baksteen uit calciumsilicaat KS L-12DF**
**Tabel C18: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker grootte                             | Huls                  | Effectieve<br>verankeringsdiepte<br>$e$ | Karakteristieke weerstand           |               |                         |
|-------------------------------------------|-----------------------|-----------------------------------------|-------------------------------------|---------------|-------------------------|
|                                           |                       |                                         | Gebruikscategorie d/d<br>w/d<br>w/w |               |                         |
|                                           |                       |                                         | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk<br>temperatuur |
|                                           |                       |                                         | $N_{Rk1}$                           | $N_{Rk1}$     | $V_{Rk,b}^{2)}$         |
|                                           |                       | [mm]                                    | [kN]                                |               |                         |
| Drukvastheid $f_b \geq 10 \text{ N/mm}^2$ |                       |                                         |                                     |               |                         |
| M8                                        | SH 12x80              | 80                                      | 0,4                                 | 0,3           | 3,0                     |
|                                           | SH 16x85              | 85                                      | 1,2                                 | 0,9           | 6,0                     |
|                                           | SH 16x130             | 130                                     | 3,5                                 | 2,5           | 7,0                     |
|                                           | SH 16x130/330         | 130                                     | 3,5                                 | 2,5           | 7,0                     |
| M10                                       | SH 16x85              | 85                                      | 1,2                                 | 0,9           | 6,0                     |
|                                           | SH 16x130             | 130                                     | 3,5                                 | 2,5           | 7,0                     |
|                                           | SH 16x130/330         | 130                                     | 3,5                                 | 2,5           | 7,0                     |
| M12 / M16                                 | SH 20x85              | 85                                      | 1,2                                 | 0,9           | 6,0                     |
|                                           | SH 20x130 / SH 20x200 | 130 / 200                               | 3,5                                 | 2,5           | 7,0                     |
| Drukvastheid $f_b \geq 12 \text{ N/mm}^2$ |                       |                                         |                                     |               |                         |
| M8                                        | SH 12x80              | 80                                      | 0,4                                 | 0,3           | 3,5                     |
|                                           | SH 16x85              | 85                                      | 1,5                                 | 0,9           | 7,0                     |
|                                           | SH 16x130             | 130                                     | 4,5                                 | 3,0           | 8,0                     |
|                                           | SH 16x130/330         | 130                                     | 4,5                                 | 3,0           | 8,0                     |
| M10                                       | SH 16x85              | 85                                      | 1,5                                 | 0,9           | 7,0                     |
|                                           | SH 16x130             | 130                                     | 4,5                                 | 3,0           | 8,0                     |
|                                           | SH 16x130/330         | 130                                     | 4,5                                 | 3,0           | 8,0                     |
| M12 / M16                                 | SH 20x85              | 85                                      | 1,5                                 | 0,9           | 7,0                     |
|                                           | SH 20x130 / SH 20x200 | 130 / 200                               | 4,5                                 | 3,0           | 8,0                     |
| Drukvastheid $f_b \geq 16 \text{ N/mm}^2$ |                       |                                         |                                     |               |                         |
| M8                                        | SH 12x80              | 80                                      | 0,5                                 | 0,4           | 4,0                     |
|                                           | SH 16x85              | 85                                      | 2,0                                 | 1,2           | 9,0                     |
|                                           | SH 16x130             | 130                                     | 5,5                                 | 3,5           | 10,0                    |
|                                           | SH 16x130/330         | 130                                     | 5,5                                 | 3,5           | 10,0                    |
| M10                                       | SH 16x85              | 85                                      | 2,0                                 | 1,2           | 9,0                     |
|                                           | SH 16x130             | 130                                     | 5,5                                 | 3,5           | 10,0                    |
|                                           | SH 16x130/330         | 130                                     | 5,5                                 | 3,5           | 10,0                    |
| M12 / M16                                 | SH 20x85              | 85                                      | 2,0                                 | 1,2           | 8,5                     |
|                                           | SH 20x130 / SH 20x200 | 130 / 200                               | 5,5                                 | 3,5           | 10,0                    |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

**Prestatieverklaring**

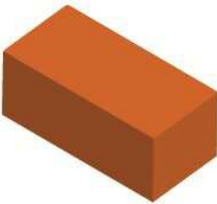
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**Baksteentype: massieve baksteen uit klei Mz-DF**
**Tabel C19: beschrijving**

|                         |                            |                                                                                     |
|-------------------------|----------------------------|-------------------------------------------------------------------------------------|
| Baksteentype            | Massieve baksteen uit klei |  |
| Bulkdichtheid [kg/dm³]  | 1,64                       |                                                                                     |
| Drukvastheid [N/mm²]    | 10, 20 of 28               |                                                                                     |
| Code                    | EN 771-1                   |                                                                                     |
| Producent (landcode)    | bv. Unipor (DE)            |                                                                                     |
| Baksteenafmetingen [mm] | 240 x 115 x 55             |                                                                                     |
| Boormethode             | Hamerboring                |                                                                                     |

**Tabel C20: installatieparameter (randafstanden en tussenruimten)**

| Anker grootte    | Huls          | Verankerings diepte | Randafstand        | Tussenruimte                          | Maximaal aanhaalmoment voor de installatie |
|------------------|---------------|---------------------|--------------------|---------------------------------------|--------------------------------------------|
|                  |               | $h_{ef}$            | $c_{min} = c_{cr}$ | $s_{cr} = s_{min II} = s_{min \perp}$ | $T_{inst,max}$                             |
|                  |               | [mm]                |                    |                                       | [Nm]                                       |
| <b>M8</b>        | -             | 80                  | 120                | 240                                   | 6                                          |
|                  | SH 12x80      | 80                  | 120                | 240                                   |                                            |
|                  | SH 16x85      | 85                  | 127                | 255                                   |                                            |
|                  | SH 16x130     | 130                 | 195                | 390                                   |                                            |
|                  | SH 16x130/330 | 130                 | 195                | 390                                   |                                            |
| <b>M10</b>       | -             | 90                  | 135                | 270                                   | 10                                         |
| <b>M12 / M16</b> | -             | 100                 | 150                | 300                                   |                                            |
| <b>M10</b>       | SH 16x85      | 85                  | 127                | 255                                   | 8                                          |
|                  | SH 16x130     | 130                 | 195                | 390                                   |                                            |
|                  | SH 16x130/330 | 130                 | 195                | 390                                   |                                            |
| <b>M12 / M16</b> | SH 20x85      | 85                  | 127                | 255                                   |                                            |
|                  | SH 20x130     | 130                 | 195                | 390                                   |                                            |
|                  | SH 20x200     | 200                 | 300                | 600                                   |                                            |

**Tabel C21: verplaatsing**

| Effectieve verankering diepte $h_{ef}$ | <b>N</b>                            | $\delta N_0$ | $\delta N_{\infty}$ | <b>V</b>                            | $\delta v_0$ | $\delta v_{\infty}$ |
|----------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                   | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                     | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,12         | 0,24                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 2,27         | 3,41                |
| 85                                     |                                     | 0,13         | 0,26                |                                     | 1,22         | 1,83                |
| 90                                     |                                     | 0,06         | 0,13                |                                     | 0,71         | 1,06                |
| 100                                    |                                     | 0,18         | 0,35                |                                     | 0,43         | 0,64                |
| 130 ; 200                              |                                     | 0,42         | 0,85                |                                     | 1,22         | 1,83                |

**Prestatieverklaring**

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**Baksteentype: massieve baksteen uit klei Mz-DF**

**Tabel C22: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker grootte                                           | Huls                      | Effectieve<br>verankerings-<br>diepte | Karakteristieke weerstand   |                  |                                 |
|---------------------------------------------------------|---------------------------|---------------------------------------|-----------------------------|------------------|---------------------------------|
|                                                         |                           |                                       | Gebruikscategorie d/d; w/d; |                  |                                 |
|                                                         |                           |                                       | 40 °C / 24 °C               | 80 °C / 50 °C    | Voor elk<br>temperatuur         |
|                                                         |                           |                                       | N <sub>Rk1</sub>            | N <sub>Rk1</sub> | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                         |                           | h <sub>ef</sub><br>[mm]               |                             |                  |                                 |
| <b>Drukvastheid f<sub>b</sub> ≥ 10 N/mm<sup>2</sup></b> |                           |                                       |                             |                  |                                 |
| <b>M8</b>                                               | -                         | 80                                    | 1,5                         | 1,2              | 3,0                             |
| <b>M10</b>                                              | -                         | 90                                    | 1,5                         | 1,2              | 3,5                             |
| <b>M12</b>                                              | -                         | 100                                   | 1,5                         | 0,9              | 5,0                             |
| <b>M16</b>                                              | -                         | 100                                   | 2,5                         | 1,5              | 5,0                             |
| <b>M8</b>                                               | SH 12x80                  | 80                                    | 2,0                         | 1,5              | 3,0                             |
|                                                         | SH 16x85                  | 85                                    | 2,0                         | 1,5              | 3,0                             |
|                                                         | SH 16x130 / SH 16x130/330 | 130                                   | 3,0                         | 2,0              | 3,0                             |
| <b>M10</b>                                              | SH 16x85                  | 85                                    | 2,0                         | 1,5              | 3,5                             |
|                                                         | SH 16x130 / SH 16x130/330 | 130                                   | 3,0                         | 2,0              | 3,5                             |
| <b>M12 / M16</b>                                        | SH 20x85                  | 85                                    | 2,0                         | 1,5              | 3,5                             |
|                                                         | SH 20x130 / SH 20x200     | 130 / 200                             | 3,0                         | 2,0              | 3,5                             |
| <b>Drukvastheid f<sub>b</sub> ≥ 20 N/mm<sup>2</sup></b> |                           |                                       |                             |                  |                                 |
| <b>M8</b>                                               | -                         | 80                                    | 2,5                         | 1,5              | 4,5                             |
| <b>M10</b>                                              | -                         | 90                                    | 2,5                         | 1,5              | 5,5                             |
| <b>M12</b>                                              | -                         | 100                                   | 2,0                         | 1,5              | 7,5                             |
| <b>M16</b>                                              | -                         | 100                                   | 3,5                         | 2,5              | 7,5                             |
| <b>M8</b>                                               | SH 12x80                  | 80                                    | 3,0                         | 2,0              | 4,0                             |
|                                                         | SH 16x85                  | 85                                    | 3,0                         | 2,0              | 4,5                             |
|                                                         | SH 16x130 / SH 16x130/330 | 130                                   | 4,0                         | 2,5              | 4,5                             |
| <b>M10</b>                                              | SH 16x85                  | 85                                    | 3,0                         | 2,0              | 5,0                             |
|                                                         | SH 16x130 / SH 16x130/330 | 130                                   | 4,5                         | 3,0              | 5,0                             |
| <b>M12 / M16</b>                                        | SH 20x85                  | 85                                    | 3,0                         | 2,0              | 5,0                             |
|                                                         | SH 20x130 / SH 20x200     | 130 / 200                             | 4,5                         | 3,0              | 5,0                             |
| <b>Drukvastheid f<sub>b</sub> ≥ 28 N/mm<sup>2</sup></b> |                           |                                       |                             |                  |                                 |
| <b>M8</b>                                               | -                         | 80                                    | 3,0                         | 2,0              | 5,5                             |
| <b>M10</b>                                              | -                         | 90                                    | 3,0                         | 2,0              | 6,5                             |
| <b>M12</b>                                              | -                         | 100                                   | 2,5                         | 1,5              | 9,0                             |
| <b>M16</b>                                              | -                         | 100                                   | 4,5                         | 3,0              | 9,0                             |
| <b>M8</b>                                               | SH 12x80                  | 80                                    | 3,5                         | 2,5              | 5,0                             |
|                                                         | SH 16x85                  | 85                                    | 3,5                         | 2,5              | 5,0                             |
|                                                         | SH 16x130 / SH 16x130/330 | 130                                   | 5,0                         | 3,5              | 5,0                             |
| <b>M10</b>                                              | SH 16x85                  | 85                                    | 3,5                         | 2,5              | 6,0                             |
|                                                         | SH 16x130 / SH 16x130/330 | 130                                   | 5,0                         | 3,5              | 6,0                             |
| <b>M12 / M16</b>                                        | SH 20x85                  | 85                                    | 3,5                         | 2,5              | 6,0                             |
|                                                         | SH 20x130 / SH 20x200     | 130 / 200                             | 5,0                         | 3,5              | 6,0                             |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C: N<sub>Rk</sub> = N<sub>Rk,p</sub> = N<sub>Rk,b</sub>; N<sub>Rk,s</sub> in overeenstemming met Tabel C2 Bijlage C2; Berekening N<sub>Rk,pb</sub> zie ETAG 029, Bijlage C

2) Voor V<sub>Rk,s</sub> zie Bijlage C 2, Tabel C2; Berekening van V<sub>Rk,pb</sub> en V<sub>Rk,c</sub> zie ETAG 029, Bijlage C

**Prestatieverklaring**

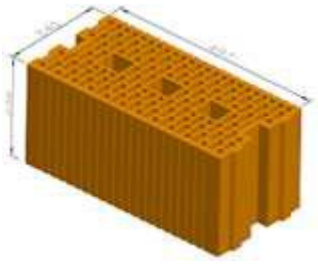
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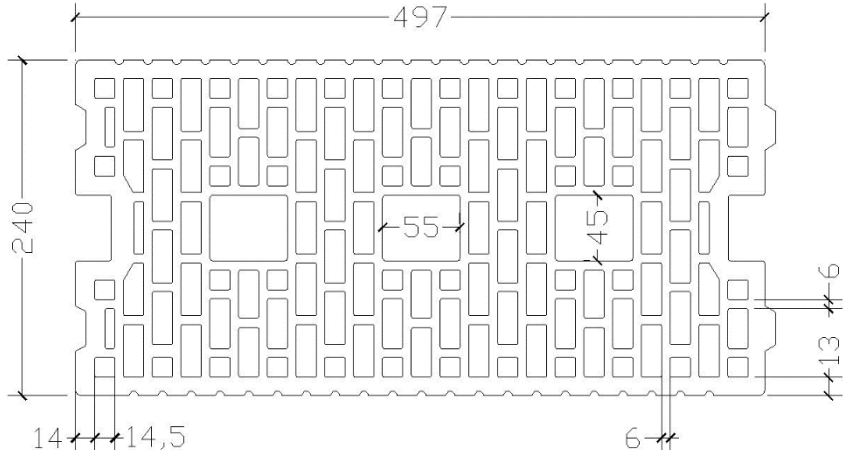
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**Baksteentype: holle baksteen uit klei Blocchi HLz-16DF**
**Tabel C23: beschrijving**

|                         |                                      |                                                                                     |
|-------------------------|--------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype            | Holle baksteen uit klei Blocchi HLz- |  |
| Bulkdichtheid [kg/dm³]  | 0,83                                 |                                                                                     |
| Drukvastheid [N/mm²]    | 6, 9, 12 of 14                       |                                                                                     |
| Code                    | EN 771-1                             |                                                                                     |
| Producent (landcode)    | bv. Unipor (DE)                      |                                                                                     |
| Baksteenafmetingen [mm] | 497 x 240 x 238                      |                                                                                     |
| Boormethode             | Roterende boring                     |                                                                                     |

  

**Tabel C24: installatieparameter (randafstanden en tussenruimten)**

| Anker grootte | Huls          | Verankerings<br>diepte | Randafs<br>tand                    | Tussenrui<br>mte                   |                    | Maximaal<br>aanhaalmoment voor<br>de installatie |
|---------------|---------------|------------------------|------------------------------------|------------------------------------|--------------------|--------------------------------------------------|
|               |               | h <sub>ef</sub>        | C <sub>min</sub> = C <sub>cr</sub> | S <sub>cr</sub> = S <sub>min</sub> | S <sub>min</sub> ⊥ | T <sub>inst,max</sub>                            |
|               |               | [mm]                   |                                    |                                    |                    | [Nm]                                             |
| M8            | SH 12x80      | 80                     | 100                                | 497                                | 238                | 6                                                |
| M8 / M10      | SH 16x85      | 85                     |                                    |                                    |                    |                                                  |
|               | SH 16x130     | 130                    |                                    |                                    |                    |                                                  |
|               | SH 16x130/330 | 130                    |                                    |                                    |                    |                                                  |
| M12 / M16     | SH 20x85      | 85                     | 120                                |                                    |                    |                                                  |
|               | SH 20x130     | 130                    |                                    |                                    |                    |                                                  |
|               | SH 20x200     | 200                    |                                    |                                    |                    |                                                  |

**Tabel C25: verplaatsing**

| Effectieve verankeringsdiepte $h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_\infty$ | V                                   | $\delta v_0$ | $\delta v_\infty$ |
|----------------------------------------|-------------------------------------|--------------|-------------------|-------------------------------------|--------------|-------------------|
| [mm]                                   | [kN]                                | [mm]         | [mm]              | [kN]                                | [mm]         | [mm]              |
| 80                                     | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,27         | 0,55              | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,02         | 1,53              |
| 85                                     |                                     | 0,55         | 1,10              |                                     | 2,14         | 3,22              |
| 130 ; 200                              |                                     | 0,19         | 0,38              |                                     | 2,26         | 3,39              |

**Prestatieverklaring**

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# Baksteentype: holle baksteen uit klei Blocchi HLz-16DF

Tabel C26: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen

| Anker grootte                                               | Huls                  | Effectieve verankeringsdiepte | Karakteristieke weerstand   |                    |                                   |
|-------------------------------------------------------------|-----------------------|-------------------------------|-----------------------------|--------------------|-----------------------------------|
|                                                             |                       |                               | Gebruikscategorie d/d; w/d; |                    |                                   |
|                                                             |                       |                               | 40 °C / 24 °C               | 80 °C / 50 °C      | Voor elk temperatuur              |
|                                                             |                       |                               | N <sub>Rk 1</sub> )         | N <sub>Rk1</sub> ) | V <sub>Rk,b</sub> ) <sup>2)</sup> |
|                                                             |                       | h <sub>ef</sub><br>[mm]       |                             |                    |                                   |
| <b>Drukvastheid <math>f_b \geq 6 \text{ N/mm}^2</math></b>  |                       |                               |                             |                    |                                   |
| <b>M8</b>                                                   | SH 12x80              | 80                            | 1,2                         | 0,75               | 2,5                               |
|                                                             | SH 16x85              | 85                            | 1,5                         | 1,2                | 4,0                               |
|                                                             | SH 16x130             | 130                           | 2,5                         | 1,5                | 4,0                               |
|                                                             | SH 16x130/330         | 130                           | 2,5                         | 1,5                | 4,0                               |
| <b>M10</b>                                                  | SH 16x85              | 85                            | 1,5                         | 1,2                | 4,0                               |
|                                                             | SH 16x130             | 130                           | 2,5                         | 1,5                | 6,0                               |
|                                                             | SH 16x130/330         | 130                           | 2,5                         | 1,5                | 6,0                               |
| <b>M12 / M16</b>                                            | SH 20x85              | 85                            | 2,0                         | 1,5                | 4,0                               |
|                                                             | SH 20x130 / SH 20x200 | 130 / 200                     | 2,5                         | 1,5                | 6,0                               |
| <b>Drukvastheid <math>f_b \geq 9 \text{ N/mm}^2</math></b>  |                       |                               |                             |                    |                                   |
| <b>M8</b>                                                   | SH 12x80              | 80                            | 1,2                         | 0,9                | 3,0                               |
|                                                             | SH 16x85              | 85                            | 2,0                         | 1,5                | 4,5                               |
|                                                             | SH 16x130             | 130                           | 3,0                         | 2,0                | 5,0                               |
|                                                             | SH 16x130/330         | 130                           | 3,0                         | 2,0                | 5,0                               |
| <b>M10</b>                                                  | SH 16x85              | 85                            | 2,0                         | 1,5                | 5,0                               |
|                                                             | SH 16x130             | 130                           | 3,0                         | 2,0                | 7,0                               |
|                                                             | SH 16x130/330         | 130                           | 3,0                         | 2,0                | 7,0                               |
| <b>M12 / M16</b>                                            | SH 20x85              | 85                            | 2,5                         | 2,0                | 5,0                               |
|                                                             | SH 20x130 / SH 20x200 | 130 / 200                     | 3,0                         | 2,0                | 7,0                               |
| <b>Drukvastheid <math>f_b \geq 12 \text{ N/mm}^2</math></b> |                       |                               |                             |                    |                                   |
| <b>M8</b>                                                   | SH 12x80              | 80                            | 1,5                         | 1,2                | 3,5                               |
|                                                             | SH 16x85              | 85                            | 2,5                         | 1,5                | 5,5                               |
|                                                             | SH 16x130             | 130                           | 3,5                         | 2,5                | 6,0                               |
|                                                             | SH 16x130/330         | 130                           | 3,5                         | 2,5                | 6,0                               |
| <b>M10</b>                                                  | SH 16x85              | 85                            | 2,5                         | 1,5                | 6,0                               |
|                                                             | SH 16x130             | 130                           | 3,5                         | 2,5                | 8,0                               |
|                                                             | SH 16x130/330         | 130                           | 3,5                         | 2,5                | 8,0                               |
| <b>M12 / M16</b>                                            | SH 20x85              | 85                            | 3,5                         | 2,0                | 6,0                               |
|                                                             | SH 20x130 / SH 20x200 | 130 / 200                     | 3,5                         | 2,5                | 8,0                               |
| <b>Drukvastheid <math>f_b \geq 14 \text{ N/mm}^2</math></b> |                       |                               |                             |                    |                                   |
| <b>M8</b>                                                   | SH 12x80              | 80                            | 1,5                         | 1,2                | 4,0                               |
|                                                             | SH 16x85              | 85                            | 2,5                         | 2,0                | 6,0                               |
|                                                             | SH 16x130             | 130                           | 3,5                         | 2,5                | 6,5                               |
|                                                             | SH 16x130/330         | 130                           | 3,5                         | 2,5                | 6,5                               |
| <b>M10</b>                                                  | SH 16x85              | 85                            | 2,5                         | 2,0                | 6,0                               |
|                                                             | SH 16x130             | 130                           | 3,5                         | 2,5                | 9,0                               |
|                                                             | SH 16x130/330         | 130                           | 3,5                         | 2,5                | 9,0                               |
| <b>M12 / M16</b>                                            | SH 20x85              | 85                            | 3,5                         | 2,0                | 6,0                               |
|                                                             | SH 20x130 / SH 20x200 | 130 / 200                     | 3,5                         | 2,5                | 9,0                               |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

## Prestatieverklaring

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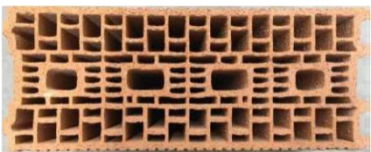
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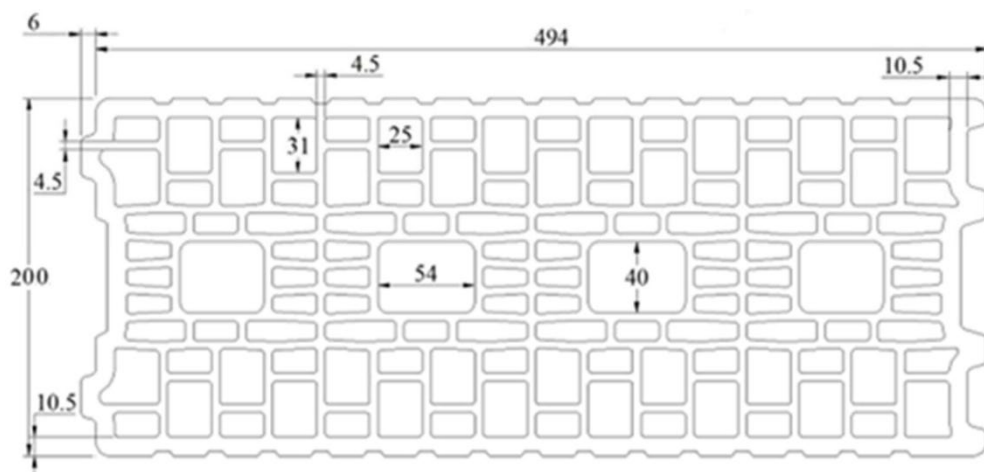
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# Baksteentype: holle baksteen uit klei Porotherm Homebric

Tabel C27: beschrijving

|                                     |                                   |                                                                                     |
|-------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype                        | Holle baksteen uit klei Porotherm |  |
| Bulkdichtheid [kg/dm <sup>3</sup> ] | 0,68                              |                                                                                     |
| Drukvastheid [N/mm <sup>2</sup> ]   | 6, 8 of 10                        |                                                                                     |
| Code                                | EN 771-1                          |                                                                                     |
| Producent (landcode)                | bv. Wienerberger (FR)             |                                                                                     |
| Baksteenafmetingen [mm]             | 500 x 200 x 299                   |                                                                                     |
| Boormethode                         | Roterende boring                  |                                                                                     |



Tabel C28: installatieparameter (randafstanden en tussenruimten)

| Ankergrootte | Huls          | Verankerings diepte | Randafstand        | Tussenruimte                 |                 | Maximaal aanhaalmoment voor de installatie |
|--------------|---------------|---------------------|--------------------|------------------------------|-----------------|--------------------------------------------|
|              |               | $h_{ef}$            | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$                             |
|              |               | [mm]                |                    |                              |                 | [Nm]                                       |
| M8           | SH 12x80      | 80                  | 100                | 500                          | 299             | 2                                          |
| M8 / M10     | SH 16x85      | 85                  |                    |                              |                 | 6                                          |
|              | SH 16x130     | 130                 |                    |                              |                 |                                            |
|              | SH 16x130/330 | 130                 |                    |                              |                 |                                            |
| M12 / M16    | SH 20x85      | 85                  | 120                | 500                          | 299             | 6                                          |
|              | SH 20x130     | 130                 |                    |                              |                 |                                            |

Tabel C29: verplaatsing

| Effectieve verankering diepte $h_{ef}$ | N                                 | $\delta_{N0}$ | $\delta_{N\infty}$ | V                                 | $\delta_{V0}$ | $\delta_{V\infty}$ |
|----------------------------------------|-----------------------------------|---------------|--------------------|-----------------------------------|---------------|--------------------|
| [mm]                                   | [kN]                              | [mm]          | [mm]               | [kN]                              | [mm]          | [mm]               |
| 80                                     | $1,4 \cdot \gamma_M \cdot N_{Rk}$ | 0,65          | 1,29               | $1,4 \cdot \gamma_M \cdot V_{Rk}$ | 1,26          | 1,89               |
| 85                                     |                                   | 0,52          | 1,04               |                                   | 1,89          | 2,84               |
| 130                                    |                                   | 0,45          | 0,90               |                                   | 1,48          | 2,23               |

## Prestatieverklaring

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**Baksteentype: holle baksteen uit klei Porotherm Homebric**

**Tabel C30: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker grootte                             | Huls          | Effectieve<br>verankeringsdiepte<br>$e$ | Karakteristieke weerstand           |               |                            |
|-------------------------------------------|---------------|-----------------------------------------|-------------------------------------|---------------|----------------------------|
|                                           |               |                                         | Gebruikscategorie d/d<br>w/d<br>w/w |               |                            |
|                                           |               |                                         | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk temperatuurbereik |
|                                           |               | $h_{ef}$                                | $N_{Rk1}$                           | $N_{Rk1}$     | $V_{Rk,b}$ <sup>2)</sup>   |
|                                           |               | [mm]                                    | [kN]                                |               |                            |
| Drukvastheid $f_b \geq 6 \text{ N/mm}^2$  |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 0,9                                 | 0,75          | 2,0                        |
|                                           | SH 16x85      | 85                                      | 1,2                                 | 0,75          | 2,0                        |
|                                           | SH 16x130     | 130                                     | 1,5                                 | 0,9           | 2,5                        |
|                                           | SH 16x130/330 | 130                                     | 1,5                                 | 0,9           | 2,5                        |
| M10                                       | SH 16x85      | 85                                      | 1,2                                 | 0,75          | 2,0                        |
|                                           | SH 16x130     | 130                                     | 1,5                                 | 0,9           | 2,5                        |
|                                           | SH 16x130/330 | 130                                     | 1,5                                 | 0,9           | 2,5                        |
| M12                                       | SH 20x85      | 85                                      | 1,2                                 | 0,75          | 3,0                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 0,9           | 3,0                        |
| M16                                       | SH 20x85      | 85                                      | 1,2                                 | 0,75          | 3,0                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 0,9           | 3,0                        |
| Drukvastheid $f_b \geq 8 \text{ N/mm}^2$  |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 1,2                                 | 0,9           | 2,5                        |
|                                           | SH 16x85      | 85                                      | 1,2                                 | 0,9           | 2,5                        |
|                                           | SH 16x130     | 130                                     | 1,5                                 | 1,2           | 3,0                        |
|                                           | SH 16x130/330 | 130                                     | 1,5                                 | 1,2           | 3,0                        |
| M10                                       | SH 16x85      | 85                                      | 1,2                                 | 0,9           | 2,5                        |
|                                           | SH 16x130     | 130                                     | 1,5                                 | 1,2           | 3,0                        |
|                                           | SH 16x130/330 | 130                                     | 1,5                                 | 1,2           | 3,0                        |
| M12                                       | SH 20x85      | 85                                      | 1,2                                 | 0,9           | 3,5                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 1,2           | 3,5                        |
| M16                                       | SH 20x85      | 85                                      | 1,2                                 | 0,9           | 3,5                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 1,2           | 3,5                        |
| Drukvastheid $f_b \geq 10 \text{ N/mm}^2$ |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 1,2                                 | 0,9           | 3,0                        |
|                                           | SH 16x85      | 85                                      | 1,5                                 | 0,9           | 3,0                        |
|                                           | SH 16x130     | 130                                     | 2,0                                 | 1,2           | 3,5                        |
|                                           | SH 16x130/330 | 130                                     | 2,0                                 | 1,2           | 3,5                        |
| M10                                       | SH 16x85      | 85                                      | 1,5                                 | 0,9           | 3,0                        |
|                                           | SH 16x130     | 130                                     | 2,0                                 | 1,2           | 3,5                        |
|                                           | SH 16x130/330 | 130                                     | 2,0                                 | 1,2           | 3,5                        |
| M12                                       | SH 20x85      | 85                                      | 1,5                                 | 0,9           | 4,0                        |
|                                           | SH 20x130     | 130                                     | 2,0                                 | 1,2           | 4,0                        |
| M16                                       | SH 20x85      | 85                                      | 1,5                                 | 0,9           | 4,0                        |
|                                           | SH 20x130     | 130                                     | 2,0                                 | 1,2           | 4,0                        |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

