

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-08/0190
of 28 April 2021

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Würth Plastic Anchor W-UR / SHARK UR

Product family
to which the construction product belongs

Plastic anchor for multiple use in concrete and masonry
for non-structural applications

Manufacturer

Adolf Würth GmbH & Co. KG
Reinhold-Würth-Straße 12-17
74653 Künzelsau
DEUTSCHLAND

Manufacturing plant

Werk 2

This European Technical Assessment
contains

137 pages including 3 annexes which form an integral
part of this assessment

This European Technical Assessment is
issued in accordance with Regulation (EU)
No 305/2011, on the basis of

ETAG 020, March 2012,
used as EAD according to Article 66 Paragraph 3 of
Regulation (EU) No 305/2011.

This version replaces

ETA-08/0190 issued on 5 September 2017

The European Technical Assessment is issued by the Technical Assessment Body in its official language. Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and shall be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may only be made with the written consent of the issuing Technical Assessment Body. Any partial reproduction shall be identified as such.

This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission in accordance with Article 25(3) of Regulation (EU) No 305/2011.

Specific Part

1 Technical description of the product

The Würth plastic anchor in the range W-UR / SHARK UR 8 and W-UR / SHARK UR 10 is a plastic anchor consisting of a plastic sleeve made of polyamide and an accompanying specific screw of galvanised steel or of stainless steel.

The plastic sleeve is expanded by screwing in the specific screw which presses the sleeve against the wall of the drilled hole.

The product description is given in Annex A.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchors of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	See Annex C 2

3.2 Safety and accessibility (BWR 4)

Essential characteristic	Performance
Characteristic resistance for tension and shear loads	See Annexes C 1, C 16 – C 123
Edge distances and spacing	See Annex B 2, B 3
Displacements	See Annex C 2
Durability	See Annex B 1

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with guideline for European technical approval ETAG 020, March 2012 used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011 the applicable European legal act is: 97/463/EC.

The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document

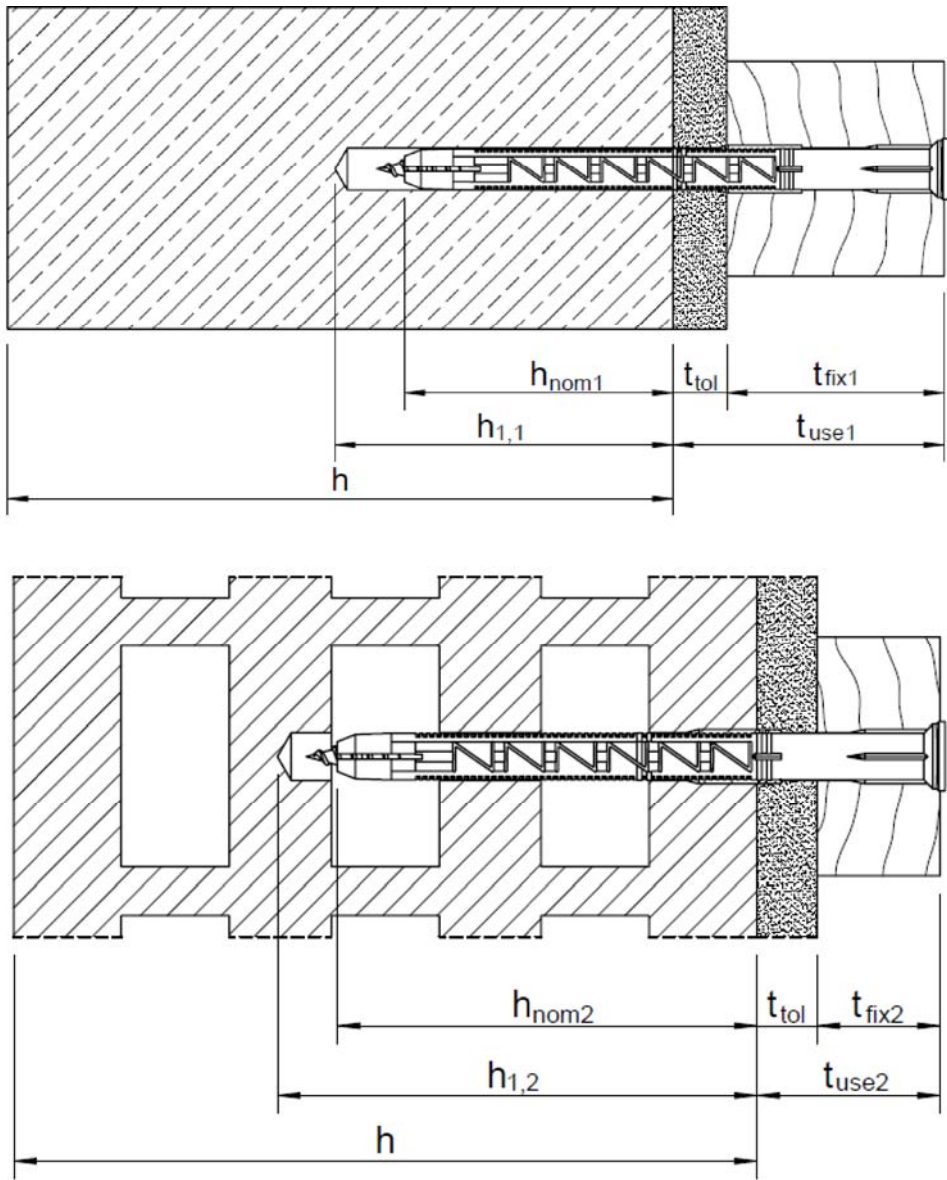
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Deutsches Institut für Bautechnik.

Issued in Berlin on 28 April 2021 by Deutsches Institut für Bautechnik

Dipl.-Ing. Beatrix Wittstock
Head of Section

beglaubigt:
Ziegler

Plastic Anchor W-UR 8 / SHARK UR 8 and W-UR 10 / SHARK UR 10 in-place installation



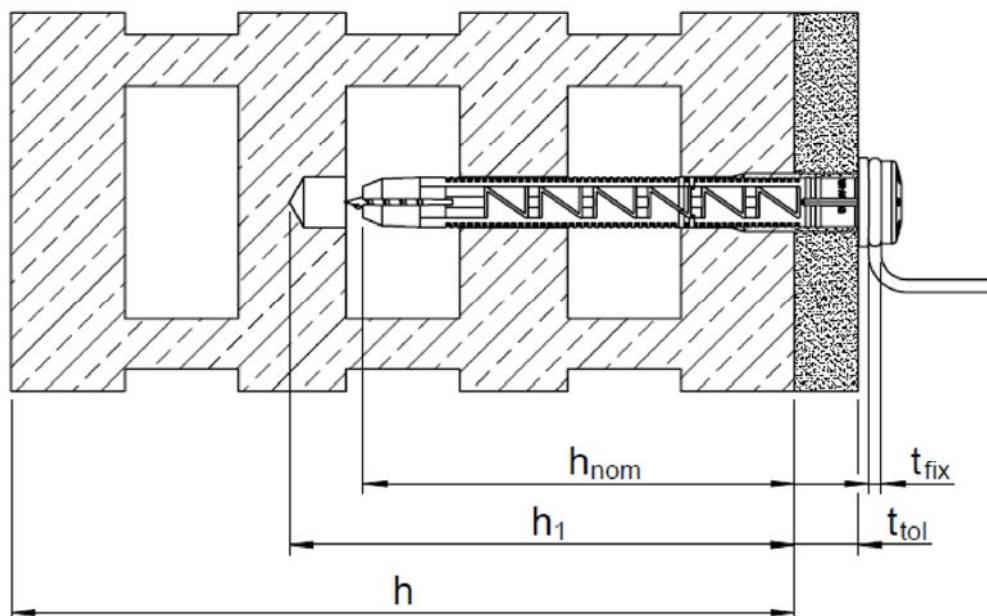
- h_{nom1}: Overall plastic anchor embedment depth in the base material (1)
- h_{nom2}: Overall plastic anchor embedment depth in the base material (2)
- h_{1,1}: Depth of drill hole to deepest point (1)
- h_{1,2}: Depth of drill hole to deepest point (2)
- h: Thickness of member
- t_{fix1}: Thickness of fixture (1)
- t_{fix2}: Thickness of fixture (2)
- t_{tol}: Thickness of non-load-bearing layer
- t_{use1}: Useable length (1)
- t_{use2}: Useable length (2)

Würth Plastic Anchor W-UR / SHARK UR

Annex A 1

Product description
Installed condition in-place installation

Plastic Anchor W-UR 8 / SHARK UR 8 Panhead for pre-positioned installation



- h_{nom} : Overall plastic anchor embedment depth in the base material
 h_1 : Depth of drill hole to deepest point
 h : Thickness of member
 t_{fix} : Thickness of fixture
 t_{tol} : Thickness of non-load-bearing layer

Würth Plastic Anchor W-UR / SHARK UR

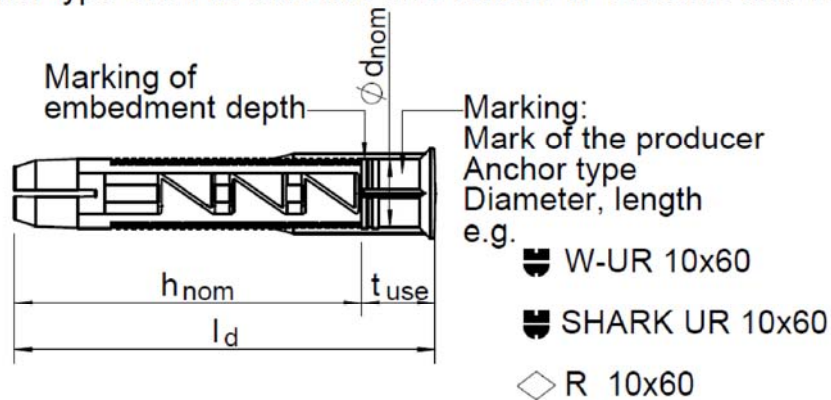
Product description

Installed condition pre-positioned installation

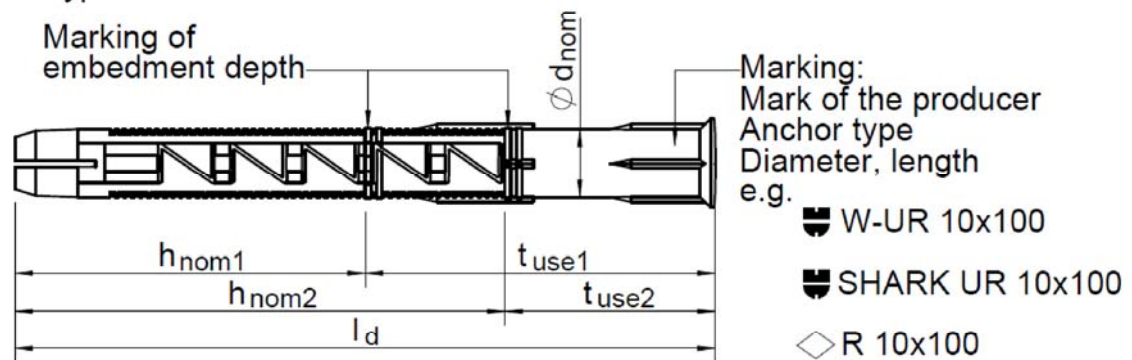
Annex A 2

Plastic sleeve

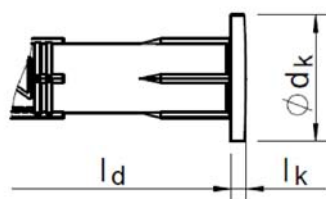
Anchor type SHARK UR 8x60 and 10x60 / W-UR 8x60 and 10x60



Anchor type SHARK UR 8 and 10 / W-UR 8 and 10



Anchor type SHARK UR F 8 / W-UR F 8
and SHARK UR F 10 / W-UR F 10



Würth Plastic Anchor W-UR / SHARK UR

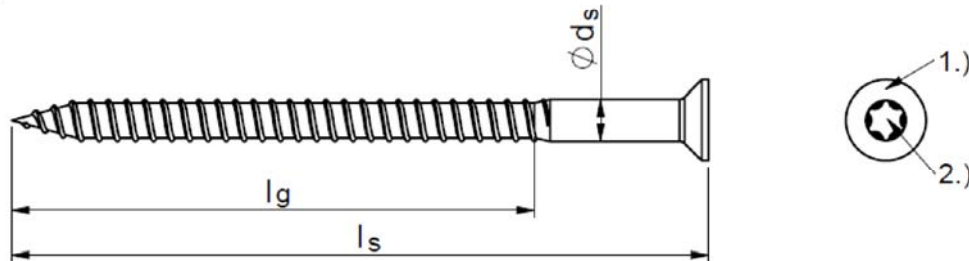
Product description

Anchor types – head versions of the sleeve
Marking and dimensions

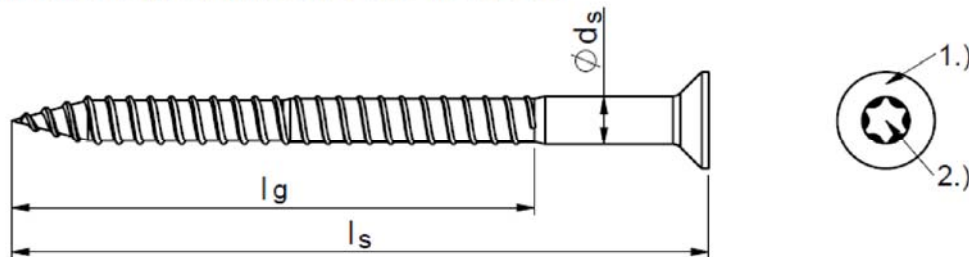
Annex A 3

Special screw

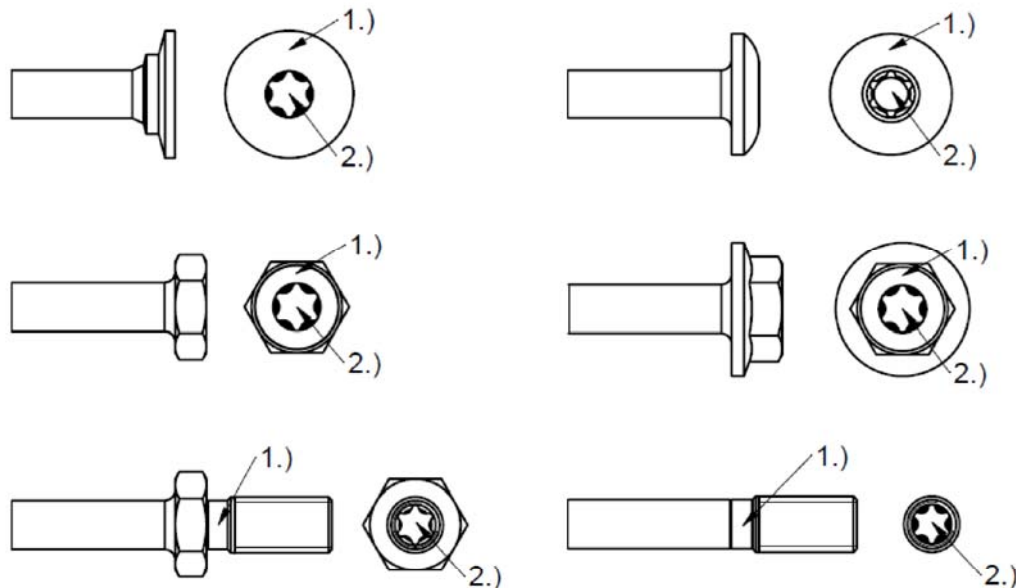
Special screw SHARK UR 8 / W-UR 8



Special screw SHARK UR 10 / W-UR 10



Heads for special screw SHARK UR / W-UR



- 1.) Marking: e.g. W-UR 10x100; *, A4 or SHARK UR 10x100; *, A4
W-UR VM 10x100; *, A4 or SHARK UR VM 10x100; *, A4
◇ R 10x100; *, A4

- 2.) Optional with cross recess or hexagon nut without internal recess

Würth Plastic Anchor W-UR / SHARK UR

Product description

Special screw, Stair bolt – head versions
Marking and dimensions

Annex A 4

Table A1: Anchor dimensions

Anchor type			W-UR 8 / SHARK UR 8		W-UR 10 / SHARK UR 10	
Overall plastic anchor embedment depth in the base material	$h_{nom} \geq$	[mm]	50 (h_{nom1})	70 (h_{nom2})	50 (h_{nom1})	70 (h_{nom2})
Plastic sleeve						
Plastic sleeve diameter	$\varnothing d_{nom}$	[mm]	8		10	
Length of plastic sleeve	$l_d \geq$	[mm]	51	71	71	
Flat collar diameter	$\varnothing d_k$	[mm]	14		18	
Thickness of flat collar	$l_k \geq$	[mm]	1,6		2	
Thickness of fixture	$t_{use} \geq$	[mm]	1		1	
Thickness of fixture pre-positioned installation	$t_{fix} \geq$	[mm]	1		-	
Special screw						
Screw diameter	d_s	[mm]	6		7	
Length of screw in-place installation	l_s	[mm]	$l_d + 5 \text{ mm}$		$l_d + 5 \text{ mm}$	
Length of screw pre-positioned installation	l_s	[mm]	$l_d + t_{fix} + 5 \text{ mm}$		-	
Length of thread in-place installation	l_g	[mm]	75		75	
Length of thread pre-positioned installation	l_g	[mm]	85		-	

Table A2: Designation and materials

Designation	Material
Plastic sleeve	Polyamid, colour brown and anthracite
Special screw	Galvanized steel acc. to EN ISO 4042:2018 Hot dip galvanized steel acc. to EN ISO 10684:2004 + AC:2009 Steel with non-electrolytically zinc flake coating acc. to EN ISO 10683:2018 Steel with zinc diffusion coating acc. to EN ISO 17668:2016 Stainless steel 1.4301, 1.4567 (A2) Stainless steel 1.4401, 1.4571 or 1.4578 (A4)

Würth Plastic Anchor W-UR / SHARK UR

Product description
Anchor dimensions and materials

Annex A 5

Specifications of intended use

Anchorage subject to:

- Static or quasi-static loads
- Multiple fixing of non-structural applications

Base materials:

- Reinforced or unreinforced normal weight concrete with strength classes \geq C12/15 (use category a), according to EN 206-1:2000 Annex C 1, precast or prestressed hollow core elements according to Annex C 118, Annex C 119, Annex C 120.
- Solid brick masonry (use category b) according to Annex C 16, Annex C 17, Annex C 78 - Annex C 80, Annex C 90 - Annex C 99. Note: The characteristic resistance is also valid for larger brick sizes and larger compressive strength of the masonry unit.
- Hollow brick masonry (use category c) according to Annex C 18 - Annex C 77, Annex C 81 - Annex C 89, Annex C 100 - Annex C 115.
- Autoclaved aerated concrete (use category d) according to Annex C 116, Annex C 117.
- Masonry lintel according to Annex C 122, Annex C 123.
- Mortar strength class of the masonry \geq M2,5 at minimum according to EN 998-2:2017 (EN 998-2:2010).
- For other base materials of the use categories a, b, c, d or masonry lintel the characteristic resistance of the anchor may be determined by job site tests according to ETAG 020, Annex B Edition March 2012.

Temperature range:

- Range b): -40°C to $+80^{\circ}\text{C}$ (max. long term temperature $+50^{\circ}\text{C}$ and max. short term temperature $+80^{\circ}\text{C}$)
- Range c): -40°C to $+50^{\circ}\text{C}$ (max. long term temperature $+30^{\circ}\text{C}$ and max. short term temperature $+50^{\circ}\text{C}$)

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions (zinc coated steel, stainless steel A2 or A4).
- The specific screw made of zinc coated steel or stainless steel A2 may also be used in structures subject to external atmospheric exposure, if the area of the head of the screw is protected against moisture and driving rain after mounting of the fixing unit in this way, that intrusion of moisture into the anchor shaft is prevented. Therefore there shall be an external cladding or a ventilated rainscreen mounted in front of the head of the screw and the head of the screw itself shall be coated with a soft plastic, permanently elastic bitumen-oil-combination coating (e. g. undercoating or body cavity protection for cars).
- 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 A4).
- 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).

Design:

- The anchorages are designed in accordance with the ETAG 020, Annex C Edition March 2012 under the responsibility of an engineer experienced in anchorages and masonry work.
- Verifiable calculation notes and drawings shall be prepared taking account of the loads to be anchored, the nature and strength of the base materials and the dimensions of the anchorage members as well as of the relevant tolerances. The position of the anchor is indicated on the design drawings.
- Fasteners are only to be used for multiple use for non-structural application, according to ETAG 020 Edition March 2012.

Installation:

- Hole drilling by the drill modes according to Annex C 16 - Annex C 123.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site
- Installation temperature from W-UR 8 / SHARK UR 8: $\geq -40^{\circ}\text{C}$; W-UR 10 / SHARK UR 10: $\geq -20^{\circ}\text{C}$
- Exposure to UV due to solar radiation of the anchor not protected \leq 6 weeks

Würth Plastic Anchor W-UR / SHARK UR

Intended use
Specifications

Annex B 1

Table B1: Installation parameters

Anchor type			W-UR 8 / SHARK UR 8		W-UR 10 / SHARK UR 10	
Drill hole diameter	$d_0 =$	[mm]	8		10	
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8,45		10,45	
Depth of drill hole to deepest point ¹⁾	$h_1 \geq$	[mm]	60 ($h_{1,1}$)	80 ($h_{1,2}$)	60 ($h_{1,1}$)	80 ($h_{1,2}$)
Overall plastic anchor embedment depth in the base material ^{1), 2)}	h_{nom}	[mm]	50 (h_{nom1})	70 (h_{nom2})	50 (h_{nom1})	70 (h_{nom2})
Diameter of clearance hole in the fixture in-place installation	$d_f \leq$	[mm]	8,5		10,5	
Diameter of clearance hole in the fixture pre-positioned installation	$d_f \leq$	[mm]	7		-	

¹⁾ See Annex A 1 and Annex A 2

²⁾ For hollow and perforated masonry the influence of $h_{nom} > 70$ mm (W-UR 8 / SHARK UR 8 and W-UR 10 / SHARK UR 10) has to be detected by job site tests according ETAG 020 Annex B.

For anchorages in hollow and perforated masonry variable set in the range $h_{nom1} = 50$ mm $\leq h_{nom} < 70$ mm = h_{nom2} the characteristic values F_{Rk} for $h_{nom1} = 50$ mm may be taken without performing additional job site tests (compare Annex C 18, C 81, C 83, C 84, C 115).

For anchorages in hollow and perforated masonry with anchor type W-UR 8x60 / SHARK UR 8x60 and W-UR 10 / SHARK UR 10 ($h_{nom} = 50$ mm) the influence $50 < h_{nom} \leq 59$ mm always has to be detected by job site tests.

Table B2: Minimum thickness of member, edge distance and anchor spacing in concrete

		h_{nom} [mm]	h_{min} [mm]	$c_{cr,N}$ [mm]	c_{min} [mm]	s_{min} [mm]
W-UR 8 / SHARK UR 8	Concrete \geq C16/20	= 50	100	40	40	40
	Concrete C12/15	= 50	100	55	55	55
	Concrete \geq C16/20	> 50	100	50	50	50
	Concrete C12/15	> 50	100	70	70	70
W-UR 10 / SHARK UR 10	Concrete \geq C16/20	= 50	80	50	50	60
	Concrete C12/15	= 50	80	70	70	85
	Concrete \geq C16/20	> 50	100	100	70	50
	Concrete C12/15	> 50	100	140	100	70

W-UR 8 / SHARK UR 8: Fixing points with spacing $a \leq 100$ mm are considered as a group with a max. characteristic resistance $N_{Rk,p}$ acc. to Table C 2.1. For $a > 100$ mm, the anchors are considered as single anchors, each with a characteristic resistance $N_{Rk,p}$ acc. to Table C 2.1.

W-UR 10 / SHARK UR 10: Fixing points with spacing $a \leq 75$ mm are considered as a group with a max. characteristic resistance $N_{Rk,p}$ acc. to Table C 2.1. For $a > 75$ mm, the anchors are considered as single anchors, each with a characteristic resistance $N_{Rk,p}$ acc. Table C 2.1.

Würth Plastic Anchor W-UR / SHARK UR

Intended use

Installation parameters, edge distances and spacings for use in concrete

Annex B 2

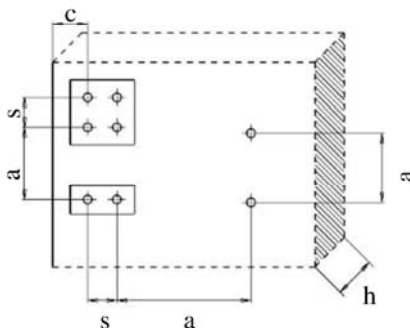
Table B3: Minimum thickness of member, edge distance and anchor spacing in masonry

			Masonry			
			W-UR 8 / SHARK UR 8		W-UR 10 / SHARK UR 10	
Overall plastic anchor embedment depth	h_{nom}	[mm]	50	70	50	70
Minimum thickness of member	h_{min}	[mm]	100 ¹⁾		100 ¹⁾	
Single anchor						
Minimum allowable spacing	a_{min}	[mm]	250		250	
Minimum allowable edge distance	c_{min}	[mm]	100 ¹⁾		100 ¹⁾	
Anchor group						
Spacing perpendicular to free edge	$s_{1,min}$	[mm]	- ¹⁾		100 ¹⁾	- ¹⁾
Spacing parallel to free edge	$s_{2,min}$	[mm]	- ¹⁾		100 ¹⁾	- ¹⁾
Minimum edge distance	c_{min}	[mm]	100 ¹⁾		100 ¹⁾	100 ¹⁾

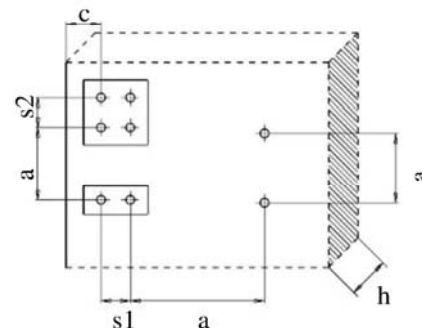
¹⁾ h_{min} , c_{min} , and s_{min} depend on the brick size and/or on the brick: See the following Annex C 16 - Annex C 123.

Table B4: Minimum thickness of member, edge distance and anchor spacing in autoclaved aerated concrete

			Autoclaved aerated concrete				(Prefabricated) Reinforced AAC
			W-UR 8 / SHARK UR 8		W-UR 10 / SHARK UR 10		W-UR 10 / SHARK UR 10
	$f_{cm,decl}$	[N/mm ²]	≥ 2,0	≥ 6,6	≥ 2,0	≥ 6,6	≥ 1,5
Single anchor							
Minimum thickness of member	h_{min}	[mm]	100	115	100	175	175
Minimum spacing	a_{min}	[mm]	250	250	250	250	600
Minimum edge distance	c_{min}	[mm]	40	80	80	80	150
Anchor group							
Minimum thickness of member	h_{min}	[mm]	115	115	100	175	175
Spacing perpendicular to free edge	$s_{1,min}$	[mm]	80	130	100	100	100
Spacing parallel to free edge	$s_{2,min}$	[mm]	80	130	100	100	100
Minimum edge distance	c_{min}	[mm]	80	80	100	100	150



Concrete (Table B2)



Masonry (Table B3) and AAC (Table B4)

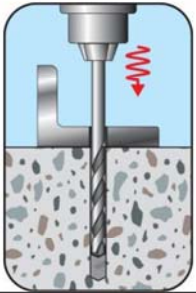
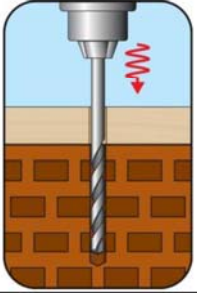
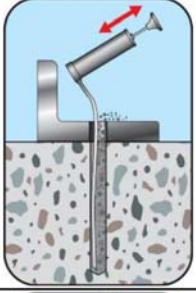
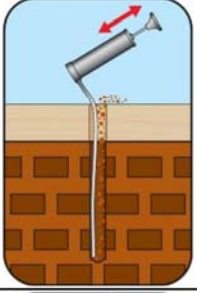
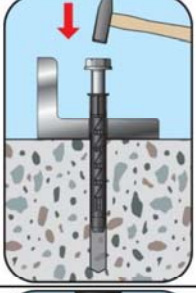
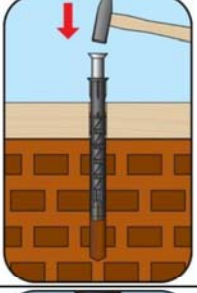
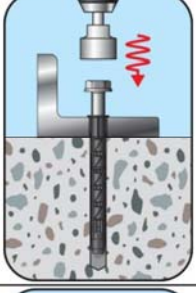
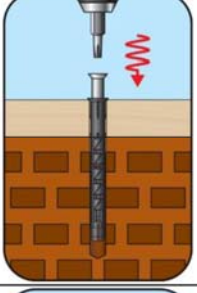
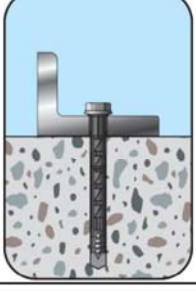
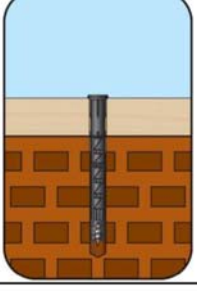
Würth Plastic Anchor W-UR / SHARK UR

Intended use

Installation parameters, edge distances and spacing for use in masonry and autoclaved aerated concrete

Annex B 3

Installation instructions in-place installation for concrete and solid masonry or hollow masonry

		Drill the bore hole
		Clean the drilled bore hole
		Gently hammer the fastener into the hole
		Insert the special screw into the sleeve
		Tighten the screw until the head of the screw touches the sleeve. The anchor is correct mounted, if there is no turn-through of the plastic sleeve in the drill hole and if slightly move on turning of the screw is impossible after the complete turn-in of the screw.

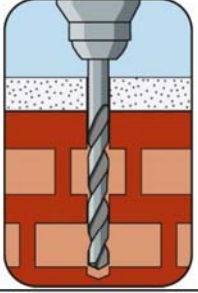
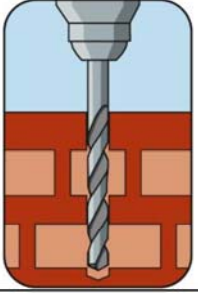
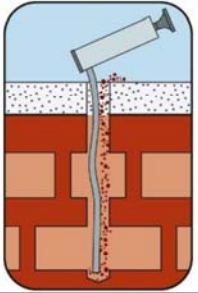
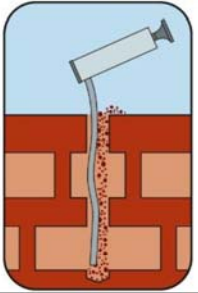
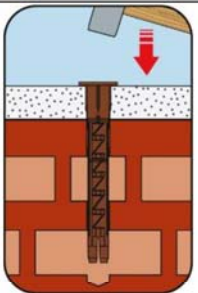
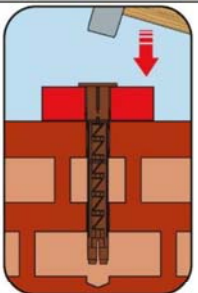
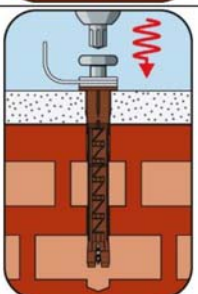
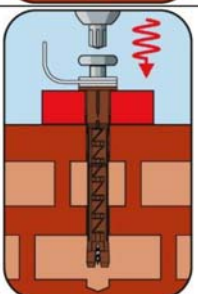
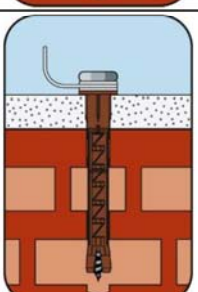
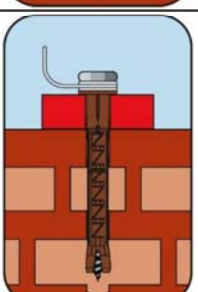
Würth Plastic Anchor W-UR / SHARK UR

Intended use

Installation instructions in-place installation

Annex B 4

Installation instructions pre-positioned installation for concrete and solid masonry or hollow masonry

		<p>Drill the bore hole</p>
		<p>Clean the drilled bore hole</p>
		<p>Insert the fastener through the attachment into the concrete/masonry using carefully a hammer</p>
		<p>Insert the special screw into the sleeve</p>
		<p>Tighten the screw until the head of the screw and the fixture touches the sleeve. The anchor is correct mounted, if there is no turn-through of the plastic sleeve in the drill hole and if slightly move on turning of the screw is impossible after the complete turn-in of the screw.</p>

Würth Plastic Anchor W-UR / SHARK UR

Intended use

Installation instructions pre-positioned installation

Annex B 5

Table C 1.1: Characteristic resistance of the screw

			Galvanized steel				Stainless Steel			
			W-UR 8 / SHARK UR 8		W-UR 10 / SHARK UR 10		W-UR 8 / SHARK UR 8		W-UR 10 / SHARK UR 10	
Failure of expansion element (special screw)										
Overall plastic anchor embedment depth	h_{nom}	[mm]	50	70	50	70	50	70	50	70
Characteristic tension resistance	$N_{Rk,s}$	[kN]	11.8		18.7		13.7		21.8	
Partial safety factor	$\gamma_{Ms}^{1)}$	[-]	1.5		1.5		1.87		1.87	
Characteristic shear resistance	$V_{Rk,s}$	[kN]	5.9		9.4		6.9		10.9	
Partial safety factor	$\gamma_{Ms}^{1)}$	[-]	1.25		1.25		1.56		1.56	
Characteristic bending resistance of the special screw										
Characteristic bending resistance	$M_{Rk,s}$	[Nm]	8.8		17.7		10.3		20.6	
Partial safety factor	$\gamma_{Ms}^{1)}$	[mm]	1.25		1.25		1.56		1.56	

¹⁾ In absence of other national regulations

Table C 2.1: Characteristic resistance for pullout failure for use in concrete (hammer drilling)

Anchor type			Galvanized steel				Stainless Steel			
Pull-out failure (plastic sleeve)			W-UR 8 / SHARK UR 8		W-UR 10 / SHARK UR 10		W-UR 8 / SHARK UR 8		W-UR 10 / SHARK UR 10	
			50	70	50	70	50	70	50	70
Concrete \geq C16/20										
Characteristic resistance	$30^{\circ}\text{C}^{2)} / 50^{\circ}\text{C}^{3)}$	$N_{Rk,p}$ [kN]	4.0	6.0	3.0	4.0	4.0	6.0	3.0	4.0
	$50^{\circ}\text{C}^{2)} / 80^{\circ}\text{C}^{3)}$	$N_{Rk,p}$ [kN]	3.5	5.0	2.5	3.5	3.5	5.0	2.5	3.5
Partial safety factor	$\gamma_{Mc}^{1)}$	[-]	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Concrete C12/15										
Characteristic resistance	$30^{\circ}\text{C}^{2)} / 50^{\circ}\text{C}^{3)}$	$N_{Rk,p}$ [kN]	3.0	4.0	2.0	2.5	3.0	4.0	2.0	2.5
	$50^{\circ}\text{C}^{2)} / 80^{\circ}\text{C}^{3)}$	$N_{Rk,p}$ [kN]	2.5	3.5	2.0	2.5	2.5	3.5	2.0	2.5
Partial safety factor	$\gamma_{Mc}^{1)}$	[-]	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8

¹⁾ In absence of other national regulations

²⁾ Maximum long term temperature

³⁾ Maximum short term temperature

Würth Plastic Anchor W-UR / SHARK UR

Performances

Characteristic resistance of the screw

Characteristic resistance for pullout failure for use in concrete

Annex C 1

Table C 3.1: Displacements¹⁾ under tension and shear loading in concrete, masonry and autoclaved aerated concrete

Anchor type		Tension load				Shear load		
		h_{nom} [mm]	$F^{2)}$ [kN]	δ_{N0} [mm]	$\delta_{N\infty}$ [mm]	$F^{2)}$ [kN]	δ_{V0} [mm]	$\delta_{V\infty}$ [mm]
W-UR 8 / SHARK UR 8	Concrete \geq C16/20	50	1.8	0.26	0.52	1.8	0.96	1.44
W-UR 8 / SHARK UR 8	Concrete \geq C16/20	70	2.4	0.35	0.7	2.4	0.93	1.86
W-UR 10 / SHARK UR 10	Concrete \geq C16/20	50	1.19	0.48	0.96	1.19	0.51	0.77
W-UR 10 / SHARK UR 10	Concrete \geq C16/20	70	1.8	0.16	0.32	1.8	1.18	1.76

¹⁾ Valid for all ranges of temperatures

²⁾ Intermediate values by linear interpolation

Table C 4.1: Characteristic values under fire exposure in concrete C20/25 to C50/60 in any load direction, no permanent centric tension load and without lever arm, fastening of facade systems

Anchor type	Fire resistance class	$F_{Rk,fi}$
W-UR 10 / SHARK UR 10	R 90	0.8kN

Würth Plastic Anchor W-UR / SHARK UR

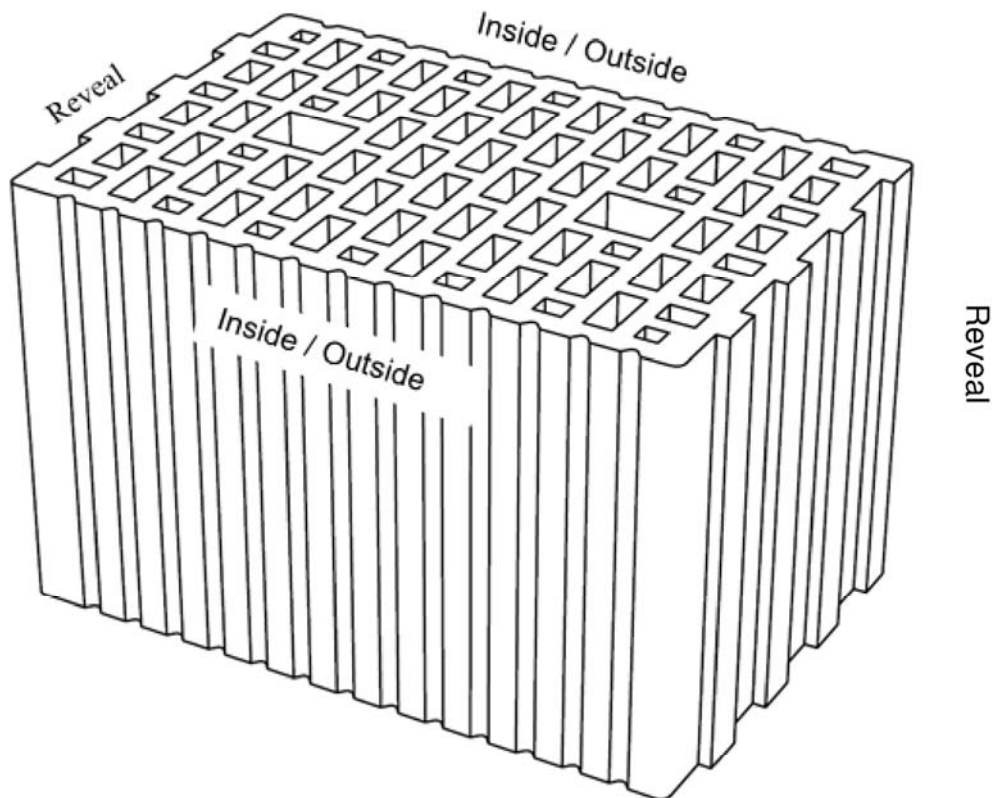
Performances

Displacements under tension and shear for concrete, masonry and autoclaved aerated concrete, characteristic resistance under fire exposure in concrete

Annex C 2

Footnotes for Annex C 16 - Annex C 123

- 1) Characteristic resistance F_{Rk} for tension, shear or combined tension and shear loading.
The characteristic resistance is valid for single plastic anchor or for a group of two or four plastic anchors with spacing equal or larger than the minimum spacing s_{min} according to Annex B 2 (concrete) and Annex B 3 (masonry). The specific conditions for the design method have to be considered according to ETAG 020 Annex C.
- 2) Absence of other national regulations.
- 3) Maximum long term temperature.
- 4) Maximum short term temperature.
- 5) The given values F_{Rk} in this column are valid for the embedment depth in the range $50 \text{ mm} \leq h_{nom} < 70 \text{ mm}$ (see Annex B 2). For plastic anchors, W-UR 8 / SHARK UR 8 and W-UR 10 / SHARK UR 10 set variable in this range no additional job site tests have necessarily to be performed.
- 6) Installation site see picture (e.g. Hollow brick).



- 7) The characteristic resistance F_{Rk} for load direction V only (only valid for a single anchor or for a group of two anchors with spacing $s_{min} \geq 250 \text{ mm}$ for shear loads without lever arm in the reveal side).
- 8) For masonry units with a lower compressive strength (= measured mean compressive strength) than the mean compressive strength given in Table Annex C 4 – Annex C123 (= mean compressive strength (table)) the characteristic resistance F_{Rk} , measured shall be calculated according to the following equation:

$$F_{Rk,measured} = F_{Rk}(table) \cdot \left(\frac{\text{measured mean compressive strength}}{\text{mean compressive strength (table)}} \right)$$

- 9) No performance assessed.

Würth Plastic Anchor W-UR / SHARK UR

Performances
Footnotes

Annex C 3

Table C 5.1: Base material: Concrete, solid masonry

Base material:	Format	Minimum dimensions [mm]	Mean compressive strength acc. to EN 771 [N/mm ²]	Bulk density [kg/dm ³]	Annex
Concrete					
Concrete ≥ C12/15					Annex C 1
Solid masonry					
Solid brick Mz acc. to EN 771-1:2011+A1:2015	≥ NF	240x 115x 71	45.0 35.0 25.0 20.0 12.5	≥ 1.8	Annex C 16 771-1-020 771-1-008
	≥ 3DF	240x 175x 113	25.0 20.0 15.0 12.5	≥ 2.0	Annex C 17 771-1-041
Sand-lime solid brick KS acc. to EN 771-2:2011+A1:2015	≥ NF	240x 115x 71	35.0 25.0 20.0 15.0 12.5	≥ 2.0	Annex C 78 771-2-002
Sand-lime solid brick KS acc. to EN 771-2:2011+A1:2015	≥ 4DF	248x 115x 248	25.0 20.0 15.0 12.5	≥ 1.8	Annex C 79 771-2-045
Sand-lime solid brick Silka XL Basic, Sand-lime solid brick Silka XL Plus acc. to EN 771-2:2011+A1:2015 Z-17.1-997:2016-09		248x 175x 498	35.0 25.0 20.0 15.0	≥ 2.0	Annex C 80 771-2-010
Concrete solid block - Vbn acc. to EN 771-3:2011+A1:2015	≥ NF	240x 115x 71	35.0 25.0 20.0 15.0 10.0	≥ 2.0	Annex C 90 771-3-004
Lightweight concrete solid brick e.g. Bisoclassic V acc. to EN 771-3:2011+A1:2015 Bisotherm GmbH	≥ NF	240x 115x 71	5.0 2.5	≥ 0.9	Annex C 91 771-3-008
Lightweight concrete solid brick e.g. BisoBims V acc. to EN 771-3:2011+A1:2015 Bisotherm GmbH	≥ NF	240x 115x 71	5.0 2.5	≥ 1.2	Annex C 92 771-3-007

Würth Plastic Anchor W-UR / SHARK UR

Performances

Concrete, Solid masonry (use category "b"), Format, minimum dimensions, Mean compressive strength, Bulk density, Annex

Annex C 4

Base material:	Format	Minimum dimen- sions [mm]	Mean compressive strength acc. to EN 771 [N/mm²]	Bulk density [kg/dm³]	Annex
Lightweight concrete solid brick V and Vbl e.g. Bisophon acc. to EN 771-3:2011+A1:2015 Bisotherm GmbH	≥ 3DF	240x 175x 113	25.0 20.0 15.0 12.5 10.0	≥ 2.0	Annex C 93 771-3-017
Lightweight concrete solid block V P 2.0 - 0.55 e.g. Bisoplan acc. to EN 771-3:2011+A1:2015; Z-17.1-778:2019-10 Bisotherm GmbH	≥ 5DF	123x 300x 248	2.5 2.0	≥ 0.65	Annex C 94 771-3-032
Lightweight concrete solid block V P 4.0 - 0.65 e.g. Bisoplan acc. to EN 771-3:2011+A1:2015; Z-17.1-778:2019-10 Bisotherm GmbH	≥ 5DF	123x 300x 248	5.0 2.5	≥ 0.8	Annex C 95 771-3-033
Lightweight concrete solid block V 6 - 0.80 e.g. Bisotherm Bisoclassic acc. to EN 771-3:2011+A1:2015 Bisotherm GmbH	≥ 5DF	123x 300x 248	2.5 2.0	≥ 0.9	Annex C 96 771-3-035
Lightweight concrete solid block – Vbl EN 771-3:2011+A1:2015 e.g. Liapor Massive Wall Liapor GmbH & Co. KG	≥ 24DF	500x 365x 238	2.5	≥ 0.6	Annex C 97 LAC2
Lightweight concrete solid block – Vbl acc. to EN 771-3:2011+A1:2015 Z-17.1-839:2014-10 e.g. Liapor Compact Liapor GmbH & Co. KG Meier Betonwerke GmbH	≥ 16DF	500x 240x 240	2.5	≥ 0.65	Annex C 98 771-3-012
Concrete solid block – Vbn acc. to EN 771-3:2011+A1:2015 e.g. Liapor Element Wall Liapor GmbH & Co. KG	≥ 12DF	500x 175x 238	12.5 10.0 7.5	≥ 1.4	Annex C 99 LC16/18
Würth Plastic Anchor W-UR / SHARK UR					Annex C 5
Performances Solid masonry (use category "b"), Format, minimum dimensions, Mean compressive strength, Bulk density, Annex					

Table C 6.1: Base material: Hollow or perforated masonry

Base material:	Format	Measure- ment [mm]	Mean compressive strength acc. to EN 771 [N/mm ²]	Bulk density [kg/dm ³]	Annex
Hollow or perforated masonry					
Hollow brick HLz acc. to EN 771-1:2011+A1:2015 e.g. Wienerberger GmbH e.g. Schlagmann Baustoffwerke GmbH & Co. KG	2DF	240x 115x 113	25.0 20.0 15.0	≥ 1.2	Annex C 18 771-1-002 771-1-021
	12DF	373x 240x 238	12.5 10.5 8.4 6.3	≥ 1.2	Annex C 19 771-1-010 771-1-036
Hollow brick POROTON Plan T8 acc. to EN 771-1:2011+A1:2015, Z-17.1-1085:2016-02 Schlagmann Baustoffwerke GmbH & Co. KG	12DF	248x 365x 249	7.5	≥ 0.6	Annex C 20 771-1-057 771-1-097
Hollow brick POROTON Planziegel T14 acc. to EN 771-1:2011+A1:2015, Z-17.1-625:2015-04 Schlagmann Baustoffwerke GmbH & Co. KG	10DF	248x 300x 249	7.5 5.0	≥ 0.7	Annex C 21 771-1-019
Hollow brick POROTON Planziegel T18 acc. to EN 771-1:2011+A1:2015; Z-17.1-678:2017-11 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	9DF	373x 175x 249	12.5 10.0 7.5	≥ 0.8	Annex C 22 771-1-125
Hollow brick POROTON T7-36.5-PF acc. to EN 771-1:2011+A1:2015; Z-17.1-1103:2014-04 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	12DF	248x 365x 249	7.5	≥ 0.5	Annex C 23 771-1-093
Hollow brick POROTON T8-30.0-P Hollow brick POROTON T9-30.0-P acc. to T8: EN 771-1:2011+A1:2015; Z-17.1-982:2014-12 T9: EN 771-1:2011+A1:2015; Z-17.1-674:2020-01 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	10DF	248x 300x 249	5.0	≥ 0.6	Annex C 24 771-1-022
Hollow brick POROTON T8-36.5-MW acc. to EN 771-1:2011+A1:2015; Z-17.1-1041:2020-04 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	12DF	248x 365x 249	7.5 5.0	≥ 0.65	Annex C 25 771-1-042
Hollow brick POROTON T9-36.5-P acc. to EN 771-1:2011+A1:2015; Z-17.1-674: 2020-01 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	12DF	248x 365x 249	5.0	≥ 0.6	Annex C 26 771-1-003 771-1-007
Hollow brick POROTON Planziegel T10 acc. to EN 771-1:2011+A1:2015; Z-17.1-889:2011-04 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	10DF	248x 300x 249	7.5	≥ 0.7	Annex C 27 771-1-033

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow or perforated masonry (use category "c"), Format, Measurement,
Mean compressive strength, Bulk density, Annex