**Prestatieverklaring**

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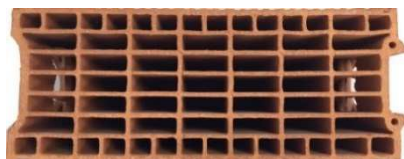
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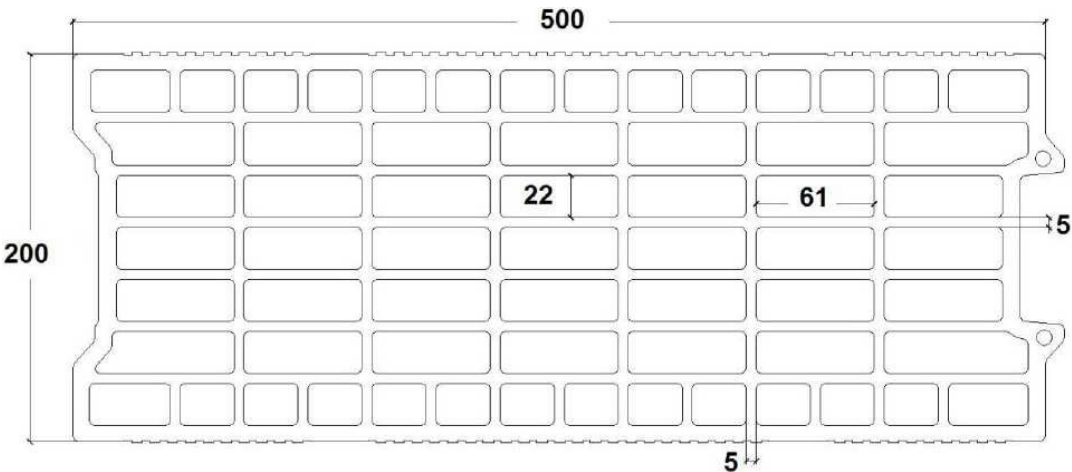
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# Baksteentype: holle baksteen uit klei BGV Thermo

Tabel C31: beschrijving

|                                     |                                    |                                                                                     |
|-------------------------------------|------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype                        | Holle baksteen uit klei BGV Thermo |  |
| Bulkdichtheid [kg/dm <sup>3</sup> ] | 0,62                               |                                                                                     |
| Drukvastheid [N/mm <sup>2</sup> ]   | 4, 6 of 10                         |                                                                                     |
| Code                                | EN 771-1                           |                                                                                     |
| Producent (landcode)                | bv. Leroux (FR)                    |                                                                                     |
| Baksteenafmetingen [mm]             | 500 x 200 x 314                    |                                                                                     |
| Boormethode                         | Roterende boring                   |                                                                                     |

Tabel C32: installatieparameter (randafstanden en tussenruimten)

| Anker grootte | Huls          | Verankerings diepte | Randafstand        | Tussenruimte                 |                 | Maximaal aanhaalmoment voor de installatie |
|---------------|---------------|---------------------|--------------------|------------------------------|-----------------|--------------------------------------------|
|               |               | $h_{ef}$            | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$                             |
|               |               | [mm]                |                    |                              |                 | [Nm]                                       |
| M8            | SH 12x80      | 80                  | 100                | 500                          | 314             | 2                                          |
| M8 / M10      | SH 16x85      | 85                  |                    |                              |                 | 4                                          |
|               | SH 16x130     | 130                 |                    |                              |                 |                                            |
|               | SH 16x130/330 | 130                 |                    |                              |                 |                                            |
| M12 / M16     | SH 20x85      | 85                  | 120                | 500                          | 314             | 4                                          |
|               | SH 20x130     | 130                 |                    |                              |                 |                                            |

Tabel C33: verplaatsing

| Effectieve verankeringsdiepte $h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_{\infty}$ | V                                   | $\delta v_0$ | $\delta v_{\infty}$ |
|----------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                   | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                     | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,27         | 0,54                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,21         | 1,81                |
| 85                                     |                                     | 0,39         | 0,77                |                                     | 2,00         | 3,01                |
| 130                                    |                                     | 0,16         | 0,32                |                                     | 1,60         | 2,39                |

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**Baksteentype: holle baksteen uit klei BGV Thermo**

**Tabel C34: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker <span>grootte</span>                | Huls          | Effectieve<br>verankeringsdiepte<br>$e$ | Karakteristieke weerstand           |               |                            |
|-------------------------------------------|---------------|-----------------------------------------|-------------------------------------|---------------|----------------------------|
|                                           |               |                                         | Gebruikscategorie d/d<br>w/d<br>w/w |               |                            |
|                                           |               |                                         | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk temperatuurbereik |
|                                           |               | $h_{ef}$                                | $N_{Rk1}$                           | $N_{Rk1}$     | $V_{Rk,b}$ <sup>2)</sup>   |
|                                           |               | [mm]                                    | [kN]                                |               |                            |
| Drukvastheid $f_b \geq 4 \text{ N/mm}^2$  |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 0,5                                 | 0,4           | 2,0                        |
|                                           | SH 16x85      | 85                                      | 0,75                                | 0,5           | 2,0                        |
|                                           | SH 16x130     | 130                                     | 0,9                                 | 0,75          | 2,5                        |
|                                           | SH 16x130/330 | 130                                     | 0,9                                 | 0,75          | 2,5                        |
| M10                                       | SH 16x85      | 85                                      | 0,75                                | 0,5           | 2,0                        |
|                                           | SH 16x130     | 130                                     | 1,2                                 | 0,75          | 2,5                        |
|                                           | SH 16x130/330 | 130                                     | 1,2                                 | 0,75          | 2,5                        |
| M12                                       | SH 20x85      | 85                                      | 0,75                                | 0,5           | 2,0                        |
|                                           | SH 20x130     | 130                                     | 1,2                                 | 0,75          | 2,5                        |
| M16                                       | SH 20x85      | 85                                      | 0,9                                 | 0,6           | 2,0                        |
|                                           | SH 20x130     | 130                                     | 1,2                                 | 0,75          | 2,5                        |
| Drukvastheid $f_b \geq 6 \text{ N/mm}^2$  |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 0,6                                 | 0,5           | 2,0                        |
|                                           | SH 16x85      | 85                                      | 0,9                                 | 0,6           | 2,5                        |
|                                           | SH 16x130     | 130                                     | 1,2                                 | 0,9           | 3,0                        |
|                                           | SH 16x130/330 | 130                                     | 1,2                                 | 0,9           | 3,0                        |
| M10                                       | SH 16x85      | 85                                      | 0,9                                 | 0,6           | 2,5                        |
|                                           | SH 16x130     | 130                                     | 1,5                                 | 0,9           | 3,0                        |
|                                           | SH 16x130/330 | 130                                     | 1,5                                 | 0,9           | 3,0                        |
| M12                                       | SH 20x85      | 85                                      | 0,9                                 | 0,6           | 3,0                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 0,9           | 3,0                        |
| M16                                       | SH 20x85      | 85                                      | 1,2                                 | 0,75          | 3,0                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 0,9           | 3,0                        |
| Drukvastheid $f_b \geq 10 \text{ N/mm}^2$ |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 0,9                                 | 0,6           | 3,0                        |
|                                           | SH 16x85      | 85                                      | 1,2                                 | 0,9           | 3,5                        |
|                                           | SH 16x130     | 130                                     | 1,5                                 | 1,2           | 4,0                        |
|                                           | SH 16x130/330 | 130                                     | 1,5                                 | 1,2           | 4,0                        |
| M10                                       | SH 16x85      | 85                                      | 1,2                                 | 0,9           | 3,5                        |
|                                           | SH 16x130     | 130                                     | 1,5                                 | 1,2           | 4,0                        |
|                                           | SH 16x130/330 | 130                                     | 1,5                                 | 1,2           | 4,0                        |
| M12                                       | SH 20x85      | 85                                      | 1,2                                 | 0,75          | 3,5                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 1,2           | 4,0                        |
| M16                                       | SH 20x85      | 85                                      | 1,5                                 | 0,9           | 3,5                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 1,2           | 4,0                        |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

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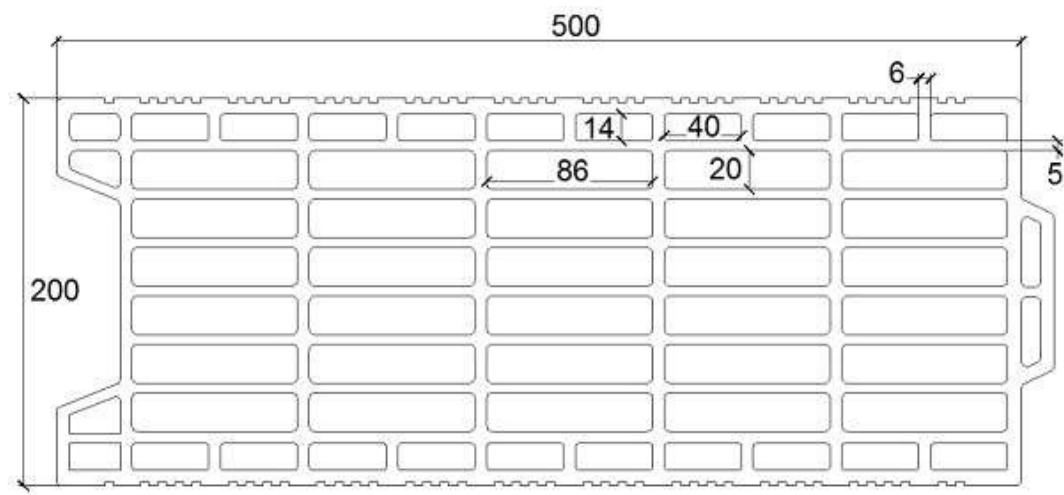
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# Baksteentype: holle baksteen uit klei Calibric Th

Tabel C35: beschrijving

|                         |                                     |                                                                                     |
|-------------------------|-------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype            | Holle baksteen uit klei Calibric Th |  |
| Bulkdichtheid [kg/dm³]  | 0,62                                |                                                                                     |
| Drukvastheid [N/mm²]    | 6, 9 of 12                          |                                                                                     |
| Code                    | EN 771-1                            |                                                                                     |
| Producent (landcode)    | bv. Terreal (FR)                    |                                                                                     |
| Baksteenafmetingen [mm] | 500 x 200 x 314                     |                                                                                     |
| Boormethode             | Roterende boring                    |                                                                                     |

Tabel C36: installatieparameter (randafstanden en tussenruimten)

| Anker grootte | Huls          | Verankerings diepte | Randafstand        | Tussenruimte          |                 | Maximaal aanhaalmoment voor de installatie |
|---------------|---------------|---------------------|--------------------|-----------------------|-----------------|--------------------------------------------|
|               |               | $h_{ef}$            | $C_{min} = C_{cr}$ | $S_{cr} = S_{min II}$ | $S_{min \perp}$ | $T_{inst,max}$                             |
|               |               |                     | [mm]               |                       |                 | [Nm]                                       |
| M8            | SH 12x80      | 80                  | 100                | 500                   | 314             | 2                                          |
| M8 / M10      | SH 16x85      | 85                  |                    |                       |                 |                                            |
|               | SH 16x130     | 130                 |                    |                       |                 |                                            |
|               | SH 16x130/330 | 130                 |                    |                       |                 |                                            |
| M12 / M16     | SH 20x85      | 85                  | 120                | 500                   | 314             | 2                                          |
|               | SH 20x130     | 130                 |                    |                       |                 |                                            |

Tabel C37: verplaatsing

| Effectieve verankeringsdiepte $h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_{\infty}$ | V                                   | $\delta v_0$ | $\delta v_{\infty}$ |
|----------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                   | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                     | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,48         | 0,96                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,18         | 1,78                |
| 85                                     |                                     | 0,49         | 0,98                |                                     | 2,20         | 3,30                |
| 130                                    |                                     | 0,37         | 0,74                |                                     | 2,31         | 3,46                |

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**Baksteentype: holle baksteen uit klei Calibric Th**

**Tabel C38: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker grootte                             | Huls          | Effectieve<br>verankeringsdiepte<br>$e$ | Karakteristieke weerstand           |               |                            |
|-------------------------------------------|---------------|-----------------------------------------|-------------------------------------|---------------|----------------------------|
|                                           |               |                                         | Gebruikscategorie d/d<br>w/d<br>w/w |               |                            |
|                                           |               |                                         | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk temperatuurbereik |
|                                           |               | $h_{ef}$                                | $N_{Rk1}$                           | $N_{Rk1}$     | $V_{Rk,b}^{2)}$            |
|                                           |               | [mm]                                    | [kN]                                |               |                            |
| Drukvastheid $f_b \geq 6 \text{ N/mm}^2$  |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 0,75                                | 0,5           | 2,5                        |
|                                           | SH 16x85      | 85                                      | 0,75                                | 0,5           | 3,5                        |
|                                           | SH 16x130     | 130                                     | 0,9                                 | 0,6           | 3,5                        |
|                                           | SH 16x130/330 | 130                                     | 0,9                                 | 0,6           | 3,5                        |
| M10                                       | SH 16x85      | 85                                      | 0,75                                | 0,5           | 3,5                        |
|                                           | SH 16x130     | 130                                     | 0,9                                 | 0,6           | 3,5                        |
|                                           | SH 16x130/330 | 130                                     | 0,9                                 | 0,6           | 3,5                        |
| M12                                       | SH 20x85      | 85                                      | 0,75                                | 0,5           | 6,0                        |
|                                           | SH 20x130     | 130                                     | 0,9                                 | 0,6           | 6,0                        |
| M16                                       | SH 20x85      | 85                                      | 1,2                                 | 0,75          | 6,0                        |
|                                           | SH 20x130     | 130                                     | 1,2                                 | 0,75          | 6,0                        |
| Drukvastheid $f_b \geq 9 \text{ N/mm}^2$  |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 0,9                                 | 0,6           | 3,5                        |
|                                           | SH 16x85      | 85                                      | 0,9                                 | 0,6           | 4,5                        |
|                                           | SH 16x130     | 130                                     | 1,2                                 | 0,75          | 4,5                        |
|                                           | SH 16x130/330 | 130                                     | 1,2                                 | 0,75          | 4,5                        |
| M10                                       | SH 16x85      | 85                                      | 0,9                                 | 0,6           | 4,5                        |
|                                           | SH 16x130     | 130                                     | 1,2                                 | 0,9           | 4,5                        |
|                                           | SH 16x130/330 | 130                                     | 1,2                                 | 0,9           | 4,5                        |
| M12                                       | SH 20x85      | 85                                      | 0,9                                 | 0,6           | 7,5                        |
|                                           | SH 20x130     | 130                                     | 1,2                                 | 0,9           | 7,5                        |
| M16                                       | SH 20x85      | 85                                      | 1,5                                 | 0,9           | 7,5                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 0,9           | 7,5                        |
| Drukvastheid $f_b \geq 12 \text{ N/mm}^2$ |               |                                         |                                     |               |                            |
| M8                                        | SH 12x80      | 80                                      | 0,9                                 | 0,75          | 4,0                        |
|                                           | SH 16x85      | 85                                      | 0,9                                 | 0,75          | 5,5                        |
|                                           | SH 16x130     | 130                                     | 1,2                                 | 0,9           | 5,5                        |
|                                           | SH 16x130/330 | 130                                     | 1,2                                 | 0,9           | 5,5                        |
| M10                                       | SH 16x85      | 85                                      | 0,9                                 | 0,75          | 5,5                        |
|                                           | SH 16x130     | 130                                     | 1,5                                 | 0,9           | 5,5                        |
|                                           | SH 16x130/330 | 130                                     | 1,5                                 | 0,9           | 5,5                        |
| M12                                       | SH 20x85      | 85                                      | 0,9                                 | 0,75          | 8,5                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 0,9           | 8,5                        |
| M16                                       | SH 20x85      | 85                                      | 1,5                                 | 1,2           | 8,5                        |
|                                           | SH 20x130     | 130                                     | 1,5                                 | 1,2           | 8,5                        |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

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**Baksteentype: holle baksteen uit klei Urbanbric**
**Tabel C39: beschrijving**

|                                     |                                   |                                                                                     |
|-------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype                        | Holle baksteen uit klei Urbanbric |  |
| Bulkdichtheid [kg/dm <sup>3</sup> ] | 0,74                              |                                                                                     |
| Drukvastheid [N/mm <sup>2</sup> ]   | 6 of 9                            |                                                                                     |
| Code                                | EN 771-1                          |                                                                                     |
| Producent (landcode)                | bv. Imerys (FR)                   |                                                                                     |
| Baksteenafmetingen [mm]             | 560 x 200 x 274                   |                                                                                     |
| Boormethode                         | Roterende boring                  |                                                                                     |

**Tabel C40: installatieparameter (randafstanden en tussenruimten)**

| Anker grootte    | Huls          | Verankerings diepte | Randafstand                        | Tussenruimte              |                    | Maximaal aanhaalmoment voor de installatie |
|------------------|---------------|---------------------|------------------------------------|---------------------------|--------------------|--------------------------------------------|
|                  |               | h <sub>ef</sub>     | C <sub>min</sub> = C <sub>cr</sub> | Scr = S <sub>min</sub> II | S <sub>min</sub> ⊥ | T <sub>inst,max</sub>                      |
|                  |               | [mm]                |                                    |                           |                    | [Nm]                                       |
| <b>M8</b>        | SH 12x80      | 80                  | 100                                | 560                       | 274                | 2                                          |
| <b>M8 / M10</b>  | SH 16x85      | 85                  |                                    |                           |                    |                                            |
|                  | SH 16x130     | 130                 |                                    |                           |                    |                                            |
|                  | SH 16x130/330 | 130                 |                                    |                           |                    |                                            |
| <b>M12 / M16</b> | SH 20x85      | 85                  | 120                                | 560                       | 274                | 2                                          |
|                  | SH 20x130     | 130                 |                                    |                           |                    |                                            |

**Tabel C41: verplaatsing**

| Effectieve verankeringsdiepte h <sub>ef</sub> | N                                   | δN <sub>0</sub> | δN <sub>∞</sub> | V                                   | δV <sub>0</sub> | δV <sub>∞</sub> |
|-----------------------------------------------|-------------------------------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|
| [mm]                                          | [kN]                                | [mm]            | [mm]            | [kN]                                | [mm]            | [mm]            |
| 80                                            | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,34            | 0,67            | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 0,71            | 1,06            |
| 85                                            |                                     | 0,52            | 1,04            |                                     | 1,37            | 2,06            |
| 130                                           |                                     | 0,62            | 1,24            |                                     | 1,62            | 2,44            |

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# Baksteentype: holle baksteen uit klei Urbanbric

Tabel C42: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen

| Anker grootte                            | Huls          | Effectieve<br>verankeringsdiepte<br>$e$ | Karakteristieke weerstand           |               |                            |
|------------------------------------------|---------------|-----------------------------------------|-------------------------------------|---------------|----------------------------|
|                                          |               |                                         | Gebruikscategorie d/d<br>w/d<br>w/w |               |                            |
|                                          |               |                                         | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk temperatuurbereik |
|                                          |               | $h_{ef}$                                | $N_{Rk1}$                           | $N_{Rk1}$     | $V_{Rk,b}$ <sup>2)</sup>   |
|                                          |               | [mm]                                    | [kN]                                |               |                            |
| Drukvastheid $f_b \geq 6 \text{ N/mm}^2$ |               |                                         |                                     |               |                            |
| M8                                       | SH 12x80      | 80                                      | 0,9                                 | 0,75          | 3,0                        |
| M8 / M10                                 | SH 16x85      | 85                                      | 1,2                                 | 0,75          | 3,5                        |
|                                          | SH 16x130     | 130                                     | 1,5                                 | 1,2           | 3,5                        |
|                                          | SH 16x130/330 | 130                                     | 1,5                                 | 1,2           | 3,5                        |
| M12 / M16                                | SH 20x85      | 85                                      | 1,2                                 | 0,75          | 4,0                        |
|                                          | SH 20x130     | 130                                     | 1,5                                 | 1,2           | 4,0                        |
| Drukvastheid $f_b \geq 9 \text{ N/mm}^2$ |               |                                         |                                     |               |                            |
| M8                                       | SH 12x80      | 80                                      | 1,2                                 | 0,9           | 3,5                        |
| M8 / M10                                 | SH 16x85      | 85                                      | 1,5                                 | 0,9           | 4,0                        |
|                                          | SH 16x130     | 130                                     | 2,0                                 | 1,5           | 4,5                        |
|                                          | SH 16x130/330 | 130                                     | 2,0                                 | 1,5           | 4,5                        |
| M12 / M16                                | SH 20x85      | 85                                      | 1,5                                 | 0,9           | 5,0                        |
|                                          | SH 20x130     | 130                                     | 2,0                                 | 1,5           | 5,0                        |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

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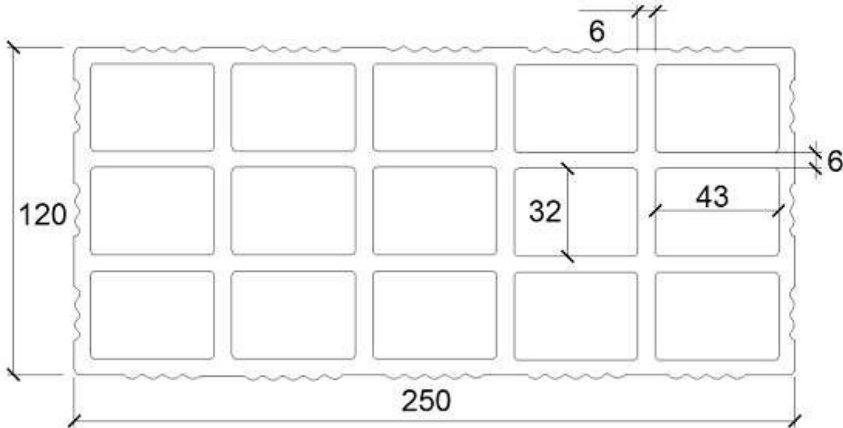
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# Baksteentype: holle baksteen uit klei Blocchi Leggeri

Tabel C43: beschrijving

|                         |                                 |                                                                                     |
|-------------------------|---------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype            | Holle baksteen uit klei Blocchi |  |
| Bulkdichtheid [kg/dm³]  | 0,55                            |                                                                                     |
| Drukvastheid [N/mm²]    | 4, 6 of 8                       |                                                                                     |
| Code                    | EN 771-1                        |                                                                                     |
| Producent (landcode)    | bv. Wienerberger (IT)           |                                                                                     |
| Baksteenafmetingen [mm] | 250 x 120 x 250                 |                                                                                     |
| Boormethode             | Roterende boring                |                                                                                     |

Tabel C44: installatieparameter (randafstanden en tussenruimten)

| Anker grootte | Huls          | Verankerings diepte | Randafstand        | Tussenruimte                 |                 | Maximaal aanhaalmoment voor de installatie |
|---------------|---------------|---------------------|--------------------|------------------------------|-----------------|--------------------------------------------|
|               |               | $h_{ef}$            | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$                             |
|               |               | [mm]                |                    |                              |                 | [Nm]                                       |
| M8            | SH 12x80      | 80                  | 100                | 250                          | 250             | 4                                          |
| M8 / M10      | SH 16x85      | 85                  |                    |                              |                 |                                            |
|               | SH 16x130     | 130                 |                    |                              |                 |                                            |
|               | SH 16x130/330 | 130                 |                    |                              |                 |                                            |
| M12 / M16     | SH 20x85      | 85                  | 120                | 250                          | 250             | 4                                          |
|               | SH 20x130     | 130                 |                    |                              |                 |                                            |
|               | SH 20x200     | 200                 |                    |                              |                 |                                            |

Tabel C45: verplaatsing

| Effectieve verankeringsdiepte $h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_{\infty}$ | V                                   | $\delta v_0$ | $\delta v_{\infty}$ |
|----------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                   | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                     | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,32         | 0,64                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,16         | 1,74                |
| 85                                     |                                     | 0,26         | 0,53                |                                     | 2,52         | 3,78                |
| 130 ; 200                              |                                     | 0,32         | 0,64                |                                     | 2,52         | 3,78                |

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# Baksteentype: holle baksteen uit klei Blocchi Leggeri

Tabel C46: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen

| Anker grootte                            | Huls          | Effectieve<br>verankeringsdiepte | Karakteristieke weerstand           |               |                            |
|------------------------------------------|---------------|----------------------------------|-------------------------------------|---------------|----------------------------|
|                                          |               |                                  | Gebruikscategorie d/d<br>w/d<br>w/w |               |                            |
|                                          |               |                                  | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk temperatuurbereik |
|                                          |               | $h_{ef}$                         | $N_{Rk1}$                           | $N_{Rk1}$     | $V_{Rk,b}$ <sup>2)</sup>   |
|                                          |               | [mm]                             | [kN]                                |               |                            |
| Drukvastheid $f_b \geq 4 \text{ N/mm}^2$ |               |                                  |                                     |               |                            |
| M8                                       | SH 12x80      | 80                               | 0,4                                 | 0,3           | 2,0                        |
| M8 / M10                                 | SH 16x85      | 85                               | 0,4                                 | 0,3           | 2,0                        |
|                                          | SH 16x130     | 130                              | 0,5                                 | 0,3           | 2,0                        |
|                                          | SH 16x130/330 | 130                              | 0,5                                 | 0,3           | 2,0                        |
| M12 / M16                                | SH 20x85      | 85                               | 0,4                                 | 0,3           | 2,0                        |
|                                          | SH 20x130     | 130                              | 0,5                                 | 0,3           | 2,0                        |
|                                          | SH 20x200     | 200                              | 0,5                                 | 0,3           | 2,0                        |
| Drukvastheid $f_b \geq 6 \text{ N/mm}^2$ |               |                                  |                                     |               |                            |
| M8                                       | SH 12x80      | 80                               | 0,5                                 | 0,3           | 2,0                        |
| M8 / M10                                 | SH 16x85      | 85                               | 0,5                                 | 0,3           | 2,0                        |
|                                          | SH 16x130     | 130                              | 0,6                                 | 0,4           | 2,0                        |
|                                          | SH 16x130/330 | 130                              | 0,6                                 | 0,4           | 2,0                        |
| M12 / M16                                | SH 20x85      | 85                               | 0,5                                 | 0,3           | 2,5                        |
|                                          | SH 20x130     | 130                              | 0,6                                 | 0,4           | 2,5                        |
|                                          | SH 20x200     | 200                              | 0,6                                 | 0,4           | 2,5                        |
| Drukvastheid $f_b \geq 8 \text{ N/mm}^2$ |               |                                  |                                     |               |                            |
| M8                                       | SH 12x80      | 80                               | 0,6                                 | 0,4           | 2,5                        |
| M8 / M10                                 | SH 16x85      | 85                               | 0,6                                 | 0,4           | 2,5                        |
|                                          | SH 16x130     | 130                              | 0,6                                 | 0,5           | 2,5                        |
|                                          | SH 16x130/330 | 130                              | 0,6                                 | 0,5           | 2,5                        |
| M12 / M16                                | SH 20x85      | 85                               | 0,6                                 | 0,4           | 3,0                        |
|                                          | SH 20x130     | 130                              | 0,6                                 | 0,5           | 3,0                        |
|                                          | SH 20x200     | 200                              | 0,6                                 | 0,5           | 3,0                        |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

## Prestatieverklaring

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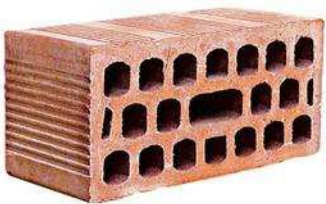
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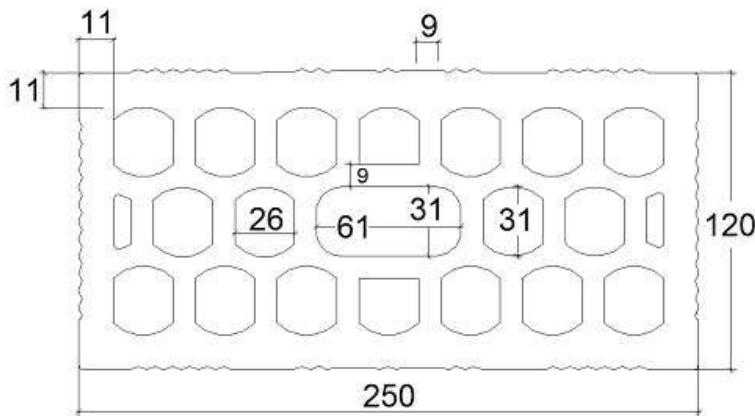
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# Baksteentype: holle baksteen uit klei Doppio Uni