Annex C 6

Base material:	Format	Measure- ment [mm]	Mean compressive strength acc. to EN 771 [N/mm ²]	Bulk density [kg/dm ³]	Annex
Hollow brick POROTON S8 acc. to EN 771-1:2011+A1:2015; Z-17.1-1120:2019-03 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	12DF	248x 365x 249	10.0	≥ 0.7	Annex C 28 771-1-103
Hollow brick POROTON S9 MV acc. to EN 771-1:2011+A1:2015; Z- Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	12DF	248x 365x 249	12.5 10.0	≥ 0.9	Annex C 29, Annex C 30 771-1-134
Hollow brick POROTON S10 acc. to EN 771-1:2011+A1:2015; Z-17.1-1017:2019-05 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	10DF	248x 300x 249	10.0 7.5	≥ 0.8	Annex C 31 771-1-032
Hollow brick POROTON S11-30.0-P acc. to EN 771-1:2011+A1:2015; Z-17.1-812:2020-01 Wienerberger GmbH Schlagmann Baustoffwerke GmbH & Co. KG	10DF	248x 300x 249	7.5 5.0	≥ 0.8	Annex C 32 771-1-025
Hollow brick POROTON S11-36.5-P acc. to EN 771-1:2011+A1:2015; Z-17.1-812: 2020-01 Wienerberger Ziegel GmbH Schlagmann Baustoffwerke GmbH & Co. KG	12DF	248x 365x 249	7.5	≥ 0.9	Annex C 33 771-1-009
Hollow brick for ceiling DIN 4160-BN 0.8-530-250-210 (System Filigran) e.g. Wienerberger GmbH	16DF	252x 530x 210	5.0	≥ 0.65	Annex C 34 771-1-031
Hollow brick POROTHERM 25-38 N+F acc. to EN 771-1:2011+A1:2015 Wienerberger Ziegelindustrie GmbH; Austria	14DF	375x 250x 249	10.0 7.5	≥ 0.8	Annex C 35 771-1-005
Hollow brick Blocchi Leggeri acc. to EN 771-1:2011+A1:2015 Wienerberger Brunori s.r.l.; Italy	5DF	248x 115x 335	7.5 5.0	≥ 0.6	Annex C 36 771-1-012
Hollow brick for ceiling Blocchi per solaio a travetti acc. to EN 771-1:2011+A1:2015 Wienerberger Tacconi s.r.l.; Italy	7DF	416x 123x 245	12.5 10.0 7.5	≥ 0.55	Annex C 37 771-1-011
Hollow brick MURBRIC T20 and R20 acc. to EN 771-1:2011+A1:2015 e.g. Wienerberger SAS; France	15DF	T20: and R20: 500x200x 249	12.5 10.0	≥ 0.7	Annex C 38 771-1-018
Hollow brick MURBRIC Traditionnel Poteau T20 acc. to EN 771-1:2011+A1:2015 e.g. Wienerberger SAS; France	12DF	448x 195x 238	10.0 7.5	≥ 0.7	Annex C 39 771-1-013
Würth Plastic Anchor W-UR / SHARK UR					Annex C 7
Performances Hollow or perforated masonry (use category "c"), Format, Measurement, Mean compressive strength, Bulk density, Annex					

Base material:	Format	Measurement [mm]	Mean compressive strength acc. to EN 771 [N/mm²]	Bulk density [kg/dm³]	Annex
Hollow brick POROTHERM T30 and R30 acc. to EN 771-1:2011+A1:2015 e.g. Wienerberger SAS; France	16DF	T30: / R30: 373x 300x 249	10.0 7.5	≥ 0.7	Annex C 40 771-1-014
Hollow brick UNIPOR W07 SILVACOR acc. to EN 771-1:2011+A1:2015 Z-17.1-1162:2019-08 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	5.0	≥ 0.55	Annex C 41 771-1-109
Hollow brick UNIPOR W07 CORISO acc. to EN 771-1:2011+A1:2015 Z-17.1-1056:2020-11 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	5.0	≥ 0.55	Annex C 42 771-1-112
Hollow brick UNIPOR W07 CORISO (special shaped) acc. to EN 771-1:2011+A1:2015 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	10.0 7.5 5.0	≥ 0.7	Annex C 43 771-1-126
Hollow brick UNIPOR WS08 CORISO / UNIPOR WS08 SILVACOR acc. to EN 771-1:2011+A1:2015 Z-17.1-1114:2019-12; Z-17.1-1191:2019-01 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	10.0 7.5	≥ 0.65	Annex C 44 771-1-114
Hollow brick UNIPOR W08 Novatherm acc. to EN 771-1:2011+A1:2015; ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	7.5	≥ 0.6	Annex C 45 771-1-119
Hollow brick UNIPOR WS09 CORISO acc. to EN 771-1:2011+A1:2015 Z-17.1-1066:2020-04 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	10.0 7.5	≥ 0.7	Annex C 46 771-1-115
Hollow brick UNIPOR WH09 Planziegel acc. to EN 771-1:2011+A1:2015 Z-17.1-1042:2015-09 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	7.5 5.0	≥ 0.6	Annex C 47 771-1-120
Hollow brick UNIPOR WH10 Planziegel acc. to EN 771-1:2011+A1:2015 Z-17.1-1042:2015-09 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	7.5	≥ 0.65	Annex C 48 771-1-121
Hollow brick UNIPOR WS10 CORISO acc. to EN 771-1:2011+A1:2015 Z-17.1-1021:2016-10 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	247x 365x 249	15.0 10.0	≥ 0.9	Annex C 49 771-1-116
Hollow brick UNIPOR WS11 CORISO acc. to EN 771-1:2011+A1:2015 Z-17.1-1011:2014-04 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	238x 365x 249	10.0	≥ 0.85	Annex C 50 771-1-026

Würth Plastic Anchor W-UR / SHARK UR	Annex C 8
Performances Hollow or perforated masonry (use category "c"), Format, Measurement, Mean compressive strength, Bulk density, Annex	

Base material:	Format	Measure- ment [mm]	Mean compressive strength acc. to EN 771 [N/mm²]	Bulk density [kg/dm³]	Annex
Hollow brick UNIPOR WS14 Hollow brick UNIPOR WS12 CORISO acc. to EN 771-1:2011+A1:2015 Z-17.1-883:2005-07 ZIZ Ziegel-Innovations-Zentrum GmbH	10DF	248x 300x 249	15.0 12.5	≥ 0.8	Annex C 51 771-1-016
Hollow brick UNIPOR W14 acc. to EN 771-1:2011+A1:2015 Z-17.1-679:2013-01 Z-17.1-636:2016-04 ZIZ Ziegel-Innovations-Zentrum GmbH	10DF	W14 Plan / W14- Block: 248x300x 249	7.5	≥ 0.7	Annex C 52 771-1-015
UNIPOR WS CORISO (special shaped) acc. to EN 771-1:2011+A1:2015 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	250x 365x 250	10.0 7.5 5.0	≥ 0.75	Annex C 53 771-1-137
UNIPOR WS CORISO (special shaped) acc. to EN 771-1:2011+A1:2015 ZIZ Ziegel-Innovations-Zentrum GmbH	6DF	123x 365x 249	12.5 10.0 7.5	≥ 0.85	Annex C 54 771-1-136
UNIPOR CORISO 6DF EWS 365 (special shaped) acc. to EN 771-1:2011+A1:2015 ZIZ Ziegel-Innovations-Zentrum GmbH	6DF	118x 365x 249	12.5 10.0 7.5	≥ 0.9	Annex C 55 771-1-077
UNIPOR CORISO 6DF EW 365 (special shaped) acc. to EN 771-1:2011+A1:2015 ZIZ Ziegel-Innovations-Zentrum GmbH	6DF	118x 365x 249	7.5 5.0	≥ 0.65	Annex C 56 771-1-074
UNIPOR W08, WH09, WH10 (special shaped) acc. to EN 771-1:2011+A1:2015 ZIZ Ziegel-Innovations-Zentrum GmbH	12DF	248x 365x 249	7.5 5.0	≥ 0.65	Annex C 57 771-1-122
Hollow brick ThermoPlan MZ7 acc. to EN 771-1:2011+A1:2015 Z-17.1-1016:2009-10 Mein Ziegelhaus GmbH & Co. KG	10DF	248x 300x 249	7.5	≥ 0.6	Annex C 58 771-1-052
Hollow brick ThermoPlan MZ70 acc. to EN 771-1:2011+A1:2015; Z-17.1-1084:2020-01 Mein Ziegelhaus GmbH & Co. KG	12DF	248x 365x 249	7.5	≥ 0.5	Annex C 59 771-1-100
Hollow brick ThermoPlan MZ70 (special shaped) acc. to EN 771-1:2011+A1:2015; Mein Ziegelhaus GmbH & Co. KG	12DF	248x 365x 249	10.0 7.5	≥ 0.6	Annex C 60 771-1-098
Würth Plastic Anchor W-UR / SHARK UR					Annex C 9
Performances Hollow or perforated masonry (use category "c"), Format, Measurement, Mean compressive strength, Bulk density, Annex					

Base material:	Format	Measurement [mm]	Mean compressive strength acc. to EN 771 [N/mm ²]	Bulk density [kg/dm ³]	Annex
Hollow brick ThermoPlan MZ8 acc. to EN 771-1:2011+A1:2015; Z-17.1-906:2017-06 Mein Ziegelhaus GmbH & Co. KG	12DF	248x 365x 249	7.5	≥ 0.65	Annex C 61 771-1-023
Hollow brick ThermoPlan MZ10 acc. to EN 771-1:2011+A1:2015; Z-17.1-1015:2017-05 Mein Ziegelhaus GmbH & Co. KG	10DF	248x 300x 249	10.0 7.5	≥ 0.75	Annex C 62 771-1-034
Hollow brick ThermoPlan MZ (special shaped) acc. to EN 771-1:2011+A1:2015; Mein Ziegelhaus GmbH & Co. KG	6DF	119x 365x 249	7.5	≥ 0.8	Annex C 63 771-1-081
Hollow brick ThermoPlan S8/9/SX (special shaped) acc. to EN 771-1:2011+A1:2015; Mein Ziegelhaus GmbH & Co. KG	12DF	248x 365x 249	10.0 7.5	≥ 0.7	Annex C 64 771-1-101
Hollow brick ThermoPlan S8/9/SX (special shaped) acc. to EN 771-1:2011+A1:2015; Mein Ziegelhaus GmbH & Co. KG	6DF	123x 365x 249	12.5 10.0 7.5	≥ 0.8	Annex C 65 771-1-102
Hollow brick ThermoPlan TS² acc. to EN 771-1:2011+A1:2015 Z-17.1-993:2015-09 Mein Ziegelhaus GmbH & Co. KG	9DF	373x 175x 249	16.7 12.5 10.4 8.3	≥ 0.85	Annex C 66 771-1-024
Hollow brick ThermoPlan TS 13 acc. to EN 771-1:2011+A1:2015 Z-17.1-914:2011-03 Mein Ziegelhaus GmbH & Co. KG	10DF	247x 300x 249	10.0 7.5	≥ 0.8	Annex C 67 771-1-035
Hollow brick THERMOPOR ISO-PD Plus acc. to EN 771-1:2011+A1:2015 Z-17.1-840:2015-04 Thermopor Ziegel-Kontor Ulm GmbH	10DF	247x 300x 249	10.0 7.5	≥ 0.7	Annex C 68 771-1-028
Hollow brick THERMOPOR TV 7-Plan acc. to EN 771-1:2011+A1:2015 Z-17.1-1005:2018-11 Thermopor Ziegel-Kontor Ulm GmbH	12DF	247x 365x 249	5.0	≥ 0.5	Annex C 69 771-1-030
Hollow brick THERMOPOR TV 9-Plan acc. to EN 771-1:2011+A1:2015 Z-17.1-1006:2019-01 Thermopor Ziegel-Kontor Ulm GmbH	10DF	247x 300x 249	12.5 10.0 7.5	≥ 0.75	Annex C 70 771-1-029
Hollow brick Plan TV Aero acc. to EN 771-1:2011+A1:2015 Otto Staudacher Vertriebs GmbH	12DF	247x 365x 249	7.5 5.0	≥ 0.75	Annex C 71 771-1-127

Würth Plastic Anchor W-UR / SHARK UR	Annex C 10
Performances Hollow or perforated masonry (use category "c"), Format, Measurement, Mean compressive strength, Bulk density, Annex	

Base material:	Format	Measure- ment [mm]	Mean compressive strength acc. to EN 771 [N/mm²]	Bulk density [kg/dm³]	Annex
Hollow brick Kellerer ZMK-P 7.5 acc. to EN 771-1:2011+A1:2015 Z-17.1-1012:2016-06 Ziegelsysteme Michael Kellerer GmbH & Co. KG	12DF	247x 365x 249	5.0	≥ 0.6	Annex C 72 771-1-068
Hollow brick Kellerer ZMK X6 acc. to EN 771-1:2011+A1:2015 Z-17.1-1067:2020-04 Ziegelsysteme Michael Kellerer GmbH & Co. KG	10DF	247x 300x 249	5.0	≥ 0.55	Annex C 73 771-1-049
Hollow brick Kellerer ZMK TX8 acc. to EN 771-1:2011+A1:2015 Z-17.1-1068:2020-04 Ziegelsysteme Michael Kellerer GmbH & Co. KG	10DF	247x 300x 249	7.5	≥ 0.6	Annex C 74 771-1-050
Hollow brick Ederplan XV 7.5 S acc. to EN 771-1:2011+A1:2015 Z-17.1-1175:02.2018-10 Ziegelwerk Freital Eder GmbH	10DF	200x 365x 249	7.5 5.0	≥ 0.75	Annex C 75 771-1-130
Hollow brick Eder XP 9 acc. to EN 771-1:2011+A1:2015 Z-17.1-892:2017-07 Ziegelwerk Freital Eder GmbH	10DF	200x 365x 249	10.0 7.5	≥ 0.7	Annex C 76 771-1-131
Hollow brick Ladrillo P NV R150 acc. to EN 771-1:2011+A1:2015 Ceramica La Corona, S.A.; Spain	2DF	278x 135x 95	35.0 25.0 15.0	≥ 1.2	Annex C 77 771-1-017
Sand-lime perforated brick KS L acc. to EN 771-2:2011+ A1:2015	2DF	240x 115x 113	20.0 15.0 12.5 10.0	≥ 1.4	Annex C 81 771-2-003 771-2-004
Sand-lime perforated brick KS L acc. to EN 771-2:2011+ A1:2015 e.g. Xella Deutschland GmbH	8DF	248x 240x 238	20.0 15.0 12.5 10.0	≥ 1.4	Annex C 82 771-2-005 771-2-013
Sand-lime perforated brick KS L acc. to EN 771-2:2011+ A1:2015	12DF	377x 240x 238	15.0 12.5 10.0	≥ 1.4	Annex C 83, 84 771-2-001
Sand-lime perforated brick KS L acc. to EN 771-2:2011+ A1:2015 e.g. Xella Deutschland GmbH	9DF	373x 175x 238	25.0 20.0 15.0	≥ 1.4	Annex C 85 771-2-008
Sand-lime perforated brick KSL-R(P) acc. to EN 771-2:2011+ A1:2015 e.g. H+H Deutschland GmbH	6DF	248x 175x 248	15.0 12.5 10.0	≥ 1.6	Annex C 86 771-2-039
Würth Plastic Anchor W-UR / SHARK UR				Annex C 11	
Performances Hollow or perforated masonry (use category "c"), Format, Measurement, Mean compressive strength, Bulk density, Annex					

Base material:	Format	Measure- ment [mm]	Mean compressive strength acc. to EN 771 [N/mm²]	Bulk density [kg/dm³]	Annex
Sand-lime perforated brick KS L acc. to EN 771-2:2011+ A1:2015 e.g. H+H Deutschland GmbH	8DF	248x 240x 248	15.0 12.5 10.0	≥ 1.4	Annex C 87 771-2-040
Sand-lime perforated brick KS L acc. to EN 771-2:2011+ A1:2015 e.g. H+H Deutschland GmbH	12DF	498x 175x 249	15.0 12.5 10.0	≥ 1.2	Annex C 88 771-2-044
Sand-lime perforated brick KS-NT BMO KS-Vertrieb Bielefeld-Münster-Osnabrück GmbH & Co. KG	4DF	248x 115x 248	20.0 15.0 12.5	≥ 1.2	Annex C 89 771-2-009
Hollow brick lightweight concrete 1K Hbl4 acc. to EN 771-3:2011+A1:2015; e.g. Stark Betonwerk GmbH & Co. KG	12DF	490x 175x 238	2.5	≥ 1.2	Annex C 100 771-3-002
Hollow brick lightweight concrete 3K Hbl2 acc. to EN 771-3:2011+A1:2015; e.g. Heinzmann Baustoffe GmbH, Liapor GmbH & Co. KG	16DF	495x 240x 240	2.5	≥ 0.7	Annex C 101 771-3-005
Hollow brick lightweight concrete Liapor-Super-K acc. to EN 771-3:2011+A1:2015; Z-17.1-501:2006-03 Liapor GmbH & Co. KG	16DF	495x 240x 240	2.5	≥ 0.8	Annex C 102 771-3-006
Hollow brick lightweight concrete Liapor PLANstein-SL-PLUS Hbl 2 acc. to EN 771-3:2011+A1:2015; Z-17.1-501:2006-03 e.g. E. KNOBEL GmbH & Co.KG	12DF	245x 365x 248	2.0	≥ 0.55	Annex C 103 771-3-018
Hollow brick lightweight concrete Liapor PLANstein-SL-PLUS Hbl 6 acc. to EN 771-3:2011+A1:2015; Z-17.1-501:2006-03 e.g. E. KNOBEL GmbH & Co.KG	12DF	245x 365x 248	5.0 2.5	≥ 0.9	Annex C 104 771-3-020
Hollow brick concrete 2K Hbn acc. to EN 771-3:2011+A1:2015; e.g. Stark Betonwerk GmbH & Co. KG	12DF	365x 240x 248	7.5 5.0 2.5	≥ 1.2	Annex C 105 771-3-011
Hollow brick lightweight concrete Gisoton Wärme Dämm Block acc. to Z-17.1-873:2005-11 Gisoton Wandsysteme, Baustoffwerke Gebhart & Söhne GmbH & Co.	15DF	360x 300x 250	2.5	≥ 0.8	Annex C 106 771-3-009
Hollow brick lightweight concrete GisoPLAN therm 25/10 acc. to Z-17.1-672:2015-03 Gisoton Wandsysteme, Baustoffwerke Gebhart & Söhne GmbH & Co	6DF	300x 150x 248	7.5 5.0	≥ 1.3	Annex C 107 771-3-037

Würth Plastic Anchor W-UR / SHARK UR	Annex C 12
Performances Hollow or perforated masonry (use category "c"), Format, Measurement, Mean compressive strength, Bulk density, Annex	

Base material:	Format	Measure- ment [mm]	Mean compressive strength acc. to EN 771 [N/mm²]	Bulk density [kg/dm³]	Annex
Hollow brick lightweight concrete GISOTON Thermo-Schallstein acc. to Z-15.2-18:2021-02 Gisoton Wandsysteme, Baustoffwerke Gebhart & Söhne GmbH & Co	12DF	375x 249x 248	2.5	≥ 0.55	Annex C 108 771-3-038
Hollow brick lightweight concrete Gisoton Thermo Schall acc. to Z-15.2-18: 2021-02 Gisoton Wandsysteme, Baustoffwerke Gebhart & Söhne GmbH & Co.	21DF	500x 300x 250	2.5 1.8	≥ 0.45	Annex C 109 771-3-010 771-3-036
Hollow brick lightweight concrete Bisoplan 09 Super 1.6-0.4 acc. to EN 771-3:2011+A1:2015; Z-17.1-1003:2014-08 e.g. Bisotherm GmbH	12DF	247x 365x 249	1.8	≥ 0.65	Annex C 110 771-3-029
Hollow brick lightweight concrete Bisoplan 10 Hbl-P 2.0-0.45 acc. to EN 771-3:2011+A1:2015 e.g. Bisotherm GmbH	10DF	247x 300x 249	2.0	≥ 0.6	Annex C 111 771-3-034
Hollow brick lightweight concrete Bisomark^{Tec} acc. to Z-17.1-1026:2015-05 e.g. Bisotherm GmbH	20DF	497x 300x 249	2.5	≥ 0.7	Annex C 112 771-3-015
Hollow brick lightweight concrete Bisotherm Hbl-P 4.0 - 0.50 acc. to Z-17.1-1029:2015-05 e.g. Bisotherm GmbH	12DF	247x 365x 249	2.0	≥ 0.55	Annex C 113 771-3-030
Hollow brick lightweight concrete Bisotherm Bisomark plus 4/06 (special shaped) e.g. Bisotherm GmbH	12DF	247x 365x 249	2.5 2.0	≥ 0.65	Annex C 114 771-3-031
Hollow brick lightweight concrete SEPA Blocs Creux acc. to EN 771-3:2011+A1:2015 e.g. SEPA-Alsace Groupe (France)	11DF	500x 200x 200	5.0	≥ 0.9	Annex C 115 771-3-025
Würth Plastic Anchor W-UR / SHARK UR				Annex C 13	
Performances Hollow or perforated masonry (use category "c"), Format, Measurement, Mean compressive strength, Bulk density, Annex					

Table C 7.1: Base material: Autoclaved aerated concrete

Base material:	Format	Minimum dimensions [mm]	Mean compressive strength acc. to EN 771 [N/mm ²]	Bulk density [kg/dm ³]	Annex
Autoclaved aerated concrete acc. to EN 771-4:2015		499x100x 249	2,0 - 7,0	≥ 0.3	Annex C 116
Reinforced components autoclaved aerated concrete acc. to EN 12602:2016		-	1,5 - 6,0	≥ 0.4	Annex C 117

Table C 8.1: Base material: Precast or prestressed hollow core elements

Base material:	Format	Minimum dimensions [mm]	Minimum compressive strength [N/mm ²]	Bulk density [kg/dm ³]	Annex
Precast prestressed hollow core elements VMM-L SCD 20 acc. to Z-15.10-276:2015-08 e.g. Ketonia GmbH		1200x 800x 200	C45/55	≥ 2.4	Annex C 118
Precast prestressed hollow core elements VMM-L EPD 32 acc. to Z-15.10-276:2015-08 e.g. Ketonia GmbH		1200x 800x 320	C45/55	≥ 2.4	Annex C 119
Precast prestressed hollow core elements VMM-VSD 16 acc. to Z-15.10-276:2015-08 e.g. Ketonia GmbH		1200x 400x 160	C45/55	≥ 2.4	Annex C 120

Table C 9.1: Base material: Gypsum blocks

Base material:	Format	Minimum dimensions [mm]	Minimum compressive strength acc. to EN 12859 [N/mm ²]	Bulk density [kg/dm ³]	Annex
Gypsum blocks: MultiGips R.max acoustic panel acc. to EN 12859:2011-05		500x 500x 100	11.7	≥ 1.2	Annex C 121

Würth Plastic Anchor W-UR / SHARK UR

Performances

Autoclaved aerated concrete, precast or prestressed hollow core elements, gypsum blocks: Format, minimum dimensions, Mean compressive strength, Bulk density, Annex

Annex C 14

Table C 10.1: Base material: Masory lintel

Base material:	Format	Measure- ment [mm]	Mean compressive strength acc. to EN 771 [N/mm ²]	Bulk density [kg/dm ³]	Annex
Rastersturz HLz acc. to Z-17.1-981:2018-12 e.g. Ziegelwerk Turber GmbH		115x 113x > 250	7.5	≥ 1.6	Annex C 122
Dämmsturz HLz acc. to Z-17.1-981:2018-12 e.g. Ziegelwerk Turber GmbH		365x 113x > 250	5.0	≥ 1.4	Annex C 123

Würth Plastic Anchor W-UR / SHARK UR

Performances

Masonry lintel: Format, Measurement, Mean compressive strength, Bulk density, Annex

Annex C 15

Base material solid masonry: Solid brick Mz, NF

Table C 11.1.1: Brick data

Description of brick		771-1-020 771-1-008	Mz
Type of brick			Solid brick Mz
Bulk density	$\rho \geq$ [kg/dm ³]		1.8
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Format (measurement)	[mm]		\geq NF (\geq 240x115x71)
Minimum thickness of member	$h_{\min} =$ [mm]		115

Table C 11.1.2 Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{\text{cut}} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	60	80
Drill method	[-]	Hammer drilling	Hammer drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	50	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,\text{min}}/s_{2,\text{min}}$ [mm]	80 / 80	80 / 80
Minimum edge distance	$c_{\min} \geq$ [mm]	100	100