Tabel C47: beschrijving

|                                     |                                    |                                                                                     |
|-------------------------------------|------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype                        | Holle baksteen uit klei Doppio Uni |  |
| Bulkdichtheid [kg/dm <sup>3</sup> ] | 0,92                               |                                                                                     |
| Drukvastheid [N/mm <sup>2</sup> ]   | 10, 16, 20 of 28                   |                                                                                     |
| Code                                | EN 771-1                           |                                                                                     |
| Producent (landcode)                | bv. Wienerberger (IT)              |                                                                                     |
| Baksteenafmetingen [mm]             | 250 x 120 x 120                    |                                                                                     |
| Boormethode                         | Roterende boring                   |                                                                                     |

Tabel C48: installatieparameter (randafstanden en tussenruimten)

| Anker grootte | Huls          | Verankerings diepte | Randafstand        | Tussenruimte          |                 | Maximaal aanhaalmoment voor de installatie |
|---------------|---------------|---------------------|--------------------|-----------------------|-----------------|--------------------------------------------|
|               |               | $h_{ef}$            | $C_{min} = C_{cr}$ | $S_{cr} = S_{min II}$ | $S_{min \perp}$ | $T_{inst,max}$                             |
|               |               | [mm]                |                    |                       |                 | [Nm]                                       |
| M8            | SH 12x80      | 80                  | 100                | 250                   | 120             | 4                                          |
| M8 / M10      | SH 16x85      | 85                  |                    |                       |                 |                                            |
|               | SH 16x130     | 130                 |                    |                       |                 |                                            |
|               | SH 16x130/330 | 130                 |                    |                       |                 |                                            |
| M12 / M16     | SH 20x85      | 85                  | 120                | 250                   | 120             | 4                                          |
|               | SH 20x130     | 130                 |                    |                       |                 |                                            |
|               | SH 20x200     | 200                 |                    |                       |                 |                                            |

Tabel C49: verplaatsing

| Effectieve verankeringsdiepte $h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_{\infty}$ | V                                   | $\delta v_0$ | $\delta v_{\infty}$ |
|----------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                   | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                     | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,54         | 1,08                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,63         | 2,45                |
| 85                                     |                                     | 0,17         | 0,34                |                                     | 1,75         | 2,63                |
| 130 ; 200                              |                                     | 0,54         | 1,08                |                                     | 1,75         | 2,63                |

## Prestatieverklaring

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# Baksteentype: holle baksteen uit klei Doppio Uni

Tabel C50: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen

| Anker grootte                            | Huls          | Effectieve<br>verankeringsdiepte<br>$e$ | Karakteristieke weerstand           |               |                                       |
|------------------------------------------|---------------|-----------------------------------------|-------------------------------------|---------------|---------------------------------------|
|                                          |               |                                         | Gebruikscategorie d/d<br>w/d<br>w/w |               |                                       |
|                                          |               |                                         | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk<br>temperatuur <sup>2)</sup> |
|                                          |               |                                         | $N_{Rk\ 1)}$                        | $N_{Rk1)}$    | $V_{Rk,b}$                            |
|                                          |               | [mm]                                    | [kN]                                |               |                                       |
| Drukvastheid $f_b \geq 10\text{ N/mm}^2$ |               |                                         |                                     |               |                                       |
| M8                                       | SH 12x80      | 80                                      | 0,9                                 | 0,6           | 2,0                                   |
| M8 / M10                                 | SH 16x85      | 85                                      | 0,9                                 | 0,6           | 2,0                                   |
|                                          | SH 16x130     | 130                                     | 0,9                                 | 0,6           | 2,0                                   |
|                                          | SH 16x130/330 | 130                                     | 0,9                                 | 0,6           | 2,0                                   |
| M12 / M16                                | SH 20x85      | 85                                      | 1,2                                 | 0,75          | 2,0                                   |
|                                          | SH 20x130     | 130                                     | 1,2                                 | 0,75          | 2,0                                   |
|                                          | SH 20x200     | 200                                     | 1,2                                 | 0,75          | 2,0                                   |
| Drukvastheid $f_b \geq 16\text{ N/mm}^2$ |               |                                         |                                     |               |                                       |
| M8                                       | SH 12x80      | 80                                      | 0,9                                 | 0,75          | 2,5                                   |
| M8 / M10                                 | SH 16x85      | 85                                      | 1,2                                 | 0,9           | 2,5                                   |
|                                          | SH 16x130     | 130                                     | 1,2                                 | 0,9           | 2,5                                   |
|                                          | SH 16x130/330 | 130                                     | 1,2                                 | 0,9           | 2,5                                   |
| M12 / M16                                | SH 20x85      | 85                                      | 1,5                                 | 0,9           | 2,5                                   |
|                                          | SH 20x130     | 130                                     | 1,5                                 | 0,9           | 2,5                                   |
|                                          | SH 20x200     | 200                                     | 1,5                                 | 0,9           | 2,5                                   |
| Drukvastheid $f_b \geq 20\text{ N/mm}^2$ |               |                                         |                                     |               |                                       |
| M8                                       | SH 12x80      | 80                                      | 1,2                                 | 0,75          | 3,0                                   |
| M8 / M10                                 | SH 16x85      | 85                                      | 1,2                                 | 0,9           | 3,0                                   |
|                                          | SH 16x130     | 130                                     | 1,5                                 | 0,9           | 3,0                                   |
|                                          | SH 16x130/330 | 130                                     | 1,5                                 | 0,9           | 3,0                                   |
| M12 / M16                                | SH 20x85      | 85                                      | 1,5                                 | 0,9           | 3,0                                   |
|                                          | SH 20x130     | 130                                     | 1,5                                 | 0,9           | 3,0                                   |
|                                          | SH 20x200     | 200                                     | 1,5                                 | 0,9           | 3,0                                   |
| Drukvastheid $f_b \geq 28\text{ N/mm}^2$ |               |                                         |                                     |               |                                       |
| M8                                       | SH 12x80      | 80                                      | 1,5                                 | 0,9           | 3,5                                   |
| M8 / M10                                 | SH 16x85      | 85                                      | 1,5                                 | 1,2           | 3,5                                   |
|                                          | SH 16x130     | 130                                     | 1,5                                 | 1,2           | 3,5                                   |
|                                          | SH 16x130/330 | 130                                     | 1,5                                 | 1,2           | 3,5                                   |
| M12 / M16                                | SH 20x85      | 85                                      | 2,0                                 | 1,2           | 3,5                                   |
|                                          | SH 20x130     | 130                                     | 2,0                                 | 1,2           | 3,5                                   |
|                                          | SH 20x200     | 200                                     | 2,0                                 | 1,2           | 3,5                                   |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

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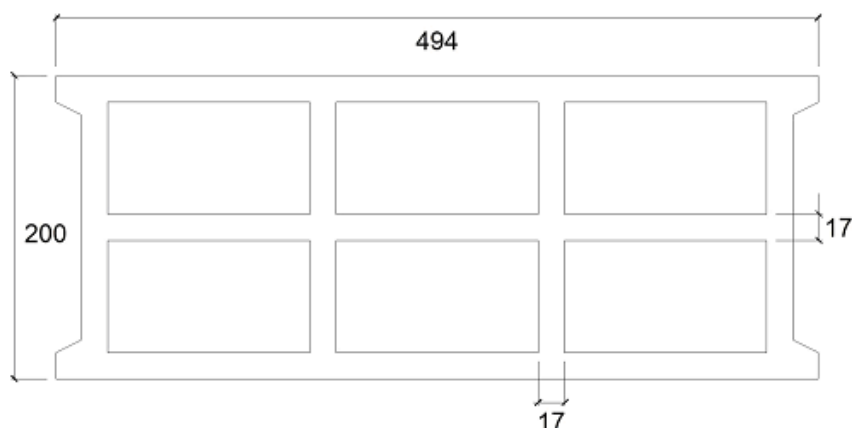
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# Baksteentype: hol licht beton Bloc creux B40

Tabel C51: beschrijving

|                         |                                |                                                                                     |
|-------------------------|--------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype            | Hol licht beton Bloc creux B40 |  |
| Bulkdichtheid [kg/dm³]  | 0,8                            |                                                                                     |
| Drukvastheid [N/mm²]    | 4                              |                                                                                     |
| Code                    | EN 771-3                       |                                                                                     |
| Producent (landcode)    | bv. Sepa (FR)                  |                                                                                     |
| Baksteenafmetingen [mm] | 494 x 200 x 190                |                                                                                     |
| Boormethode             | Roterende boring               |                                                                                     |



Technical drawing of the concrete hollow block showing dimensions: length 494 mm, height 200 mm, and wall thickness 17 mm.

Tabel C52: installatieparameter (randafstanden en tussenruimten)

| Anker grootte | Huls          | Verankerings diepte | Randafstand        | Tussenruimte                 |                 | Maximaal aanhaalmoment voor de installatie |
|---------------|---------------|---------------------|--------------------|------------------------------|-----------------|--------------------------------------------|
|               |               | $h_{ef}$            | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$                             |
|               |               |                     | [mm]               |                              |                 | [Nm]                                       |
| M8            | SH 12x80      | 80                  | 100                | 494                          | 190             | 2                                          |
| M8 / M10      | SH 16x85      | 85                  |                    |                              |                 |                                            |
|               | SH 16x130     | 130                 |                    |                              |                 |                                            |
|               | SH 16x130/330 | 130                 |                    |                              |                 |                                            |
| M12 / M16     | SH 20x85      | 85                  | 120                | 494                          | 190             | 2                                          |
|               | SH 20x130     | 130                 |                    |                              |                 |                                            |

Tabel C53: verplaatsing

| Effectieve verankeringsdiepte $h_{ef}$ | N                                | $\delta N_0$ | $\delta N_{\infty}$ | V                                | $\delta V_0$ | $\delta V_{\infty}$ |
|----------------------------------------|----------------------------------|--------------|---------------------|----------------------------------|--------------|---------------------|
| [mm]                                   | [kN]                             | [mm]         | [mm]                | [kN]                             | [mm]         | [mm]                |
| 80                                     | $N_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,14         | 0,29                | $V_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,25         | 0,37                |
| 85                                     |                                  | 0,45         | 0,90                |                                  | 0,98         | 1,47                |
| 130                                    |                                  | 0,61         | 1,22                |                                  | 1,10         | 1,65                |

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# Baksteentype: hol licht beton Bloc creux B40

Tabel C54: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen

| Anker grootte                            | Huls          | Effectieve<br>verankeringsdiepte<br>$e$ | Karakteristieke weerstand           |               |                            |
|------------------------------------------|---------------|-----------------------------------------|-------------------------------------|---------------|----------------------------|
|                                          |               |                                         | Gebruikscategorie d/d<br>w/d<br>w/w |               |                            |
|                                          |               |                                         | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk temperatuurbereik |
|                                          |               | $h_{ef}$                                | $N_{Rk1)}$                          | $N_{Rk1)}$    | $V_{Rk,b}^{2)}$            |
|                                          |               | [mm]                                    | [kN]                                |               |                            |
| Drukvastheid $f_b \geq 4 \text{ N/mm}^2$ |               |                                         |                                     |               |                            |
| M8                                       | SH 12x80      | 80                                      | 0,4                                 | 0,3           | 1,2                        |
|                                          | SH 16x85      | 85                                      | 0,6                                 | 0,5           | 3,0                        |
|                                          | SH 16x130     | 130                                     | 2,0                                 | 1,5           | 3,5                        |
|                                          | SH 16x130/330 | 130                                     | 2,0                                 | 1,5           | 3,5                        |
| M10                                      | SH 16x85      | 85                                      | 0,6                                 | 0,5           | 3,0                        |
|                                          | SH 16x130     | 130                                     | 2,0                                 | 1,5           | 3,5                        |
|                                          | SH 16x130/330 | 130                                     | 2,0                                 | 1,5           | 3,5                        |
| M12                                      | SH 20x85      | 85                                      | 0,9                                 | 0,6           | 3,0                        |
|                                          | SH 20x130     | 130                                     | 2,0                                 | 1,5           | 3,5                        |
| M16                                      | SH 20x85      | 85                                      | 0,9                                 | 0,6           | 3,0                        |
|                                          | SH 20x130     | 130                                     | 2,0                                 | 1,5           | 3,5                        |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

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# Baksteentype: massieve baksteen uit licht beton

Tabel C55: beschrijving

|                         |                                   |                                                                                     |
|-------------------------|-----------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype            | Massieve baksteen uit licht beton |  |
| Bulkdichtheid [kg/dm³]  | 0,63                              |                                                                                     |
| Drukvastheid [N/mm²]    | 2                                 |                                                                                     |
| Code                    | EN 771-3                          |                                                                                     |
| Producent (landcode)    | bv. Bisotherm (DE)                |                                                                                     |
| Baksteenafmetingen [mm] | 300 x 123 x 248                   |                                                                                     |
| Boormethode             | Roterende boring                  |                                                                                     |

Tabel C56: installatieparameter (randafstanden en tussenruimten)

| Ankerrootte | Huls | Verankerings<br>diepte | Randafstand                        | Tussenruimte                                               | Maximaal<br>aanhaalmoment voor<br>de installatie |
|-------------|------|------------------------|------------------------------------|------------------------------------------------------------|--------------------------------------------------|
|             |      | h <sub>ef</sub>        | C <sub>min</sub> = C <sub>cr</sub> | S <sub>cr</sub> = S <sub>min II</sub> = S <sub>min</sub> ⊥ | T <sub>inst,max</sub>                            |
|             |      | [mm]                   |                                    |                                                            | [Nm]                                             |
| M8          | -    | 80                     | 120                                | 240                                                        | 6                                                |
| M10         | -    | 90                     | 135                                | 270                                                        |                                                  |
| M12         | -    | 100                    | 150                                | 300                                                        | 10                                               |
| M16         | -    | 100                    | 150                                | 300                                                        | 14                                               |

Tabel C57: verplaatsing

| Effectieve<br>verankerings<br>gdiepte<br>h <sub>ef</sub> | N                                   | δN <sub>0</sub> | δN <sub>∞</sub> | V                                   | δV <sub>0</sub> | δV <sub>∞</sub> |
|----------------------------------------------------------|-------------------------------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|
| [mm]                                                     | [kN]                                | [mm]            | [mm]            | [kN]                                | [mm]            | [mm]            |
| 80                                                       | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,64            | 1,28            | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 0,50            | 0,75            |
| 90                                                       |                                     | 0,70            | 1,41            |                                     | 0,68            | 1,03            |
| 100                                                      |                                     | 0,21            | 0,42            |                                     | 0,54            | 0,81            |

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**Baksteentype: massieve baksteen uit licht beton**

**Tabel C58: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Ankergrootte                                      | Huls | Effectieve<br>verankeringsdiept<br>e | Karakteristieke weerstand               |                   |                                 |
|---------------------------------------------------|------|--------------------------------------|-----------------------------------------|-------------------|---------------------------------|
|                                                   |      |                                      | Gebruikscateg<br>orie d/d<br>w/d<br>w/w |                   |                                 |
|                                                   |      |                                      | 40 °C / 24 °C                           | 80 °C / 50 °C     | Voor elk temperatuurbereik      |
|                                                   |      | h <sub>ef</sub>                      | N <sub>Rk 1)</sub>                      | N <sub>Rk1)</sub> | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                   |      | [mm]                                 | [kN]                                    |                   |                                 |
| Drukvastheid f <sub>b</sub> ≥ 2 N/mm <sup>2</sup> |      |                                      |                                         |                   |                                 |
| M8                                                | -    | 80                                   | 2,0                                     | 1,5               | 3,0                             |
| M10                                               | -    | 90                                   | 2,0                                     | 1,5               | 3,5                             |
| M12                                               | -    | 100                                  | 2,0                                     | 1,5               | 4,0                             |
| M16                                               | -    | 100                                  | 2,0                                     | 1,5               | 4,0                             |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

**Prestatieverklaring**

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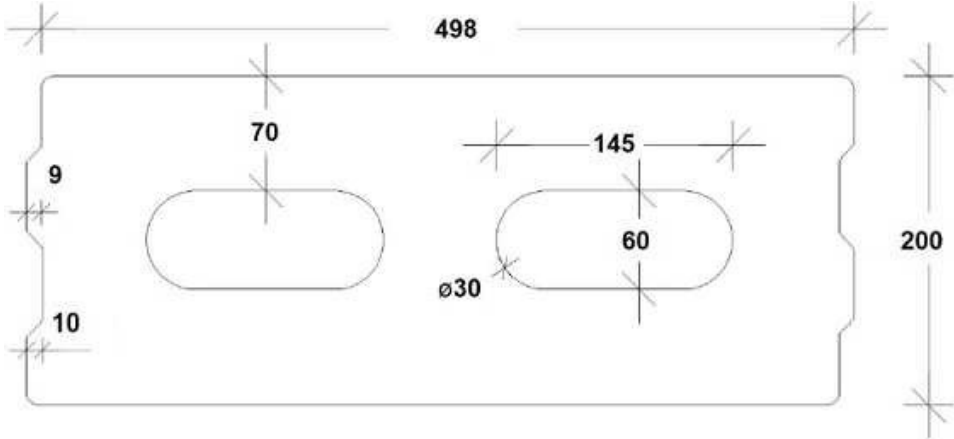
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**Baksteentype: holle baksteen uit licht beton – Leca Lex harkko RUH-200**
**Tabel C59: beschrijving**

|                                     |                                         |                                                                                     |
|-------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype                        | Hol licht beton Leca Lex harkko RUH-200 |  |
| Bulkdichtheid [kg/dm <sup>3</sup> ] | 0,7                                     |                                                                                     |
| Drukvastheid [N/mm <sup>2</sup> ]   | 2,7                                     |                                                                                     |
| Code                                | EN 771-3                                |                                                                                     |
| Producent (landcode)                | bv. Saint-Gobain Weber (Fin)            |                                                                                     |
| Baksteenafmetingen [mm]             | 498 x 200 x 195                         |                                                                                     |
| Boormethode                         | Roterende boring                        |                                                                                     |

  

**Tabel C60: installatieparameter (randafstanden en tussenruimten)**

| Anker grootte | Huls          | Verankerings diepte | Randafstand                        | Tussenruimte              |                    | Maximaal aanhaalmoment voor de installatie |
|---------------|---------------|---------------------|------------------------------------|---------------------------|--------------------|--------------------------------------------|
|               |               | h <sub>ef</sub>     | C <sub>min</sub> = C <sub>cr</sub> | Scr = S <sub>min</sub> II | S <sub>min</sub> ⊥ | T <sub>inst,max</sub>                      |
|               |               | [mm]                |                                    |                           |                    | [Nm]                                       |
| M8            | SH 12x80      | 80                  | 120                                | 498                       | 195                | 8                                          |
| M8 / M10      | SH 16x85      | 85                  | 127                                |                           |                    |                                            |
|               | SH 16x130     | 130                 | 195                                |                           |                    |                                            |
|               | SH 16x130/330 | 130                 | 195                                |                           |                    |                                            |
| M12 / M16     | SH 20x85      | 85                  | 127                                |                           |                    |                                            |
|               | SH 20x130     | 130                 | 195                                |                           |                    |                                            |

**Tabel C61: verplaatsing**

| Effectieve verankeringsdiepte h <sub>ef</sub> | N                    | δN <sub>0</sub> | δN <sub>∞</sub> | V                    | δv <sub>0</sub> | δv <sub>∞</sub> |
|-----------------------------------------------|----------------------|-----------------|-----------------|----------------------|-----------------|-----------------|
| [mm]                                          | [kN]                 | [mm]            | [mm]            | [kN]                 | [mm]            | [mm]            |
| 80                                            | 1,4 • γ <sub>M</sub> | 0,11            | 0,22            | 1,4 • γ <sub>M</sub> | 0,47            | 0,70            |
| 85                                            |                      | 0,11            | 0,23            |                      | 0,38            | 0,57            |
| 130                                           |                      | 0,10            | 0,20            |                      | 0,56            | 0,85            |

**Prestatieverklaring**

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**Baksteentype: holle baksteen uit licht beton – Leca Lex harkko RUH-200**

**Tabel C62: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Ankergrrootte                              | Huls          | Effectieve<br>verankeringsdiept<br>$e$ | Karakteristieke weerstand           |               |                            |
|--------------------------------------------|---------------|----------------------------------------|-------------------------------------|---------------|----------------------------|
|                                            |               |                                        | Gebruikscategorie d/d<br>w/d<br>w/w |               |                            |
|                                            |               |                                        | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk temperatuurbereik |
|                                            |               | $h_{ef}$                               | $N_{Rk1)}$                          | $N_{Rk1)}$    | $V_{Rk,b}^{2)}$            |
|                                            |               | [mm]                                   | [kN]                                |               |                            |
| Drukvastheid $f_b \geq 2,7 \text{ N/mm}^2$ |               |                                        |                                     |               |                            |
| M8                                         | SH 12x80      | 80                                     | 2,0                                 | 1,2           | 2,5                        |
|                                            | SH 16x85      | 85                                     | 2,0                                 | 1,2           | 3,5                        |
|                                            | SH 16x130     | 130                                    | 2,5                                 | 1,5           | 3,5                        |
|                                            | SH 16x130/330 | 130                                    | 2,5                                 | 1,5           | 3,5                        |
| M10                                        | SH 16x85      | 85                                     | 2,0                                 | 1,5           | 3,5                        |
|                                            | SH 16x130     | 130                                    | 2,5                                 | 1,5           | 3,5                        |
|                                            | SH 16x130/330 | 130                                    | 2,5                                 | 1,5           | 3,5                        |
| M12                                        | SH 20x85      | 85                                     | 2,5                                 | 1,5           | 3,5                        |
|                                            | SH 20x130     | 130                                    | 2,5                                 | 1,5           | 3,5                        |
| M16                                        | SH 20x85      | 85                                     | 2,5                                 | 1,5           | 3,5                        |
|                                            | SH 20x130     | 130                                    | 2,5                                 | 1,5           | 3,5                        |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

**Prestatieverklaring**

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**Baksteentype: massieve baksteen uit licht beton – Leca Lex harkko RUH-200 kulma**
**Tabel C63: beschrijving**

|                                     |                                                      |                                                                                     |
|-------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------|
| Baksteentype                        | Massief licht beton<br>Leca Lex harkko RUH-200 kulma |  |
| Bulkdichtheid [kg/dm <sup>3</sup> ] | 0,78                                                 |                                                                                     |
| Drukvastheid [N/mm <sup>2</sup> ]   | 3                                                    |                                                                                     |
| Code                                | EN 771-3                                             |                                                                                     |
| Producent (landcode)                | bv. Saint-Gobain Weber (Fin)                         |                                                                                     |
| Baksteenafmetingen [mm]             | 498 x 200 x 195                                      |                                                                                     |
| Boormethode                         | Roterende boring                                     |                                                                                     |

**Tabel C64: installatieparameter (randafstanden en tussenruimten)**

| Ankerrootte      | Huls          | Verankerings<br>diepte | Randafstand        | Tussenruimte                          | Maximaal<br>aanhaalmoment voor<br>de installatie |
|------------------|---------------|------------------------|--------------------|---------------------------------------|--------------------------------------------------|
|                  |               | $h_{ef}$               | $C_{min} = C_{cr}$ | $S_{cr} = S_{min II} = S_{min \perp}$ | $T_{inst,max}$                                   |
|                  |               | [mm]                   |                    |                                       | [Nm]                                             |
| <b>M8</b>        | -             | 80                     | 120                | 240                                   | 6                                                |
| <b>M10</b>       | -             | 90                     | 135                | 270                                   | 12                                               |
| <b>M12</b>       | -             | 100                    | 150                | 300                                   | 14                                               |
| <b>M16</b>       | -             | 100                    | 150                | 300                                   | 16                                               |
| <b>M8</b>        | SH 12x80      | 80                     | 120                | 240                                   | 8                                                |
| <b>M8 / M10</b>  | SH 16x85      | 85                     | 127                | 255                                   |                                                  |
|                  | SH 16x130     | 130                    | 195                | 390                                   |                                                  |
|                  | SH 16x130/330 | 130                    | 195                | 390                                   |                                                  |
| <b>M12 / M16</b> | SH 20x85      | 85                     | 127                | 255                                   | 12                                               |
|                  | SH 20x130     | 130                    | 195                | 390                                   | 16                                               |

**Tabel C65: verplaatsing**

| Effectieve<br>verankerings-<br>diepte<br>$h_{ef}$ | <b>N</b>                         | $\delta N_0$ | $\delta N_{\infty}$ | <b>V</b>                         | $\delta V_0$ | $\delta V_{\infty}$ |
|---------------------------------------------------|----------------------------------|--------------|---------------------|----------------------------------|--------------|---------------------|
| [mm]                                              | [kN]                             | [mm]         | [mm]                | [kN]                             | [mm]         | [mm]                |
| 80                                                | $N_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,09         | 0,18                | $V_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,48         | 0,72                |
| 85                                                |                                  | 0,07         | 0,15                |                                  | 0,77         | 1,15                |
| 90                                                |                                  | 0,13         | 0,26                |                                  | 0,26         | 0,39                |
| 100                                               |                                  | 0,13         | 0,23                |                                  | 0,36         | 0,54                |
| 130                                               |                                  | 0,10         | 0,21                |                                  | 0,68         | 1,01                |

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**Baksteentype: massieve baksteen uit licht beton – Leca Lex harkko RUH-200 kulma**  
**Tabel C66: karakteristieke weerstandswaarden onder spannings- en afschuifbelastingen**

| Anker grootte                              | Huls          | Effectieve<br>verankeringsdiepte<br>$e$ | Karakteristieke weerstand           |               |                            |
|--------------------------------------------|---------------|-----------------------------------------|-------------------------------------|---------------|----------------------------|
|                                            |               |                                         | Gebruikscategorie d/d<br>w/d<br>w/w |               |                            |
|                                            |               |                                         | 40 °C / 24 °C                       | 80 °C / 50 °C | Voor elk temperatuurbereik |
|                                            |               | $h_{ef}$                                | $N_{Rk1}$                           | $N_{Rk1}$     | $V_{Rk,b}^{2)}$            |
|                                            |               | [mm]                                    | [kN]                                |               |                            |
| Drukvastheid $f_b \geq 3,0 \text{ N/mm}^2$ |               |                                         |                                     |               |                            |
| M8                                         | -             | 80                                      | 2,0                                 | 1,2           | 3,0                        |
| M10                                        | -             | 90                                      | 3,0                                 | 2,0           | 4,0                        |
| M12                                        | -             | 100                                     | 3,0                                 | 2,0           | 4,0                        |
| M16                                        | -             | 100                                     | 3,0                                 | 2,0           | 4,0                        |
| M8                                         | SH 12x80      | 80                                      | 2,0                                 | 1,2           | 3,0                        |
|                                            | SH 16x85      | 85                                      | 2,0                                 | 1,5           | 3,5                        |
|                                            | SH 16x130     | 130                                     | 3,0                                 | 2,0           | 4,0                        |
|                                            | SH 16x130/330 | 130                                     | 3,0                                 | 2,0           | 4,0                        |
| M10                                        | SH 16x85      | 85                                      | 2,0                                 | 1,5           | 3,5                        |
|                                            | SH 16x130     | 130                                     | 3,0                                 | 2,0           | 4,0                        |
|                                            | SH 16x130/330 | 130                                     | 3,0                                 | 2,0           | 4,0                        |
| M12 / M16                                  | SH 20x85      | 85                                      | 2,0                                 | 1,5           | 4,5                        |
|                                            | SH 20x130     | 130                                     | 3,0                                 | 2,0           | 4,5                        |

1) Voor ontwerp in overeenstemming met ETAG 029, Bijlage C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  in overeenstemming met Tabel C2 Bijlage C2; Berekening  $N_{Rk,pb}$  zie ETAG 029, Bijlage C

2) Voor  $V_{Rk,s}$  zie Bijlage C 2, Tabel C2; Berekening van  $V_{Rk,pb}$  en  $V_{Rk,c}$  zie ETAG 029, Bijlage C

## 8 GEËIGENDE TECHNISCHE DOCUMENTATIE EN/OF SPECIFIEKE TECHNISCHE DOCUMENTATIE

De prestaties van het hierboven omschreven product zijn conform de aangegeven prestaties. Deze prestatieverklaring wordt in overeenstemming met Verordening (EU) nr. 305/2011 onder de exclusieve verantwoordelijkheid van de hierboven vermelde fabrikant verstrekt.