Table C 11.1.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	50	70
Mean compressive strength acc. to EN 771			
Solid brick Mz, $\geq 54.81 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	4.5	6.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	3.5	5.5
Solid brick Mz, $\geq 45.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	3.5	5.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	3.0	4.5
Solid brick Mz, $\geq 35.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	3.0	4.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	2.0	3.5
Solid brick Mz, $\geq 25.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0	3.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5	2.5
Solid brick Mz, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.5	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2	2.0
Solid brick Mz, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.75	1.2
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Solid masonry: Solid brick Mz, NF

Brick data, installation parameters, characteristic resistance

Annex C 16

Base material solid masonry: Solid brick Mz, 3DF

Table C 11.2.1: Brick data

Description of brick		771-1-041	Mz
Type of brick			Solid brick Mz
Bulk density	$\rho \geq$	[kg/dm ³]	2.0
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			e.g. Wienerberger GmbH
Format (measurement)		[mm]	$\geq 3DF (\geq 240 \times 175 \times 113)$
Minimum thickness of member	$h_{min} =$	[mm]	175 (Reveal = 240)

Table C 11.2.2 Installation parameters

Anchor size		8	
Installation site ⁶⁾		Inside / Outside	Reveal
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Hammer drilling
Overall plastic anchor embedment depth	$h_{nom} \geq$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100 100 / 200
Minimum edge distance	$c_{min} \geq$	[mm]	100 50

Table C 11.2.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	
Installation site ⁶⁾		Inside / Outside	Reveal
Overall plastic anchor embedment depth	$h_{nom} \geq$	[mm]	70
Mean compressive strength acc. to EN 771			
Solid brick Mz, $\geq 33.70 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	5.5 3.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	4.0 3.0
Solid brick Mz, $\geq 25.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	4.0 2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	3.0 2.0
Solid brick Mz, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	3.0 1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	2.5 1.5
Solid brick Mz, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	2.5 1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	2.0 1.2
Solid brick Mz, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	2.0 0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	1.5 0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Solid masonry: Solid brick Mz, 3DF
Brick data, Installation parameters, Characteristic resistance

Annex C 17

Base material hollow masonry: Hollow brick HLz, 2DF

Table C 11.3.1: Brick data

Description of brick		771-1-002; 771-1-021	HLz
Type of brick			Hollow brick HLz
Bulk density	$\rho \geq$	[kg/dm ³]	1.2
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			e.g. Wienerberger GmbH
Format (measurement)		[mm]	2DF (240x115x113)
Minimum thickness of member	$h_{min} =$	[mm]	115

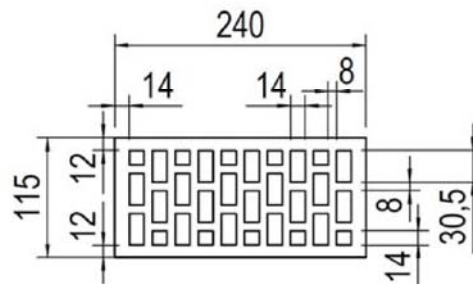


Table C 11.3.2: Installation parameters

Anchor size			8		10	
Installation site ⁶⁾			Inside / Outside		Inside / Outside	
Drill hole diameter	d ₀ =	[mm]	8		10	
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45		10.45	
Depth of drill hole to deepest point	h ₁ ≥	[mm]	60	80	60	80
Drill method		[-]	Rotary drilling		Rotary drilling	
Overall plastic anchor embedment depth	h _{nom} =	[mm]	50	70	50	70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5		10.5	
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	100 / 100		100 / 100	
Minimum edge distance	c _{min} ≥	[mm]	100		100	

Table C 11.3.3: Characteristic resistance F_{Rk} ¹⁾⁵⁾⁸⁾ in [kN] for single anchor

Anchor size			8		10		
Installation site ⁶⁾			Inside / Outside		Inside / Outside		
Overall plastic anchor embedment depth		h _{nom}	[mm]	≥ 50 ⁵⁾	= 70	≥ 50 ⁵⁾	= 70
Mean compressive strength acc. to EN 771							
Hollow brick HLz, ≥ 31.07 N/mm ²	F _{Rk} , 30°C ³⁾ / 50°C ⁴⁾	[kN]	9)	2.5	1.5	2.5	
	F _{Rk} , 50°C ³⁾ / 80°C ⁴⁾	[kN]	9)	1.5	0.9	2.0	
Hollow brick HLz, ≥ 27.18 N/mm ²	F _{Rk} , 30°C ³⁾ / 50°C ⁴⁾	[kN]	1.5	9)	9)	9)	
	F _{Rk} , 50°C ³⁾ / 80°C ⁴⁾	[kN]	1.2	9)	9)	9)	
Hollow brick HLz, ≥ 25.0 N/mm ²	F _{Rk} , 30°C ³⁾ / 50°C ⁴⁾	[kN]	1.2	2.0	1.2	2.0	
	F _{Rk} , 50°C ³⁾ / 80°C ⁴⁾	[kN]	0.9	1.5	0.9	1.5	
Hollow brick HLz, ≥ 20.0 N/mm ²	F _{Rk} , 30°C ³⁾ / 50°C ⁴⁾	[kN]	0.9	1.5	1.2	1.5	
	F _{Rk} , 50°C ³⁾ / 80°C ⁴⁾	[kN]	0.75	1.2	0.75	1.2	
Hollow brick HLz, ≥ 15.0 N/mm ²	F _{Rk} , 30°C ³⁾ / 50°C ⁴⁾	[kN]	0.75	1.2	0.75	1.2	
	F _{Rk} , 50°C ³⁾ / 80°C ⁴⁾	[kN]	0.6	0.75	0.5	0.9	
Partial safety factor		γ _{Mm} ²⁾	[-]	2.5			

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick HLz, 2DF

Brick data, Installation parameters, Characteristic resistance

Annex C 18

Base material hollow masonry: Hollow brick HLz, 12DF

Table C 11.4.1: Brick data

Description of brick		771-1-010; 771-1-036	HLz
Type of brick			Hollow brick HLz
Bulk density	$\rho \geq$ [kg/dm ³]		1.2
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			e.g. Schlagmann Baustoffwerke
Format (measurement)	[mm]		12DF (373x240x238)

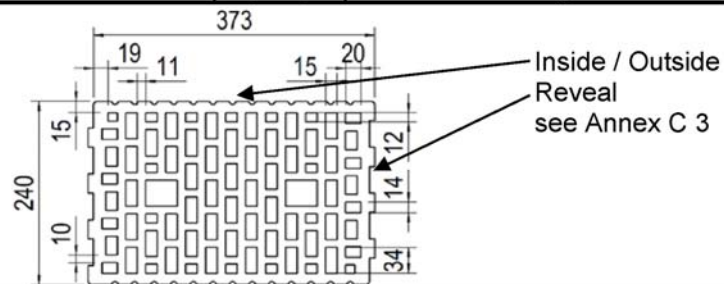


Table C 11.4.2: Installation parameters

Anchor size			8			10
Installation site ⁶⁾			Inside / Outside	Reveal		Inside / Outside
Drill hole diameter		d ₀ = [mm]	8			10
Cutting diameter of drill bit		d _{cut} ≤ [mm]	8.45			10.45
Depth of drill hole to deepest point		h ₁ ≥ [mm]	80			80
Drill method		[-]	Rotary drilling			
Overall plastic anchor embedment depth		h _{nom} = [mm]	70			70
Diameter of clearance hole in the fixture		d _f ≤ [mm]	8.5			10.5
Spacing perpendicular / parallel to free edge		s _{1,min} /s _{2,min} [mm]	100/100	130/250	90/250	100/100
Minimum edge distance		c _{min} ≥ [mm]	45	65	45	100

Table C 11.4.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size			8			10
Installation site ⁶⁾			Inside / Outside	Reveal		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70			70
Characteristic resistance for single anchor		[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{1)}$
Mean compressive strength acc. to EN 771						
Hollow brick HLz, $\geq 13.02 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2	9)	1.5	2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.2	9)	1.5	1.5
Hollow brick HLz, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2	2.0	1.5	2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.2	2.0	1.5	1.2
Hollow brick HLz, $\geq 10.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9	2.0	1.2	1.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.9	2.0	1.2	1.2
Hollow brick HLz, $\geq 8.4 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9	2.0	0.9	1.2
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.9	2.0	0.9	0.9
Hollow brick HLz, $\geq 6.3 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.6	1.2	0.75	0.9
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6	1.2	0.75	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5			

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick HLz, 12DF

Brick data, Installation parameters, Characteristic resistance

Annex C 19

Base material hollow masonry: POROTON Plan T8

Table C 11.5.1 Brick data

Description of brick		771-1-057; 771-1-097	POROTON Plan T8
Type of brick			Hollow brick POROTON Plan T8
Bulk density	$\rho \geq$	[kg/dm ³]	0.6
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1085:2016-02
Producer of brick			Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)		[mm]	12DF (248x365x249)

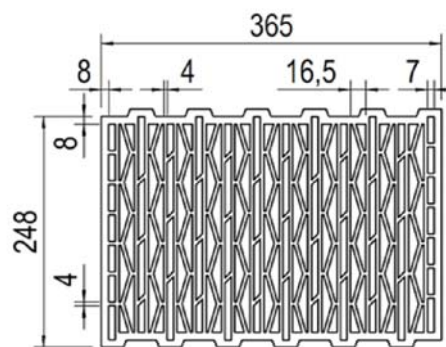


Table C 11.5.2: Installation parameters

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80	80
Drill method		[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	125	100

Table C 11.5.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Mean compressive strength acc. to EN 771				
POROTON Plan T8, $\geq 10.12 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	⁹⁾	0.75
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	⁹⁾	0.6
POROTON Plan T8, $\geq 9.43 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.6	⁹⁾
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.4	⁹⁾
POROTON Plan T8, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.4	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.3	0.4
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick POROTON Plan T8
Brick data, Installation parameters, Characteristic resistance

Annex C 20

Base material hollow masonry: POROTON Planziegel T14, 10DF

Table C 11.6.1 Brick data

Description of brick		771-1-019	POROTON Planziegel T14
Type of brick			Hollow brick POROTON Planziegel T14
Bulk density	$\rho \geq$ [kg/dm ³]		0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-625:2015-04
Producer of brick			Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]		10DF (248x300x249)

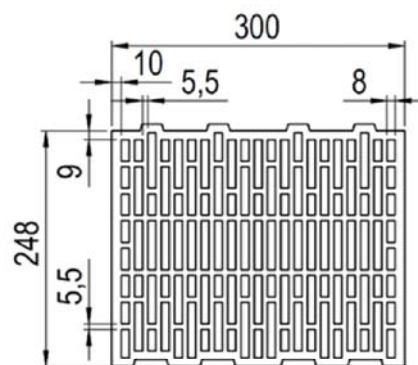


Table C 11.6.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	100 / 100
Minimum edge distance	$c_{min} \geq$ [mm]	100

Table C 11.6.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Mean compressive strength acc. to EN 771		
POROTON Planziegel T14, $\geq 7.94 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.5
POROTON Planziegel T14, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.5
POROTON Planziegel T14, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.4
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.3
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick POROTON Planziegel T14, 10DF
Brick data, Installation parameters, Characteristic resistance

Annex C 21

Base material hollow masonry: POROTON Planziegel T18, 9DF

Table C 11.7.1 Brick data

Description of brick		771-1-125	POROTON Planziegel T18
Type of brick			Hollow brick POROTON Planziegel T18
Bulk density	$\rho \geq$ [kg/dm ³]		0.8
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-678:2017-11
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]		9DF (373x175x249)

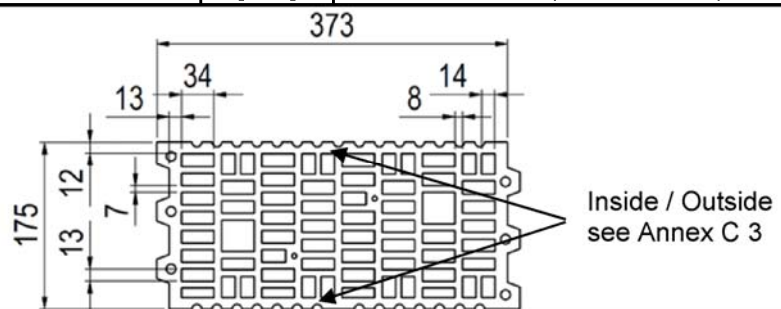


Table C 11.7.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	100

Table C 11.7.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Mean compressive strength acc. to EN 771		
POROTON Planziegel T18, $\geq 14.24 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.6
POROTON Planziegel T18, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.75
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.6
POROTON Planziegel T18, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.5
POROTON Planziegel T18, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.4
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick POROTON Planziegel T18, 9DF

Brick data, Installation parameters, Characteristic resistance

Annex C 22

Base material hollow masonry: POROTON-T7-36.5-PF

Table C 11.8.1: Brick data

Description of brick	771-1-093	POROTON-T7-36.5-PF	
Type of brick		Hollow brick POROTON-T7-36.5-PF	
Bulk density $\rho \geq$ [kg/dm ³]		0.5	
Standard, approval/type-approval		EN 771-1:2011+A1:2015; Z-17.1.1103:2014-04	
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]	12DF (248x365x249)	

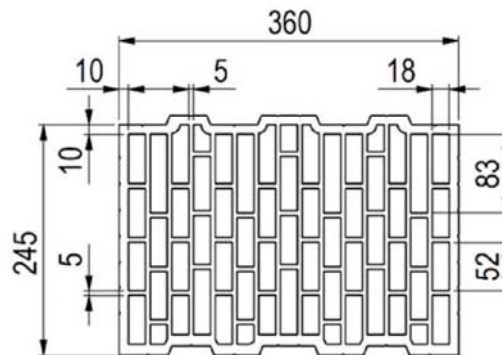


Table C 11.8.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8	10
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45	10.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5	10.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		200 / 250	200 / 250
Minimum edge distance $c_{min} \geq$ [mm]		100	100

Table C 11.8.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	70
Mean compressive strength acc. to EN 771			
POROTON-T7-36.5-P, $\geq 10.09 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.75	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.6	0.6
POROTON-T7-36.5-P, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.6	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.4	0.5
Partial safety factor $\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON-T7-36.5-PF

Brick data, Installation parameters, Characteristic resistance

Annex C 23

Base material hollow masonry: POROTON-T8-30.0-P and POROTON-T9-30.0-P

Table C 11.9.1: Brick data

Description of brick	771-1-022	POROTON-T8-30.0-P and POROTON-T9-30.0-P	
Type of brick		Hollow brick T8-30.0-P and T9-30.0-P	
Bulk density $\rho \geq$	[kg/dm ³]	0.6	
Standard, approval/type-approval		T8: EN 771-1:2011+A1:2015; Z-17.1-982:2014-12 T9: EN 771-1:2011+A1:2015; Z-17.1-674:2020-01	
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]	10DF (248x300x249)	

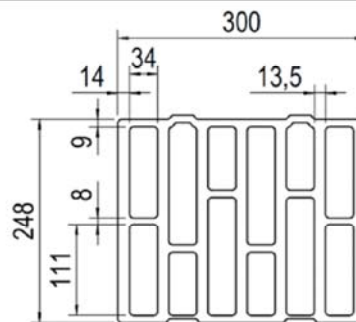


Table C 11.9.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter $d_0 =$	[mm]		8
Cutting diameter of drill bit $d_{cut} \leq$	[mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$	[mm]		80
Drill method	[-]		Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$	[mm]		70
Diameter of clearance hole in the fixture $d_f \leq$	[mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$	[mm]		100 / 100
Minimum edge distance $c_{min} \geq$	[mm]		100

Table C 11.9.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$	[mm]		70
Mean compressive strength acc. to EN 771			
POROTON-T8-30.0-P, POROTON-T9-30.0-P, $\geq 6.54 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.9
POROTON-T8-30.0-P, POROTON-T9-30.0-P, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.75
Partial safety factor $\gamma_{Mm}^{2)}$	[-]		2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON-T8-30.0-P, POROTON-T9-30.0-P
Brick data, Installation parameters, Characteristic resistance

Annex C 24

Base material hollow masonry: POROTON-T8-36.5-MW

Table C 11.10.1: Brick data

Description of brick	771-1-042	POROTON-T8-36.5-MW
Type of brick		Hollow brick POROTON-T8-36.5-MW
Bulk density $\rho \geq$ [kg/dm ³]		0.65
Standard, approval/type-approval		EN 771-1:2011+A1:2015; Z-17.1-1041:2012-07
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover
Format (measurement)	[mm]	12DF (248x365x249)
Minimum thickness of member $h_{min} =$	[mm]	365

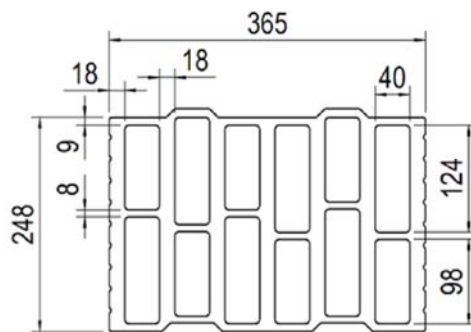


Table C 11.10.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8	10
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45	10.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5	10.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		100 / 100	100 / 100
Minimum edge distance $c_{min} \geq$ [mm]		100	100

Table C 11.10.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	70
Mean compressive strength acc. to EN 771			
POROTON-T8-36.5-MW, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		1.5	1.5
$\geq 9.54 \text{ N/mm}^2$ $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		1.2	1.5
POROTON-T8-36.5-MW, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		1.2	1.2
$\geq 7.5 \text{ N/mm}^2$ $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		0.9	0.9
POROTON-T8-36.5-MW, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		0.9	0.9
$\geq 5.0 \text{ N/mm}^2$ $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		0.6	0.75
Partial safety factor $\gamma_{Mm}^{2)}$ [-]		2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON-T8-36.5-MW

Brick data, Installation parameters, Characteristic resistance

Annex C 25

Base material hollow masonry: POROTON T9-36.5-P

Table C 11.11.1: Brick data

Description of brick		771-1-003; 771-1-007	POROTON T9-36.5-P
Type of brick			Hollow brick POROTON T9-36.5-P
Bulk density	$\rho \geq$	[kg/dm ³]	0.6
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-674:2020-01
Producer of brick			Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)		[mm]	12DF (248x365x249)

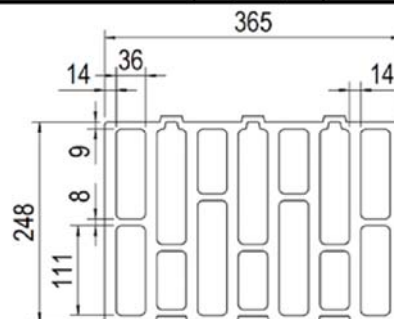


Table C 11.11.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.11.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
POROTON T9-36.5-P, $\geq 6.84 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	9)
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	9)
POROTON T9-36.5-P, $\geq 6.09 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	1.5
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	0.9
POROTON T9-36.5-P, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	1.2
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON T9-36.5-P

Brick data, Installation parameters, Characteristic resistance

Annex C 26

Base material hollow masonry: POROTON Planziegel T10

Table C 11.12.1: Brick data

Description of brick		771-1-033	POROTON Planziegel T10
Type of brick			Hollow brick POROTON Planziegel T10
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-889:2011-04
Producer of brick			Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)		[mm]	10DF (248x300x249)

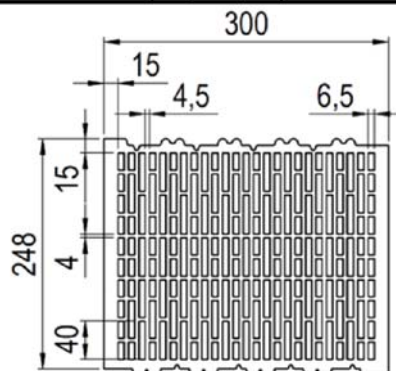


Table C 11.12.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$	[mm] 8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm] 8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm] 80
Drill method		[-] Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm] 8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm] 100 / 100
Minimum edge distance	$c_{min} \geq$	[mm] 100

Table C 11.12.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Mean compressive strength acc. to EN 771		
POROTON Planziegel T10-30, $\geq 8.23 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN] 0.6
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN] 0.5
POROTON Planziegel T10-30, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN] 0.6
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN] 0.4
Partial safety factor	$\gamma_{Mm}^{2)}$	[-] 2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Annex C 27

Performances

Hollow brick: POROTON Planziegel T10

Brick data, Installation parameters, Characteristic resistance

Hollow brick Base material hollow masonry: POROTON S8

Table C 11.13.1: Brick data

Description of brick	771-1-103	POROTON S8	
Type of brick		Hollow brick POROTON S8	
Bulk density	$\rho \geq$ [kg/dm ³]	0.7	
Standard, approval/type-approval		EN 771-1:2011+A1:2015; Z-17.1-1120:2019-03	
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]	12DF (248x365x249)	

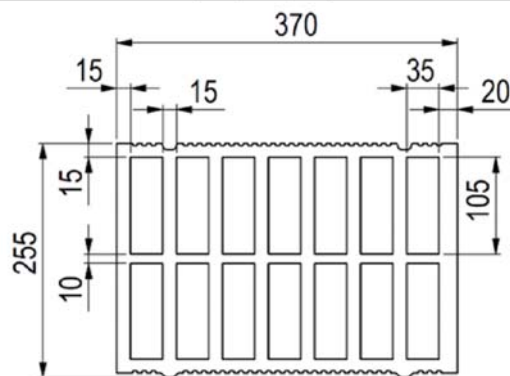


Table C 11.13.2: Installation parameters

Anchor size	8	
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	100

Table C 11.13.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size	8	
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Mean compressive strength acc. to EN 771		
POROTON S8-365, $\geq 10.11 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5
POROTON S8-365, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON S8

Brick data, Installation parameters, Characteristic resistance

Annex C 28

Base material hollow masonry: POROTON S9 MV

Table C 11.14.1: Brick data

Description of brick	771-1-134	POROTON S9 MV	
Type of brick		Hollow brick POROTON S9 MV	
Bulk density $\rho \geq$ [kg/dm ³]		0.9	
Standard, approval/type-approval		EN 771-1:2011+A1:2015;	
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]	12DF (248x365x249)	

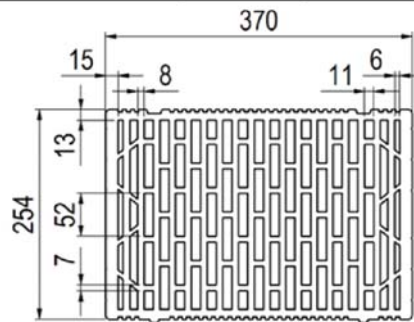


Table C 11.14.2: Installation parameters

Anchor size		8	
Installation site ⁶⁾		Inside / Outside	Reveal
Drill hole diameter $d_0 =$ [mm]		8	
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45	
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80	
Drill method	[-]	Rotary drilling	
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5	
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		200 / 250	170 / 250
Minimum edge distance $c_{min} \geq$ [mm]		100	85

Table C 11.14.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size		8	
Installation site ⁶⁾		Inside / Outside	Reveal
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	
Characteristic resistance for single anchor [kN]		$F_{Rk}^{1)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771			
POROTON S9 MV, $\geq 13.53 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	1.5	2.0
POROTON S9 MV, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	1.2	2.0
POROTON S9 MV, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	1.5	1.5
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	0.9	1.5
Partial safety factor $\gamma_{Mm}^{2)}$ [-]		2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON S9 MV

Brick data, Installation parameters, Characteristic resistance

Annex C 29

Base material hollow masonry: POROTON S9 MV

Table C 11.15.1: Brick data

Description of brick	771-1-134	POROTON S9 MV	
Type of brick		Hollow brick POROTON S9 MV	
Bulk density $\rho \geq$ [kg/dm ³]		0.9	
Standard, approval/type-approval		EN 771-1:2011+A1:2015;	
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]	12DF (248x365x249)	

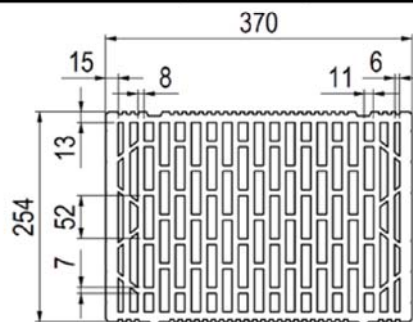


Table C 11.15.2: Installation parameters

Anchor size			10	
Installation site ⁶⁾			Inside / Outside	Reveal
Drill hole diameter $d_0 =$ [mm]			10	
Cutting diameter of drill bit $d_{cut} \leq$ [mm]			10.45	
Depth of drill hole to deepest point $h_1 \geq$ [mm]			80	
Drill method			Rotary drilling	
Overall plastic anchor embedment depth $h_{nom} =$ [mm]			70	
Diameter of clearance hole in the fixture $d_f \leq$ [mm]			10.5	
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]			150 / 250	180 / 250
Minimum edge distance $c_{min} \geq$ [mm]			75	90

Table C 11.15.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size			10	
Installation site ⁶⁾			Inside / Outside	Reveal
Overall plastic anchor embedment depth $h_{nom} =$ [mm]			70	
Characteristic resistance for single anchor		[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771				
POROTON S9 MV, $\geq 13.53 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	2.0	1.5
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	2.0	1.5
POROTON S9 MV, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	1.5	1.2
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	1.5	1.2
POROTON S9 MV, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	1.5	0.9
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	1.5	0.9
Partial safety factor $\gamma_{Mm}^{2)}$		[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON S9 MV

Brick data, Installation parameters, Characteristic resistance

Annex C 30

Base material hollow masonry: POROTON S10

Table C 11.16.1: Brick data

Description of brick	771-1-032	POROTON S10	
Type of brick		Hollow brick POROTON S10	
Bulk density $\rho \geq$ [kg/dm ³]		0.8	
Standard, approval/type-approval		EN 771-1:2011+A1:2015; Z-17.1-1017:2019-05	
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]	10DF (248x300x249)	

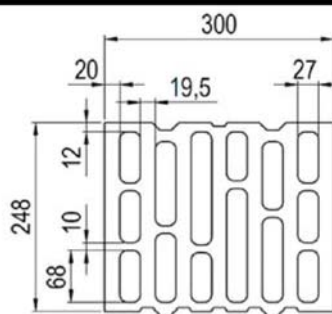


Table C 11.16.2: Installation parameters

Anchor size		8	
Installation site ⁶⁾		Inside / Outside	Reveal
Drill hole diameter $d_0 =$ [mm]		8	
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45	
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80	
Drill method	[-]	Rotary drilling	
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5	
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		100 / 100	80 / 250
Minimum edge distance $c_{min} \geq$ [mm]		50	40

Table C 11.16.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size		8	
Installation site ⁶⁾		Inside / Outside	Reveal
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	
Characteristic resistance for single anchor [kN]		$F_{Rk}^{1)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771			
POROTON S10, $\geq 11.91 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	1.5	0.9
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	1.2	0.9
POROTON S10, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	1.2	0.9
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	0.9	0.9
POROTON S10, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	0.9	0.6
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	0.75	0.6
Partial safety factor $\gamma_{Mm}^{2)}$ [-]		2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON S10

Brick data, Installation parameters, Characteristic resistance

Annex C 31

Base material hollow masonry: POROTON-S11-30.0-P

Table C 11.17.1: Brick data

Description of brick		771-1-025	POROTON-S11-30.0-P
Type of brick			Hollow brick S11-30.0-P
Bulk density	$\rho \geq$ [kg/dm ³]		0.8
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-812:2020-01
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]		10DF (248x300x249)

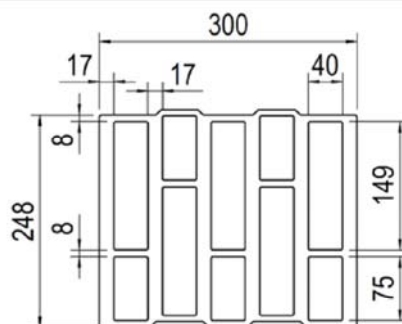


Table C 11.17.2: Installation parameters

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]		8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]		8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]		80	80
Drill method	[-]		Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]		8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]		100 / 100	100 / 100
Minimum edge distance	$c_{min} \geq$ [mm]		100	100

Table C 11.17.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70	70
Mean compressive strength acc. to EN 771				
POROTON-S11-30.0-P, $\geq 9.4 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]		2.5	2.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]		1.5	1.5
POROTON-S11-30.0-P, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]		2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]		1.5	1.2
POROTON-S11-30.0-P, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]		1.2	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]		0.9	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]		2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON-S11-30.0-P

Brick data, Installation parameters, Characteristic resistance

Annex C 32

Base material hollow masonry: POROTON-S11-36.5-P

Table C 11.18.1: Brick data

Description of brick		771-1-009	POROTON-S11-36.5-P
Type of brick			Hollow brick S11-36.5-P
Bulk density	$\rho \geq$ [kg/dm ³]		0.9
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-812:2020-01
Producer of brick		Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover	Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1 D-84367 Zeilarn
Format (measurement)	[mm]		12DF (248x365x249)

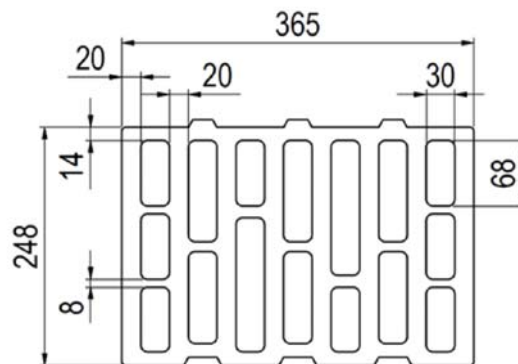


Table C 11.18.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	100 / 100	100 / 100
Minimum edge distance	$c_{min} \geq$ [mm]	100	100

Table C 11.18.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Mean compressive strength acc. to EN 771			
POROTON-S11-36.5-P, $\geq 9.7 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.5	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	2.5	1.5
POROTON-S11-36.5-P, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.5	1.2
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTON-S11-36.5-P

Brick data, Installation parameters, Characteristic resistance

Annex C 33

Base material hollow brick: Brick for ceiling (System Filigran)

Table C 11.19.1: Brick data

Description of brick		771-1-031	Brick for ceiling (System Filigran) DIN 4160-BN 0.8-530-250-210
Type of brick			Brick for ceiling
Bulk density	$\rho \geq$	[kg/dm ³]	0.65
Standard, approval/type-approval			-
Producer of brick			Wienerberger GmbH Oldenburger Allee 26 D-30659 Hannover
Format (measurement)		[mm]	16DF (252x530x210)

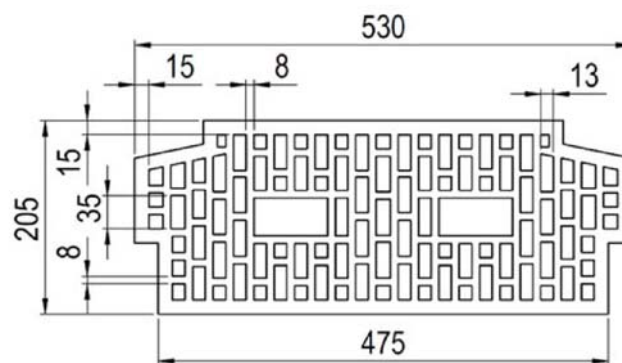


Table C 11.19.2: Installation parameters

Anchor size			8	10
Installation site			bottom view	
Drill hole diameter	$d_o =$	[mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80	80
Drill method		[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$		100 / 100	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	100	100

Table C 11.19.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8	10
Installation site			bottom view	
Overall plastic anchor embedment depth		$h_{nom} =$ [mm]	70	70
Mean compressive strength acc. to EN 771				
Brick für ceiling (system Filigran), $\geq 7.38 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.5	2.0
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.9	1.2
Brick für ceiling (system Filigran), $\geq 5.0 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.9	1.2
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.75	0.9
Partial safety factor		$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: Brick for ceiling (System Filigran)

Brick data, Installation parameters, Characteristic resistance

Annex C 34

Base material hollow masonry: POROTHERM 25-38 N+F

Table C 11.20.1: Brick data

Description of brick		771-1-005	POROTHERM 25-38 N+F
Type of brick			Hollow brick POROTHERM 25-38 N+F
Bulk density	$\rho \geq$	[kg/dm ³]	0.8
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			Wienerberger Ziegelindustrie GmbH Hauptstraße A-2332 Hennersdorf, Austria
Format (measurement)		[mm]	14DF (375x250x249)

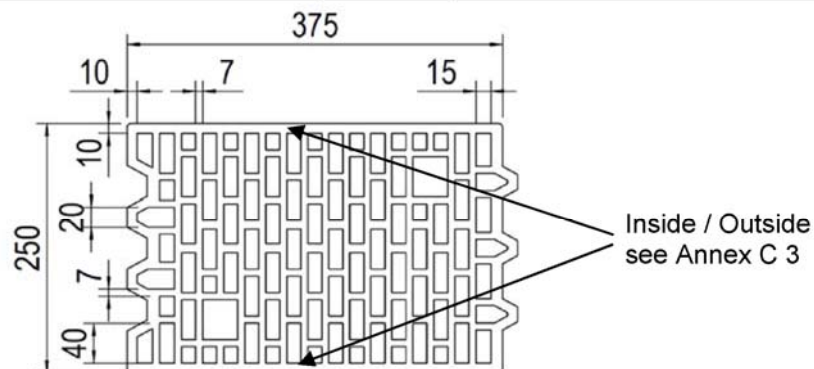


Table C 11.20.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.20.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
POROTHERM 25-38 N+F, $\geq 10.36 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	1.2
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	0.9
POROTHERM 25-38 N+F, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	1.2
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	0.9
POROTHERM 25-38 N+F, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN]	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTHERM 25-38 N+F

Brick data, Installation parameters, Characteristic resistance

Annex C 35

Base material hollow masonry: Blocchi Leggeri

Table C 11.21.1: Brick data

Description of brick		771-1-012	Blocchi Leggeri
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.6
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			Wienerberger Brunori s.r.l. Via Ringhiera 1 I-40020 Mordano (Bologna) fraz. Bubano Italy
Format (measurement)		[mm]	5DF (248x115x335)

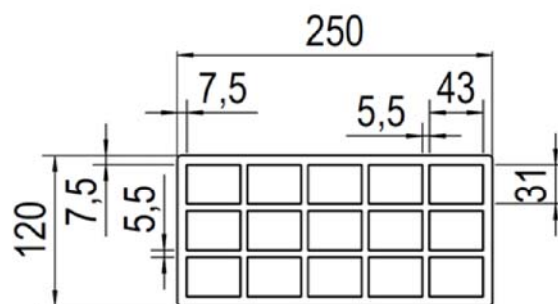


Table C 11.21.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_o =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	125

Table C 11.21.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Blocchi Leggeri, $\geq 8.99 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.75
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6
Blocchi Leggeri, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.5
Blocchi Leggeri, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.3
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: Blocchi Leggeri

Brick data, Installation parameters, Characteristic resistance

Annex C 36

Hollow brick for ceiling: Blocchi per solaio a travetti

Table C 11.22.1: Brick data

Description of brick	771-1-011	Blocchi per solaio a travetti
Type of brick		Hollow brick for ceiling
Bulk density $\rho \geq$ [kg/dm ³]		0.55
Standard, approval/type-approval		EN 771-1:2011+A1:2015
Producer of brick		Wienerberger Tacconi s.r.l. Via Ringhiera 1 I-40020 Mordano (Bologna) fraz. Bubano Italy, Werk Terni
Format (measurement)	[mm]	7DF (416x123x245)

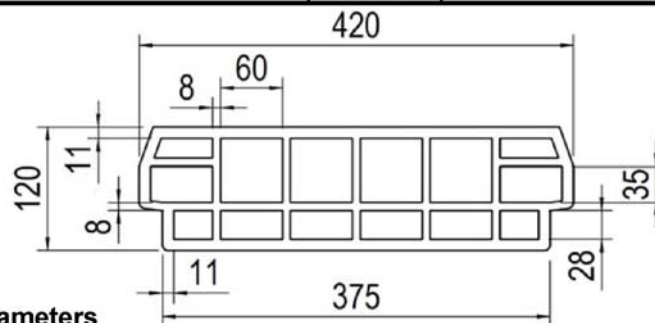


Table C 11.22.2: Installation parameters

Anchor size		8	10
Installation site		bottom view	bottom view
Drill hole diameter $d_0 =$ [mm]		8	10
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45	10.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5	10.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		100 / 100	100 / 100
Minimum edge distance $c_{min} \geq$ [mm]		100	100

Table C 11.22.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site		bottom view	bottom view
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70	70
Mean compressive strength acc. to EN 771			
Blocchi per solaio a travetti, $\geq 14.81 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.5	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2	0.9
Blocchi per solaio a travetti, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.2	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.9	0.75
Blocchi per solaio a travetti, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.75	0.6
Blocchi per solaio a travetti, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.75	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.6	0.5
Partial safety factor $\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: Blocchi per solaio a travetti

Brick data, Installation parameters, Characteristic resistance

Annex C 37

Base material hollow masonry: POROTHERM MURBRIC T20 and R20

Table C 11.23.1: Brick data

Description of brick	771-1-018	POROTHERM MURBRIC T20 and R20
Type of brick		Hollow brick
Bulk density $\rho \geq$ [kg/dm ³]		0.7
Standard, approval/type-approval		EN 771-1:2011+A1:2015
Producer of brick		e.g. Wienerberger SAS 8, Rue du Canal - Achenheim 67087 Strasbourg, France
Format (measurement)	[mm]	T20; R 20: 15DF (500x200x249)

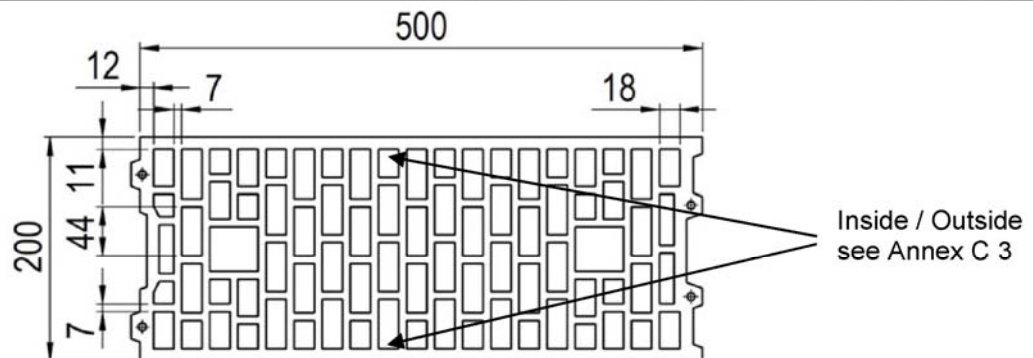


Table C 11.23.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		100 / 100
Minimum edge distance $c_{min} \geq$ [mm]		100

Table C 11.23.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771		
POROTHERM MURBRIC T20 and R20, ≥ 14.39 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	0.9
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	0.75
POROTHERM MURBRIC T20 and R20, ≥ 12.5 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	0.75
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	0.6
POROTHERM MURBRIC T20 and R20, ≥ 10.0 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	0.6
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	0.5
Partial safety factor $\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTHERM MURBRIC T20 and R20
Brick data, Installation parameters, Characteristic resistance

Annex C 38

Base material hollow masonry: POROTHERM MURBRIC Traditionnel Poteau T20

Table C 11.24.1: Brick data

Description of brick		771-1-013	POROTHERM MURBRIC Poteau T20
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			e.g. Wienerberger SAS 8, Rue du Canal - Achenheim 67087 Strasbourg, France
Format (measurement)	[mm]		12DF (448x195x238)

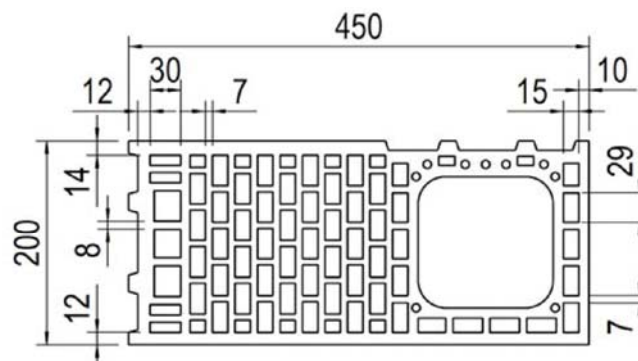


Table C 11.24.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	200 / 250	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	100	100

Table C 11.24.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Mean compressive strength acc. to EN 771			
POROTHERM MURBRIC Poteau T20, ≥ 10.86 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	0.9	0.9
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	0.6	0.9
POROTHERM MURBRIC Poteau T20, ≥ 10.0 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	0.9	0.9
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	0.6	0.9
POROTHERM MURBRIC Poteau T20, ≥ 7.5 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	0.6	0.6
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	0.5	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTHERM MURBRIC T20

Brick data, Installation parameters, Characteristic resistance

Annex C 39

Base material hollow masonry: POROTHERM T30 and POROTHERM R30

Table C 11.25.1: Brick data

Description of brick		771-1-014	POROTHERM T30 and R30
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			Wienerberger SAS 8, Rue du Canal - Achenheim 67087 Strasbourg, France
Format (measurement)		[mm]	T30; R30: 16DF (373x300x249)

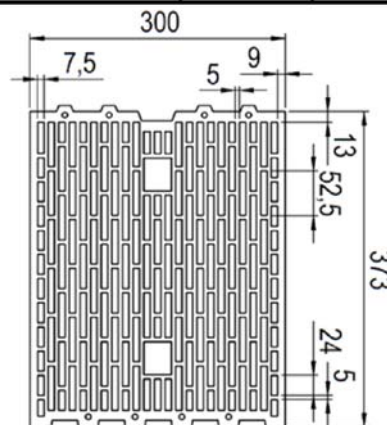


Table C 11.25.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$	[mm] 8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm] 8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm] 80
Drill method		[-] Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm] 8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm] 100 / 100
Minimum edge distance	$c_{min} \geq$	[mm] 100

Table C 11.25.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Mean compressive strength acc. to EN 771		
POROTHERM T30 and R30, $\geq 10.47 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 0.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.4
POROTHERM T30 and R30, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 0.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.4
POROTHERM T30 and R30, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 0.4
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.3
Partial safety factor	$\gamma_{Mm}^{2)}$	[-] 2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: POROTHERM T30 and POROTHERM R30
Brick data, Installation parameters, Characteristic resistance

Annex C 40

Base material hollow masonry: UNIPOR W07 SILVACOR

Table C 11.26.1: Brick data

Description of brick		771-1-109	UNIPOR W07 SILVACOR
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.55
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1162:2019-08
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]		12DF (247x365x249)

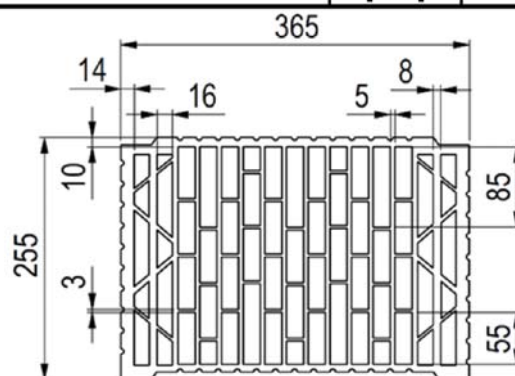


Table C 11.26.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$ [mm]		8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]		80
Drill method	[-]		Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]		200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]		100

Table C 11.26.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771			
UNIPOR W07 SILVACOR, $\geq 6.24 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.75
UNIPOR W07 SILVACOR, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR W07 SILVACOR

Brick data, Installation parameters, Characteristic resistance

Annex C 41

Base material hollow masonry: UNIPOR W07 CORISO

Table C 11.27.1: Brick data

Description of brick		771-1-112	UNIPOR W07 CORISO
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.55
Standard, approval/type-approval			EN 771-1:2011+A1:2015, Z-17.1-1056:2020-11
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)		[mm]	12DF (247x365x249)

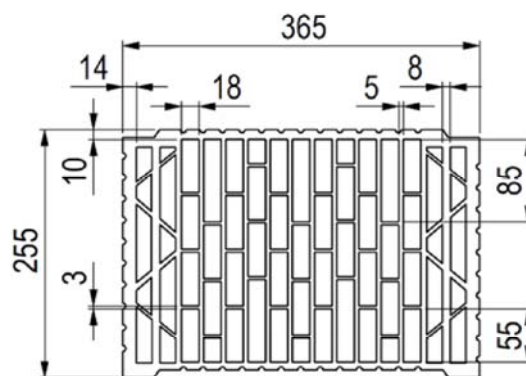


Table C 11.27.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.27.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
UNIPOR WS11 CORISO, $\geq 6.24 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.75
UNIPOR WS11 CORISO, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR W07 CORISO

Brick data, Installation parameters, Characteristic resistance

Annex C 42

Base material hollow masonry: UNIPOR W07 CORISO (special shaped)

Table C 11.28.1: Brick data

Description of brick		771-1-126	UNIPOR W07 CORISO (special shaped)
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)		[mm]	12DF (247x365x249)

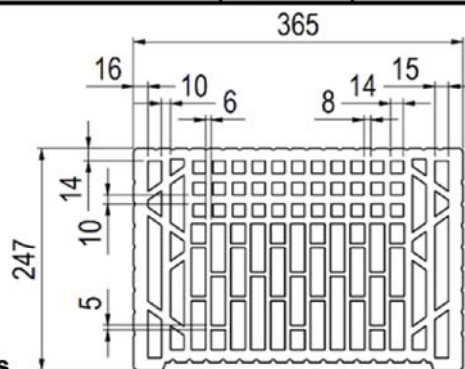


Table C 11.28.2: Installation parameters

Anchor size			8	
Installation site ⁶⁾			Reveal	
Drill hole diameter	d ₀ =	[mm]	8	
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45	
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80	
Drill method		[-]	Rotary drilling	
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70	
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5	
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	140 / 250	250 / 250
Minimum edge distance	c _{min} ≥	[mm]	70	185

Table C 11.28.3: Characteristic resistance $F_{Rk}^{7)8)}$ in [kN] for single anchor

Anchor size			8	
Installation site ⁶⁾			Reveal	
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	
Characteristic resistance for single anchor		[kN]	$F_{Rk}^{7)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771				
UNIPOR W07 CORISO, ≥ 10.0 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	2.0	3.0
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	2.0	3.0
UNIPOR W07 CORISO, ≥ 7.5 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.5	2.0
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.5	2.0
UNIPOR W07 CORISO, ≥ 5.0 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.2	1.5
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.2	1.5
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR W07 CORISO (special shaped)

Brick data, Installation parameters, Characteristic resistance

Annex C 43

Base material hollow masonry: UNIPOR WS08 CORISO and UNIPOR WS08 SILVACOR

Table C 11.29.1: Brick data

Description of brick		UNIPOR WS08 CORISO UNIPOR WS08 SILVACOR
Type of brick	771-1-114	Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]	0.65
Standard, approval/type-approval		EN 771-1:2011+A1:2015; Z-17.1-1114:2019-12; Z-17.1-1191:2019-01
Producer of brick		ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]	12DF (247x365x249)

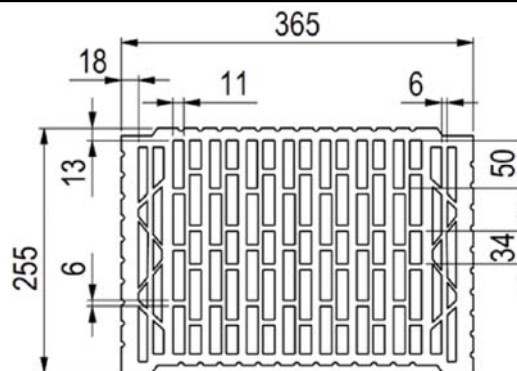


Table C 11.29.2: Installation parameters

Anchor size			8		
Installation site ⁶⁾			Inside / Outside	Reveal	
Drill hole diameter	d ₀ =	[mm]	8		
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45		
Depth of drill hole to deepest point	h ₁ ≥	[mm]	0		
Drill method		[-]	Rotary drilling		
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70		
Diameter of clearance hole in the fixture	d _r ≤	[mm]	8.5		
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	200 / 250	140 / 250	180 / 250
Minimum edge distance	c _{min} ≥	[mm]	100	70	90

Table C 11.29.3: Characteristic resistance $F_{Rk}^{(1)(7)(8)}$ in [kN] for single anchor

Anchor size			8		
Installation site ⁶⁾			Inside / Outside	Reveal	
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70		
Characteristic resistance for single anchor		[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771					
UNIPOR WS08 CORISO, ≥ 10.0 N/mm ²	$F_{Rk}, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	0.9	0.9	1.5
	$F_{Rk}, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	0.75	0.9	1.5
UNIPOR WS08 CORISO, ≥ 7.5 N/mm ²	$F_{Rk}, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	0.75	0.6	0.9
	$F_{Rk}, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	0.6	0.6	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5		

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR WS08 CORISO and SILVACOR

Brick data, Installation parameters, Characteristic resistance

Annex C 44

Base material hollow masonry: UNIPOR W08 NOVATHERM

Table C 11.30.1: Brick data

Description of brick		771-1-119	UNIPOR W08 NOVATHERM
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.6
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)		[mm]	12DF (247x365x249)