Ondertekend voor en namens de fabrikant door:

Naam: Paul Magera  
 Functie: General Manager  
 Te Nazareth op 24 oktober 2018

Naam: Rudi Naert  
 Functie: Technical Manager  
 Te Nazareth op 24 oktober 2018




Einde van de informatie zoals vereist bij Verordening (EU) nr. 305/2011

### Prestatieverklaring

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## VOLLEDIGE CE-MARKERING



17

Sika Services AG, Zurich, Switzerland

DoP No. 86553674

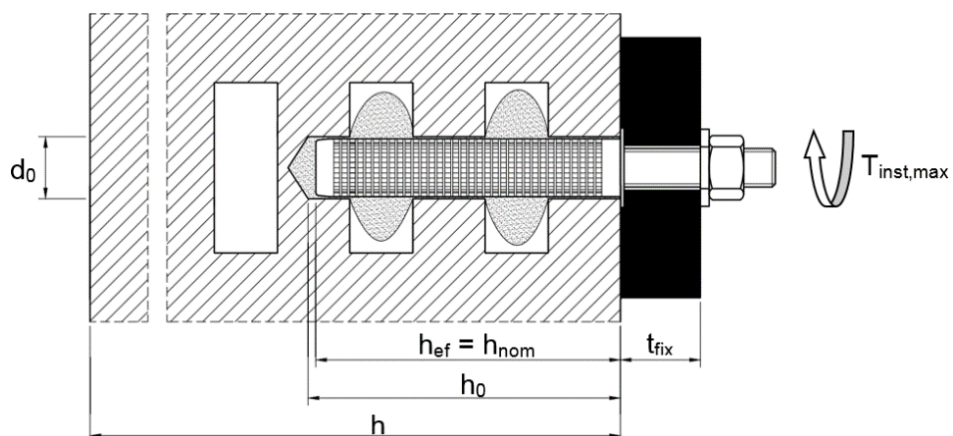
ETA 17/0327

Notified Body 1343

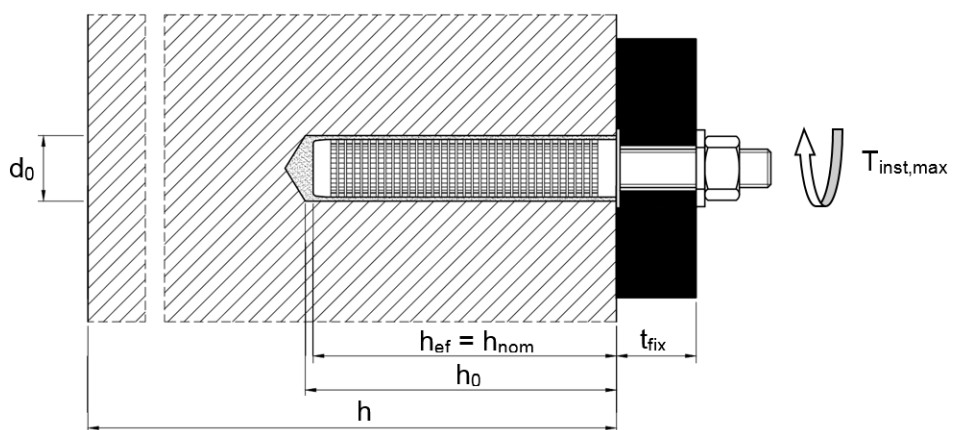
Injection anchors for use in masonry

**Reaction to fire** - Anchorages satisfy requirements for Class A1

### Installation in hollow brick; threaded rod with sleeve



### Installation in solid brick; threaded rod with sleeve



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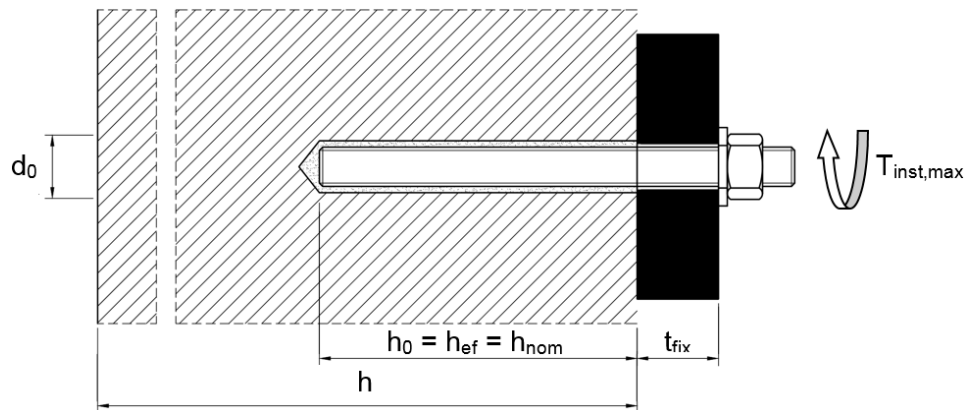
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**BUILDING TRUST**



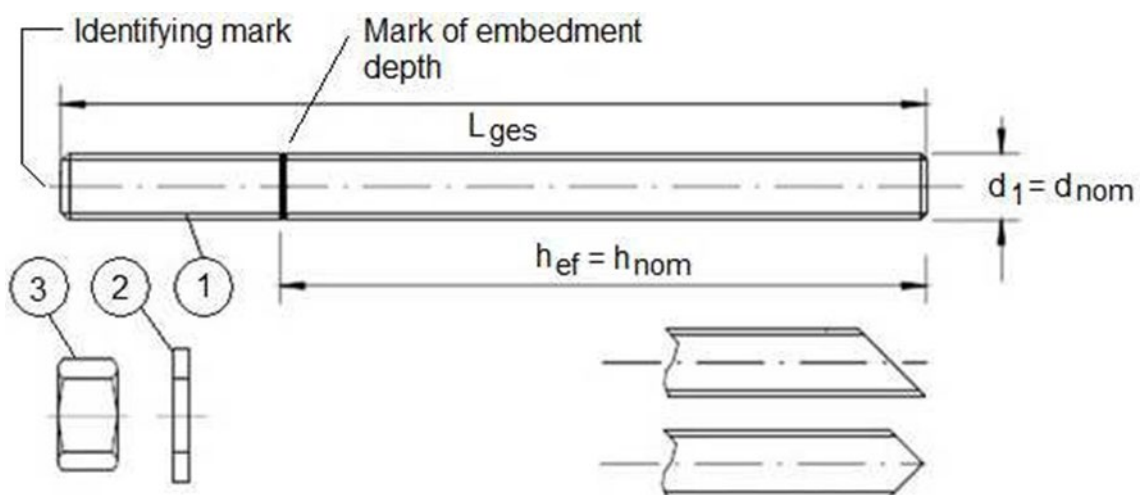
### Installation in solid brick; threaded rod without sleeve



$d_0$  = nominal drill hole diameter  
 = thickness of fixture  
 $T_{inst,max}$  = max installation torque moment

$h$  = thickness of member  
 $h_0$  = depth of drill hole at shoulder  $t_{fix}$   
 $h_{ef}$  = effective anchorage depth  
 $h_{nom}$  = overall embedment depth

## Threaded rod M8 / M10 / M12 / M16



Commercial standard threaded rod with:

- Materials, dimensions and mechanical properties acc. Table A1
- Inspection certificate 3.1 acc. to EN 10204:2004. The document shall be stored.
- Marking of embedment depth

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**Table A1: Materials**

| Part                                                                                                                                                                                                    | Designation                                                                            | Material                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Steel, zinc plated <math>\geq 5 \mu\text{m}</math> acc. to EN ISO 4042:2001 or Steel, hot-dip galvanised <math>\geq 40 \mu\text{m}</math> acc. to EN ISO 1461:2009 and EN ISO 10684:2011+AC:2009</b> |                                                                                        |                                                                                                                                                                                                                                      |
| 1                                                                                                                                                                                                       | Anchor rod                                                                             | Steel, EN 10087:1998 or EN 10263:2001<br>Strength class 4.6, 4.8, 5.6, 5.8, 8.8<br>EN 1993-1-8:2005+AC:2009                                                                                                                          |
| 2                                                                                                                                                                                                       | Hexagon nut, EN ISO 4032:2012                                                          | Steel acc. to EN 10087:1998 or EN 10263:2001<br>Strength class 4 (for class 4.6, 4.8 rod) EN ISO 898-2:2012<br>Strength class 5 (for class 5.6, 5.8 rod) EN ISO 898-2:2012<br>Strength class 8 (for class 8.8 rod) EN ISO 898-2:2012 |
| 3                                                                                                                                                                                                       | Washer, EN ISO 887:2006,<br>EN ISO 7089:2000, EN ISO 7093:2000, or<br>EN ISO 7094:2000 | Steel, zinc plated or hot-dip galvanised                                                                                                                                                                                             |
| <b>Stainless steel</b>                                                                                                                                                                                  |                                                                                        |                                                                                                                                                                                                                                      |
| 1                                                                                                                                                                                                       | Anchor rod                                                                             | Material 1.4401 / 1.4404 / 1.4571, EN 10088-1:2014,<br>Strength class 70 EN ISO 3506-1:2009<br>Strength class 80 EN ISO 3506-1:2009                                                                                                  |
| 2                                                                                                                                                                                                       | Hexagon nut, EN ISO 4032:2012                                                          | Material 1.4401 / 1.4404 / 1.4571 EN 10088-1:2014,<br>Strength class 70 (for class 70 rod) EN ISO 3506-2:2009<br>Strength class 80 (for class 80 rod) EN ISO 3506-2:2009                                                             |
| 3                                                                                                                                                                                                       | Washer, EN ISO 887:2006,<br>EN ISO 7089:2000, EN ISO 7093:2000, or<br>EN ISO 7094:2000 | Material 1.4401, 1.4404 or 1.4571, EN 10088-1:2014                                                                                                                                                                                   |
| <b>High corrosion resistant steel (HCR)</b>                                                                                                                                                             |                                                                                        |                                                                                                                                                                                                                                      |
| 1                                                                                                                                                                                                       | Anchor rod                                                                             | Material 1.4529 / 1.4565, EN 10088-1:2014,<br>Strength class 70 EN ISO 3506-1:2009<br>Strength class 80 EN ISO 3506-1:2009                                                                                                           |
| 2                                                                                                                                                                                                       | Hexagon nut, EN ISO 4032:2012                                                          | Material 1.4529 / 1.4565 EN 10088-1:2014,<br>Strength class 70 (for class 70 rod) EN ISO 3506-2:2009<br>Strength class 80 (for class 80 rod) EN ISO 3506-2:2009                                                                      |
| 3                                                                                                                                                                                                       | Washer, EN ISO 887:2006,<br>EN ISO 7089:2000, EN ISO 7093:2000 or<br>EN ISO 7094:2000  | Material 1.4529 / 1.4565, EN 10088-1:2014                                                                                                                                                                                            |

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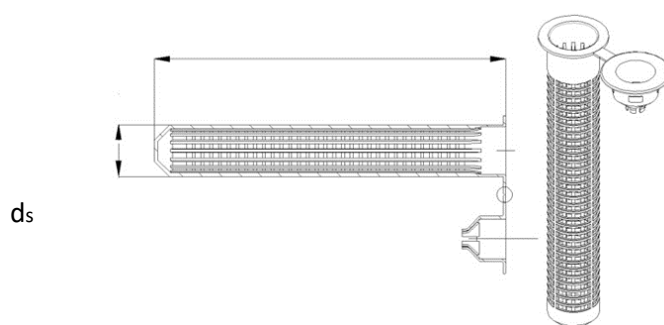
## Sleeve (Plastic)

SH 12x80

SH 16x85

SH 20x85

$$l_s = h_{ef} = h_{nom}$$



SH 16x130

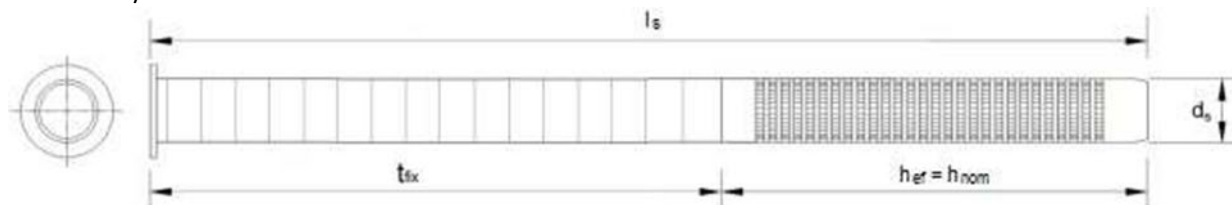
SH 20x130

SH 20x200

$$l_s = h_{ef} = h_{nom}$$



SH 16x130/330



**Table A2: Sleeve sizes (mm)**

| S            |       |       |                    |
|--------------|-------|-------|--------------------|
| Size         | $d_s$ | $l_s$ | $h_{ef} = h_{nom}$ |
|              | [mm]  | [mm]  | [mm]               |
| SH12x80      | 12    | 80    | 80                 |
| SH16x85      | 16    | 85    | 85                 |
| SH16x130     | 16    | 130   | 130                |
| SH16x130/330 | 16    | 330   | 130                |
| SH20x85      | 20    | 85    | 85                 |
| SH20x130     | 20    | 130   | 130                |
| SH20x200     | 20    | 200   | 200                |

## Prestatieverklaring

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**Anchorage subject to:**

- Static and quasi-static loads

**Base materials**

- Autoclaved Aerated Concrete (Use category d) to Annex B2.
- Solid brick masonry (Use category b), according to Annex B2 to B4.
- Hollow brick masonry (Use category c), according to Annex B2 to B4.
- Mortar strength class of the masonry M2,5 at minimum according to EN 998-2:2010.
- For other bricks in solid masonry and in hollow or perforated masonry, the characteristic resistance of the anchor may be determined by job site tests according to ETAG 029, Annex B under consideration of the  $\beta$ -factor to Annex C1, Table C1.

Note: The characteristic resistances are also valid for larger brick sizes and larger compressive strength of the masonry unit.

**Temperature range:**

- Ta: -40°C to +40°C (max. short. term temperature +40°C and max. long term temperature +24°C)
- Tb: -40°C to +80°C (max. short. term temperature +80°C and max. long term temperature +50°C)

**Use conditions (Environmental conditions)**

- Dry and wet structures (regarding injection mortar).
- Structures subject to dry internal conditions (zinc coated steel, stainless steel or high corrosion resistant steel).
- Structures subject to external atmospheric exposure (including industrial and marine environment) and to permanently damp internal condition, if no particular aggressive conditions exist (stainless steel or high corrosion resistant steel).
- Structures subject to external atmospheric exposure and to permanently damp internal condition, if other particular aggressive conditions exist (high corrosion resistant steel).

Note: Particular aggressive conditions are e.g. permanent, alternating immersion in seawater or the splash zone of seawater, chloride atmosphere of indoor swimming pools or atmosphere with extreme chemical pollution (e.g. in desulphurization plants or road tunnels where de-icing materials are used).

**Use categories in respect of installation and use:**

- Category d/d: Installation and use in dry masonry
- Category w/w: Installation and use in wet masonry

**Design:**

- Verifiable calculation notes and drawings are prepared taking account the relevant masonry in the region of the anchorage, the loads to be transmitted and their transmission to the supports of the structure. The position of the anchor is indicated on the design drawings.
- The anchorage are designed in accordance with the ETAG 029, Annex C, Design method A under the responsibility of an engineer experienced in anchorages and masonry work.

**Installation:**

- Dry or wet structures
- Anchor Installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.

**Prestatieverklaring**

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**Table B1: Overview brick types and properties with corresponding fastening elements (Anchors and Sleeves)**

| Brick-Nr.                                            | Brick type                                   | picture                                                                             | Brick size<br>Length x<br>width x height | Compressive<br>strength | Bulk density | Sleeve - Anchor type                                                                                                                                                                       | Annex           |
|------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------|-------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
|                                                      |                                              |                                                                                     | [mm]                                     | [N/mm2]                 | [kg/dm3]     |                                                                                                                                                                                            |                 |
| Autoclaved aerated concrete units according EN 771-4 |                                              |                                                                                     |                                          |                         |              |                                                                                                                                                                                            |                 |
| 1                                                    | Autoclaved<br>Aerated<br>Concret<br>AAC6     |    | 499 x 240 x<br>---                       | 6                       | 0,6          | M8 / M10 / M12 / M16                                                                                                                                                                       | C4 /<br>C5      |
| Calcium silicate masonry units according EN 771-2    |                                              |                                                                                     |                                          |                         |              |                                                                                                                                                                                            |                 |
| 2                                                    | Calcium<br>silicate<br>solid brick<br>KS-NF  |    | 240 x 115 x 71                           | 10<br>20<br>27          | 2,0          | M8 / M10 / M12 / M16<br>SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16<br>SH 20x130 – M12 / M16<br>SH 20x200 – M12 / M16 | C6 /<br>C7      |
| 3                                                    | Calcium<br>silicate<br>hollow<br>brick KS L- |   | 240 x 175 x<br>113                       | 8<br>12<br>14           | 1,4          | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16<br>SH 20x200 – M12 / M16                         | C8 /<br>C9      |
| 4                                                    | Calcium<br>silicate<br>hollow<br>brick KS L- |  | 498 x 175 x<br>238                       | 10<br>12<br>16          | 1,4          | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16<br>SH 20x130 – M12 / M16<br>SH 20x200 – M12 / M16                         | C10<br>/<br>C11 |

**Prestatieverklaring**

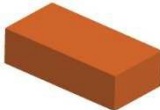
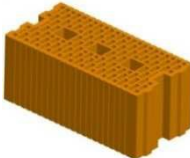
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**Table B1: Overview brick types and properties with corresponding fastening elements (Anchors and Sleeves)**

| Brick-Nr.                             | Brick type                                    | picture                                                                             | Brick size<br>Length x<br>width x height | Compressive<br>strength | Bulk density | Sleeve - Anchor type                                                                                                                                                                       | Annex           |
|---------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------|-------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
|                                       |                                               |                                                                                     | [mm]                                     | [N/mm2]                 | [kg/dm3]     |                                                                                                                                                                                            |                 |
| Clay masonry units according EN 771-1 |                                               |                                                                                     |                                          |                         |              |                                                                                                                                                                                            |                 |
| 5                                     | Clay<br>solid<br>brick<br>Mz – DF             |    | 240 x 115 x 55                           | 10<br>20<br>28          | 1,64         | M8 / M10 / M12 /<br>M16 SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16 SH<br>20x200 – M12 / M16 | C12<br>/<br>C13 |
| 6                                     | Clay<br>hollow<br>brick<br>HLz-16DF           |    | 497 x 240 x<br>238                       | 6<br>9<br>12<br>14      | 0,83         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16 SH<br>20x200 – M12 / M16                         | C14<br>/<br>C15 |
| 7                                     | Clay hollow<br>brick<br>Porotherm<br>Homebric |  | 500 x 200 x<br>299                       | 6<br>8<br>10            | 0,68         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                                                  | C16<br>/<br>C17 |
| 8                                     | Clay<br>hollow<br>brick<br>BGV Thermo         |  | 500 x 200 x<br>314                       | 4<br>6<br>10            | 0,62         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                                                  | C18<br>/<br>C19 |
| 9                                     | Clay<br>hollow<br>brick<br>Calibric Th        |  | 500 x 200 x<br>314                       | 6<br>9<br>12            | 0,62         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                                                  | C20<br>/<br>C21 |
| 10                                    | Clay hollow<br>brick<br>Urbanbric             |  | 560 x 200 x<br>274                       | 6<br>9                  | 0,74         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                                                  | C22<br>/<br>C23 |

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**Table B1: Overview brick types and properties with corresponding fastening elements (Anchors and Sleeves)**

| Brick-Nr.                                | Brick type                                      | picture                                                                             | Brick size<br>Length x<br>width x height | Compressive<br>strength | Bulk density | Sleeve - Anchor type                                                                                                                                               | Annex           |
|------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------|-------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
|                                          |                                                 |                                                                                     | [mm]                                     | [N/mm2]                 | [kg/dm3]     |                                                                                                                                                                    |                 |
| Clay masonry units according EN 771-1    |                                                 |                                                                                     |                                          |                         |              |                                                                                                                                                                    |                 |
| 11                                       | Clay hollow brick<br>Blocchi Leggeri            |    | 250 x 120 x 250                          | 4<br>6<br>8             | 0,55         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16 SH<br>20x200 – M12 / M16 | C24<br>/<br>C25 |
| 12                                       | Clay hollow brick<br>Doppio Uni                 |    | 250 x 120 x 120                          | 10<br>16<br>20<br>28    | 0,92         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16 SH<br>20x200 – M12 / M16 | C26<br>/<br>C27 |
| Light weight concrete according EN 771-3 |                                                 |                                                                                     |                                          |                         |              |                                                                                                                                                                    |                 |
| 13                                       | Hollow light weight concrete<br>Bloc creux B40  |  | 494 x 200 x 190                          | 4                       | 0,80         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                          | C28<br>/<br>C29 |
| 14                                       | Solid light weight concrete                     |  | 300 x 123 x 248                          | 2                       | 0,63         | M8 / M10 / M12 / M16                                                                                                                                               | C30<br>/<br>C31 |
| 15                                       | Hollow light weight<br>Leca Lex harkko RUH- 200 |  | 498 x 200 x 195                          | 2,7                     | 0,62         | SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16                          | C32<br>/<br>C33 |
| 16                                       | Solid light weight<br>Leca Lex RUH-200 Kulma    |  | 498 x 200 x 195                          | 3                       | 0,62         | M8 / M10 / M12 / M16 SH 12x80 – M8<br>SH 16x85 – M8 / M10<br>SH 16x130 – M8 / M10<br>SH 16x130/330 - M8 / M10<br>SH 20x85 – M12 / M16 SH<br>20x130 – M12 / M16     | C34<br>/<br>C35 |

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## Installation: Steel brush



**Table B2: Installation parameters in Autoclaved Aerated Concrete AAC and solid masonry (without sleeve)**

| Threaded rod                              |           |      | M8                                            | M10  | M12  | M16  |
|-------------------------------------------|-----------|------|-----------------------------------------------|------|------|------|
| Nominal drill hole diameter               | d0        | [mm] | 10                                            | 12   | 14   | 18   |
| Drill hole depth                          | h0        | [mm] | 80                                            | 90   | 100  | 100  |
| Effective anchorage depth                 | hef =     | [mm] | 80                                            | 90   | 100  | 100  |
| Minimum wall thickness                    | hmin      | [mm] | hef +                                         |      |      |      |
| Diameter of clearance hole in the fixture | df ≤      | [mm] | 9                                             | 12   | 14   | 18   |
| Diameter of Steel brush                   | db        | [mm] | 12                                            | 14   | 16   | 20   |
| Minimum diameter of Steel brush           | db,min    | [mm] | 10,5                                          | 12,5 | 14,5 | 18,5 |
| Max torque moment                         | Tinst,max | [Nm] | See parameters of brick Annex C4 to Annex C39 |      |      |      |

**Table B3: Installation parameters in solid and hollow masonry (with sleeve)**

| Threaded rod                              |           |      | M8                                            | M8 / M10          |             |                   | M12 /               |             |             |
|-------------------------------------------|-----------|------|-----------------------------------------------|-------------------|-------------|-------------------|---------------------|-------------|-------------|
| Sleeve                                    |           | [mm] | VM-SH12x80                                    | VM-SH16x85        | VM-SH16x130 | VM-SH16x130 / 330 | VM-SH20x85          | VM-SH20x130 | VM-SH20x200 |
| Nominal drill hole diameter               | d0        | [mm] | 12                                            | 16                | 16          | 16                | 20                  | 20          | 20          |
| Drill hole depth                          | ho        | [mm] | 85                                            | 90                | 135         | 135 +tfix 1)      | 90                  | 135         | 205         |
| Effective anchorage depth                 | hef =     | [mm] | 80                                            | 85                | 130         | 130               | 85                  | 130         | 200         |
| Minimum wall thickness                    | hmin      | [mm] | 115                                           | 115               | 175         | 175               | 115                 | 175         | 240         |
| Diameter of clearance hole in the fixture | df ≤      | [mm] | 9                                             | 9 (M8) / 12 (M10) |             |                   | 14 (M12) / 18 (M16) |             |             |
| Diameter of brush                         | db        | [mm] | 14                                            | 18                |             |                   | 22                  |             |             |
| Minimum diameter of Steel brush           | db,min    | [mm] | 12,5                                          | 16,5              |             |                   | 20,5                |             |             |
| Max torque moment                         | Tinst,max | [Nm] | See parameters of brick Annex C4 to Annex C39 |                   |             |                   |                     |             |             |

1) t<sub>fix</sub> < 200 mm

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**Table B4: Maximum working time and minimum curing time**

| Temperature in the base material | Max. working time | Min. curing time |
|----------------------------------|-------------------|------------------|
| -5°C to -1°C                     | 90 min            | 6 h              |
| 0°C to +4°C                      | 45 min            | 3 h              |
| +5°C to +9°C                     | 25 min            | 2 h              |
| +10°C to +14°C                   | 20 min            | 100 min          |
| +15°C to +19°C                   | 15 min            | 80 min           |
| +20°C to +29°C                   | 6 min             | 45 min           |
| +30°C to +34°C                   | 4 min             | 25 min           |
| +35°C to +39°C                   | 2 min             | 20 min           |
| Cartridge temperature            | +5°C to +40°C     |                  |

**Table C1:  $\beta$ -factors for job-site testing under tension loading**

| Brick-Nr. | Installation & Use category | Anchor size    | $\beta$ -factor |                 |
|-----------|-----------------------------|----------------|-----------------|-----------------|
|           |                             |                | Ta: 24°C / 40°C | Tb: 50°C / 80°C |
| 1-3       | d/d                         | M8             | 0,82            | 0,70            |
|           |                             | M10            |                 |                 |
|           |                             | M12            | 0,70            | 0,60            |
|           |                             | M16            |                 |                 |
|           | w/w                         | M8             | 0,82            | 0,70            |
|           |                             | M10            | 0,63            | 0,54            |
|           |                             | M12            | 0,48            | 0,41            |
|           |                             | M16            |                 |                 |
| 4-18      | d/d<br>w/d<br>w/w           | For all anchor | 0,72            | 0,50            |

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**Table C2: Characteristic tension, shear resistance and bending moment of threaded rod**

| Size                                        |       |      | M8   | M10 | M12 | M16 |
|---------------------------------------------|-------|------|------|-----|-----|-----|
| Characteristic tension resistance           |       |      |      |     |     |     |
| steel, property class 4.6                   | NRk,s | [kN] | 15   | 23  | 34  | 63  |
|                                             | γMs1) | [-]  | 2,0  |     |     |     |
| steel, property class 4.8                   | NRk,s | [kN] | 15   | 23  | 34  | 63  |
|                                             | γMs1) | [-]  | 1,5  |     |     |     |
| steel, property class 5.6                   | NRk,s | [kN] | 18   | 29  | 42  | 79  |
|                                             | γMs1) | [-]  | 2,0  |     |     |     |
| steel, property class 5.8                   | NRk,s | [kN] | 18   | 29  | 42  | 79  |
|                                             | γMs1) | [-]  | 1,5  |     |     |     |
| steel, property class 8.8                   | NRk,s | [kN] | 29   | 46  | 67  | 126 |
|                                             | γMs1) | [-]  | 1,5  |     |     |     |
| Stainless steel A4 / HCR, property class 70 | NRk,s | [kN] | 26   | 41  | 59  | 110 |
|                                             | γMs1) | [-]  | 1,87 |     |     |     |
| Stainless steel A4 / HCR, property class 80 | NRk,s | [kN] | 29   | 46  | 67  | 126 |
|                                             | γMs1) | [-]  | 1,6  |     |     |     |
| Characteristic shear resistance             |       |      |      |     |     |     |
| steel, property class 4.6                   | VRk,s | [kN] | 7    | 12  | 17  | 31  |
|                                             | γMs1) | [-]  | 1,67 |     |     |     |
| steel, property class 4.8                   | VRk,s | [kN] | 7    | 12  | 17  | 31  |
|                                             | γMs1) | [-]  | 1,25 |     |     |     |
| steel, property class 5.6                   | VRk,s | [kN] | 9    | 15  | 21  | 39  |
|                                             | γMs1) | [-]  | 1,67 |     |     |     |
| steel, property class 5.8                   | VRk,s | [kN] | 9    | 15  | 21  | 39  |
|                                             | γMs1) | [-]  | 1,25 |     |     |     |
| steel, property class 8.8                   | VRk,s | [kN] | 15   | 23  | 34  | 63  |
|                                             | γMs1) | [-]  | 1,25 |     |     |     |
| Stainless steel A4 / HCR, property class 70 | VRk,s | [kN] | 13   | 20  | 30  | 55  |
|                                             | γMs1) | [-]  | 1,56 |     |     |     |
| Stainless steel A4 / HCR, property class 80 | VRk,s | [kN] | 15   | 23  | 34  | 63  |
|                                             | γMs1) | [-]  | 1,33 |     |     |     |
| Characteristic bending moment               |       |      |      |     |     |     |
| steel, property class 4.6                   | MRk,s | [Nm] | 15   | 30  | 52  | 133 |
|                                             | γMs1) | [-]  | 1,67 |     |     |     |
| steel, property class 4.8                   | MRk,s | [Nm] | 15   | 30  | 52  | 133 |
|                                             | γMs1) | [-]  | 1,25 |     |     |     |
| steel, property class 5.6                   | MRk,s | [Nm] | 19   | 37  | 65  | 166 |
|                                             | γMs1) | [-]  | 1,67 |     |     |     |
| steel, property class 5.8                   | MRk,s | [Nm] | 19   | 37  | 65  | 166 |
|                                             | γMs1) | [-]  | 1,25 |     |     |     |
| steel, property class 8.8                   | MRk,s | [Nm] | 30   | 60  | 105 | 266 |
|                                             | γMs1) | [-]  | 1,25 |     |     |     |
| Stainless steel A4 / HCR, property class 70 | MRk,s | [Nm] | 26   | 52  | 92  | 232 |
|                                             | γMs1) | [-]  | 1,56 |     |     |     |
| Stainless steel A4 / HCR, property class 80 | MRk,s | [Nm] | 30   | 60  | 105 | 266 |
|                                             | γMs1) | [-]  | 1,33 |     |     |     |