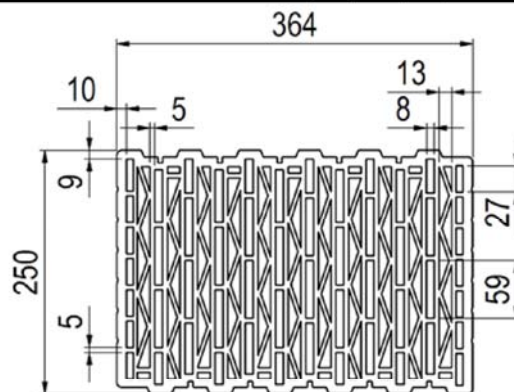


Table C 11.30.2: Installation parameters

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80	80
Drill method		[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	250 / 250	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	125	100

Table C 11.30.3: Characteristic resistance F_{RK} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Mean compressive strength acc. to EN 771				
UNIPOR W08 NOVATHERM, $\geq 8.65 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.4	0.4
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.3	0.3
UNIPOR W08 NOVATHERM, $\geq 7.5 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.4	0.4
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.3	0.3
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR W08 NOVATHERM

Brick data, Installation parameters, Characteristic resistance

Annex C 45

Base material hollow masonry: UNIPOR WS09 CORISO

Table C 11.31.1: Brick data

Description of brick		771-1-115	UNIPOR WS09 CORISO
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1066:2020-04
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)		[mm]	12DF (247x365x249)

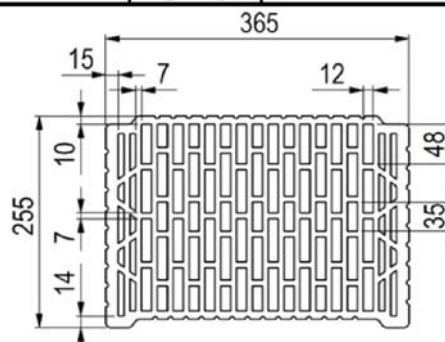


Table C 11.31.2: Installation parameters

Anchor size			8		10		
Installation site ⁶⁾			Inside / Outside	Reveal	Inside / Outside		
Drill hole diameter		d ₀ =	[mm]		8	10	
Cutting diameter of drill bit		d _{cut} ≤	[mm]		8.45	10.45	
Depth of drill hole to deepest point		h ₁ ≥	[mm]		80	80	
Drill method			[-]		Rotary drilling	Rotary drilling	
Overall plastic anchor embedment depth		h _{nom} =	[mm]		70	70	
Diameter of clearance hole in the fixture		d _f ≤	[mm]		8.5	10.5	
Spacing perpendicular / parallel to free edge		s _{1,min} /s _{2,min}	[mm]		200 / 250	150 / 250	200 / 250
Minimum edge distance		c _{min} ≥	[mm]		100	75	100

Table C 11.31.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size			8		10
Installation site ⁶⁾			Inside / Outside	Reveal	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70		70
Characteristic resistance for single anchor		[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{1)}$
Mean compressive strength acc. to EN 771					
UNIPOR WS09 CORISO, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.2	1.5	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.9	1.5	1.2
UNIPOR WS09 CORISO, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.9	0.9	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.6	0.9	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5		

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR WS09 CORISO

Brick data, Installation parameters, Characteristic resistance

Annex C 46

Base material hollow masonry: UNIPOR WH09 Planziegel

Table C 11.32.1: Brick data

Description of brick	771-1-120	UNIPOR WH09 Planziegel
Type of brick		Hollow brick
Bulk density $\rho \geq$ [kg/dm ³]		0.6
Standard, approval/type-approval		EN 771-1:2011+A1:2015; Z-17.1-1042:2015-09
Producer of brick		ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]	12DF (247x365x249)

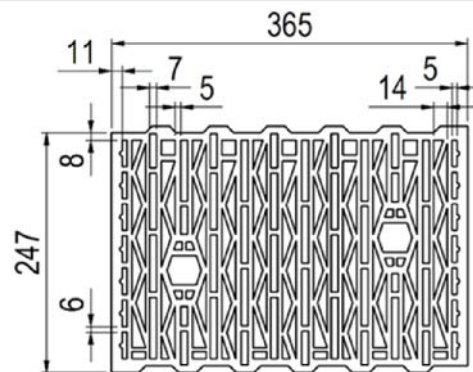


Table C 11.32.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		200 / 250
Minimum edge distance $c_{min} \geq$ [mm]		100

Table C 11.32.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771		
UNIPOR WH09 Planziegel, $\geq 7.8 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.6
UNIPOR WH09 Planziegel, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.5
UNIPOR WH09 Planziegel, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.4
Partial safety factor $\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR WH09 Planziegel

Brick data, Installation parameters, Characteristic resistance

Annex C 47

Base material hollow masonry: UNIPOR WH10 Planziegel

Table C 11.33.1: Brick data

Description of brick		771-1-121	UNIPOR WH10 Planziegel
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.65
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1042:2015-09
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]		12DF (247x365x249)

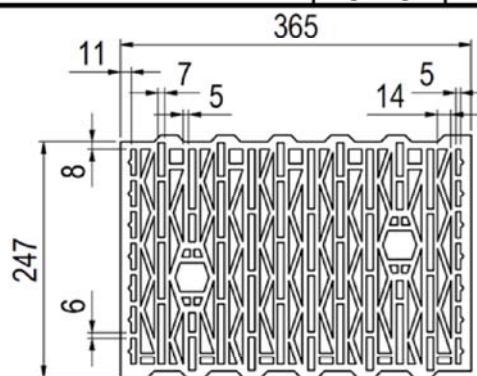


Table C 11.33.2: Installation parameters

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]		8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]		8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]		80	80
Drill method	[-]		Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]		8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]		200 / 250	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]		100	100

Table C 11.33.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70	70
Mean compressive strength acc. to EN 771				
UNIPOR WH10 Planziegel, $\geq 9.15 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]		0.75	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]		0.6	0.5
UNIPOR WH10 Planziegel, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]		0.6	0.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]		0.5	0.4
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]		2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR WH10 Planziegel

Brick data, Installation parameters, Characteristic resistance

Annex C 48

Base material hollow masonry: UNIPOR WS10 CORISO

Table C 11.34.1: Brick data

Description of brick	771-1-116	UNIPOR WS10 CORISO
Type of brick		Hollow brick
Bulk density $\rho \geq$ [kg/dm ³]		0.9
Standard, approval/type-approval		EN 771-1:2011+A1:2015; Z-17.1-1021:2016-10
Producer of brick		ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]	12DF (247x365x249)

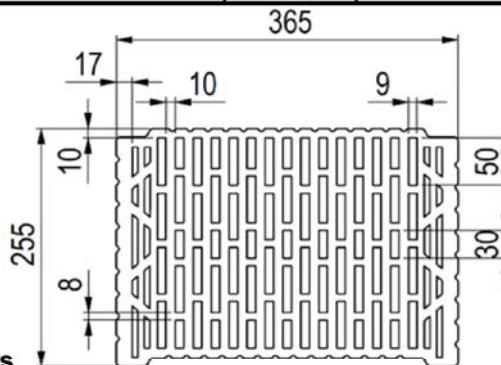


Table C 11.34.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		120 / 240
Minimum edge distance $c_{min} \geq$ [mm]		60

Table C 11.34.3: Characteristic resistance F_{RK} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771		
UNIPOR WS10 CORISO, $F_{RK, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		1.5
$\geq 19.18 \text{ N/mm}^2$ $F_{RK, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		1.5
UNIPOR WS10 CORISO, $F_{RK, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		1.2
$\geq 15.0 \text{ N/mm}^2$ $F_{RK, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		1.2
UNIPOR WS10 CORISO, $F_{RK, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		0.9
$\geq 10.0 \text{ N/mm}^2$ $F_{RK, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		0.9
Partial safety factor $\gamma_{Mm}^{2)}$ [-]		2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR WS10 CORISO

Brick data, Installation parameters, Characteristic resistance

Annex C 49

Base material hollow masonry: UNIPOR WS11 CORISO

Table C 11.35.1: Brick data

Description of brick		771-1-026	UNIPOR WS11 CORISO
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.85
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1011:2014-04
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)		[mm]	12DF (238x365x249)

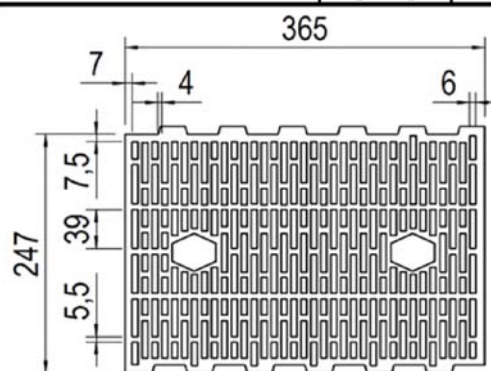


Table C 11.35.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.35.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
UNIPOR WS11 CORISO, $\geq 10.86 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.75
UNIPOR WS11 CORISO, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR WS11 CORISO

Brick data, Installation parameters, Characteristic resistance

Annex C 50

Base material hollow masonry: UNIPOR WS14 and UNIPOR WS12 CORISO

Table C 11.36.1: Brick data

Description of brick		771-1-016	UNIPOR WS14 and UNIPOR WS12 CORISO
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.8
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-883:2005-07
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)		[mm]	10DF (248x300x249)

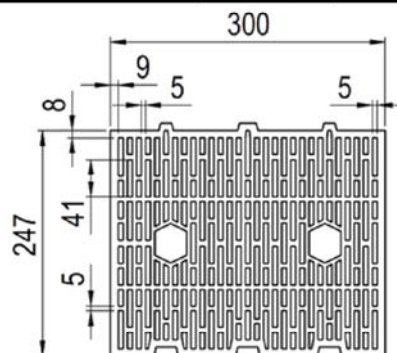


Table C 11.36.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	100 / 100
Minimum edge distance	c _{min} ≥	[mm]	100

Table C 11.36.3: Characteristic resistance F_{Rk} ¹⁸⁾ in [kN] for single anchor

Anchor size			8
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Installation site ⁶⁾			Inside / Outside
UNIPOR WS14 and UNIPOR WS12 CORISO, ≥ 16.57 N/mm²	$F_{Rk, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	1.2
	$F_{Rk, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.9
UNIPOR WS14 and UNIPOR WS12 CORISO, ≥ 15.0 N/mm²	$F_{Rk, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	0.9
	$F_{Rk, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.75
UNIPOR WS14 and UNIPOR WS12 CORISO, ≥ 12.5 N/mm²	$F_{Rk, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	0.9
	$F_{Rk, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick: UNIPOR WS14 and UNIPOR WS12 CORISO
Brick data, Installation parameters, Characteristic resistance

Annex C 51

Base material hollow masonry: UNIPOR W14

Table C 11.37.1: Brick data

Description of brick		771-1-015	UNIPOR W14
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015, W14-Plan: Z-17.1-679:2013-01, W14-Block: Z-17.1-636:2016-04
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)		[mm]	10DF (248x300x249)

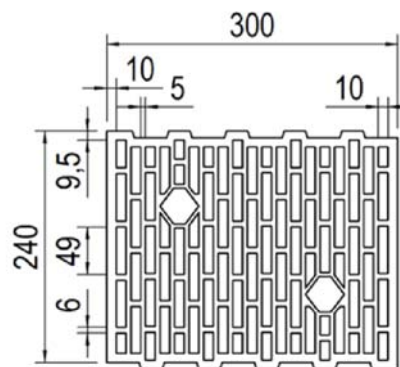


Table C 11.37.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	100 / 100
Minimum edge distance	c _{min} ≥	[mm]	100

Table C 11.37.3: Characteristic resistance F_{Rk} ¹⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
UNIPOR W14, ≥ 8.03 N/mm ²	$F_{RK, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	0.6
	$F_{RK, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	0.5
UNIPOR W14, ≥ 7.5 N/mm ²	$F_{RK, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	0.6
	$F_{RK, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	0.4
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR W14

Brick data, Installation parameters, Characteristic resistance

Annex C 52

Base material hollow masonry: UNIPOR WS CORISO (special shaped)

Table C 11.38.1: Brick data

Description of brick		771-1-137	UNIPOR WS CORISO (special shaped)
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.75
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]		12DF (250x365x250)

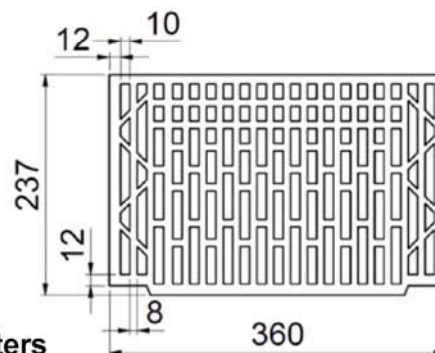


Table C 11.38.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Reveal	Reveal
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	140 / 250	180 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	70	90

Table C 11.38.3: Characteristic resistance F_{Rk} ⁷⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Reveal	Reveal
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{(7)}$	$F_{Rk}^{(7)}$
Mean compressive strength acc. to EN 771			
UNIPOR WS CORISO 12DF, ≥ 12.5 N/mm ²	$F_{Rk}, 30^\circ\text{C}^{(3)} / 50^\circ\text{C}^{(4)}$ [kN]	2.0	3.0
	$F_{Rk}, 50^\circ\text{C}^{(3)} / 80^\circ\text{C}^{(4)}$ [kN]	2.0	3.0
UNIPOR WS CORISO 12DF, ≥ 10.0 N/mm ²	$F_{Rk}, 30^\circ\text{C}^{(3)} / 50^\circ\text{C}^{(4)}$ [kN]	1.5	2.5
	$F_{Rk}, 50^\circ\text{C}^{(3)} / 80^\circ\text{C}^{(4)}$ [kN]	1.5	2.5
UNIPOR WS CORISO 12DF, ≥ 7.5 N/mm ²	$F_{Rk}, 30^\circ\text{C}^{(3)} / 50^\circ\text{C}^{(4)}$ [kN]	1.2	1.5
	$F_{Rk}, 50^\circ\text{C}^{(3)} / 80^\circ\text{C}^{(4)}$ [kN]	1.2	1.5
Partial safety factor	$\gamma_{Mm}^{(2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR WS CORISO (special shaped)
Brick data, Installation parameters, Characteristic resistance

Annex C 53

Base material hollow masonry: UNIPOR WS CORISO (special shaped)

Table C 11.39.1: Brick data

Description of brick		771-1-136	UNIPOR WS CORISO (special shaped)
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.85
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]		6DF (123x365x249)

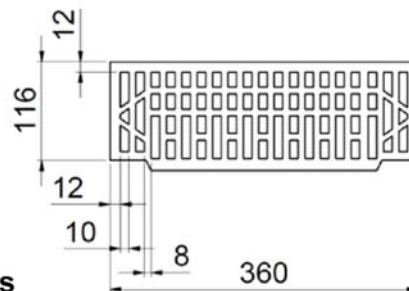


Table C 11.39.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Reveal
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	250 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	70 90

Table C 11.39.3: Characteristic resistance F_{Rk} ⁷⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Reveal
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Characteristic resistance for single anchor	[kN]	F_{Rk} ⁷⁾
Mean compressive strength acc. to EN 771		
UNIPOR WS CORISO 6DF, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.5 3.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	2.5 3.0
UNIPOR WS CORISO 6DF, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0 2.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	2.0 2.5
UNIPOR WS CORISO 6DF, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	1.5 2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.5 2.0
UNIPOR WS CORISO 6DF, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	1.2 1.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.2 1.5
Partial safety factor	$\gamma_{Mm}^{(2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR WS CORISO (special shaped)
Brick data, Installation parameters, Characteristic resistance

Annex C 54

Base material hollow masonry: UNIPOR 6DF EWS 365 (special shaped)

Table C 11.40.1: Brick data

Description of brick		771-1-077	UNIPOR 6DF EWS 365 (special shaped)
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.9
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)		[mm]	6DF (118x365x249)

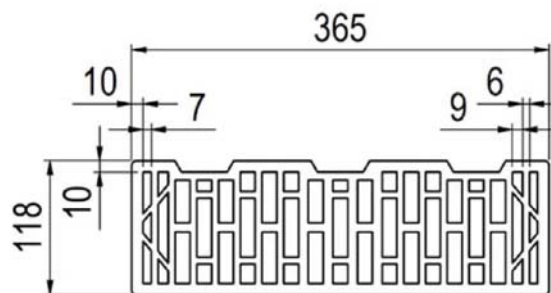


Table C 11.40.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Reveal
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	130 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	65

Table C 11.40.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Reveal
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
UNIPOR 6DF EWS 365 $\geq 12.7 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.9
UNIPOR 6DF EWS 365 $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.75
UNIPOR 6DF EWS 365 $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6
UNIPOR 6DF EWS 365 $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.5
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR 6DF EWS 365 (special shaped)

Brick data, Installation parameters, Characteristic resistance

Annex C 55

Base material hollow masonry: UNIPOR 6DF EW 365 (special shaped)

Table C 11.41.1: Brick data

Description of brick		771-1-074	UNIPOR 6DF EW 365 (special shaped)
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.65
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]		6DF (118x365x249)

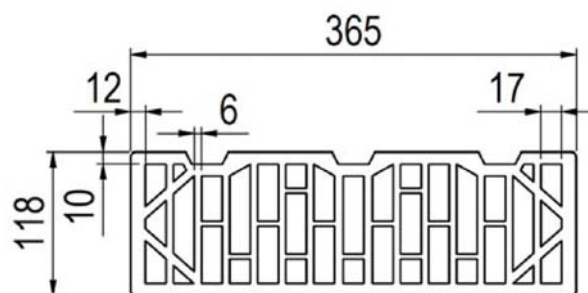


Table C 11.41.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Reveal
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	130 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	65

Table C 11.41.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Reveal
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Mean compressive strength acc. to EN 771		
UNIPOR 6DF EW 365, $\geq 8.89 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.6
UNIPOR 6DF EW 365, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.75
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.6
UNIPOR 6DF EW 365, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.4
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: UNIPOR 6DF EW 365 (special shaped)
Brick data, Installation parameters, Characteristic resistance

Annex C 56

Base material hollow masonry: UNIPOR W08, WH09, WH10 (special shaped)

Table C 11.42.1: Brick data

Description of brick	771-1-122	UNIPOR W08, WH09, WH10 (special shaped)
Type of brick		Hollow brick
Bulk density $\rho \geq$ [kg/dm ³]		0.65
Standard, approval/type-approval		EN 771-1:2011+A1:2015
Producer of brick		ZIZ Ziegel-Innovations-Zentrum GmbH Landsberger Straße 392 D-81241 München
Format (measurement)	[mm]	12DF (248x365x249)

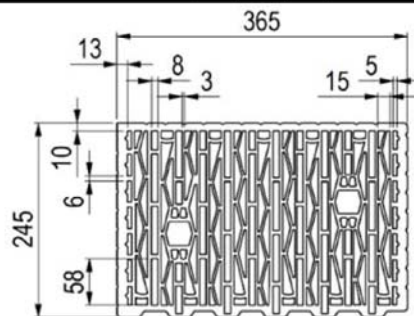


Table C 11.42.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Reveal
Drill hole diameter $d_0 =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		210 / 250 250 / 250
Minimum edge distance $c_{min} \geq$ [mm]		105 135

Table C 11.42.3: Characteristic resistance $F_{Rk}^{(7)(8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Reveal
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{(7)}$ $F_{Rk}^{(7)}$
Mean compressive strength acc. to EN 771		
UNIPOR W08, WH09, WH10, $\geq 9.08 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{(3)} / 50^\circ\text{C}^{(4)}}$ [kN]	1.2 1.5
	$F_{Rk, 50^\circ\text{C}^{(3)} / 80^\circ\text{C}^{(4)}}$ [kN]	1.2 1.5
UNIPOR W08, WH09, WH10, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{(3)} / 50^\circ\text{C}^{(4)}}$ [kN]	0.9 1.2
	$F_{Rk, 50^\circ\text{C}^{(3)} / 80^\circ\text{C}^{(4)}}$ [kN]	0.9 1.2
UNIPOR W08, WH09, WH10, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{(3)} / 50^\circ\text{C}^{(4)}}$ [kN]	0.6 0.9
	$F_{Rk, 50^\circ\text{C}^{(3)} / 80^\circ\text{C}^{(4)}}$ [kN]	0.6 0.9
Partial safety factor $\gamma_{Mm}^{(2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick: UNIPOR W08, WH09, WH10 (special shaped)
Brick data, Installation parameters, Characteristic resistance

Annex C 57

Base material hollow masonry: ThermoPlan MZ7

Table C 11.43.1: Brick data

Description of brick		771-1-052	ThermoPlan MZ7
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.6
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1016:2009-10
Producer of brick			Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)		[mm]	10DF (248x300x249)

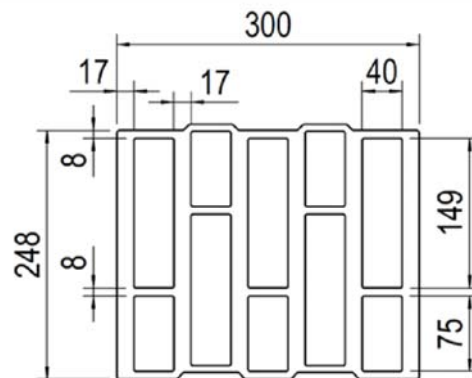


Table C 11.43.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	100 / 100
Minimum edge distance	c _{min} ≥	[mm]	100

Table C 11.43.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
ThermoPlan MZ7, ≥ 8.42 N/mm	$F_{RK}, 30^{\circ}\text{C}^{3)} / 50^{\circ}\text{C}^{4)}$	[kN]	2.0
	$F_{RK}, 50^{\circ}\text{C}^{3)} / 80^{\circ}\text{C}^{4)}$	[kN]	1.2
ThermoPlan MZ7, ≥ 7.5 N/mm ²	$F_{RK}, 30^{\circ}\text{C}^{3)} / 50^{\circ}\text{C}^{4)}$	[kN]	1.5
	$F_{RK}, 50^{\circ}\text{C}^{3)} / 80^{\circ}\text{C}^{4)}$	[kN]	1.2
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan MZ7

Brick data, Installation parameters, Characteristic resistance

Annex C 58

Base material hollow masonry: ThermoPlan MZ70

Table C 11.44.1: Brick data

Description of brick	771-1-100	ThermoPlan MZ70
Type of brick		Hollow brick
Bulk density $\rho \geq$ [kg/dm ³]		0.5
Standard, approval/type-approval		EN 771-1:2011+A1:2015, Z-17.1-1084:2020-01
Producer of brick		Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)	[mm]	12DF (248x365x249)

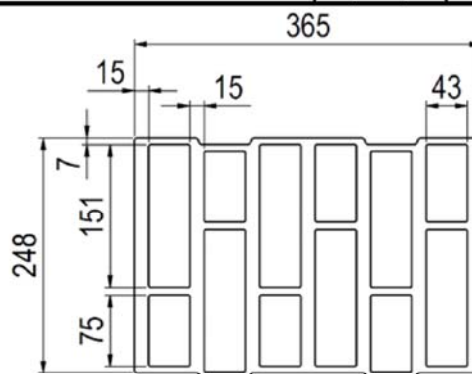


Table C 11.44.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		200 / 250
Minimum edge distance $c_{min} \geq$ [mm]		100

Table C 11.44.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771		
ThermoPlan MZ70, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		0.9
$\geq 7.62 \text{ N/mm}^2$, $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		0.75
ThermoPlan MZ70, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		0.9
$\geq 7.5 \text{ N/mm}^2$, $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		0.75
Partial safety factor $\gamma_{Mm}^{2)}$ [-]		2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan MZ70

Brick data, Installation parameters, Characteristic resistance

Annex C 59

Base material hollow masonry: ThermoPlan MZ70 (special shaped)

Table C 11.45.1: Brick data

Description of brick	771-1-098	ThermoPlan MZ70 (special shaped)
Type of brick		Hollow brick
Bulk density $\rho \geq$ [kg/dm ³]		0.6
Standard, approval/type-approval		EN 771-1:2011+A1:2015
Producer of brick		Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)	[mm]	12DF (248x365x249)

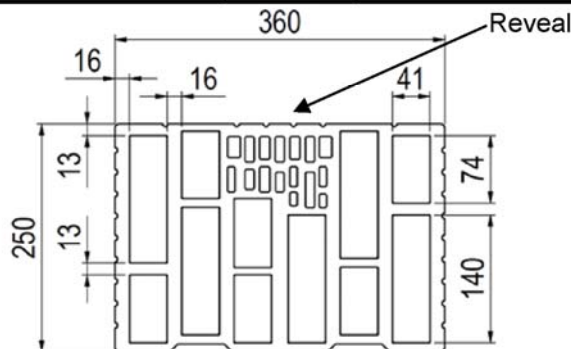


Table C 11.45.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Reveal
Drill hole diameter $d_0 =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		250 / 250
Minimum edge distance $c_{min} \geq$ [mm]		135

Table C 11.45.3: Characteristic resistance F_{Rk} ⁷⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Reveal
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Characteristic resistance for single anchor [kN]		F_{Rk} ⁷⁾
Mean compressive strength acc. to EN 771		
ThermoPlan MZ70, $\geq 10.21 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	4.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	4.0
ThermoPlan MZ70, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	3.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	3.5
ThermoPlan MZ70, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	3.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	3.0
Partial safety factor $\gamma_{Mm}^{2)}$ [-]		2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick: ThermoPlan MZ70 (special shaped)
Brick data, Installation parameters, Characteristic resistance

Annex C 60

Base material hollow masonry: ThermoPlan MZ8

Table C 11.46.1: Brick data

Description of brick		771-1-023	ThermoPlan MZ8
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.65
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-906:2017-06
Producer of brick			Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)		[mm]	12DF (248x365x249)

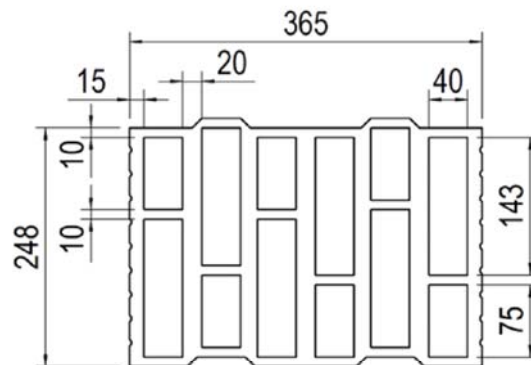


Table C 11.46.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.46.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
ThermoPlan MZ8,	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$	[kN]	1.2
$\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$	[kN]	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan MZ8

Brick data, Installation parameters, Characteristic resistance

Annex C 61

Base material hollow masonry: ThermoPlan MZ10

Table C 11.47.1: Brick data

Description of brick		771-1-034	ThermoPlan MZ10
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.75
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1015:2017-05
Producer of brick			Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)		[mm]	10DF (248x300x249)

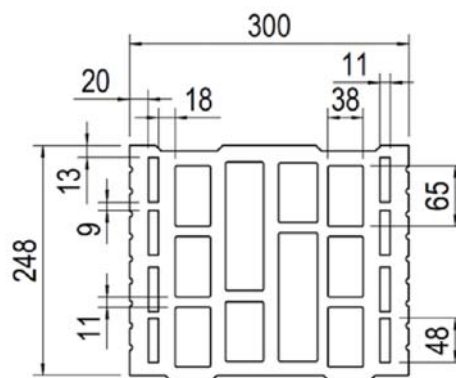


Table C 11.47.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	100 / 100
Minimum edge distance	c _{min} ≥	[mm]	100

Table C 11.47.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
ThermoPlan MZ10, ≥ 10.0 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	2.0
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.5
ThermoPlan MZ10, ≥ 7.5 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.5
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.2
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan MZ10

Brick data, Installation parameters, Characteristic resistance

Annex C 62

Base material hollow masonry: ThermoPlan MZ (special shaped)

Table C 11.48.1: Brick data

Description of brick		771-1-081	ThermoPlan MZ (special shaped)
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.8
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)		[mm]	6DF (119x365x249)

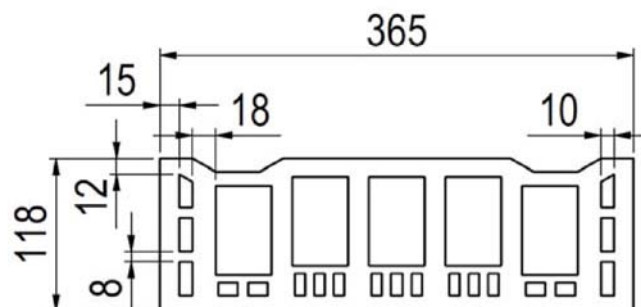


Table C 11.48.2: Installation parameters

Anchor size			8	10
Installation site ⁶⁾			Reveal	Reveal
Drill hole diameter	$d_0 =$	[mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80	80
Drill method		[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	110 / 250	120 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	55	60

Table C 11.48.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size			8	10
Installation site ⁶⁾			Reveal	Reveal
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Characteristic resistance for single anchor		[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771				
ThermoPlan MZ, $\geq 8.01 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.2	2.0
ThermoPlan MZ, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	1.2	2.0
ThermoPlan MZ, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.2	2.0
ThermoPlan MZ, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	1.2	2.0
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan MZ (special shaped)

Brick data, Installation parameters, Characteristic resistance

Annex C 63

Base material hollow masonry: ThermoPlan S8/S9/SX (special shaped)

Table C 11.49.1: Brick data

Description of brick		771-1-101	ThermoPlan S8/S9/SX (special shaped)
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)		[mm]	12DF (248x365x249)

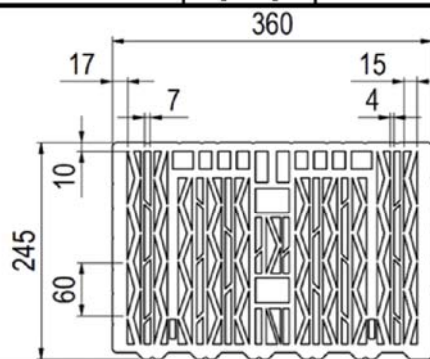


Table C 11.49.2: Installation parameters

Anchor size		8		
Installation site ⁶⁾		Inside / Outside	Reveal	Reveal
Drill hole diameter	$d_0 =$	[mm]	8	
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80	
Drill method		[-]	Rotary drilling	
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5	
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$		200 / 250	160 / 250
Minimum allowable edge distance	$c_{min} \geq$	[mm]	100	80

Table C 11.49.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size		8		
Installation site ⁶⁾		Inside / Outside	Reveal	Reveal
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	
Characteristic resistance for single anchor		[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771				
ThermoPlan S8/S9/SX, $\geq 10.55 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2	2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.75	2.0
ThermoPlan S8/S9/SX, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2	2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.75	2.0
ThermoPlan S8/S9/SX, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.75	1.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6	1.5
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan S8/S9/SX (special shaped)

Brick data, Installation parameters, Characteristic resistance

Annex C 64

Base material hollow masonry: ThermoPlan S8/S9/SX (special shaped)

Table C 11.50.1: Brick data

Description of brick		771-1-102	ThermoPlan S8/S9/SX (special shaped)
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.8
Standard, approval/type-approval			EN 771-1:2011+A1:2015;
Producer of brick			Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)		[mm]	6DF (123x365x249)

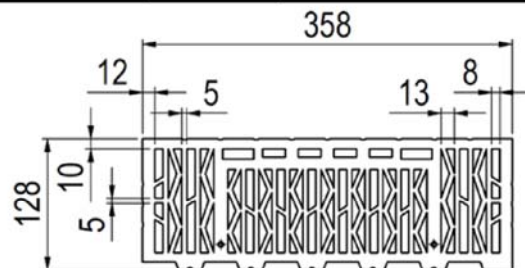


Table C 11.50.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Reveal
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}		170 / 250
Minimum edge distance	c _{min} ≥	[mm]	85

Table C 11.50.3: Characteristic resistance $F_{Rk}^{7)8)}$ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Reveal
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Characteristic resistance for single anchor		[kN]	F_{Rk} ⁷⁾
Mean compressive strength acc. to EN 771			
ThermoPlan S8/S9/SX, ≥ 14.31 N/mm ²	$F_{Rk}, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.5
	$F_{Rk}, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.5
ThermoPlan S8/S9/SX, ≥ 12.5 N/mm ²	$F_{Rk}, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.5
	$F_{Rk}, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.5
ThermoPlan S8/S9/SX, ≥ 10.0 N/mm ²	$F_{Rk}, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.2
	$F_{Rk}, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.2
ThermoPlan S8/S9/SX, ≥ 7.5 N/mm ²	$F_{Rk}, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	0.9
	$F_{Rk}, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	0.9
Partial safety factor	γ_{Mm} ²⁾	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan S8/S9/SX (special shaped)

Brick data, Installation parameters, Characteristic resistance

Annex C 65

Base material hollow masonry: ThermoPlan TS²

Table C 11.51.1: Brick data

Description of brick		771-1-024	ThermoPlan TS ²
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.85
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-993:2015-09
Producer of brick			Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)		[mm]	9DF (373x175x249)

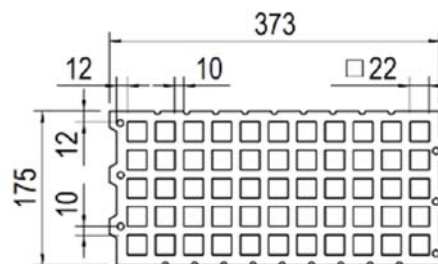


Table C 11.51.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	100 / 100	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	100	100

Table C 11.51.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Mean compressive strength acc. to EN 771			
ThermoPlan TS ² , $\geq 17.32 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0	2.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.2	1.5
ThermoPlan TS ² , $\geq 16.7 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	1.5	2.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.2	1.5
ThermoPlan TS ² , $\geq 12.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	1.2	1.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.9	1.2
ThermoPlan TS ² , $\geq 10.4 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.9	1.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.6	0.9
ThermoPlan TS ² , $\geq 8.3 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.9	1.2
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.6	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan TS²

Brick data, Installation parameters, Characteristic resistance

Annex C 66

Base material hollow masonry: ThermoPlan TS 13

Table C 11.52.1: Brick data

Description of brick		771-1-035	ThermoPlan TS 13
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.8
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-914:2011-03
Producer of brick			Mein Ziegelhaus GmbH & Co. KG Märkerstraße 44 D-63755 Alzenau
Format (measurement)		[mm]	10DF (247x300x249)

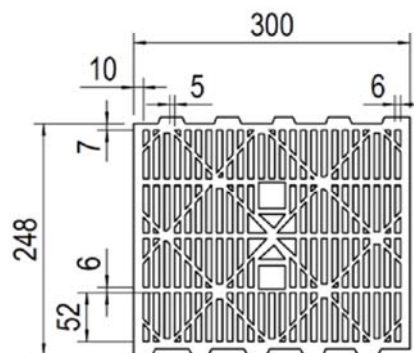


Table C 11.52.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$	[mm]
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]
Depth of drill hole to deepest point	$h_1 \geq$	[mm]
Drill method		[-]
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]
Minimum edge distance	$c_{min} \geq$	[mm]

Table C 11.52.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]
Mean compressive strength acc. to EN 771		
ThermoPlan TS 13, $\geq 11.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]
ThermoPlan TS 13, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]
ThermoPlan TS 13, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: ThermoPlan TS 13

Brick data, Installation parameters, Characteristic resistance

Annex C 67

Base material hollow masonry: THERMOPOR ISO-PD Plus

Table C 11.53.1: Brick data

Description of brick		771-1-028	THERMOPOR ISO-PD Plus
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-840:2015-04
Producer of brick			Thermopor Ziegel-Kontor Ulm GmbH Olgastraße 94 D-89073 Ulm
Format (measurement)		[mm]	10DF (247x300x249)

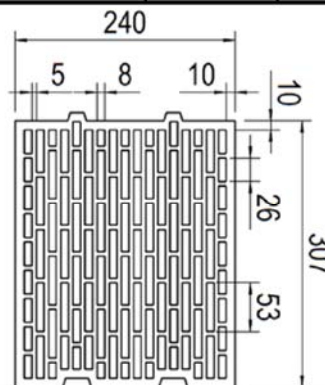


Table C 11.53.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.53.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
THERMOPOR ISO-PD Plus, ≥ 10.73 N/mm ²	$F_{RK, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	0.75
	$F_{RK, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.6
THERMOPOR ISO-PD Plus, ≥ 10.0 N/mm ²	$F_{RK, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	0.6
	$F_{RK, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.5
THERMOPOR ISO-PD Plus, ≥ 7.5 N/mm ²	$F_{RK, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	0.6
	$F_{RK, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.4
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: THERMOPOR ISO-PD Plus

Brick data, Installation parameters, Characteristic resistance

Annex C 68

Base material hollow masonry: THERMOPOR TV 7-Plan

Table C 11.54.1: Brick data

Description of brick	771-1-030	THERMOPOR TV 7-Plan
Type of brick		Hollow brick
Bulk density $\rho \geq$ [kg/dm ³]		0.5
Standard, approval/type-approval		EN 771-1:2011+A1:2015, Z-17.1-1005:2018-11
Producer of brick		Thermopor Ziegel-Kontor Ulm GmbH Olgastraße 94 D-89073 Ulm
Format (measurement)	[mm]	12DF (247x365x249)

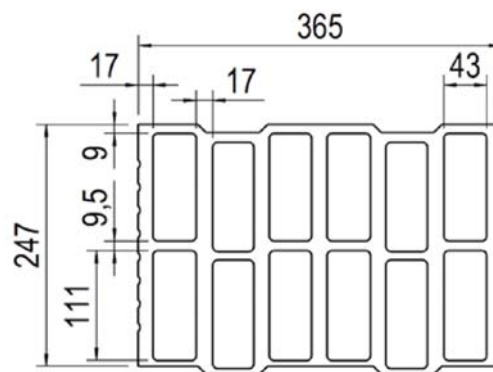


Table C 11.54.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter $d_o =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		100 / 100
Minimum edge distance $c_{min} \geq$ [mm]		100

Table C 11.54.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771		
THERMOPOR TV 7-Plan, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		0.9
$\geq 5.59 \text{ N/mm}^2$, $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		0.9
THERMOPOR TV 7-Plan, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		0.9
$\geq 5.0 \text{ N/mm}^2$, $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		0.9
Partial safety factor $\gamma_{Mm}^{2)}$ [-]		2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: THERMOPOR TV 7-Plan

Brick data, Installation parameters, Characteristic resistance

Annex C 69

Base material hollow masonry: THERMOPOR TV 9-Plan

Table C 11.55.1: Brick data

Description of brick	771-1-029	THERMOPOR TV 9-Plan
Type of brick		Hollow brick
Bulk density $\rho \geq$ [kg/dm ³]		0.75
Standard, approval/type-approval		EN 771-1:2011+A1:2015; Z-17.1-1006:2019-01
Producer of brick		Thermopor Ziegel-Kontor Ulm GmbH Olgastraße 94 D-89073 Ulm
Format (measurement)	[mm]	10DF (247x300x249)

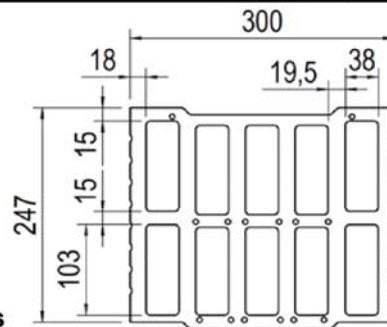


Table C 11.55.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		100 / 100
Minimum edge distance $c_{min} \geq$ [mm]		100

Table C 11.55.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771		
THERMOPOR TV 9-Plan, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		2.0
$\geq 13.75 \text{ N/mm}^2$ $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		1.5
THERMOPOR TV 9-Plan, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		2.0
$\geq 12.5 \text{ N/mm}^2$ $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		1.5
THERMOPOR TV 9-Plan, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		1.5
$\geq 10.0 \text{ N/mm}^2$ $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		1.2
THERMOPOR TV 9-Plan, $F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]		1.2
$\geq 7.5 \text{ N/mm}^2$ $F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]		0.9
Partial safety factor $\gamma_{Mm}^{2)}$ [-]		2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: THERMOPOR TV 9-Plan

Brick data, Installation parameters, Characteristic resistance

Annex C 70

Base material hollow masonry: Kellerer ZMK-P 7.5

Table C 11.57.1: Brick data

Description of brick		771-1-068	Kellerer ZMK-P 7.5
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.6
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1012:2016-06
Producer of brick			Ziegelsystem Michael Kellerer GmbH & Co KG Ziegeleistraße 13 D-82281 Egenhofen
Format (measurement)	[mm]		12DF (247x365x249)

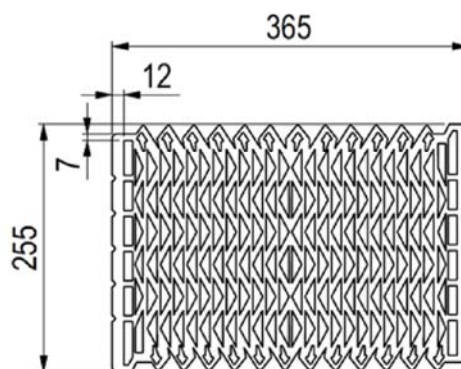


Table C 11.57.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$ [mm]		8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]		80
Drill method	[-]		Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]		200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]		100

Table C 11.57.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771			
Kellerer ZMK-P 7.5, $\geq 6.83 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]		0.75
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]		0.6
Kellerer ZMK-P 7.5, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]		0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]		0.4
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]		2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: Kellerer ZMK-P-7.5

Brick data, Installation parameters, Characteristic resistance

Annex C 72

Base material hollow masonry: Kellerer ZMK X6

Table C 11.58.1: Brick data

Description of brick		771-1-049	Kellerer ZMK X6
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.55
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1067:2020-04
Producer of brick			Ziegelsystem Michael Kellerer GmbH & Co KG Ziegeleistraße 13 D-82281 Egenhofen
Format (measurement)		[mm]	10DF (247x300x249)

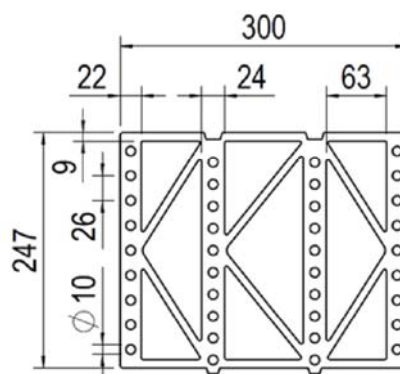


Table C 11.58.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.58.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Kellerer ZMK X6, $\geq 7.22 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.2
Kellerer ZMK X6, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.75
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.75
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: Kellerer ZMK X6

Brick data, Installation parameters, Characteristic resistance

Annex C 73

Base material hollow masonry: Kellerer ZMK TX8

Table C 11.59.1: Brick data

Description of brick		771-1-050	Kellerer ZMK TX8
Type of brick			Hollow brick
Bulk density	$\rho \geq$ [kg/dm ³]		0.6
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1068:2020-04
Producer of brick			Ziegelsystem Michael Kellerer GmbH & Co KG Ziegeleistraße 13 D-82281 Egenhofen
Format (measurement)	[mm]		10DF (247x300x249)

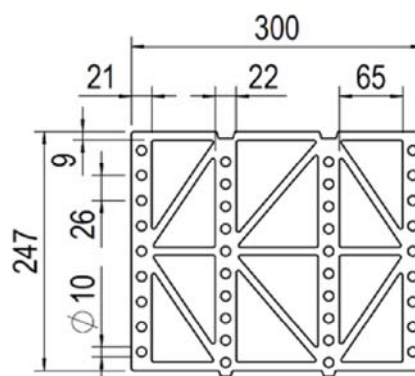


Table C 11.59.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	100 / 100
Minimum edge distance	$c_{min} \geq$ [mm]	100

Table C 11.59.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Mean compressive strength acc. to EN 771		
Kellerer ZMK TX8, ≥ 7.66 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	1.2
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	1.2
Kellerer ZMK TX8, ≥ 7.5 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	1.2
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	1.2
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick: Kellerer ZMK TX8
Brick data, Installation parameters, Characteristic resistance

Annex C 74

Base material hollow masonry: Eder XV 7.5 S

Table C 11.59.4: Brick data

Description of brick		771-1-130	Eder XV 7.5 S
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.75
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-1175:2018-10
Producer of brick			Ziegelwerk Freital Eder GmbH Wilsdruffer Straße 25 01705 Freital
Format (measurement)		[mm]	10DF (200x365x249)

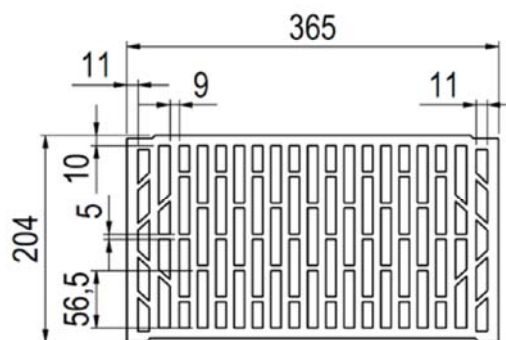


Table C 11.59.5: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.59.6: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Eder XV 7.5 S, $\geq 9.16 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.5
Eder XV 7.5 S, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.2
Eder XV 7.5 S, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: Eder XV 7.5 S

Brick data, Installation parameters, Characteristic resistance

Annex C 75

Base material hollow masonry: Eder XP 9

Table C 11.61.1: Brick data

Description of brick		771-1-131	Eder XP 9
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-1:2011+A1:2015; Z-17.1-892:2017-07
Producer of brick			Ziegelwerk Freital Eder GmbH Wilsdruffer Straße 25 01705 Freital
Format (measurement)		[mm]	10DF (200x365x249)

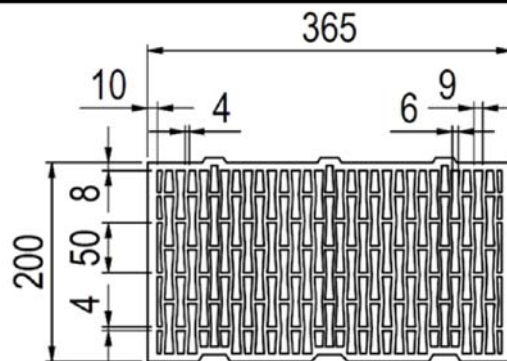


Table C 11.61.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.61.3: Characteristic resistance F_{RK} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Eder XP 9, $\geq 11.53 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.75
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6
Eder XP 9, $\geq 10.0 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.6
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.5
Eder XP 9, $\geq 7.5 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.5
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.4
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: Eder XP 9

Brick data, Installation parameters, Characteristic resistance

Annex C 76

Base material hollow masonry: Ladrillo P NV R150

Table C 11.62.1: Brick data

Description of brick		771-1-017	Hollow brick Ladrillo P NV R150
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm ³]	1.2
Standard, approval/type-approval			EN 771-1:2011+A1:2015
Producer of brick			Ceramica La Corona, S.A. Carreta de Caldes, km 8, 9 08420 Canovelles, Spain
Format (measurement)		[mm]	2DF (278x135x95)

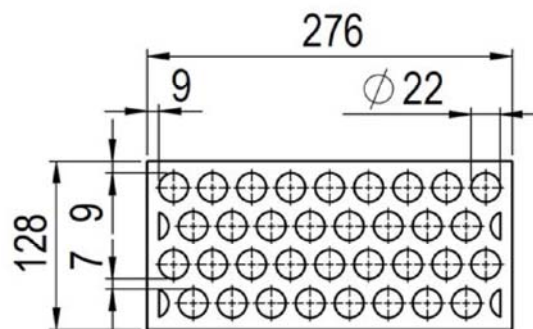


Table C 11.62.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	100 / 100
Minimum edge distance	c _{min} ≥	[mm]	100

Table C 11.62.3: Characteristic resistance F_{RK} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Installation site ⁶⁾			Inside / Outside
Mean compressive strength acc. to EN 771			
Ladrillo P NV R150, ≥ 46.17 N/mm ²	$F_{RK, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	2.0
	$F_{RK, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	1.2
Ladrillo P NV R150, ≥ 35.0 N/mm ²	$F_{RK, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	1.2
	$F_{RK, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.9
Ladrillo P NV R150, ≥ 25.0 N/mm ²	$F_{RK, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	0.9
	$F_{RK, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.75
Ladrillo P NV R150, ≥ 15.0 N/mm ²	$F_{RK, 30^{\circ}C^3) / 50^{\circ}C^4)}$	[kN]	0.6
	$F_{RK, 50^{\circ}C^3) / 80^{\circ}C^4)}$	[kN]	0.5
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick: Ladrillo P NV R150

Brick data, Installation parameters, Characteristic resistance

Annex C 77

Base material solid masonry, sand-lime solid brick: KS, NF

Table C 11.63.1: Brick data

Description of brick		771-2-002	KS
Type of brick			Sand-lime solid brick
Bulk density	$\rho \geq$	[kg/dm ³]	2.0
Standard, approval/type-approval			EN 771-2:2011+A1:2015
Producer of brick			-
Format (measurement)		[mm]	\geq NF (\geq 240x115x71)
Minimum thickness of member	$h_{\min} =$	[mm]	115