1) In absence of national regulations

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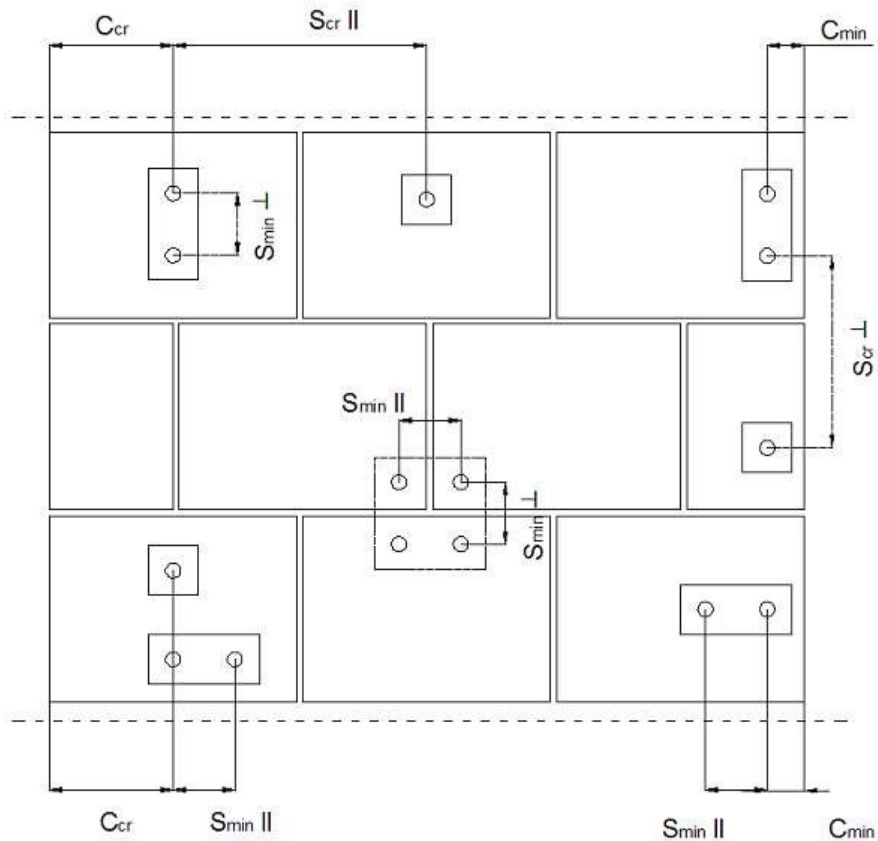
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## Spacing and edge distances



$c_{cr}$  = Characteristic edge distance

$s_{cr II}$  = Characteristic spacing parallel to the bed joint

$s_{cr \perp}$  = Characteristic spacing perpendicular to the bed joint

$c_{min}$  = Minimum edge distance

$s_{min II}$  = Minimum spacing parallel to the bed joint

$s_{min \perp}$  = Minimum spacing perpendicular to the bed joint

## Prestatieverklaring

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**Brick type: Autoclaved Aerated Concrete AAC6**
**Table C3: Description**

|                                           |                                  |                                                                                     |
|-------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|
| Brick type                                | Autoclaved Aerated Concrete AAC6 |  |
| Bulk density [kg/dm <sup>3</sup> ]        | 0,60                             |                                                                                     |
| Compressive strength [N/mm <sup>2</sup> ] | 6                                |                                                                                     |
| Code                                      | EN 771-4                         |                                                                                     |
| Producer (country code)                   | e.g. Porit (DE)                  |                                                                                     |
| Brick dimensions [mm]                     | 499 x 240 x 249                  |                                                                                     |
| Drilling method                           | Rotary drilling                  |                                                                                     |

**Table C4: Installation parameter (Edge and spacing distances)**

| Anchor size | Effective anchorage depth | Edge distance | Spacing              | Maximum installation torque |
|-------------|---------------------------|---------------|----------------------|-----------------------------|
|             | hef                       | cmin = ccr    | scr = smin II = smin | Tinst,ma                    |
|             | [m]                       |               |                      | [Nm]                        |
| <b>M8</b>   | 80                        | 120           | 240                  | 2                           |
| <b>M10</b>  | 90                        | 135           | 270                  |                             |
| <b>M12</b>  | 100                       | 150           | 300                  |                             |
| <b>M16</b>  | 100                       | 15            | 300                  |                             |

**Table C5: Displacement**

| Effective anchorage depth<br>hef | N                                | δN0  | δN∞  | V                                | δV0  | δV∞  |
|----------------------------------|----------------------------------|------|------|----------------------------------|------|------|
| [mm]                             | [kN]                             | [mm] | [mm] | [kN]                             | [mm] | [mm] |
| 80                               | $\frac{NRk}{1,4 \cdot \gamma M}$ | 0,54 | 1,09 | $\frac{VRk}{1,4 \cdot \gamma M}$ | 0,32 | 0,48 |
| 90                               |                                  | 0,85 | 1,69 |                                  | 1,49 | 2,23 |
| 100                              |                                  | 0,10 | 0,19 |                                  | 1,67 | 2,50 |

**Brick type: Autoclaved Aerated Concrete AAC6**
**Table C6: Characteristic values of resistance under tension and shear loads**

| Table C6: Characteristic values of resistance under tension and shear loads |                           |                           |             |                |             |                           |
|-----------------------------------------------------------------------------|---------------------------|---------------------------|-------------|----------------|-------------|---------------------------|
| Anchor size                                                                 | Effective anchorage depth | Characteristic resistance |             |                |             |                           |
|                                                                             |                           | Use category              |             |                |             |                           |
|                                                                             |                           | d/d                       |             | w/d<br>w/<br>w |             | d/d<br>w/d<br>w/w         |
|                                                                             |                           | 40°C / 24°C               | 80°C / 50°C | 40°C / 24°C    | 80°C / 50°C | For all temperature range |
|                                                                             | hef                       | NRk 1)                    | NRk 1)      | NRk 1)         | NRk 1)      | VRk,b <sup>2)</sup>       |
|                                                                             | [mm]                      | [kN]                      |             |                |             |                           |
| Compressive strength $f_b \geq 6 \text{ N/mm}^2$                            |                           |                           |             |                |             |                           |
| M8                                                                          | 80                        | 2,0                       | 2,0         | 2,0            | 2,0         | 5,5                       |
| M10                                                                         | 90                        | 3,0                       | 2,5         | 2,5            | 2,0         | 9,0                       |
| M12                                                                         | 100                       | 4,5                       | 3,5         | 3,0            | 2,5         | 9,0                       |
| M16                                                                         | 100                       | 5,5                       | 4,5         | 3,5            | 3,0         | 11,0                      |

1) For design according ETAG 029, Annex C: NRk = NRk,p = NRk,b; NRk,s according to Table C2 Annex C2; Calculation NRk,pb see ETAG 029, Annex C

2) For VRk,s see Annex C 2, Table C2; Calculation of VRk,pb and VRk,c see ETAG 029, Annex C

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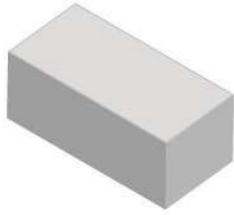
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**Table C7: Description**

|                              |                                       |                                                                                     |
|------------------------------|---------------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Calcium silicate solid brick<br>KS-NF |  |
| Bulk density [kg/dm³]        | 2,0                                   |                                                                                     |
| Compressive strength [N/mm²] | 10, 20 or 27                          |                                                                                     |
| Code                         | EN 771-2                              |                                                                                     |
| Producer (country code)      | e.g. Wemding (DE)                     |                                                                                     |
| Brick dimensions [mm]        | 240 x 115 x 71                        |                                                                                     |
| Drilling method              | Hammer drilling                       |                                                                                     |

**Table C8: Installation parameter (Edge and spacing distances)**

| Anchor size      | Sleeve        | Embedment depth | Edge distance      | Spacing                                      | Maximum installation torque |
|------------------|---------------|-----------------|--------------------|----------------------------------------------|-----------------------------|
|                  |               | $h_{ef}$        | $c_{min} = c_{cr}$ | $s_{cr} = s_{min \parallel} = s_{min \perp}$ | $T_{inst,max}$              |
|                  |               | [mm]            |                    |                                              | [Nm]                        |
| <b>M8</b>        | -             | 80              | 120                | 240                                          | 10                          |
| <b>M10</b>       | -             | 90              | 135                | 270                                          | 20                          |
| <b>M12 / M16</b> | -             | 100             | 150                | 300                                          |                             |
| <b>M8</b>        | SH 12x80      | 80              | 120                | 240                                          | 10                          |
|                  | SH 16x85      | 85              | 127                | 255                                          |                             |
| <b>M10</b>       | SH 16x85      | 85              | 127                | 255                                          | 20                          |
| <b>M8 / M10</b>  | SH 16x130     | 130             | 195                | 390                                          |                             |
|                  | SH 16x130/330 | 130             | 195                | 390                                          |                             |
| <b>M12 / M16</b> | SH 20x85      | 85              | 127                | 255                                          |                             |
|                  | SH 20x130     | 130             | 195                | 390                                          |                             |
|                  | SH 20x200     | 200             | 300                | 600                                          |                             |

**Table C9: Displacement**

| Effective anchorage depth<br>$h_{ef}$ | <b>N</b>                            | $\delta N_0$ | $\delta N_{\infty}$ | <b>V</b>                            | $\delta v_0$ | $\delta v_{\infty}$ |
|---------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                  | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                    | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,08         | 0,16                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 3,07         | 4,61                |
| 85                                    |                                     | 0,26         | 0,52                |                                     | 1,46         | 2,19                |
| 90                                    |                                     | 0,09         | 0,18                |                                     | 1,50         | 2,25                |
| 100                                   |                                     | 0,10         | 0,20                |                                     | 1,03         | 1,53                |
| 130 ; 200                             |                                     | 0,22         | 0,44                |                                     | 1,16         | 1,74                |

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Brick type: Calcium silicate solid brick KS-NF

Table C10: Characteristic values of resistance under tension and shear loads

| Anchor size                                                | Sleeve                  | Effective anchorage depth | Characteristic resistance |                           |                                 |
|------------------------------------------------------------|-------------------------|---------------------------|---------------------------|---------------------------|---------------------------------|
|                                                            |                         |                           | Use category              |                           |                                 |
|                                                            |                         |                           | d/d; w/d;                 |                           |                                 |
|                                                            |                         | 40°C / 24°C               | 80°C / 50°C               | For all temperature range |                                 |
|                                                            |                         | h <sub>ef</sub>           | N <sub>Rk 1)</sub>        | N <sub>Rk1)</sub>         | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                            |                         | [mm]                      | [kN]                      |                           |                                 |
| Compressive strength f <sub>b</sub> ≥ 10 N/mm <sup>2</sup> |                         |                           |                           |                           |                                 |
| M8                                                         | -                       | 80                        | 3,0                       | 2,0                       | 3,0                             |
| M10                                                        | -                       | 90                        | 3,0                       | 2,0                       | 3,0                             |
| M12                                                        | -                       | 100                       | 4,0                       | 2,5                       | 3,5                             |
| M16                                                        | -                       | 100                       | 3,0                       | 2,0                       | 3,5                             |
| M8                                                         | SH 12x80                | 80                        | 2,5                       | 2,0                       | 2,5                             |
|                                                            | SH 16x85                | 85                        | 2,5                       | 2,0                       | 3,0                             |
|                                                            | SH16x130 / SH16x130/330 | 130                       | 4,0                       | 2,5                       | 4,0                             |
| M10                                                        | SH 16x85                | 85                        | 2,5                       | 2,0                       | 3,0                             |
|                                                            | SH16x130 / SH16x130/330 | 130                       | 4,5                       | 3,0                       | 4,0                             |
| M12 / M16                                                  | SH 20x85                | 85                        | 2,5                       | 2,0                       | 3,0                             |
|                                                            | SH 20x130 / SH 20x200   | 130 / 200                 | 4,5                       | 2,5                       | 4,0                             |
| Compressive strength f <sub>b</sub> ≥ 20 N/mm <sup>2</sup> |                         |                           |                           |                           |                                 |
| M8                                                         | -                       | 80                        | 4,5                       | 3,0                       | 4,5                             |
| M10                                                        | -                       | 90                        | 4,5                       | 3,0                       | 4,5                             |
| M12                                                        | -                       | 100                       | 5,5                       | 3,5                       | 5,0                             |
| M16                                                        | -                       | 100                       | 4,5                       | 3,0                       | 5,0                             |
| M8                                                         | SH 12x80                | 80                        | 4,0                       | 2,5                       | 4,0                             |
|                                                            | SH 16x85                | 85                        | 4,0                       | 2,5                       | 4,5                             |
|                                                            | SH16x130 / SH16x130/330 | 130                       | 6,0                       | 3,5                       | 5,5                             |
| M10                                                        | SH 16x85                | 85                        | 4,0                       | 2,5                       | 4,5                             |
|                                                            | SH16x130 / SH16x130/330 | 130                       | 6,0                       | 4,0                       | 5,5                             |
| M12 / M16                                                  | SH 20x85                | 85                        | 4,0                       | 2,5                       | 5,0                             |
|                                                            | SH 20x130 / SH 20x200   | 130 / 200                 | 6,0                       | 4,0                       | 5,5                             |
| Compressive strength f <sub>b</sub> ≥ 27 N/mm <sup>2</sup> |                         |                           |                           |                           |                                 |
| M8                                                         | -                       | 80                        | 5,5                       | 3,5                       | 5,0                             |
| M10                                                        | -                       | 90                        | 5,5                       | 3,5                       | 5,5                             |
| M12                                                        | -                       | 100                       | 6,5                       | 4,5                       | 6,0                             |
| M16                                                        | -                       | 100                       | 5,5                       | 3,5                       | 6,0                             |
| M8                                                         | SH 12x80                | 80                        | 4,5                       | 3,0                       | 4,5                             |
|                                                            | SH 16x85                | 85                        | 4,5                       | 3,0                       | 5,5                             |
|                                                            | SH16x130 / SH16x130/330 | 130                       | 6,5                       | 4,5                       | 6,5                             |
| M10                                                        | SH 16x85                | 85                        | 4,5                       | 3,0                       | 5,5                             |
|                                                            | SH16x130 / SH16x130/330 | 130                       | 6,5                       | 4,5                       | 6,5                             |
| M12 / M16                                                  | SH 20x85                | 85                        | 4,5                       | 3,0                       | 5,5                             |
|                                                            | SH 20x130 / SH 20x200   | 130 / 200                 | 6,5                       | 4,5                       | 6,5                             |

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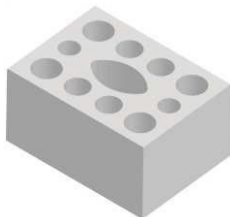
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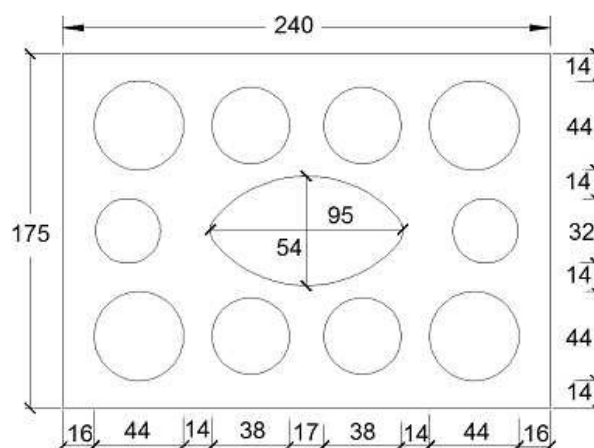
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**Brick type: Calcium silicate hollow brick KS L-3DF**
**Table C11: Description**

|                                           |                                           |                                                                                     |
|-------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------|
| Brick type                                | Calcium silicate hollow brick<br>KS L-3DF |  |
| Bulk density [kg/dm <sup>3</sup> ]        | 1,4                                       |                                                                                     |
| Compressive strength [N/mm <sup>2</sup> ] | 8, 12 or 14                               |                                                                                     |
| Code                                      | EN 771-2                                  |                                                                                     |
| Producer (country code)                   | e.g. Wemding (DE)                         |                                                                                     |
| Brick dimensions [mm]                     | 240 x 175 x 113                           |                                                                                     |
| Drilling method                           | Rotary drilling                           |                                                                                     |


**Table C12: Installation parameter (Edge and spacing distances)**

| Anchor size      | Sleeve        | Embedment depth | Edge distance      | Spacing                      |                 | Maximum installation torque |
|------------------|---------------|-----------------|--------------------|------------------------------|-----------------|-----------------------------|
|                  |               | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$              |
|                  |               |                 | [mm]               |                              |                 | [Nm]                        |
| <b>M8</b>        | SH 12x80      | 80              | 100                | 240                          | 113             | 8                           |
| <b>M8 / M10</b>  | SH 16x85      | 85              |                    |                              |                 |                             |
|                  | SH 16x130     | 130             |                    |                              |                 |                             |
|                  | SH 16x130/330 | 130             |                    |                              |                 |                             |
| <b>M12 / M16</b> | SH 20x85      | 85              | 120                | 240                          | 113             | 8                           |
|                  | SH 20x130     | 130             |                    |                              |                 |                             |
|                  | SH 20x200     | 200             |                    |                              |                 |                             |

**Table C13: Displacement**

| Effective anchorage depth $h_{ef}$ | N                                   | $\delta_{N0}$ | $\delta_{N\infty}$ | V                                   | $\delta_{V0}$ | $\delta_{V\infty}$ |
|------------------------------------|-------------------------------------|---------------|--------------------|-------------------------------------|---------------|--------------------|
| [mm]                               | [kN]                                | [mm]          | [mm]               | [kN]                                | [mm]          | [mm]               |
| 80                                 | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,36          | 0,73               | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 0,82          | 1,23               |
| 85                                 |                                     | 1,62          | 3,24               |                                     | 1,83          | 2,75               |
| 130 ; 200                          |                                     | 1,70          | 3,40               |                                     | 1,98          | 2,98               |

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Brick type: Calcium silicate hollow brick KS L-3DF

Table C14: Characteristic values of resistance under tension and shear loads

| Anchor size                                       | Sleeve                | Effective anchorage depth | Characteristic resistance |             |                           |
|---------------------------------------------------|-----------------------|---------------------------|---------------------------|-------------|---------------------------|
|                                                   |                       |                           | Use category              |             |                           |
|                                                   |                       |                           | d/d<br>w/d<br>w/w         |             |                           |
|                                                   |                       |                           | 40°C / 24°C               | 80°C / 50°C | For all temperature range |
|                                                   |                       | $h_{ef}$                  | $N_{Rk1}$                 | $N_{Rk1}$   | $V_{Rk,b}$ <sup>2)</sup>  |
|                                                   |                       | [mm]                      | [kN]                      |             |                           |
| Compressive strength $f_b \geq 8 \text{ N/mm}^2$  |                       |                           |                           |             |                           |
| M8                                                | SH 12x80              | 80                        | 1,5                       | 0,9         | 2,0                       |
|                                                   | SH 16x85              | 85                        | 1,5                       | 0,9         | 2,5                       |
|                                                   | SH 16x130             | 130                       | 2,5                       | 1,5         | 3,0                       |
|                                                   | SH 16x130/330         | 130                       | 2,5                       | 1,5         | 3,0                       |
| M10                                               | SH 16x85              | 85                        | 1,5                       | 0,9         | 2,5                       |
|                                                   | SH 16x130             | 130                       | 2,5                       | 1,5         | 3,0                       |
|                                                   | SH 16x130/330         | 130                       | 2,5                       | 1,5         | 3,0                       |
| M12                                               | SH 20x85              | 85                        | 1,5                       | 0,9         | 3,0                       |
|                                                   | SH 20x130 / SH 20x200 | 130 / 200                 | 2,5                       | 1,5         | 3,0                       |
| M16                                               | SH 20x85              | 85                        | 1,5                       | 0,9         | 3,0                       |
|                                                   | SH 20x130 / SH 20x200 | 130 / 200                 | 2,5                       | 1,5         | 4,0                       |
| Compressive strength $f_b \geq 12 \text{ N/mm}^2$ |                       |                           |                           |             |                           |
| M8                                                | SH 12x80              | 80                        | 2,0                       | 1,2         | 2,5                       |
|                                                   | SH 16x85              | 85                        | 2,0                       | 1,2         | 3,5                       |
|                                                   | SH 16x130             | 130                       | 3,5                       | 2,0         | 4,5                       |
|                                                   | SH 16x130/330         | 130                       | 3,5                       | 2,0         | 4,5                       |
| M10                                               | SH 16x85              | 85                        | 2,0                       | 1,2         | 3,5                       |
|                                                   | SH 16x130             | 130                       | 3,5                       | 2,0         | 4,5                       |
|                                                   | SH 16x130/330         | 130                       | 3,5                       | 2,0         | 4,5                       |
| M12                                               | SH 20x85              | 85                        | 2,0                       | 1,2         | 3,5                       |
|                                                   | SH 20x130 / SH 20x200 | 130 / 200                 | 3,5                       | 2,0         | 4,5                       |
| M16                                               | SH 20x85              | 85                        | 2,0                       | 1,2         | 3,5                       |
|                                                   | SH 20x130 / SH 20x200 | 130 / 200                 | 3,5                       | 2,0         | 5,0                       |
| Compressive strength $f_b \geq 14 \text{ N/mm}^2$ |                       |                           |                           |             |                           |
| M8                                                | SH 12x80              | 80                        | 2,5                       | 1,5         | 3,0                       |
|                                                   | SH 16x85              | 85                        | 2,5                       | 1,5         | 4,0                       |
|                                                   | SH 16x130             | 130                       | 4,0                       | 3,0         | 5,0                       |
|                                                   | SH 16x130/330         | 130                       | 4,0                       | 3,0         | 5,0                       |
| M10                                               | SH 16x85              | 85                        | 2,5                       | 1,5         | 4,0                       |
|                                                   | SH 16x130             | 130                       | 4,0                       | 3,0         | 5,0                       |
|                                                   | SH 16x130/330         | 130                       | 4,0                       | 3,0         | 5,0                       |
| M12                                               | SH 20x85              | 85                        | 2,5                       | 1,5         | 4,5                       |
|                                                   | SH 20x130 / SH 20x200 | 130 / 200                 | 4,0                       | 3,0         | 5,0                       |
| M16                                               | SH 20x85              | 85                        | 2,5                       | 1,5         | 4,5                       |
|                                                   | SH 20x130 / SH 20x200 | 130 / 200                 | 4,0                       | 3,0         | 6,0                       |

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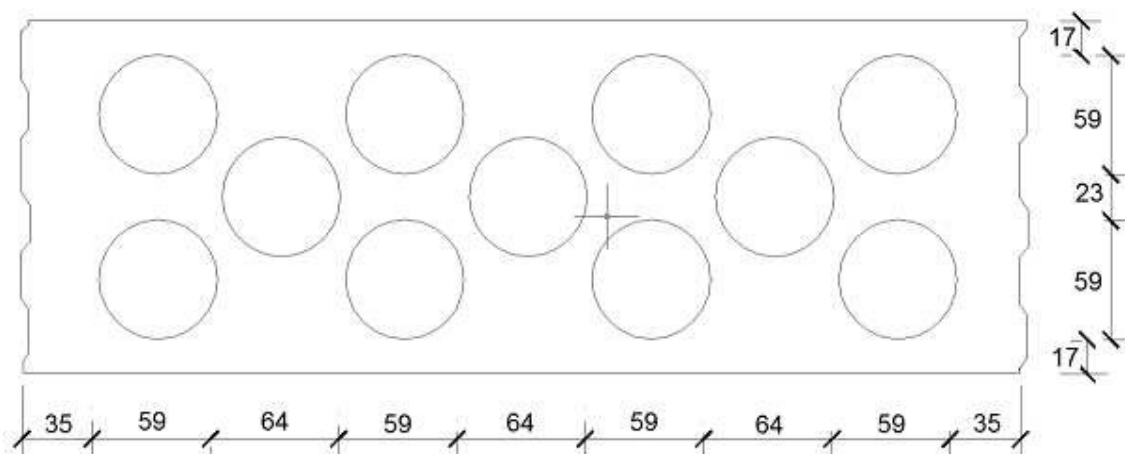
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**Brick type: Calcium silicate hollow brick KS L-12DF**
**Table C15: Description**

|                              |                                            |                                                                                     |
|------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Calcium silicate hollow brick<br>KS L-12DF |  |
| Bulk density [kg/dm³]        | 1,40                                       |                                                                                     |
| Compressive strength [N/mm²] | 10, 12 or 16                               |                                                                                     |
| Code                         | EN 771-2                                   |                                                                                     |
| Producer (country code)      | e.g. Wemding (DE)                          |                                                                                     |
| Brick dimensions [mm]        | 498 x 175 x 238                            |                                                                                     |
| Drilling method              | Rotary drilling                            |                                                                                     |


**Table C16: Installation parameter (Edge and spacing distances)**

| Anchor size | Sleeve        | Embedment depth | Edge distance                      | Spacing                            |                    | Maximum installation torque |
|-------------|---------------|-----------------|------------------------------------|------------------------------------|--------------------|-----------------------------|
|             |               | h <sub>ef</sub> | C <sub>min</sub> = C <sub>cr</sub> | S <sub>cr</sub> = S <sub>min</sub> | S <sub>min</sub> ⊥ | T <sub>inst,max</sub>       |
|             |               |                 | [mm]                               |                                    |                    |                             |
| M8          | SH 12x80      | 80              | 100                                | 498                                | 238                | 2                           |
| M8 / M10    | SH 16x85      | 85              |                                    |                                    |                    | 4                           |
|             | SH 16x130     | 130             |                                    |                                    |                    |                             |
|             | SH 16x130/330 | 130             |                                    |                                    |                    |                             |
| M12 / M16   | SH 20x85      | 85              | 120                                |                                    |                    |                             |
|             | SH 20x130     | 130             |                                    |                                    |                    |                             |
|             | SH 20x200     | 200             |                                    |                                    |                    |                             |

**Table C17: Displacement**

| Effective anchorage depth<br>$h_{ef}$ | <b>N</b>                            | $\delta_{N0}$ | $\delta_{N\infty}$ | <b>V</b>                            | $\delta_{V0}$ | $\delta_{V\infty}$ |
|---------------------------------------|-------------------------------------|---------------|--------------------|-------------------------------------|---------------|--------------------|
| [mm]                                  | [kN]                                | [mm]          | [mm]               | [kN]                                | [mm]          | [mm]               |
| 80                                    | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,21          | 0,42               | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,77          | 2,66               |
| 85                                    |                                     | 0,13          | 0,26               |                                     | 3,89          | 5,83               |
| 130                                   |                                     | 0,22          | 0,44               |                                     | 4,35          | 6,52               |

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Brick type: Calcium silicate hollow brick KS L-12DF

Table C18: Characteristic values of resistance under tension and shear loads

| Anchor size                                                | Sleeve                | Effective anchorage depth | Characteristic resistance         |                    |                                 |
|------------------------------------------------------------|-----------------------|---------------------------|-----------------------------------|--------------------|---------------------------------|
|                                                            |                       |                           | Use category<br>d/d<br>w/d<br>w/w |                    |                                 |
|                                                            |                       |                           | 40°C / 24°C                       | 80°C / 50°C        | For all temperature range       |
|                                                            |                       | h <sub>ef</sub>           | N <sub>Rk</sub> 1)                | N <sub>Rk</sub> 1) | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                            |                       | [mm]                      | [kN]                              |                    |                                 |
| Compressive strength f <sub>b</sub> ≥ 10 N/mm <sub>2</sub> |                       |                           |                                   |                    |                                 |
| M8                                                         | SH 12x80              | 80                        | 0,4                               | 0,3                | 3,0                             |
|                                                            | SH 16x85              | 85                        | 1,2                               | 0,9                | 6,0                             |
|                                                            | SH 16x130             | 130                       | 3,5                               | 2,5                | 7,0                             |
|                                                            | SH 16x130/330         | 130                       | 3,5                               | 2,5                | 7,0                             |
| M10                                                        | SH 16x85              | 85                        | 1,2                               | 0,9                | 6,0                             |
|                                                            | SH 16x130             | 130                       | 3,5                               | 2,5                | 7,0                             |
|                                                            | SH 16x130/330         | 130                       | 3,5                               | 2,5                | 7,0                             |
| M12 / M16                                                  | SH 20x85              | 85                        | 1,2                               | 0,9                | 6,0                             |
|                                                            | SH 20x130 / SH 20x200 | 130 / 200                 | 3,5                               | 2,5                | 7,0                             |
| Compressive strength f <sub>b</sub> ≥ 12 N/mm <sub>2</sub> |                       |                           |                                   |                    |                                 |
| M8                                                         | SH 12x80              | 80                        | 0,4                               | 0,3                | 3,5                             |
|                                                            | SH 16x85              | 85                        | 1,5                               | 0,9                | 7,0                             |
|                                                            | SH 16x130             | 130                       | 4,5                               | 3,0                | 8,0                             |
|                                                            | SH 16x130/330         | 130                       | 4,5                               | 3,0                | 8,0                             |
| M10                                                        | SH 16x85              | 85                        | 1,5                               | 0,9                | 7,0                             |
|                                                            | SH 16x130             | 130                       | 4,5                               | 3,0                | 8,0                             |
|                                                            | SH 16x130/330         | 130                       | 4,5                               | 3,0                | 8,0                             |
| M12 / M16                                                  | SH 20x85              | 85                        | 1,5                               | 0,9                | 7,0                             |
|                                                            | SH 20x130 / SH 20x200 | 130 / 200                 | 4,5                               | 3,0                | 8,0                             |
| Compressive strength f <sub>b</sub> ≥ 16 N/mm <sub>2</sub> |                       |                           |                                   |                    |                                 |
| M8                                                         | SH 12x80              | 80                        | 0,5                               | 0,4                | 4,0                             |
|                                                            | SH 16x85              | 85                        | 2,0                               | 1,2                | 9,0                             |
|                                                            | SH 16x130             | 130                       | 5,5                               | 3,5                | 10,0                            |
|                                                            | SH 16x130/330         | 130                       | 5,5                               | 3,5                | 10,0                            |
| M10                                                        | SH 16x85              | 85                        | 2,0                               | 1,2                | 9,0                             |
|                                                            | SH 16x130             | 130                       | 5,5                               | 3,5                | 10,0                            |
|                                                            | SH 16x130/330         | 130                       | 5,5                               | 3,5                | 10,0                            |
| M12 / M16                                                  | SH 20x85              | 85                        | 2,0                               | 1,2                | 8,5                             |
|                                                            | SH 20x130 / SH 20x200 | 130 / 200                 | 5,5                               | 3,5                | 10,0                            |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

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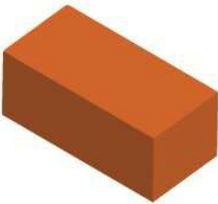
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**Brick type: Clay solid brick Mz-DF**
**Table C19: Description**

|                                           |                           |                                                                                     |
|-------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|
| Brick type                                | Clay solid brick<br>Mz-DF |  |
| Bulk density [kg/dm <sup>3</sup> ]        | 1,64                      |                                                                                     |
| Compressive strength [N/mm <sup>2</sup> ] | 10, 20 or 28              |                                                                                     |
| Code                                      | EN 771-1                  |                                                                                     |
| Producer (country code)                   | e.g. Unipor (DE)          |                                                                                     |
| Brick dimensions [mm]                     | 240 x 115 x 55            |                                                                                     |
| Drilling method                           | Hammer drilling           |                                                                                     |

**Table C20: Installation parameter (Edge and spacing distances)**

| Anchor size      | Sleeve        | Embedment depth | Edge distance      | Spacing                               | Maximum installation torque |
|------------------|---------------|-----------------|--------------------|---------------------------------------|-----------------------------|
|                  |               | $h_{ef}$        | $c_{min} = c_{cr}$ | $s_{cr} = s_{min II} = s_{min \perp}$ | $T_{inst,max}$              |
|                  |               | [mm]            |                    |                                       | [Nm]                        |
| <b>M8</b>        | -             | 80              | 120                | 240                                   | 6                           |
|                  | SH 12x80      | 80              | 120                | 240                                   |                             |
|                  | SH 16x85      | 85              | 127                | 255                                   |                             |
|                  | SH 16x130     | 130             | 195                | 390                                   |                             |
|                  | SH 16x130/330 | 130             | 195                | 390                                   |                             |
| <b>M10</b>       | -             | 90              | 135                | 270                                   | 10                          |
| <b>M12 / M16</b> | -             | 100             | 150                | 300                                   |                             |
| <b>M10</b>       | SH 16x85      | 85              | 127                | 255                                   | 8                           |
|                  | SH 16x130     | 130             | 195                | 390                                   |                             |
|                  | SH 16x130/330 | 130             | 195                | 390                                   |                             |
| <b>M12 / M16</b> | SH 20x85      | 85              | 127                | 255                                   |                             |
|                  | SH 20x130     | 130             | 195                | 390                                   |                             |
|                  | SH 20x200     | 200             | 300                | 600                                   |                             |

**Table C21: Displacement**

| Effective anchorage depth<br>$h_{ef}$ | <b>N</b>                            | $\delta_{N0}$ | $\delta_{N\infty}$ | <b>V</b>                            | $\delta_{V0}$ | $\delta_{V\infty}$ |
|---------------------------------------|-------------------------------------|---------------|--------------------|-------------------------------------|---------------|--------------------|
| [mm]                                  | [kN]                                | [mm]          | [mm]               | [kN]                                | [mm]          | [mm]               |
| 80                                    | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,12          | 0,24               | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 2,27          | 3,41               |
| 85                                    |                                     | 0,13          | 0,26               |                                     | 1,22          | 1,83               |
| 90                                    |                                     | 0,06          | 0,13               |                                     | 0,71          | 1,06               |
| 100                                   |                                     | 0,18          | 0,35               |                                     | 0,43          | 0,64               |
| 130 ; 200                             |                                     | 0,42          | 0,85               |                                     | 1,22          | 1,83               |

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Brick type: Clay solid brick Mz-DF

Table C22: Characteristic values of resistance under tension and shear loads

| Anchor size                                                | Sleeve                    | Effective anchorage depth | Characteristic resistance     |                    |                                 |
|------------------------------------------------------------|---------------------------|---------------------------|-------------------------------|--------------------|---------------------------------|
|                                                            |                           |                           | Use category<br>d/d; w/d; w/w |                    |                                 |
|                                                            |                           |                           | 40°C / 24°C                   | 80°C / 50°C        | For all temperature range       |
|                                                            |                           | h <sub>ef</sub>           | N <sub>Rk1</sub> )            | N <sub>Rk1</sub> ) | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                            |                           | [mm]                      | [kN]                          |                    |                                 |
| Compressive strength f <sub>b</sub> ≥ 10 N/mm <sup>2</sup> |                           |                           |                               |                    |                                 |
| M8                                                         | -                         | 80                        | 1,5                           | 1,2                | 3,0                             |
| M10                                                        | -                         | 90                        | 1,5                           | 1,2                | 3,5                             |
| M12                                                        | -                         | 100                       | 1,5                           | 0,9                | 5,0                             |
| M16                                                        | -                         | 100                       | 2,5                           | 1,5                | 5,0                             |
| M8                                                         | SH 12x80                  | 80                        | 2,0                           | 1,5                | 3,0                             |
|                                                            | SH 16x85                  | 85                        | 2,0                           | 1,5                | 3,0                             |
|                                                            | SH 16x130 / SH 16x130/330 | 130                       | 3,0                           | 2,0                | 3,0                             |
| M10                                                        | SH 16x85                  | 85                        | 2,0                           | 1,5                | 3,5                             |
|                                                            | SH 16x130 / SH 16x130/330 | 130                       | 3,0                           | 2,0                | 3,5                             |
| M12 / M16                                                  | SH 20x85                  | 85                        | 2,0                           | 1,5                | 3,5                             |
|                                                            | SH 20x130 / SH 20x200     | 130 / 200                 | 3,0                           | 2,0                | 3,5                             |
| Compressive strength f <sub>b</sub> ≥ 20 N/mm <sup>2</sup> |                           |                           |                               |                    |                                 |
| M8                                                         | -                         | 80                        | 2,5                           | 1,5                | 4,5                             |
| M10                                                        | -                         | 90                        | 2,5                           | 1,5                | 5,5                             |
| M12                                                        | -                         | 100                       | 2,0                           | 1,5                | 7,5                             |
| M16                                                        | -                         | 100                       | 3,5                           | 2,5                | 7,5                             |
| M8                                                         | SH 12x80                  | 80                        | 3,0                           | 2,0                | 4,0                             |
|                                                            | SH 16x85                  | 85                        | 3,0                           | 2,0                | 4,5                             |
|                                                            | SH 16x130 / SH 16x130/330 | 130                       | 4,0                           | 2,5                | 4,5                             |
| M10                                                        | SH 16x85                  | 85                        | 3,0                           | 2,0                | 5,0                             |
|                                                            | SH 16x130 / SH 16x130/330 | 130                       | 4,5                           | 3,0                | 5,0                             |
| M12 / M16                                                  | SH 20x85                  | 85                        | 3,0                           | 2,0                | 5,0                             |
|                                                            | SH 20x130 / SH 20x200     | 130 / 200                 | 4,5                           | 3,0                | 5,0                             |
| Compressive strength f <sub>b</sub> ≥ 28 N/mm <sup>2</sup> |                           |                           |                               |                    |                                 |
| M8                                                         | -                         | 80                        | 3,0                           | 2,0                | 5,5                             |
| M10                                                        | -                         | 90                        | 3,0                           | 2,0                | 6,5                             |
| M12                                                        | -                         | 100                       | 2,5                           | 1,5                | 9,0                             |
| M16                                                        | -                         | 100                       | 4,5                           | 3,0                | 9,0                             |
| M8                                                         | SH 12x80                  | 80                        | 3,5                           | 2,5                | 5,0                             |
|                                                            | SH 16x85                  | 85                        | 3,5                           | 2,5                | 5,0                             |
|                                                            | SH 16x130 / SH 16x130/330 | 130                       | 5,0                           | 3,5                | 5,0                             |
| M10                                                        | SH 16x85                  | 85                        | 3,5                           | 2,5                | 6,0                             |
|                                                            | SH 16x130 / SH 16x130/330 | 130                       | 5,0                           | 3,5                | 6,0                             |
| M12 / M16                                                  | SH 20x85                  | 85                        | 3,5                           | 2,5                | 6,0                             |
|                                                            | SH 20x130 / SH 20x200     | 130 / 200                 | 5,0                           | 3,5                | 6,0                             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

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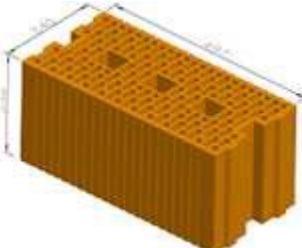
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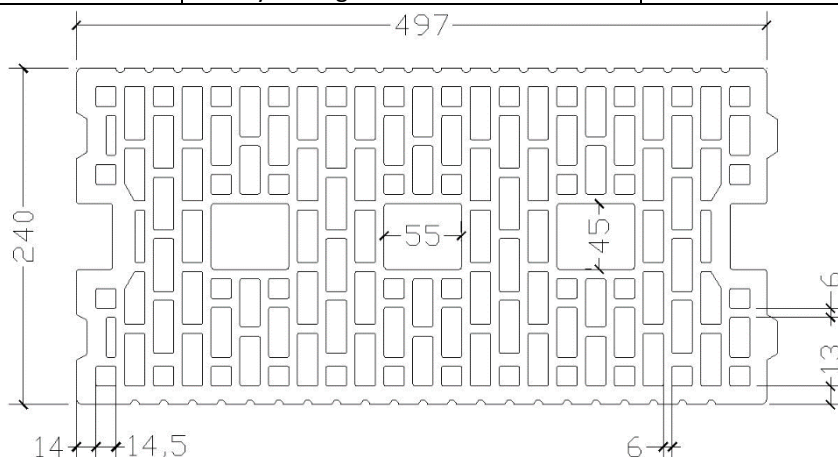
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**Brick type: Clay hollow brick HLz-16DF**
**Table C23: Description**

|                              |                               |                                                                                     |
|------------------------------|-------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Clay hollow brick<br>HLz-16DF |  |
| Bulk density [kg/dm³]        | 0,83                          |                                                                                     |
| Compressive strength [N/mm²] | 6, 9, 12 or 14                |                                                                                     |
| Code                         | EN 771-1                      |                                                                                     |
| Producer (country code)      | e.g. Unipor (DE)              |                                                                                     |
| Brick dimensions [mm]        | 497 x 240 x 238               |                                                                                     |
| Drilling method              | Rotary drilling               |                                                                                     |


**Table C24: Installation parameter (Edge and spacing distances)**

| Anchor size | Sleeve        | Embedment depth | Edge distance                      | Spacing                            |                    | Maximum installation torque |
|-------------|---------------|-----------------|------------------------------------|------------------------------------|--------------------|-----------------------------|
|             |               | h <sub>ef</sub> | C <sub>min</sub> = C <sub>cr</sub> | S <sub>cr</sub> = S <sub>min</sub> | S <sub>min</sub> ⊥ | T <sub>inst,max</sub>       |
|             |               | [mm]            |                                    |                                    |                    | [Nm]                        |
| M8          | SH 12x80      | 80              | 100                                | 497                                | 238                | 6                           |
| M8 / M10    | SH 16x85      | 85              |                                    |                                    |                    |                             |
|             | SH 16x130     | 130             |                                    |                                    |                    |                             |
|             | SH 16x130/330 | 130             |                                    |                                    |                    |                             |
| M12 / M16   | SH 20x85      | 85              | 120                                |                                    |                    |                             |
|             | SH 20x130     | 130             |                                    |                                    |                    |                             |
|             | SH 20x200     | 200             |                                    |                                    |                    |                             |

**Table C25: Displacement**

| Effective anchorage depth $h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_{\infty}$ | V                                   | $\delta V_0$ | $\delta V_{\infty}$ |
|------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                               | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                 | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,27         | 0,55                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,02         | 1,53                |
| 85                                 |                                     | 0,55         | 1,10                |                                     | 2,14         | 3,22                |
| 130 ; 200                          |                                     | 0,19         | 0,38                |                                     | 2,26         | 3,39                |

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Brick type: Clay hollow brick HLz-16DF

Table C26: Characteristic values of resistance under tension and shear loads

| Anchor size                                                | Sleeve                | Effective<br>anchorage<br>depth | Characteristic resistance     |                    |                                 |
|------------------------------------------------------------|-----------------------|---------------------------------|-------------------------------|--------------------|---------------------------------|
|                                                            |                       |                                 | Use category<br>d/d; w/d; w/w |                    |                                 |
|                                                            |                       |                                 | 40°C / 24°C                   | 80°C / 50°C        | For all temperature<br>range    |
|                                                            |                       | h <sub>ef</sub>                 | N <sub>Rk</sub> 1)            | N <sub>Rk</sub> 1) | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                            |                       | [mm]                            | [kN]                          |                    |                                 |
| Compressive strength f <sub>b</sub> ≥ 6 N/mm <sup>2</sup>  |                       |                                 |                               |                    |                                 |
| M8                                                         | SH 12x80              | 80                              | 1,2                           | 0,75               | 2,5                             |
|                                                            | SH 16x85              | 85                              | 1,5                           | 1,2                | 4,0                             |
|                                                            | SH 16x130             | 130                             | 2,5                           | 1,5                | 4,0                             |
|                                                            | SH 16x130/330         | 130                             | 2,5                           | 1,5                | 4,0                             |
| M10                                                        | SH 16x85              | 85                              | 1,5                           | 1,2                | 4,0                             |
|                                                            | SH 16x130             | 130                             | 2,5                           | 1,5                | 6,0                             |
|                                                            | SH 16x130/330         | 130                             | 2,5                           | 1,5                | 6,0                             |
| M12 / M16                                                  | SH 20x85              | 85                              | 2,0                           | 1,5                | 4,0                             |
|                                                            | SH 20x130 / SH 20x200 | 130/ 200                        | 2,5                           | 1,5                | 6,0                             |
| Compressive strength f <sub>b</sub> ≥ 9 N/mm <sup>2</sup>  |                       |                                 |                               |                    |                                 |
| M8                                                         | SH 12x80              | 80                              | 1,2                           | 0,9                | 3,0                             |
|                                                            | SH 16x85              | 85                              | 2,0                           | 1,5                | 4,5                             |
|                                                            | SH 16x130             | 130                             | 3,0                           | 2,0                | 5,0                             |
|                                                            | SH 16x130/330         | 130                             | 3,0                           | 2,0                | 5,0                             |
| M10                                                        | SH 16x85              | 85                              | 2,0                           | 1,5                | 5,0                             |
|                                                            | SH 16x130             | 130                             | 3,0                           | 2,0                | 7,0                             |
|                                                            | SH 16x130/330         | 130                             | 3,0                           | 2,0                | 7,0                             |
| M12 / M16                                                  | SH 20x85              | 85                              | 2,5                           | 2,0                | 5,0                             |
|                                                            | SH 20x130 / SH 20x200 | 130/ 200                        | 3,0                           | 2,0                | 7,0                             |
| Compressive strength f <sub>b</sub> ≥ 12 N/mm <sup>2</sup> |                       |                                 |                               |                    |                                 |
| M8                                                         | SH 12x80              | 80                              | 1,5                           | 1,2                | 3,5                             |
|                                                            | SH 16x85              | 85                              | 2,5                           | 1,5                | 5,5                             |
|                                                            | SH 16x130             | 130                             | 3,5                           | 2,5                | 6,0                             |
|                                                            | SH 16x130/330         | 130                             | 3,5                           | 2,5                | 6,0                             |
| M10                                                        | SH 16x85              | 85                              | 2,5                           | 1,5                | 6,0                             |
|                                                            | SH 16x130             | 130                             | 3,5                           | 2,5                | 8,0                             |
|                                                            | SH 16x130/330         | 130                             | 3,5                           | 2,5                | 8,0                             |
| M12 / M16                                                  | SH 20x85              | 85                              | 3,5                           | 2,0                | 6,0                             |
|                                                            | SH 20x130 / SH 20x200 | 130/ 200                        | 3,5                           | 2,5                | 8,0                             |
| Compressive strength f <sub>b</sub> ≥ 14 N/mm <sup>2</sup> |                       |                                 |                               |                    |                                 |
| M8                                                         | SH 12x80              | 80                              | 1,5                           | 1,2                | 4,0                             |
|                                                            | SH 16x85              | 85                              | 2,5                           | 2,0                | 6,0                             |
|                                                            | SH 16x130             | 130                             | 3,5                           | 2,5                | 6,5                             |
|                                                            | SH 16x130/330         | 130                             | 3,5                           | 2,5                | 6,5                             |
| M10                                                        | SH 16x85              | 85                              | 2,5                           | 2,0                | 6,0                             |
|                                                            | SH 16x130             | 130                             | 3,5                           | 2,5                | 9,0                             |
|                                                            | SH 16x130/330         | 130                             | 3,5                           | 2,5                | 9,0                             |
| M12 / M16                                                  | SH 20x85              | 85                              | 3,5                           | 2,0                | 6,0                             |
|                                                            | SH 20x130 / SH 20x200 | 130/ 200                        | 3,5                           | 2,5                | 9,0                             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

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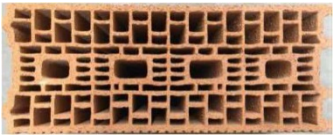
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# Brick type: Clay hollow brick Porotherm Homebric

Table C27: Description

|                              |                                         |                                                                                     |
|------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Clay hollow brick<br>Porotherm Homebric |  |
| Bulk density [kg/dm³]        | 0,68                                    |                                                                                     |
| Compressive strength [N/mm²] | 6, 8 or 10                              |                                                                                     |
| Code                         | EN 771-1                                |                                                                                     |
| Producer (country code)      | e.g. Wienerberger (FR)                  |                                                                                     |
| Brick dimensions [mm]        | 500 x 200 x 299                         |                                                                                     |
| Drilling method              | Rotary drilling                         |                                                                                     |

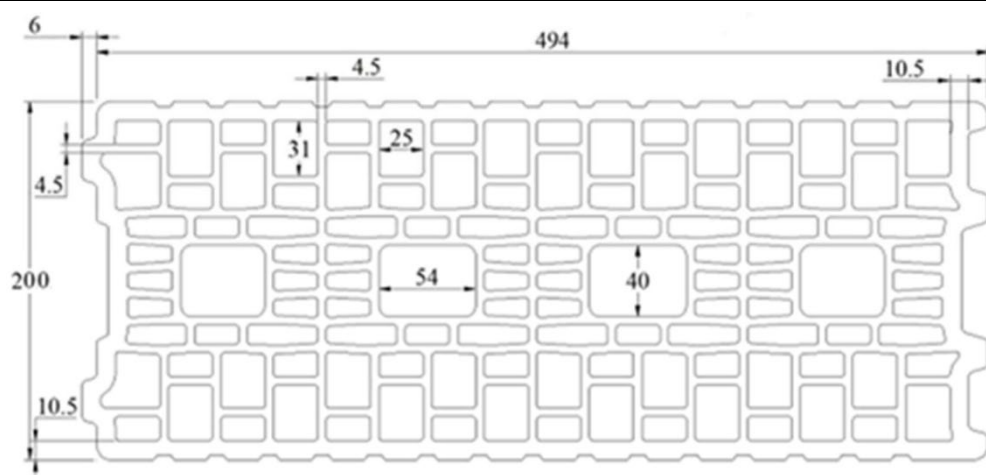


Table C28: Installation parameter (Edge and spacing distances)

| Anchor size | Sleeve        | Embedment depth | Edge distance                      | Spacing       |        | Maximum installation torque |
|-------------|---------------|-----------------|------------------------------------|---------------|--------|-----------------------------|
|             |               |                 |                                    | Scr = Smin II | Smin ⊥ |                             |
|             |               | h <sub>ef</sub> | C <sub>min</sub> = C <sub>cr</sub> | [mm]          |        | T <sub>inst,max</sub>       |
| M8          | SH 12x80      | 80              | 100                                | 500           | 299    | 2                           |
| M8 / M10    | SH 16x85      | 85              |                                    |               |        | 6                           |
|             | SH 16x130     | 130             |                                    |               |        |                             |
|             | SH 16x130/330 | 130             |                                    |               |        |                             |
| M12 / M16   | SH 20x85      | 85              | 120                                | 500           | 299    | 6                           |
|             | SH 20x130     | 130             |                                    |               |        |                             |

Table C29: Displacement

| Effective anchorage depth<br>h <sub>ef</sub> | N                                       | δN <sub>0</sub> | δN <sub>∞</sub> | V                                       | δV <sub>0</sub> | δV <sub>∞</sub> |
|----------------------------------------------|-----------------------------------------|-----------------|-----------------|-----------------------------------------|-----------------|-----------------|
| [mm]                                         | [kN]                                    | [mm]            | [mm]            | [kN]                                    | [mm]            | [mm]            |
| 80                                           | N <sub>Rk</sub><br>1,4 • γ <sub>M</sub> | 0,65            | 1,29            | V <sub>Rk</sub><br>1,4 • γ <sub>M</sub> | 1,26            | 1,89            |
| 85                                           |                                         | 0,52            | 1,04            |                                         | 1,89            | 2,84            |
| 130                                          |                                         | 0,45            | 0,90            |                                         | 1,48            | 2,23            |

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**Brick type: Clay hollow brick Porotherm Homebric**

**Table C30: Characteristic values of resistance under tension and shear loads**

| Anchor size                                                | Sleeve        | Effective anchorage depth | Characteristic resistance |                           |                                 |
|------------------------------------------------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------------|
|                                                            |               |                           | Use category              |                           |                                 |
|                                                            |               |                           | d/d;<br>w/d;<br>w/w       |                           |                                 |
|                                                            |               | 40°C / 24°C               | 80°C / 50°C               | For all temperature range |                                 |
|                                                            |               | h <sub>ef</sub>           | N <sub>Rk</sub> 1)        | N <sub>Rk</sub> 1)        | V <sub>Rk,b</sub> <sup>2)</sup> |
| [mm]                                                       | [kN]          |                           |                           |                           |                                 |
| Compressive strength f <sub>b</sub> ≥ 6 N/mm <sup>2</sup>  |               |                           |                           |                           |                                 |
| M8                                                         | SH 12x80      | 80                        | 0,9                       | 0,75                      | 2,0                             |
|                                                            | SH 16x85      | 85                        | 1,2                       | 0,75                      | 2,0                             |
|                                                            | SH 16x130     | 130                       | 1,5                       | 0,9                       | 2,5                             |
|                                                            | SH 16x130/330 | 130                       | 1,5                       | 0,9                       | 2,5                             |
| M10                                                        | SH 16x85      | 85                        | 1,2                       | 0,75                      | 2,0                             |
|                                                            | SH 16x130     | 130                       | 1,5                       | 0,9                       | 2,5                             |
|                                                            | SH 16x130/330 | 130                       | 1,5                       | 0,9                       | 2,5                             |
| M12                                                        | SH 20x85      | 85                        | 1,2                       | 0,75                      | 3,0                             |
|                                                            | SH 20x130     | 130                       | 1,5                       | 0,9                       | 3,0                             |
| M16                                                        | SH 20x85      | 85                        | 1,2                       | 0,75                      | 3,0                             |
|                                                            | SH 20x130     | 130                       | 1,5                       | 0,9                       | 3,0                             |
| Compressive strength f <sub>b</sub> ≥ 8 N/mm <sup>2</sup>  |               |                           |                           |                           |                                 |
| M8                                                         | SH 12x80      | 80                        | 1,2                       | 0,9                       | 2,5                             |
|                                                            | SH 16x85      | 85                        | 1,2                       | 0,9                       | 2,5                             |
|                                                            | SH 16x130     | 130                       | 1,5                       | 1,2                       | 3,0                             |
|                                                            | SH 16x130/330 | 130                       | 1,5                       | 1,2                       | 3,0                             |
| M10                                                        | SH 16x85      | 85                        | 1,2                       | 0,9                       | 2,5                             |
|                                                            | SH 16x130     | 130                       | 1,5                       | 1,2                       | 3,0                             |
|                                                            | SH 16x130/330 | 130                       | 1,5                       | 1,2                       | 3,0                             |
| M12                                                        | SH 20x85      | 85                        | 1,2                       | 0,9                       | 3,5                             |
|                                                            | SH 20x130     | 130                       | 1,5                       | 1,2                       | 3,5                             |
| M16                                                        | SH 20x85      | 85                        | 1,2                       | 0,9                       | 3,5                             |
|                                                            | SH 20x130     | 130                       | 1,5                       | 1,2                       | 3,5                             |
| Compressive strength f <sub>b</sub> ≥ 10 N/mm <sup>2</sup> |               |                           |                           |                           |                                 |
| M8                                                         | SH 12x80      | 80                        | 1,2                       | 0,9                       | 3,0                             |
|                                                            | SH 16x85      | 85                        | 1,5                       | 0,9                       | 3,0                             |
|                                                            | SH 16x130     | 130                       | 2,0                       | 1,2                       | 3,5                             |
|                                                            | SH 16x130/330 | 130                       | 2,0                       | 1,2                       | 3,5                             |
| M10                                                        | SH 16x85      | 85                        | 1,5                       | 0,9                       | 3,0                             |
|                                                            | SH 16x130     | 130                       | 2,0                       | 1,2                       | 3,5                             |
|                                                            | SH 16x130/330 | 130                       | 2,0                       | 1,2                       | 3,5                             |
| M12                                                        | SH 20x85      | 85                        | 1,5                       | 0,9                       | 4,0                             |
|                                                            | SH 20x130     | 130                       | 2,0                       | 1,2                       | 4,0                             |
| M16                                                        | SH 20x85      | 85                        | 1,5                       | 0,9                       | 4,0                             |
|                                                            | SH 20x130     | 130                       | 2,0                       | 1,2                       | 4,0                             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

**Brick type: Clay hollow brick BGV Thermo**

#### Prestatieverklaring

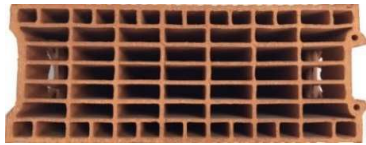
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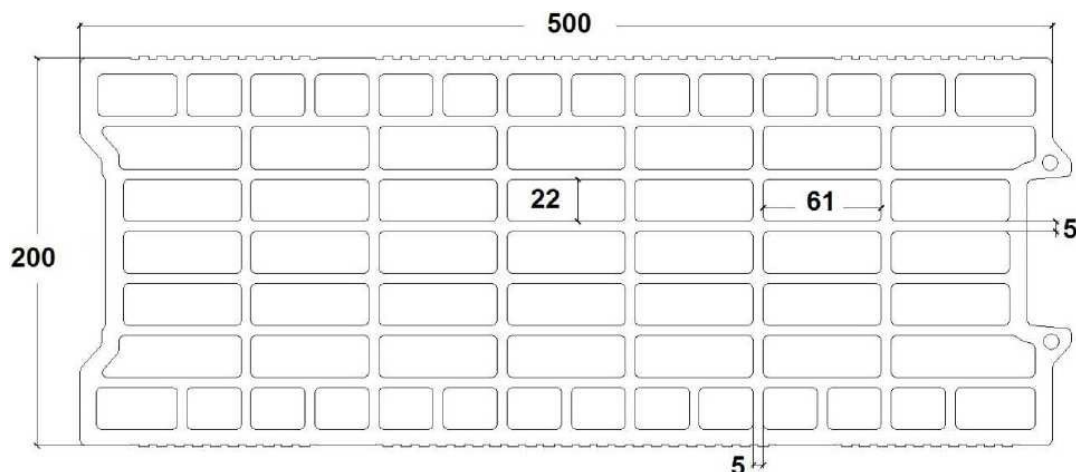
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**Table C31: Description**

|                              |                                 |                                                                                     |
|------------------------------|---------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Clay hollow brick<br>BGV Thermo |  |
| Bulk density [kg/dm³]        | 0,62                            |                                                                                     |
| Compressive strength [N/mm²] | 4, 6 or 10                      |                                                                                     |
| Code                         | EN 771-1                        |                                                                                     |
| Producer (country code)      | e.g. Leroux (FR)                |                                                                                     |
| Brick dimensions [mm]        | 500 x 200 x 314                 |                                                                                     |
| Drilling method              | Rotary drilling                 |                                                                                     |


**Table C32: Installation parameter (Edge and spacing distances)**

| Anchor size | Sleeve        | Embedment depth | Edge distance                      | Spacing                            |                    | Maximum installation torque |
|-------------|---------------|-----------------|------------------------------------|------------------------------------|--------------------|-----------------------------|
|             |               | h <sub>ef</sub> | C <sub>min</sub> = C <sub>cr</sub> | S <sub>cr</sub> = S <sub>min</sub> | S <sub>min</sub> ⊥ | T <sub>inst,max</sub>       |
|             |               | [mm]            |                                    |                                    |                    | [Nm]                        |
| M8          | SH 12x80      | 80              | 100                                | 500                                | 314                | 2                           |
| M8 / M10    | SH 16x85      | 85              |                                    |                                    |                    | 4                           |
|             | SH 16x130     | 130             |                                    |                                    |                    |                             |
|             | SH 16x130/330 | 130             |                                    |                                    |                    |                             |
| M12 / M16   | SH 20x85      | 85              | 120                                |                                    |                    |                             |
|             | SH 20x130     | 130             |                                    |                                    |                    |                             |

**Table C33: Displacement**

| Effective anchorage depth<br>$h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_{\infty}$ | V                                   | $\delta v_0$ | $\delta v_{\infty}$ |
|---------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                                  | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                    | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,27         | 0,54                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,21         | 1,81                |
| 85                                    |                                     | 0,39         | 0,77                |                                     | 2,00         | 3,01                |
| 130                                   |                                     | 0,16         | 0,32                |                                     | 1,60         | 2,39                |

Brick type: Clay hollow brick BGV Thermo

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**Table C34: Characteristic values of resistance under tension and shear loads**

| Anchor size                                                | Sleeve        | Effective anchorage depth | Characteristic resistance           |                    |                                 |
|------------------------------------------------------------|---------------|---------------------------|-------------------------------------|--------------------|---------------------------------|
|                                                            |               |                           | Use category<br>d/d;<br>w/d;<br>w/w |                    |                                 |
|                                                            |               |                           | 40°C / 24°C                         | 80°C / 50°C        | For all temperature range       |
|                                                            |               | h <sub>ef</sub>           | N <sub>Rk</sub> 1)                  | N <sub>Rk</sub> 1) | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                            |               | [mm]                      | [kN]                                |                    |                                 |
| Compressive strength f <sub>b</sub> ≥ 4 N/mm <sup>2</sup>  |               |                           |                                     |                    |                                 |
| M8                                                         | SH 12x80      | 80                        | 0,5                                 | 0,4                | 2,0                             |
|                                                            | SH 16x85      | 85                        | 0,75                                | 0,5                | 2,0                             |
|                                                            | SH 16x130     | 130                       | 0,9                                 | 0,75               | 2,5                             |
|                                                            | SH 16x130/330 | 130                       | 0,9                                 | 0,75               | 2,5                             |
| M10                                                        | SH 16x85      | 85                        | 0,75                                | 0,5                | 2,0                             |
|                                                            | SH 16x130     | 130                       | 1,2                                 | 0,75               | 2,5                             |
|                                                            | SH 16x130/330 | 130                       | 1,2                                 | 0,75               | 2,5                             |
| M12                                                        | SH 20x85      | 85                        | 0,75                                | 0,5                | 2,0                             |
|                                                            | SH 20x130     | 130                       | 1,2                                 | 0,75               | 2,5                             |
| M16                                                        | SH 20x85      | 85                        | 0,9                                 | 0,6                | 2,0                             |
|                                                            | SH 20x130     | 130                       | 1,2                                 | 0,75               | 2,5                             |
| Compressive strength f <sub>b</sub> ≥ 6 N/mm <sup>2</sup>  |               |                           |                                     |                    |                                 |
| M8                                                         | SH 12x80      | 80                        | 0,6                                 | 0,5                | 2,0                             |
|                                                            | SH 16x85      | 85                        | 0,9                                 | 0,6                | 2,5                             |
|                                                            | SH 16x130     | 130                       | 1,2                                 | 0,9                | 3,0                             |
|                                                            | SH 16x130/330 | 130                       | 1,2                                 | 0,9                | 3,0                             |
| M10                                                        | SH 16x85      | 85                        | 0,9                                 | 0,6                | 2,5                             |
|                                                            | SH 16x130     | 130                       | 1,5                                 | 0,9                | 3,0                             |
|                                                            | SH 16x130/330 | 130                       | 1,5                                 | 0,9                | 3,0                             |
| M12                                                        | SH 20x85      | 85                        | 0,9                                 | 0,6                | 3,0                             |
|                                                            | SH 20x130     | 130                       | 1,5                                 | 0,9                | 3,0                             |
| M16                                                        | SH 20x85      | 85                        | 1,2                                 | 0,75               | 3,0                             |
|                                                            | SH 20x130     | 130                       | 1,5                                 | 0,9                | 3,0                             |
| Compressive strength f <sub>b</sub> ≥ 10 N/mm <sup>2</sup> |               |                           |                                     |                    |                                 |
| M8                                                         | SH 12x80      | 80                        | 0,9                                 | 0,6                | 3,0                             |
|                                                            | SH 16x85      | 85                        | 1,2                                 | 0,9                | 3,5                             |
|                                                            | SH 16x130     | 130                       | 1,5                                 | 1,2                | 4,0                             |
|                                                            | SH 16x130/330 | 130                       | 1,5                                 | 1,2                | 4,0                             |
| M10                                                        | SH 16x85      | 85                        | 1,2                                 | 0,9                | 3,5                             |
|                                                            | SH 16x130     | 130                       | 1,5                                 | 1,2                | 4,0                             |
|                                                            | SH 16x130/330 | 130                       | 1,5                                 | 1,2                | 4,0                             |
| M12                                                        | SH 20x85      | 85                        | 1,2                                 | 0,75               | 3,5                             |
|                                                            | SH 20x130     | 130                       | 1,5                                 | 1,2                | 4,0                             |
| M16                                                        | SH 20x85      | 85                        | 1,5                                 | 0,9                | 3,5                             |
|                                                            | SH 20x130     | 130                       | 1,5                                 | 1,2                | 4,0                             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

**Brick type: Clay hollow brick Calibric Th**

**Prestatieverklaring**

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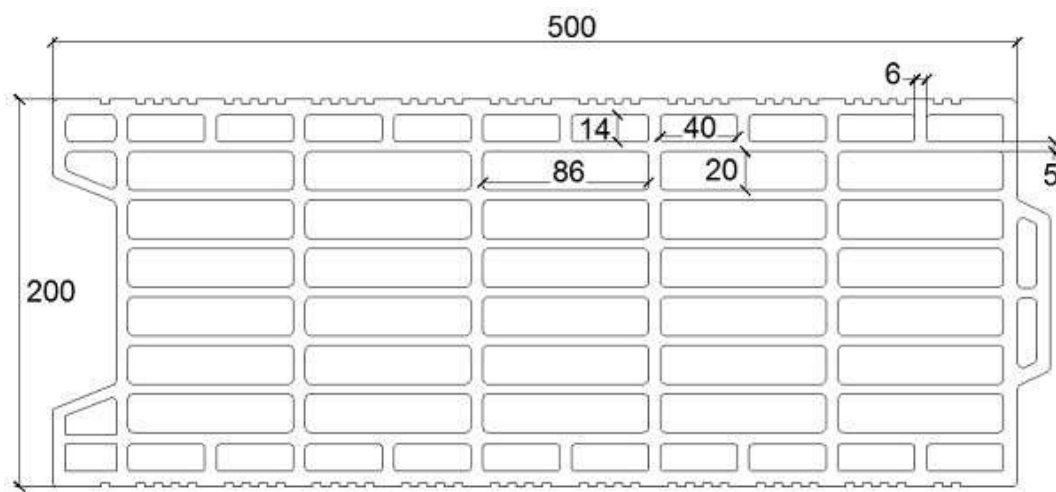
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**Table C35: Description**

|                                           |                                  |                                                                                     |
|-------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|
| Brick type                                | Clay hollow brick<br>Calibric Th |  |
| Bulk density [kg/dm <sup>3</sup> ]        | 0,62                             |                                                                                     |
| Compressive strength [N/mm <sup>2</sup> ] | 6, 9 or 12                       |                                                                                     |
| Code                                      | EN 771-1                         |                                                                                     |
| Producer (country code)                   | e.g. Terreal (FR)                |                                                                                     |
| Brick dimensions [mm]                     | 500 x 200 x 314                  |                                                                                     |
| Drilling method                           | Rotary drilling                  |                                                                                     |


**Table C36: Installation parameter (Edge and spacing distances)**

| Anchor size | Sleeve        | Embedment depth | Edge distance      | Spacing                      |                 | Maximum installation torque |
|-------------|---------------|-----------------|--------------------|------------------------------|-----------------|-----------------------------|
|             |               | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$              |
|             |               |                 | [mm]               |                              |                 | [Nm]                        |
| M8          | SH 12x80      | 80              | 100                | 500                          | 314             | 2                           |
| M8 / M10    | SH 16x85      | 85              |                    |                              |                 |                             |
|             | SH 16x130     | 130             |                    |                              |                 |                             |
|             | SH 16x130/330 | 130             |                    |                              |                 |                             |
| M12 / M16   | SH 20x85      | 85              | 120                | 500                          | 314             | 2                           |
|             | SH 20x130     | 130             |                    |                              |                 |                             |

**Table C37: Displacement**

| Effective anchorage depth $h_{ef}$ | N                                   | $\delta N_0$ | $\delta N_{\infty}$ | V                                   | $\delta V_0$ | $\delta V_{\infty}$ |
|------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                               | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                 | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,48         | 0,96                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,18         | 1,78                |
| 85                                 |                                     | 0,49         | 0,98                |                                     | 2,20         | 3,30                |
| 130                                |                                     | 0,37         | 0,74                |                                     | 2,31         | 3,46                |

**Brick type: Clay hollow brick Calibric Th**
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**Table C38: Characteristic values of resistance under tension and shear loads**

| Anchor size                                       | Sleeve        | Effective anchorage depth | Characteristic resistance |                           |     |
|---------------------------------------------------|---------------|---------------------------|---------------------------|---------------------------|-----|
|                                                   |               |                           | Use category              |                           |     |
|                                                   |               |                           | d/d<br>w/<br>d            |                           |     |
|                                                   |               | 40°C / 24°C               | 80°C / 50°C               | For all temperature range |     |
| hef                                               | NRk 1)        | NRk1)                     | VRk,b <sup>2)</sup>       |                           |     |
| [mm]                                              | [kN]          |                           |                           |                           |     |
| Compressive strength $f_b \geq 6 \text{ N/mm}^2$  |               |                           |                           |                           |     |
| M8                                                | SH 12x80      | 80                        | 0,75                      | 0,5                       | 2,5 |
|                                                   | SH 16x85      | 85                        | 0,75                      | 0,5                       | 3,5 |
|                                                   | SH 16x130     | 130                       | 0,9                       | 0,6                       | 3,5 |
|                                                   | SH 16x130/330 | 130                       | 0,9                       | 0,6                       | 3,5 |
| M10                                               | SH 16x85      | 85                        | 0,75                      | 0,5                       | 3,5 |
|                                                   | SH 16x130     | 130                       | 0,9                       | 0,6                       | 3,5 |
|                                                   | SH 16x130/330 | 130                       | 0,9                       | 0,6                       | 3,5 |
| M12                                               | SH 20x85      | 85                        | 0,75                      | 0,5                       | 6,0 |
|                                                   | SH 20x130     | 130                       | 0,9                       | 0,6                       | 6,0 |
| M16                                               | SH 20x85      | 85                        | 1,2                       | 0,75                      | 6,0 |
|                                                   | SH 20x130     | 130                       | 1,2                       | 0,75                      | 6,0 |
| Compressive strength $f_b \geq 9 \text{ N/mm}^2$  |               |                           |                           |                           |     |
| M8                                                | SH 12x80      | 80                        | 0,9                       | 0,6                       | 3,5 |
|                                                   | SH 16x85      | 85                        | 0,9                       | 0,6                       | 4,5 |
|                                                   | SH 16x130     | 130                       | 1,2                       | 0,75                      | 4,5 |
|                                                   | SH 16x130/330 | 130                       | 1,2                       | 0,75                      | 4,5 |
| M10                                               | SH 16x85      | 85                        | 0,9                       | 0,6                       | 4,5 |
|                                                   | SH 16x130     | 130                       | 1,2                       | 0,9                       | 4,5 |
|                                                   | SH 16x130/330 | 130                       | 1,2                       | 0,9                       | 4,5 |
| M12                                               | SH 20x85      | 85                        | 0,9                       | 0,6                       | 7,5 |
|                                                   | SH 20x130     | 130                       | 1,2                       | 0,9                       | 7,5 |
| M16                                               | SH 20x85      | 85                        | 1,5                       | 0,9                       | 7,5 |
|                                                   | SH 20x130     | 130                       | 1,5                       | 0,9                       | 7,5 |
| Compressive strength $f_b \geq 12 \text{ N/mm}^2$ |               |                           |                           |                           |     |
| M8                                                | SH 12x80      | 80                        | 0,9                       | 0,75                      | 4,0 |
|                                                   | SH 16x85      | 85                        | 0,9                       | 0,75                      | 5,5 |
|                                                   | SH 16x130     | 130                       | 1,2                       | 0,9                       | 5,5 |
|                                                   | SH 16x130/330 | 130                       | 1,2                       | 0,9                       | 5,5 |
| M10                                               | SH 16x85      | 85                        | 0,9                       | 0,75                      | 5,5 |
|                                                   | SH 16x130     | 130                       | 1,5                       | 0,9                       | 5,5 |
|                                                   | SH 16x130/330 | 130                       | 1,5                       | 0,9                       | 5,5 |
| M12                                               | SH 20x85      | 85                        | 0,9                       | 0,75                      | 8,5 |
|                                                   | SH 20x130     | 130                       | 1,5                       | 0,9                       | 8,5 |
| M16                                               | SH 20x85      | 85                        | 1,5                       | 1,2                       | 8,5 |
|                                                   | SH 20x130     | 130                       | 1,5                       | 1,2                       | 8,5 |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

**Brick type: Clay hollow brick Urbanbric**

**Prestatieverklaring**

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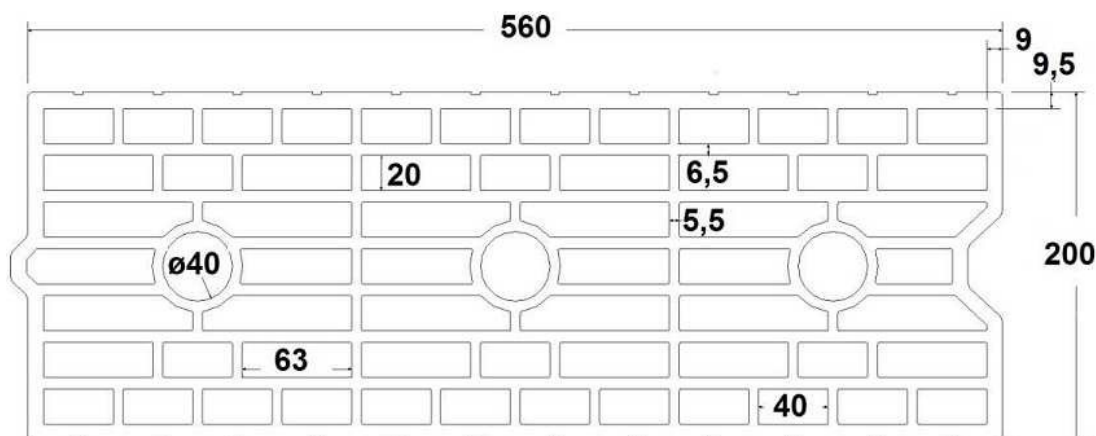
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**Table C39: Description**

|                              |                                |                                                                                     |
|------------------------------|--------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Clay hollow brick<br>Urbanbric |  |
| Bulk density [kg/dm³]        | 0,74                           |                                                                                     |
| Compressive strength [N/mm²] | 6 or 9                         |                                                                                     |
| Code                         | EN 771-1                       |                                                                                     |
| Producer (country code)      | e.g. Imerys (FR)               |                                                                                     |
| Brick dimensions [mm]        | 560 x 200 x 274                |                                                                                     |
| Drilling method              | Rotary drilling                |                                                                                     |


**Table C40: Installation parameter (Edge and spacing distances)**

| Anchor size | Sleeve        | Embedment depth | Edge distance      | Spacing                      |                 | Maximum installation torque |
|-------------|---------------|-----------------|--------------------|------------------------------|-----------------|-----------------------------|
|             |               | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$              |
|             |               | [mm]            |                    |                              |                 | [Nm]                        |
| M8          | SH 12x80      | 80              | 100                | 560                          | 274             | 2                           |
| M8 / M10    | SH 16x85      | 85              |                    |                              |                 |                             |
|             | SH 16x130     | 130             |                    |                              |                 |                             |
|             | SH 16x130/330 | 130             |                    |                              |                 |                             |
| M12 / M16   | SH 20x85      | 85              | 120                |                              |                 |                             |
|             | SH 20x130     | 130             |                    |                              |                 |                             |

**Table C41: Displacement**

| Effective anchorage depth $h_{ef}$ | N                                   | $\delta_{N0}$ | $\delta_{N\infty}$ | V                                   | $\delta_{V0}$ | $\delta_{V\infty}$ |
|------------------------------------|-------------------------------------|---------------|--------------------|-------------------------------------|---------------|--------------------|
| [mm]                               | [kN]                                | [mm]          | [mm]               | [kN]                                | [mm]          | [mm]               |
| 80                                 | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,34          | 0,67               | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 0,71          | 1,06               |
| 85                                 |                                     | 0,52          | 1,04               |                                     | 1,37          | 2,06               |
| 130                                |                                     | 0,62          | 1,24               |                                     | 1,62          | 2,44               |

**Brick type: Clay hollow brick Urbanbric**
**Prestatieverklaring**

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**Table C42: Characteristic values of resistance under tension and shear loads**

| Anchor size                                               | Sleeve        | Effective<br>anchorage depth | Characteristic resistance         |                   |                                 |
|-----------------------------------------------------------|---------------|------------------------------|-----------------------------------|-------------------|---------------------------------|
|                                                           |               |                              | Use category<br>d/d<br>w/d<br>w/w |                   |                                 |
|                                                           |               |                              | 40°C / 24°C                       | 80°C / 50°C       | For all temperature rang        |
|                                                           |               | h <sub>ef</sub>              | N <sub>Rk 1)</sub>                | N <sub>Rk1)</sub> | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                           |               | [mm]                         | [kN]                              |                   |                                 |
| Compressive strength f <sub>b</sub> ≥ 6 N/mm <sub>2</sub> |               |                              |                                   |                   |                                 |
| M8                                                        | SH 12x80      | 80                           | 0,9                               | 0,75              | 3,0                             |
| M8 / M10                                                  | SH 16x85      | 85                           | 1,2                               | 0,75              | 3,5                             |
|                                                           | SH 16x130     | 130                          | 1,5                               | 1,2               | 3,5                             |
|                                                           | SH 16x130/330 | 130                          | 1,5                               | 1,2               | 3,5                             |
| M12 / M16                                                 | SH 20x85      | 85                           | 1,2                               | 0,75              | 4,0                             |
|                                                           | SH 20x130     | 130                          | 1,5                               | 1,2               | 4,0                             |
| Compressive strength f <sub>b</sub> ≥ 9 N/mm <sub>2</sub> |               |                              |                                   |                   |                                 |
| M8                                                        | SH 12x80      | 80                           | 1,2                               | 0,9               | 3,5                             |
| M8 / M10                                                  | SH 16x85      | 85                           | 1,5                               | 0,9               | 4,0                             |
|                                                           | SH 16x130     | 130                          | 2,0                               | 1,5               | 4,5                             |
|                                                           | SH 16x130/330 | 130                          | 2,0                               | 1,5               | 4,5                             |
| M12 / M16                                                 | SH 20x85      | 85                           | 1,5                               | 0,9               | 5,0                             |
|                                                           | SH 20x130     | 130                          | 2,0                               | 1,5               | 5,0                             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

**Brick type: Clay hollow brick Blocchi Leggeri**  
**Table C43: Description**

**Prestatieverklaring**

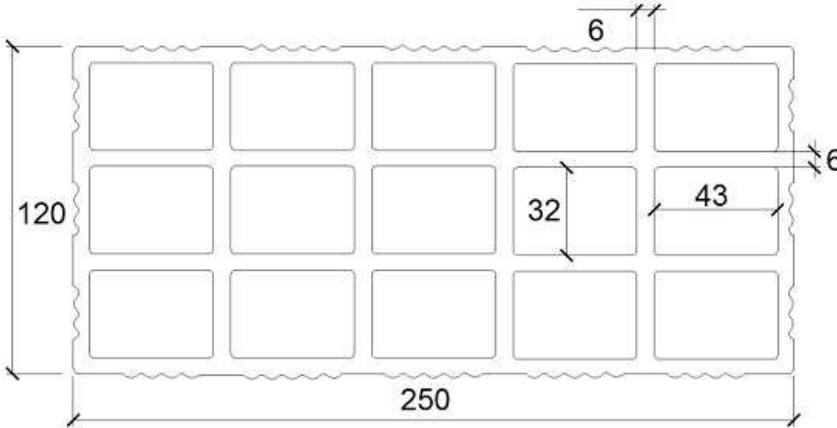
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|                              |                                      |                                                                                     |
|------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Clay hollow brick<br>Blocchi Leggeri |  |
| Bulk density [kg/dm³]        | 0,55                                 |                                                                                     |
| Compressive strength [N/mm²] | 4, 6 or 8                            |                                                                                     |
| Code                         | EN 771-1                             |                                                                                     |
| Producer (country code)      | e.g. Wienerberger (IT)               |                                                                                     |
| Brick dimensions [mm]        | 250 x 120 x 250                      |                                                                                     |
| Drilling method              | Rotary drilling                      |                                                                                     |



**Table C44: Installation parameter (Edge and spacing distances)**

| Anchor size      | Sleeve        | Embedment depth | Edge distance      | Spacing                      |                 | Maximum installation torque |
|------------------|---------------|-----------------|--------------------|------------------------------|-----------------|-----------------------------|
|                  |               | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$              |
|                  |               | [mm]            |                    |                              |                 | [Nm]                        |
| <b>M8</b>        | SH 12x80      | 80              | 100                | 250                          | 250             | 4                           |
| <b>M8 / M10</b>  | SH 16x85      | 85              |                    |                              |                 |                             |
|                  | SH 16x130     | 130             |                    |                              |                 |                             |
|                  | SH 16x130/330 | 130             |                    |                              |                 |                             |
| <b>M12 / M16</b> | SH 20x85      | 85              | 120                | 250                          | 250             | 4                           |
|                  | SH 20x130     | 130             |                    |                              |                 |                             |
|                  | SH 20x200     | 200             |                    |                              |                 |                             |

**Table C45: Displacement**

| Effective anchorage depth $h_{ef}$ | <b>N</b>                            | $\delta_{N0}$ | $\delta_{N\infty}$ | <b>V</b>                            | $\delta_{V0}$ | $\delta_{V\infty}$ |
|------------------------------------|-------------------------------------|---------------|--------------------|-------------------------------------|---------------|--------------------|
| [mm]                               | [kN]                                | [mm]          | [mm]               | [kN]                                | [mm]          | [mm]               |
| 80                                 | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,32          | 0,64               | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,16          | 1,74               |
| 85                                 |                                     | 0,26          | 0,53               |                                     | 2,52          | 3,78               |
| 130 ; 200                          |                                     | 0,32          | 0,64               |                                     | 2,52          | 3,78               |

**Brick type: Clay hollow brick Blocchi Leggeri**

**Prestatieverklaring**

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**Table C46: Characteristic values of resistance under tension and shear loads**

| Table 6-16: Characteristic values of resistance under tension and shear loads |               |                           |                           |                           |                 |
|-------------------------------------------------------------------------------|---------------|---------------------------|---------------------------|---------------------------|-----------------|
| Anchor size                                                                   | Sleeve        | Effective anchorage depth | Characteristic resistance |                           |                 |
|                                                                               |               |                           | Use category              |                           |                 |
|                                                                               |               |                           | d/d                       | w/d                       | w/w             |
|                                                                               |               | 40°C / 24°C               | 80°C / 50°C               | For all temperature range |                 |
|                                                                               |               | $h_{ef}$                  | $N_{Rk\ 1)}$              | $N_{Rk1)}$                | $V_{Rk,b}^{2)}$ |
| [mm]                                                                          | [kN]          |                           |                           |                           |                 |
| Compressive strength $f_b \geq 4\ N/mm^2$                                     |               |                           |                           |                           |                 |
| M8                                                                            | SH 12x80      | 80                        | 0,4                       | 0,3                       | 2,0             |
| M8 / M10                                                                      | SH 16x85      | 85                        | 0,4                       | 0,3                       | 2,0             |
|                                                                               | SH 16x130     | 130                       | 0,5                       | 0,3                       | 2,0             |
|                                                                               | SH 16x130/330 | 130                       | 0,5                       | 0,3                       | 2,0             |
| M12 / M16                                                                     | SH 20x85      | 85                        | 0,4                       | 0,3                       | 2,0             |
|                                                                               | SH 20x130     | 130                       | 0,5                       | 0,3                       | 2,0             |
|                                                                               | SH 20x200     | 200                       | 0,5                       | 0,3                       | 2,0             |
| Compressive strength $f_b \geq 6\ N/mm^2$                                     |               |                           |                           |                           |                 |
| M8                                                                            | SH 12x80      | 80                        | 0,5                       | 0,3                       | 2,0             |
| M8 / M10                                                                      | SH 16x85      | 85                        | 0,5                       | 0,3                       | 2,0             |
|                                                                               | SH 16x130     | 130                       | 0,6                       | 0,4                       | 2,0             |
|                                                                               | SH 16x130/330 | 130                       | 0,6                       | 0,4                       | 2,0             |
| M12 / M16                                                                     | SH 20x85      | 85                        | 0,5                       | 0,3                       | 2,5             |
|                                                                               | SH 20x130     | 130                       | 0,6                       | 0,4                       | 2,5             |
|                                                                               | SH 20x200     | 200                       | 0,6                       | 0,4                       | 2,5             |
| Compressive strength $f_b \geq 8\ N/mm^2$                                     |               |                           |                           |                           |                 |
| M8                                                                            | SH 12x80      | 80                        | 0,6                       | 0,4                       | 2,5             |
| M8 / M10                                                                      | SH 16x85      | 85                        | 0,6                       | 0,4                       | 2,5             |
|                                                                               | SH 16x130     | 130                       | 0,6                       | 0,5                       | 2,5             |
|                                                                               | SH 16x130/330 | 130                       | 0,6                       | 0,5                       | 2,5             |
| M12 / M16                                                                     | SH 20x85      | 85                        | 0,6                       | 0,4                       | 3,0             |
|                                                                               | SH 20x130     | 130                       | 0,6                       | 0,5                       | 3,0             |
|                                                                               | SH 20x200     | 200                       | 0,6                       | 0,5                       | 3,0             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

**Brick type: Clay hollow brick Doppio Uni**

**Prestatieverklaring**

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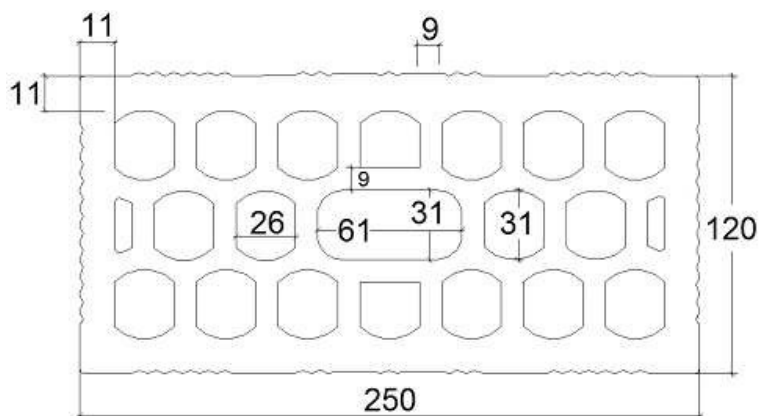
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**Table C47: Description**

|                              |                                 |                                                                                     |
|------------------------------|---------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Clay hollow brick<br>Doppio Uni |  |
| Bulk density [kg/dm³]        | 0,92                            |                                                                                     |
| Compressive strength [N/mm²] | 10, 16, 20 or 28                |                                                                                     |
| Code                         | EN 771-1                        |                                                                                     |
| Producer (country code)      | e.g. Wienerberger (IT)          |                                                                                     |
| Brick dimensions [mm]        | 250 x 120 x 120                 |                                                                                     |
| Drilling method              | Rotary drilling                 |                                                                                     |


**Table C48: Installation parameter (Edge and spacing distances)**

| Anchor size      | Sleeve        | Embedment depth | Edge distance      | Spacing                      |                 | Maximum installation torque |
|------------------|---------------|-----------------|--------------------|------------------------------|-----------------|-----------------------------|
|                  |               | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$              |
|                  |               | [mm]            |                    |                              |                 | [Nm]                        |
| <b>M8</b>        | SH 12x80      | 80              | 100                | 250                          | 120             | 4                           |
| <b>M8 / M10</b>  | SH 16x85      | 85              |                    |                              |                 |                             |
|                  | SH 16x130     | 130             |                    |                              |                 |                             |
|                  | SH 16x130/330 | 130             |                    |                              |                 |                             |
| <b>M12 / M16</b> | SH 20x85      | 85              | 120                | 250                          | 120             | 4                           |
|                  | SH 20x130     | 130             |                    |                              |                 |                             |
|                  | SH 20x200     | 200             |                    |                              |                 |                             |

**Table C49: Displacement**

| Effective anchorage depth $h_{ef}$ | <b>N</b>                            | $\delta N_0$ | $\delta N_{\infty}$ | <b>V</b>                            | $\delta v_0$ | $\delta v_{\infty}$ |
|------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                               | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                 | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,54         | 1,08                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 1,63         | 2,45                |
| 85                                 |                                     | 0,17         | 0,34                |                                     | 1,75         | 2,63                |
| 130 ; 200                          |                                     | 0,54         | 1,08                |                                     | 1,75         | 2,63                |

**Brick type: Clay hollow brick Doppio Uni**
**Prestatieverklaring**

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**Table C50: Characteristic values of resistance under tension and shear loads**

| Anchor size                                | Sleeve        | Effective anchorage depth | Characteristic resistance |                           |                 |
|--------------------------------------------|---------------|---------------------------|---------------------------|---------------------------|-----------------|
|                                            |               |                           | Use category              |                           |                 |
|                                            |               |                           | d/d                       | w/d                       | w/w             |
|                                            |               | 40°C / 24°C               | 80°C / 50°C               | For all temperature range |                 |
|                                            |               | $h_{ef}$                  | $N_{Rk\ 1)}$              | $N_{Rk1)}$                | $V_{Rk,b}^{2)}$ |
| [mm]                                       | [kN]          |                           |                           |                           |                 |
| Compressive strength $f_b \geq 10\ N/mm^2$ |               |                           |                           |                           |                 |
| M8                                         | SH 12x80      | 80                        | 0,9                       | 0,6                       | 2,0             |
| M8 / M10                                   | SH 16x85      | 85                        | 0,9                       | 0,6                       | 2,0             |
|                                            | SH 16x130     | 130                       | 0,9                       | 0,6                       | 2,0             |
|                                            | SH 16x130/330 | 130                       | 0,9                       | 0,6                       | 2,0             |
| M12 / M16                                  | SH 20x85      | 85                        | 1,2                       | 0,75                      | 2,0             |
|                                            | SH 20x130     | 130                       | 1,2                       | 0,75                      | 2,0             |
|                                            | SH 20x200     | 200                       | 1,2                       | 0,75                      | 2,0             |
| Compressive strength $f_b \geq 16\ N/mm^2$ |               |                           |                           |                           |                 |
| M8                                         | SH 12x80      | 80                        | 0,9                       | 0,75                      | 2,5             |
| M8 / M10                                   | SH 16x85      | 85                        | 1,2                       | 0,9                       | 2,5             |
|                                            | SH 16x130     | 130                       | 1,2                       | 0,9                       | 2,5             |
|                                            | SH 16x130/330 | 130                       | 1,2                       | 0,9                       | 2,5             |
| M12 / M16                                  | SH 20x85      | 85                        | 1,5                       | 0,9                       | 2,5             |
|                                            | SH 20x130     | 130                       | 1,5                       | 0,9                       | 2,5             |
|                                            | SH 20x200     | 200                       | 1,5                       | 0,9                       | 2,5             |
| Compressive strength $f_b \geq 20\ N/mm^2$ |               |                           |                           |                           |                 |
| M8                                         | SH 12x80      | 80                        | 1,2                       | 0,75                      | 3,0             |
| M8 / M10                                   | SH 16x85      | 85                        | 1,2                       | 0,9                       | 3,0             |
|                                            | SH 16x130     | 130                       | 1,5                       | 0,9                       | 3,0             |
|                                            | SH 16x130/330 | 130                       | 1,5                       | 0,9                       | 3,0             |
| M12 / M16                                  | SH 20x85      | 85                        | 1,5                       | 0,9                       | 3,0             |
|                                            | SH 20x130     | 130                       | 1,5                       | 0,9                       | 3,0             |
|                                            | SH 20x200     | 200                       | 1,5                       | 0,9                       | 3,0             |
| Compressive strength $f_b \geq 28\ N/mm^2$ |               |                           |                           |                           |                 |
| M8                                         | SH 12x80      | 80                        | 1,5                       | 0,9                       | 3,5             |
| M8 / M10                                   | SH 16x85      | 85                        | 1,5                       | 1,2                       | 3,5             |
|                                            | SH 16x130     | 130                       | 1,5                       | 1,2                       | 3,5             |
|                                            | SH 16x130/330 | 130                       | 1,5                       | 1,2                       | 3,5             |
| M12 / M16                                  | SH 20x85      | 85                        | 2,0                       | 1,2                       | 3,5             |
|                                            | SH 20x130     | 130                       | 2,0                       | 1,2                       | 3,5             |
|                                            | SH 20x200     | 200                       | 2,0                       | 1,2                       | 3,5             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

**Brick type: Hollow Light weight concrete Bloc creux B40**

**Prestatieverklaring**

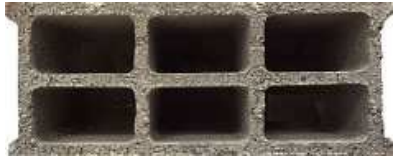
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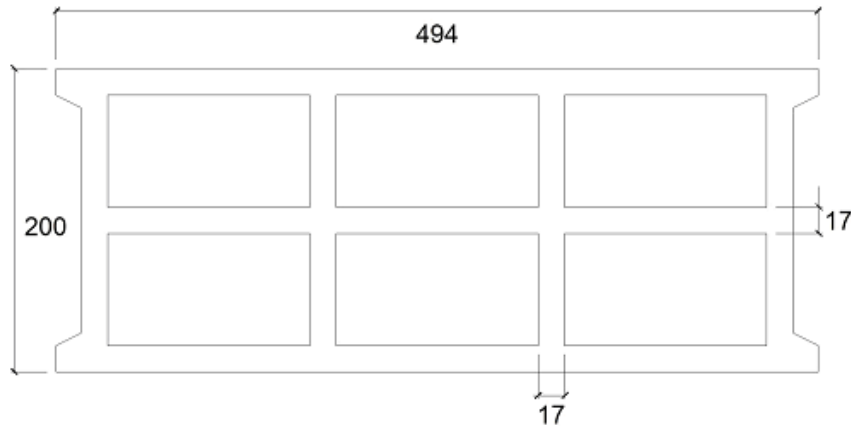
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**Table C51: Description**

|                              |                                                |                                                                                     |
|------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Hollow light weight concrete<br>Bloc creux B40 |  |
| Bulk density [kg/dm³]        | 0,8                                            |                                                                                     |
| Compressive strength [N/mm²] | 4                                              |                                                                                     |
| Code                         | EN 771-3                                       |                                                                                     |
| Producer (country code)      | e.g. Sepa (FR)                                 |                                                                                     |
| Brick dimensions [mm]        | 494 x 200 x 190                                |                                                                                     |
| Drilling method              | Rotary drilling                                |                                                                                     |


**Table C52: Installation parameter (Edge and spacing distances)**

| Anchor size      | Sleeve        | Embedment depth | Edge distance      | Spacing                      |                 | Maximum installation torque |
|------------------|---------------|-----------------|--------------------|------------------------------|-----------------|-----------------------------|
|                  |               | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$              |
|                  |               | [mm]            |                    |                              |                 | [Nm]                        |
| <b>M8</b>        | SH 12x80      | 80              | 100                | 494                          | 190             | 2                           |
| <b>M8 / M10</b>  | SH 16x85      | 85              |                    |                              |                 |                             |
|                  | SH 16x130     | 130             |                    |                              |                 |                             |
|                  | SH 16x130/330 | 130             |                    |                              |                 |                             |
| <b>M12 / M16</b> | SH 20x85      | 85              | 120                | 494                          | 190             | 2                           |
|                  | SH 20x130     | 130             |                    |                              |                 |                             |

**Table C53: Displacement**

| Effective anchorage depth<br>$h_{ef}$ | <b>N</b>                         | $\delta N_0$ | $\delta N_{\infty}$ | <b>V</b>                         | $\delta v_0$ | $\delta v_{\infty}$ |
|---------------------------------------|----------------------------------|--------------|---------------------|----------------------------------|--------------|---------------------|
| [mm]                                  | [kN]                             | [mm]         | [mm]                | [kN]                             | [mm]         | [mm]                |
| 80                                    | $N_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,14         | 0,29                | $V_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,25         | 0,37                |
| 85                                    |                                  | 0,45         | 0,90                |                                  | 0,98         | 1,47                |
| 130                                   |                                  | 0,61         | 1,22                |                                  | 1,10         | 1,65                |

**Brick type: Hollow Light weight concrete Bloc creux B40**

**Prestatieverklaring**

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**Table C54: Characteristic values of resistance under tension and shear loads**

| Anchor size                                               | Sleeve        | Effective anchorage depth | Characteristic resistance         |                    |                                 |
|-----------------------------------------------------------|---------------|---------------------------|-----------------------------------|--------------------|---------------------------------|
|                                                           |               |                           | Use category<br>d/d<br>w/d<br>w/w |                    |                                 |
|                                                           |               |                           | 40°C / 24°C                       | 80°C / 50°C        | For all temperature range       |
|                                                           |               | h <sub>ef</sub>           | N <sub>Rk1</sub> )                | N <sub>Rk1</sub> ) | V <sub>Rk,b</sub> <sup>2)</sup> |
|                                                           |               | [mm]                      | [kN]                              |                    |                                 |
| Compressive strength f <sub>b</sub> ≥ 4 N/mm <sup>2</sup> |               |                           |                                   |                    |                                 |
| M8                                                        | SH 12x80      | 80                        | 0,4                               | 0,3                | 1,2                             |
|                                                           | SH 16x85      | 85                        | 0,6                               | 0,5                | 3,0                             |
|                                                           | SH 16x130     | 130                       | 2,0                               | 1,5                | 3,5                             |
|                                                           | SH 16x130/330 | 130                       | 2,0                               | 1,5                | 3,5                             |
| M10                                                       | SH 16x85      | 85                        | 0,6                               | 0,5                | 3,0                             |
|                                                           | SH 16x130     | 130                       | 2,0                               | 1,5                | 3,5                             |
|                                                           | SH 16x130/330 | 130                       | 2,0                               | 1,5                | 3,5                             |
| M12                                                       | SH 20x85      | 85                        | 0,9                               | 0,6                | 3,0                             |
|                                                           | SH 20x130     | 130                       | 2,0                               | 1,5                | 3,5                             |
| M16                                                       | SH 20x85      | 85                        | 0,9                               | 0,6                | 3,0                             |
|                                                           | SH 20x130     | 130                       | 2,0                               | 1,5                | 3,5                             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

**Brick type: Solid light weight concrete brick**

**Prestatieverklaring**

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**Table C55: Description**

|                                           |                                   |                                                                                     |
|-------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|
| Brick type                                | Solid light weight concrete brick |  |
| Bulk density [kg/dm <sup>3</sup> ]        | 0,63                              |                                                                                     |
| Compressive strength [N/mm <sup>2</sup> ] | 2                                 |                                                                                     |
| Code                                      | EN 771-3                          |                                                                                     |
| Producer (country code)                   | e.g. Bisotherm (DE)               |                                                                                     |
| Brick dimensions [mm]                     | 300 x 123 x 248                   |                                                                                     |
| Drilling method                           | Rotary drilling                   |                                                                                     |

**Table C56: Installation parameter (Edge and spacing distances)**

| Anchor size | Sleeve | Embedment depth | Edge distance      | Spacing                               | Maximum installation torque |
|-------------|--------|-----------------|--------------------|---------------------------------------|-----------------------------|
|             |        | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min II} = S_{min \perp}$ | $T_{inst,max}$              |
|             |        | [mm]            |                    |                                       | [Nm]                        |
| <b>M8</b>   | -      | 80              | 120                | 240                                   | 6                           |
| <b>M10</b>  | -      | 90              | 135                | 270                                   |                             |
| <b>M12</b>  | -      | 100             | 150                | 300                                   | 10                          |
| <b>M16</b>  | -      | 100             | 150                | 300                                   | 14                          |

**Table C57: Displacement**

| Effective anchorage depth $h_{ef}$ | <b>N</b>                            | $\delta N_0$ | $\delta N_{\infty}$ | <b>V</b>                            | $\delta v_0$ | $\delta v_{\infty}$ |
|------------------------------------|-------------------------------------|--------------|---------------------|-------------------------------------|--------------|---------------------|
| [mm]                               | [kN]                                | [mm]         | [mm]                | [kN]                                | [mm]         | [mm]                |
| 80                                 | $\frac{N_{Rk}}{1,4 \cdot \gamma_M}$ | 0,64         | 1,28                | $\frac{V_{Rk}}{1,4 \cdot \gamma_M}$ | 0,50         | 0,75                |
| 90                                 |                                     | 0,70         | 1,41                |                                     | 0,68         | 1,03                |
| 100                                |                                     | 0,21         | 0,42                |                                     | 0,54         | 0,81                |

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**Brick type: Solid light weight concrete brick**

**Table C58: Characteristic values of resistance under tension and shear loads**

| Table 3.3. Characteristic values of resistance under tension and shear loads |        |                           |                           |                           |                 |
|------------------------------------------------------------------------------|--------|---------------------------|---------------------------|---------------------------|-----------------|
| Anchor size                                                                  | Sleeve | Effective anchorage depth | Characteristic resistance |                           |                 |
|                                                                              |        |                           | Use category              |                           |                 |
|                                                                              |        |                           | d/d<br>w/d<br>w/w         |                           |                 |
|                                                                              |        | 40°C / 24°C               | 80°C / 50°C               | For all temperature range |                 |
|                                                                              |        | $h_{ef}$                  | $N_{Rk\ 1)}$              | $N_{Rk1)}$                | $V_{Rk,b}^{2)}$ |
| [mm]                                                                         | [kN]   |                           |                           |                           |                 |
| Compressive strength $f_b \geq 2\ N/mm^2$                                    |        |                           |                           |                           |                 |
| M8                                                                           | -      | 80                        | 2,0                       | 1,5                       | 3,0             |
| M10                                                                          | -      | 90                        | 2,0                       | 1,5                       | 3,5             |
| M12                                                                          | -      | 100                       | 2,0                       | 1,5                       | 4,0             |
| M16                                                                          | -      | 100                       | 2,0                       | 1,5                       | 4,0             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

**Prestatieverklaring**

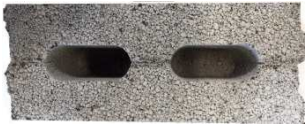
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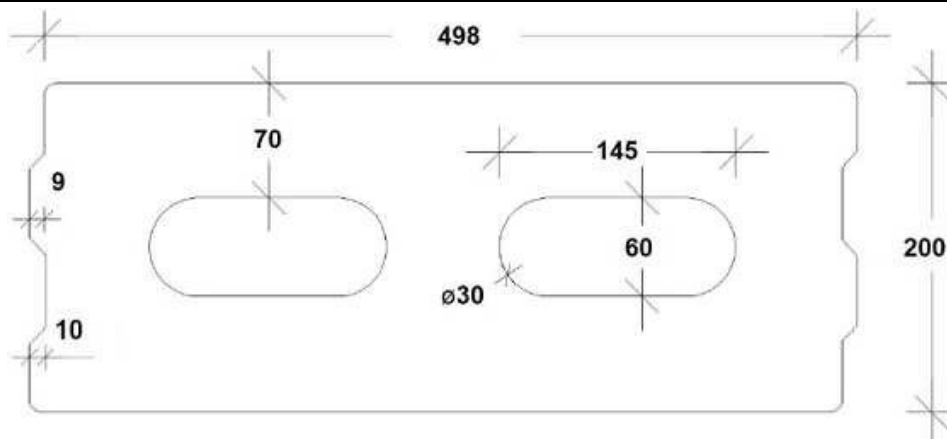
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**Brick type: Hollow light weight concrete brick – Leca Lex harkko RUH-200**
**Table C59: Description**

|                              |                                                         |                                                                                     |
|------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Hollow light weight concrete<br>Leca Lex harkko RUH-200 |  |
| Bulk density [kg/dm³]        | 0,7                                                     |                                                                                     |
| Compressive strength [N/mm²] | 2,7                                                     |                                                                                     |
| Code                         | EN 771-3                                                |                                                                                     |
| Producer (country code)      | e.g. Saint-Gobain Weber (Fin)                           |                                                                                     |
| Brick dimensions [mm]        | 498 x 200 x 195                                         |                                                                                     |
| Drilling method              | Rotary drilling                                         |                                                                                     |


**Table C60: Installation parameter (Edge and spacing distances)**

| Anchor size | Sleeve        | Embedment depth | Edge distance      | Spacing                      |                 | Maximum installation torque |
|-------------|---------------|-----------------|--------------------|------------------------------|-----------------|-----------------------------|
|             |               | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min \parallel}$ | $S_{min \perp}$ | $T_{inst,max}$              |
|             |               |                 |                    | [mm]                         |                 | [Nm]                        |
| M8          | SH 12x80      | 80              | 120                | 498                          | 195             | 8                           |
| M8 / M10    | SH 16x85      | 85              | 127                |                              |                 |                             |
|             | SH 16x130     | 130             | 195                |                              |                 |                             |
|             | SH 16x130/330 | 130             | 195                |                              |                 |                             |
| M12 / M16   | SH 20x85      | 85              | 127                |                              |                 |                             |
|             | SH 20x130     | 130             | 195                |                              |                 |                             |

**Table C61: Displacement**

| Effective anchorage depth<br>$h_{ef}$ | N                                | $\delta_{N0}$ | $\delta_{N\infty}$ | V                                | $\delta_{V0}$ | $\delta_{V\infty}$ |
|---------------------------------------|----------------------------------|---------------|--------------------|----------------------------------|---------------|--------------------|
| [mm]                                  | [kN]                             | [mm]          | [mm]               | [kN]                             | [mm]          | [mm]               |
| 80                                    | $N_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,11          | 0,22               | $V_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,47          | 0,70               |
| 85                                    |                                  | 0,11          | 0,23               |                                  | 0,38          | 0,57               |
| 130                                   |                                  | 0,10          | 0,20               |                                  | 0,56          | 0,85               |

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**Brick type: Hollow light weight concrete brick – Leca Lex harkko RUH-200**

**Table C62: Characteristic values of resistance under tension and shear loads**

| Table 5.1.1 - Characteristic value of resistance under tension and shear loads |               |                           |                           |                          |                 |
|--------------------------------------------------------------------------------|---------------|---------------------------|---------------------------|--------------------------|-----------------|
| Anchor size                                                                    | Sleeve        | Effective anchorage depth | Characteristic resistance |                          |                 |
|                                                                                |               |                           | Use category              |                          |                 |
|                                                                                |               |                           | d/d                       | w/d                      | w/w             |
|                                                                                |               | 40°C / 24°C               | 80°C / 50°C               | For all temperature rang |                 |
|                                                                                |               | $h_{ef}$                  | $N_{Rk\ 1)}$              | $N_{Rk1)}$               | $V_{Rk,b}^{2)}$ |
| [mm]                                                                           | [kN]          |                           |                           |                          |                 |
| Compressive strength $f_b \geq 2,7\ N/mm^2$                                    |               |                           |                           |                          |                 |
| M8                                                                             | SH 12x80      | 80                        | 2,0                       | 1,2                      | 2,5             |
|                                                                                | SH 16x85      | 85                        | 2,0                       | 1,2                      | 3,5             |
|                                                                                | SH 16x130     | 130                       | 2,5                       | 1,5                      | 3,5             |
|                                                                                | SH 16x130/330 | 130                       | 2,5                       | 1,5                      | 3,5             |
| M10                                                                            | SH 16x85      | 85                        | 2,0                       | 1,5                      | 3,5             |
|                                                                                | SH 16x130     | 130                       | 2,5                       | 1,5                      | 3,5             |
|                                                                                | SH 16x130/330 | 130                       | 2,5                       | 1,5                      | 3,5             |
| M12                                                                            | SH 20x85      | 85                        | 2,5                       | 1,5                      | 3,5             |
|                                                                                | SH 20x130     | 130                       | 2,5                       | 1,5                      | 3,5             |
| M16                                                                            | SH 20x85      | 85                        | 2,5                       | 1,5                      | 3,5             |
|                                                                                | SH 20x130     | 130                       | 2,5                       | 1,5                      | 3,5             |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

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**Brick type: Solid light weight concrete brick – Leca Lex harkko RUH-200 kulma**
**Table C63: Description**

|                              |                                                              |                                                                                     |
|------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Brick type                   | Solid light weight concrete<br>Leca Lex harkko RUH-200 kulma |  |
| Bulk density [kg/dm³]        | 0,78                                                         |                                                                                     |
| Compressive strength [N/mm²] | 3                                                            |                                                                                     |
| Code                         | EN 771-3                                                     |                                                                                     |
| Producer (country code)      | e.g. Saint-Gobain Weber (Fin)                                |                                                                                     |
| Brick dimensions [mm]        | 498 x 200 x 195                                              |                                                                                     |
| Drilling method              | Rotary drilling                                              |                                                                                     |

**Table C64: Installation parameter (Edge and spacing distances)**

| Anchor size      | Sleeve        | Embedment depth | Edge distance      | Spacing                               | Maximum installation torque |
|------------------|---------------|-----------------|--------------------|---------------------------------------|-----------------------------|
|                  |               | $h_{ef}$        | $C_{min} = C_{cr}$ | $S_{cr} = S_{min II} = S_{min \perp}$ | $T_{inst,max}$              |
|                  |               | [mm]            |                    |                                       | [Nm]                        |
| <b>M8</b>        | -             | 80              | 120                | 240                                   | 6                           |
| <b>M10</b>       | -             | 90              | 135                | 270                                   | 12                          |
| <b>M12</b>       | -             | 100             | 150                | 300                                   | 14                          |
| <b>M16</b>       | -             | 100             | 150                | 300                                   | 16                          |
| <b>M8 / M10</b>  | SH 12x80      | 80              | 120                | 240                                   | 8                           |
|                  | SH 16x85      | 85              | 127                | 255                                   |                             |
|                  | SH 16x130     | 130             | 195                | 390                                   | 16                          |
|                  | SH 16x130/330 | 130             | 195                | 390                                   | 16                          |
| <b>M12 / M16</b> | SH 20x85      | 85              | 127                | 255                                   | 12                          |
|                  | SH 20x130     | 130             | 195                | 390                                   | 16                          |

**Table C65: Displacement**

| Effective anchorage depth $h_{ef}$ | <b>N</b>                         | $\delta N_0$ | $\delta N_{\infty}$ | <b>V</b>                         | $\delta v_0$ | $\delta v_{\infty}$ |
|------------------------------------|----------------------------------|--------------|---------------------|----------------------------------|--------------|---------------------|
| [mm]                               | [kN]                             | [mm]         | [mm]                | [kN]                             | [mm]         | [mm]                |
| 80                                 | $N_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,09         | 0,18                | $V_{Rk}$<br>$1,4 \cdot \gamma_M$ | 0,48         | 0,72                |
| 85                                 |                                  | 0,07         | 0,15                |                                  | 0,77         | 1,15                |
| 90                                 |                                  | 0,13         | 0,26                |                                  | 0,26         | 0,39                |
| 100                                |                                  | 0,13         | 0,23                |                                  | 0,36         | 0,54                |
| 130                                |                                  | 0,10         | 0,21                |                                  | 0,68         | 1,01                |

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**Brick type: Solid light weight concrete brick – Leca Lex harkko RUH-200 kulma**

**Table C66: Characteristic values of resistance under tension and shear loads**

| Anchor size                                                 | Sleeve        | Effective anchorage depth | Characteristic resistance |                           |                      |
|-------------------------------------------------------------|---------------|---------------------------|---------------------------|---------------------------|----------------------|
|                                                             |               |                           | Use category              |                           |                      |
|                                                             |               |                           | d/d<br>w/d<br>w/w         |                           |                      |
|                                                             |               | 40°C / 24°C               | 80°C / 50°C               | For all temperature range |                      |
|                                                             |               | h <sub>ef</sub>           | N <sub>Rk</sub> 1)        | N <sub>Rk</sub> 1)        | V <sub>Rk,b</sub> 2) |
| [mm]                                                        | [kN]          |                           |                           |                           |                      |
| Compressive strength f <sub>b</sub> ≥ 3,0 N/mm <sup>2</sup> |               |                           |                           |                           |                      |
| M8                                                          | -             | 80                        | 2,0                       | 1,2                       | 3,0                  |
| M10                                                         | -             | 90                        | 3,0                       | 2,0                       | 4,0                  |
| M12                                                         | -             | 100                       | 3,0                       | 2,0                       | 4,0                  |
| M16                                                         | -             | 100                       | 3,0                       | 2,0                       | 4,0                  |
| M8                                                          | SH 12x80      | 80                        | 2,0                       | 1,2                       | 3,0                  |
|                                                             | SH 16x85      | 85                        | 2,0                       | 1,5                       | 3,5                  |
|                                                             | SH 16x130     | 130                       | 3,0                       | 2,0                       | 4,0                  |
|                                                             | SH 16x130/330 | 130                       | 3,0                       | 2,0                       | 4,0                  |
| M10                                                         | SH 16x85      | 85                        | 2,0                       | 1,5                       | 3,5                  |
|                                                             | SH 16x130     | 130                       | 3,0                       | 2,0                       | 4,0                  |
|                                                             | SH 16x130/330 | 130                       | 3,0                       | 2,0                       | 4,0                  |
| M12 / M16                                                   | SH 20x85      | 85                        | 2,0                       | 1,5                       | 4,5                  |
|                                                             | SH 20x130     | 130                       | 3,0                       | 2,0                       | 4,5                  |

1) For design according ETAG 029, Annex C:  $N_{Rk} = N_{Rk,p} = N_{Rk,b}$ ;  $N_{Rk,s}$  according to Table C2 Annex C2; Calculation  $N_{Rk,pb}$  see ETAG 029, Annex C

2) For  $V_{Rk,s}$  see Annex C 2, Table C2; Calculation of  $V_{Rk,pb}$  and  $V_{Rk,c}$  see ETAG 029, Annex C

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**CE-markering die op het etiket moet worden geplaatst**

|                                                                                     |
|-------------------------------------------------------------------------------------|
|  |
| 17                                                                                  |
| Sika Services AG, Zurich, Switzerland                                               |
| DoP No. 86553674                                                                    |
| ETA 17/0327                                                                         |
| Notified Body 1343                                                                  |
| Injection anchors for use in masonry                                                |
| For details see accompanying documents                                              |
| <a href="http://dop.sika.com">http://dop.sika.com</a>                               |

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**BUILDING TRUST**



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## ECOLOGISCHE, VEILIGHEIDS- EN GEZONDHEIDSINFORMATIE (REACH)

Voor informatie en advies over de veilige hantering, opslag en verwijdering van chemicaliën verwijzen wij de gebruiker naar het recentste veiligheidsinformatieblad die fysische, ecologische, toxicologische en andere veiligheidsgegevens bevat.

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De informatie wordt in goed vertrouwen verstrekt op basis van de huidige kennis en ervaring van Sika met producten die op de juiste wijze zijn opgeslagen, behandeld en toegepast onder normale omstandigheden in overeenstemming met de aanbevelingen van Sika. In de praktijk zijn de verschillen in materialen, ondergronden en werkelijke omstandigheden ter plaatse zodanig dat er geen garantie kan worden ontleend met betrekking tot verhandelbaarheid of geschiktheid voor een bepaald doel, noch enige aansprakelijkheid voortvloeiend uit enige juridische relatie, op basis van deze informatie, of uit enige schriftelijke aanbevelingen of enig ander advies dat wordt gegeven. De gebruiker van het product moet de verenigbaarheid van het product testen voor de beoogde toepassing en doel. Sika behoudt zich het recht voor om de eigenschappen van haar producten te wijzigen. De eigendomsrechten van derden dienen te worden gerespecteerd. Alle bestellingen worden aanvaard onder de huidige verkoop- en leveringsvoorwaarden. Gebruikers dienen altijd de meest recente uitgave van het lokale productinformatieblad te raadplegen voor het betreffende product; exemplaren hiervan worden op verzoek verstrekt.

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Sika Belgium nv  
Venecoweg 37  
9810 Nazareth  
Belgium  
[www.sika.be](http://www.sika.be)

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