Table C 11.63.2: Installation parameters

Anchor size		8		10	
Installation site ⁶⁾		Inside / Outside		Inside / Outside	
Drill hole diameter	$d_0 =$	[mm]		8	
Cutting diameter of drill bit	$d_{\text{cut}} \leq$	[mm]		8.45	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]		60	80
Drill method		[-]		Hammer drilling	
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$	[mm]		50	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]		8.5	
Spacing perpendicular to free edge	$s_{1,\text{min}}$	[mm]		100	100
Spacing parallel to free edge	$s_{2,\text{min}}$	[mm]		100	100
Minimum edge distance	$c_{\min} \geq$	[mm]		100	100

Table C 11.63.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8		10	
Installation site ⁶⁾		Inside / Outside		Inside / Outside	
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$	[mm]		50	70
Mean compressive strength acc. to EN 771					
Sand-lime solid brick KS, $\geq 40.71 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]		3.5	6.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]		3.0	4.0
Sand-lime solid brick KS, $\geq 35.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]		3.0	5.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]		2.5	3.5
Sand-lime solid brick KS, $\geq 25.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]		2.0	3.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]		1.5	2.5
Sand-lime solid brick KS, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]		2.0	3.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]		1.5	2.0
Sand-lime solid brick KS, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]		1.2	2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]		0.9	1.5
Sand-lime solid brick KS, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]		1.2	1.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]		0.9	0.75
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]		2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Sand-lime solid brick: KS, NF
Brick data, Installation parameters, Characteristic resistance

Annex C 78

Base material solid masonry, sand-lime solid brick: KS, 4DF

Table C 11.64.1: Brick data

Description of brick		771-2-045	KS
Type of brick			Sand-lime solid brick
Bulk density	$\rho \geq$ [kg/dm ³]		1.8
Standard, approval/type-approval			EN 771-2:2011+A1:2015
Producer of brick			-
Format (measurement)	[mm]		$\geq 4DF (\geq 248 \times 115 \times 248)$
Minimum thickness of member	$h_{min} =$ [mm]		115 (Reveal = 248)

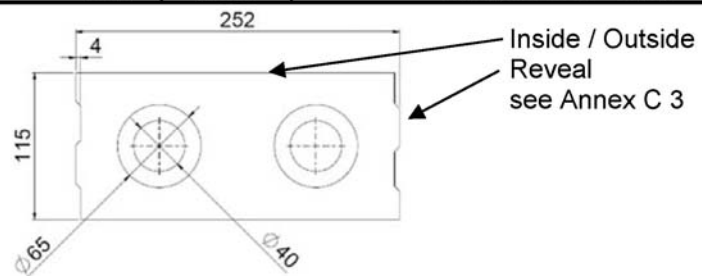


Table C 11.64.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Reveal
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80	80
Drill method	[-]	Hammer drilling	Hammer drilling
Overall plastic anchor embedment depth	$h_{nom} \geq$ [mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	200 / 250	70 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	100	35

Table C 11.64.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Reveal
Overall plastic anchor embedment depth	$h_{nom} \geq$ [mm]	70	70
Mean compressive strength acc. to EN 771			
Sand-lime solid brick KS, $\geq 26.93 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5	2.0
Sand-lime solid brick KS, $\geq 25.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2	2.0
Sand-lime solid brick KS, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.5	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2	1.5
Sand-lime solid brick KS, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.2	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.9	1.2
Sand-lime solid brick KS, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.6	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime solid brick: KS, 4DF

Brick data, Installation parameters, Characteristic resistance

Annex C 79

Base material solid masonry, sand-lime solid brick: Silka XL Basic, Silka XL Plus

Table C 11.65.1: Brick data

Description of brick		771-2-010	Silka XL Basic, Silka XL Plus
Type of brick			Sand-lime solid brick
Bulk density	$\rho \geq$ [kg/dm ³]		2.0
Standard, approval/type-approval			EN 771-2:2011+A1:2015; Z-17.1-997:2016-09
Producer of brick			Xella Deutschland GmbH Dr.-Hammacher-Str. 49 D-47119 Duisburg
Format (measurement)	[mm]		$\geq 248 \times 175 \times 498$
Minimum thickness of member	$h_{\min} =$ [mm]		175

Table C 11.65.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{\text{cut}} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80	80
Drill method	[-]	Hammer drilling	Hammer drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,\text{min}}/s_{2,\text{min}}$ [mm]	100 / 100	100 / 100
Minimum edge distance	$c_{\text{min}} \geq$ [mm]	50	50

Table C 11.65.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside Reveal	Inside / Outside Reveal
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	70	70
Mean compressive strength acc. to EN 771			
Sand-lime solid brick Silka XL Basic, Silka XL Plus, $\geq 39.06 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	5.0	6.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	5.0	6.0
Sand-lime solid brick Silka XL Basic, Silka XL Plus, $\geq 35.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	4.5	5.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	4.5	5.5
Sand-lime solid brick Silka XL Basic, Silka XL Plus, $\geq 25.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	3.0	4.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	3.0	4.0
Sand-lime solid brick Silka XL Basic, Silka XL Plus, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.5	3.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	2.5	3.0
Sand-lime solid brick Silka XL Basic, Silka XL Plus, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	2.0	1.5
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime solid brick: Silka XL Basic, Silka XL Plus

Brick data, Installation parameters, Characteristic resistance

Annex C 80

Base material hollow masonry, sand-lime perforated brick: KS L, 2DF

Table C 11.66.1: Brick data

Description of brick	771-2-003 771-2-004	KS L
Type of brick		Sand-lime perforated brick
Bulk density $\rho \geq$ [kg/dm ³]		1.4
Standard, approval/type-approval		EN 771-2:2011+ A1:2015
Producer of brick		-
Format (measurement)	[mm]	2DF (240x115x113)

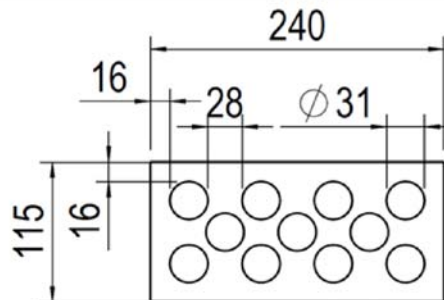


Table C 11.66.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8	10
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45	10.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		60	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		50	70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5	10.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		100 / 100	100 / 100
Minimum edge distance $c_{min} \geq$ [mm]		100	100

Table C 11.66.3: Characteristic resistance $F_{Rk}^{1)5)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth h_{nom} [mm]		$\geq 50^{5)}$	$\geq 50^{5)}$
Mean compressive strength acc. to EN 771			
Sand-lime perforated brick KS L, $\geq 22.61 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.5	2.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2	2.5
Sand-lime perforated brick KS L, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.5	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2	0.9
Sand-lime perforated brick KS L, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.9	0.75
Sand-lime perforated brick KS L, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.75	0.6
Sand-lime perforated brick KS L, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.75	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.6	0.6
Partial safety factor $\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime perforated brick: KS L, 2DF

Brick data, Installation parameters, Characteristic resistance

Annex C 81

Base material hollow masonry, sand-lime perforated brick: KS L, 8DF

Table C 11.67.1: Brick data

Description of brick		771-2-005 771-2-013	KS L
Type of brick			Sand-lime perforated brick
Bulk density	$\rho \geq$ [kg/dm ³]		1.4
Standard, approval/type-approval			EN 771-2:2011+ A1:2015
Producer of brick			e.g. Xella Deutschland GmbH
Format (measurement)	[mm]		8DF (248x240x238)

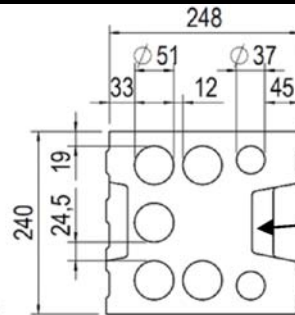


Table C 11.67.2: Installation parameters

Anchor size		8		10
Installation site ⁶⁾		Inside / Outside	Reveal	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8		10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45		10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80		80
Drill method	[-]	Rotary drilling		Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70		70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5		10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	100 / 100	90 / 250	100 / 100
Minimum edge distance	$c_{min} \geq$ [mm]	60	45	100

Table C 11.67.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8		10
Installation site ⁶⁾		Inside / Outside	Reveal	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70	70
Mean compressive strength acc. to EN 771				
Sand-lime perforated brick KS L, $\geq 21.11 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0	⁹⁾	2.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5	⁹⁾	2.0
Sand-lime perforated brick KS L, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0	⁹⁾	2.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5	⁹⁾	1.5
Sand-lime perforated brick KS L, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.5	2.0	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2	2.0	1.2
Sand-lime perforated brick KS L, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.2	2.0	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.9	2.0	0.9
Sand-lime perforated brick KS L, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	1.5	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.75	1.5	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5		

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime perforated brick: KS L, 8DF

Brick data, Installation parameters, Characteristic resistance

Annex C 82

Base material hollow masonry, sand-lime perforated brick: KS L, 12DF

Table C 11.68.1: Brick data

Description of brick		771-2-001	KS L
Type of brick			Sand-lime perforated brick
Bulk density	$\rho \geq$	[kg/dm ³]	1.4
Standard, approval/type-approval			EN 771-2:2011+ A1:2015
Producer of brick			-
Format (measurement)		[mm]	12DF (377x240x238)

Installation site Reveal:
Setting the anchor in the area of the handle hole is not permitted!

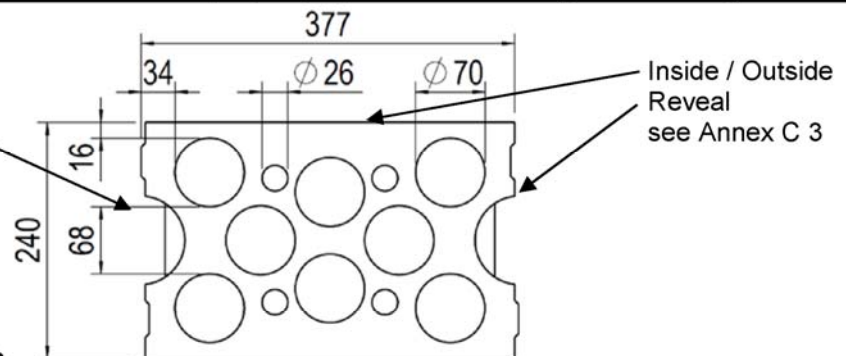


Table C 11.68.2: Installation parameters

Anchor size		8		
Installation site ⁶⁾		Inside / Outside		Reveal
Drill hole diameter	$d_0 =$	[mm]	8	
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	60	80
Drill method		[-]	Rotary drilling	
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	50	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5	
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	200 / 250	100 / 250
Minimum allowable edge distance	$c_{min} \geq$	[mm]	100	50

Table C 11.68.3: Characteristic resistance F_{Rk} ¹⁾⁵⁾⁸⁾ in [kN] for single anchor

Anchor size		8		
Installation site ⁶⁾		Inside / Outside		Reveal
Overall plastic anchor embedment depth	h_{nom}	[mm]	$\geq 50^5)$	
Mean compressive strength acc. to EN 771				
Sand-lime perforated brick KS L, $\geq 18.85 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	2.0	3.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.5	2.0
Sand-lime perforated brick KS L, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.5	2.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.2	1.5
Sand-lime perforated brick KS L, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.9	1.5
Sand-lime perforated brick KS L, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.75	1.2
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime perforated brick: KS L, 12DF

Brick data, Installation parameters, Characteristic resistance

Annex C 83

Base material hollow masonry, sand-lime perforated brick KS L, 12DF

Table C 11.68.4: Brick data

Description of brick		771-2-001	KS L
Type of brick			Sand-lime perforated brick
Bulk density	$\rho \geq$	[kg/dm ³]	1.4
Standard, approval/type-approval			EN 771-2:2011+ A1:2015
Producer of brick			-
Format (measurement)		[mm]	12DF (377x240x238)

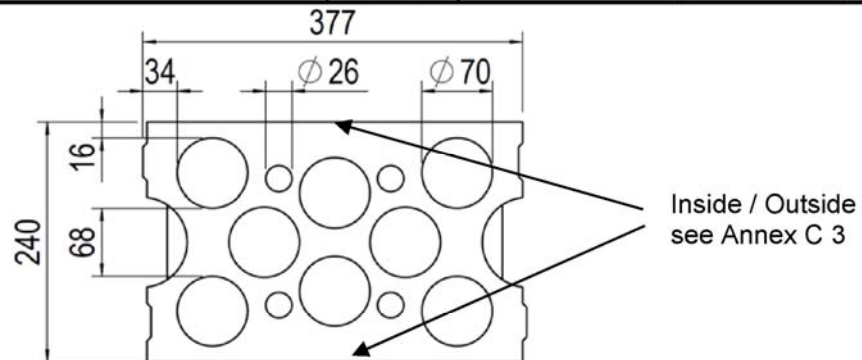


Table C 11.68.5: Installation parameters

Anchor size		10	
Installation site ⁶⁾		Inside / Outside	
Drill hole diameter	$d_0 =$	[mm]	10
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	10.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	60 80
Drill method		Rotary drilling	
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	50 70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	200 / 250 200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	100 100

Table C 11.68.6: Characteristic resistance F_{Rk} ¹⁾⁵⁾⁸⁾ in [kN] for single anchor

Anchor size		10	
Installation site ⁶⁾		Inside / Outside	
Overall plastic anchor embedment depth	h_{nom}	[mm]	$\geq 50^{5)}$ = 70
Mean compressive strength acc. to EN 771			
Sand-lime perforated brick KS L, $\geq 18.85 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.5 2.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.9 1.5
Sand-lime perforated brick KS L, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2 2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.75 1.2
Sand-lime perforated brick KS L, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2 1.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6 0.9
Sand-lime perforated brick KS L, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9 1.2
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.5 0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime perforated brick: KS L, 12DF

Brick data, Installation parameters, Characteristic resistance

Annex C 84

Base material hollow masonry, sand-lime perforated brick: KS L, 9DF

Table C 11.69.1: Brick data

Description of brick		771-2-008	KS L
Type of brick			Sand-lime perforated brick
Bulk density	$\rho \geq$	[kg/dm ³]	1.4
Standard, approval/type-approval			EN 771-2:2011+ A1:2015
Producer of brick			Xella Deutschland GmbH Dr.-Hammacher-Str. 49 D-47119 Duisburg
Format (measurement)		[mm]	9DF (373x175x238)

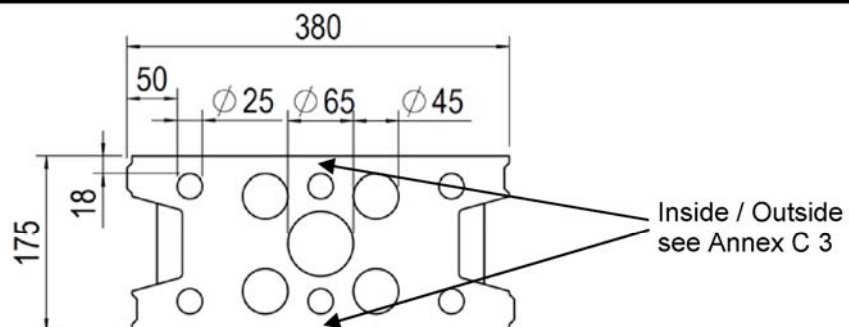


Table C 11.69.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$	[mm] 8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm] 8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm] 80
Drill method		[-] Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm] 8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm] 100 / 100
Minimum edge distance	$c_{min} \geq$	[mm] 100

Table C 11.69.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Mean compressive strength acc. to EN 771		
Sand-lime perforated brick KS L, $\geq 31.90 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 1.2
Sand-lime perforated brick KS L, $\geq 25.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.9
Sand-lime perforated brick KS L, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.75
Sand-lime perforated brick KS L, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 0.75
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-] 2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime perforated brick: KS L, 9DF

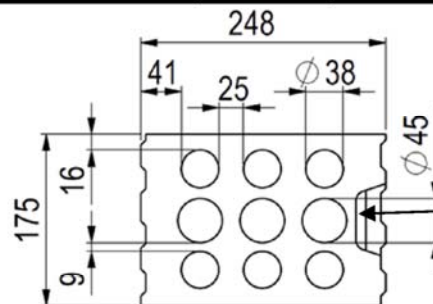
Brick data, Installation parameters, Characteristic resistance

Annex C 85

Base material hollow masonry, sand-lime perforated brick: KSL-R(P)

Table C 11.70.1: Brick data

Description of brick		771-2-039	KSL-R(P)
Type of brick			Sand-lime perforated brick
Bulk density	$\rho \geq$ [kg/dm ³]		1.6
Standard, approval/type-approval			EN 771-2:2011+ A1:2015
Producer of brick			H+H Deutschland GmbH Industriestr. 3, 23829 Wittenborn
Format (measurement)	[mm]		6DF (248x175x248)



Installation site Reveal:
Setting the anchor in the area of the handle hole is not permitted!

Table C 11.70.2: Installation parameters

Anchor size		8		
Installation site ⁶⁾		Inside / Outside	Reveal	Reveal
Drill hole diameter	$d_0 =$ [mm]	8		
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45		
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80		
Drill method	[-]	Rotary drilling		
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70		
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5		
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	130 / 250	80 / 250	180 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	65	40	90

Table C 11.70.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size		8		
Installation site ⁶⁾		Inside / Outside	Reveal	Reveal
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70		
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771				
Sand-lime perforated brick KSL-R(P) $\geq 17.71 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	3.0	2.5	6.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	2.0	2.5	6.0
Sand-lime perforated brick KSL-R(P) $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.5	2.0	5.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5	2.0	5.0
Sand-lime perforated brick KSL-R(P) $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0	1.5	4.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5	1.5	4.0
Sand-lime perforated brick KSL-R(P) $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.5	1.5	3.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.2	1.5	3.5
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5		

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime perforated brick: KSL-R(P)

Brick data, Installation parameters, Characteristic resistance

Annex C 86

Base material hollow masonry, sand-lime perforated brick: KS L, 12DF

Table C 11.72.1: Brick data

Description of brick	771-2-044	KS L
Type of brick		Sand-lime perforated brick
Bulk density $\rho \geq$ [kg/dm ³]		1.2
Standard, approval/type-approval		EN 771-2:2011+ A1:2015
Producer of brick		H+H Deutschland GmbH Industriestr. 3 23829 Wittenborn
Format (measurement)	[mm]	12DF (498x175x249)

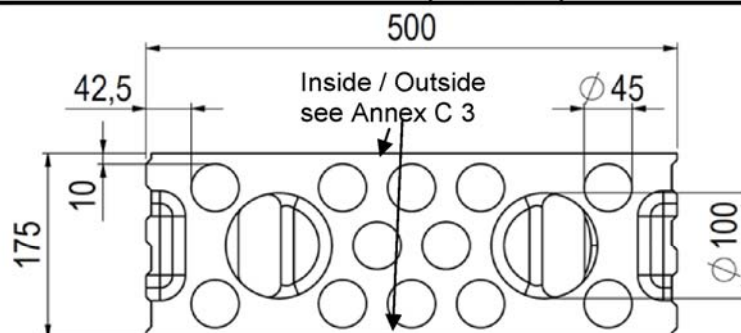


Table C 11.72.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter $d_0 =$ [mm]		8
Cutting diameter of drill bit $d_{cut} \leq$ [mm]		8.45
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		8.5
Spacing perpendicular / parallel to free edge $s_{1,min}/s_{2,min}$ [mm]		240 / 250
Minimum edge distance $c_{min} \geq$ [mm]		120

Table C 11.72.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth $h_{nom} =$ [mm]		70
Mean compressive strength acc. to EN 771		
Sand-lime perforated brick KS L, $\geq 17.86 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.5
Sand-lime perforated brick KS L, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.2
Sand-lime perforated brick KS L, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.9
Sand-lime perforated brick KS L, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.9
Partial safety factor $\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime perforated brick: KS L, 12DF

Brick data, Installation parameters, Characteristic resistance

Annex C 88

Base material hollow masonry, sand-lime perforated brick: KS-NT, 4DF

Table C 11.73.1: Brick data

Description of brick		771-2-009	KS-NT
Type of brick			Sand-lime perforated brick
Bulk density	$\rho \geq$	[kg/dm ³]	1.2
Standard, approval/type-approval			-
Producer of brick			BMO KS-Vertrieb Bielefeld-Münster-Osnabrück GmbH & Co. KG Averdiekstr. 9; D-49078 Osnabrück
Format (measurement)		[mm]	4DF (248x115x248)

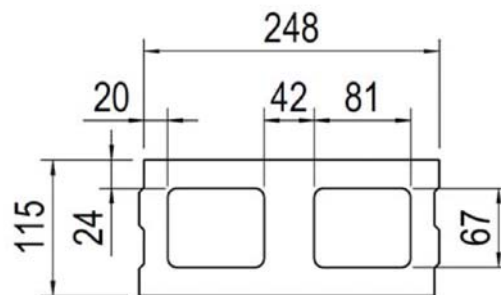


Table C 11.73.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	100 / 100
Minimum edge distance	c _{min} ≥	[mm]	100

Table C 11.73.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Sand-lime perforated brick KS-NT, ≥ 24.92 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	2.5
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	2.0
Sand-lime perforated brick KS-NT, ≥ 20.0 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	2.0
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.5
Sand-lime perforated brick KS-NT, ≥ 15.0 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.5
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	0.9
Sand-lime perforated brick KS-NT, ≥ 12.5 N/mm ²	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.2
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Sand-lime perforated brick: KS-NT, 4DF

Brick data, Installation parameters, Characteristic resistance

Annex C 89

Base material solid masonry, Concrete solid block: Vbn, NF

Table C 11.74.1: Brick data

Description of brick		771-3-004	Vbn
Type of brick			Concrete solid block Vbn
Bulk density	$\rho \geq$ [kg/dm ³]		2.0
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			-
Format (measurement)	[mm]		\geq NF ($\geq 240 \times 115 \times 71$)
Minimum thickness of member	$h_{\min} =$ [mm]		115

Table C 11.74.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{\text{cut}} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	60 80	60 80
Drill method	[-]	Hammer drilling	Hammer drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	50 70	50 70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular to free edge	$s_{1,\text{min}}$ [mm]	80	100 100
Spacing parallel to free edge	$s_{2,\text{min}}$ [mm]	80	100 100
Minimum edge distance	$c_{\text{min}} \geq$ [mm]	100	100 100

Table C 11.74.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	50 70	50 70
Mean compressive strength acc. to EN 771			
Concrete solid block Vbn, $\geq 39.82 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	5.0 5.5	3.0 5.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	4.0 5.0	2.0 5.5
Concrete solid block Vbn, $\geq 35.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	4.5 4.5	2.5 5.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	3.5 4.0	1.5 4.5
Concrete solid block Vbn, $\geq 25.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	3.0 3.5	2.0 3.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	2.5 3.0	1.2 3.5
Concrete solid block Vbn, $\geq 20.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.5 2.5	1.5 3.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	2.0 2.5	0.9 2.5
Concrete solid block Vbn, $\geq 15.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0 2.0	0.9 2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5 2.0	0.75 2.0
Concrete solid block Vbn, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.2 1.2	0.6 1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.9 1.2	0.5 1.2
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Concrete solid block: Vbn, NF
Brick data, Installation parameters, Characteristic resistance

Annex C 90

Base material solid masonry, Lightweight concrete solid brick: V, NF

Table C 11.75.1: Brick data

Description of brick		771-3-008	V
Type of brick			Lightweight concrete solid brick
Bulk density	$\rho \geq$	[kg/dm ³]	0.9
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			e.g. Bisoclassic V Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)		[mm]	\geq NF (\geq 240x115x71)
Minimum thickness of member	$h_{\min} =$	[mm]	115

Table C 11.75.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{\text{cut}} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Hammer drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,\text{min}}/s_{2,\text{min}}$	[mm]	100 / 100
Minimum edge distance	$c_{\min} \geq$	[mm]	100

Table C 11.75.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$	[mm]	70
Mean compressive strength acc. to EN 771			
Lightweight concrete solid brick V, $\geq 6.09 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.9
Lightweight concrete solid brick V, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.9
Lightweight concrete solid brick V, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.5
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Lightweight concrete solid brick: V, NF

Brick data, Installation parameters, Characteristic resistance

Annex C 91

Base material solid masonry, Lightweight concrete solid brick: V, NF

Table C 11.76.1: Brick data

Description of brick		771-3-007	V
Type of brick			Lightweight concrete solid brick
Bulk density	$\rho \geq$	[kg/dm ³]	1.2
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			e.g. BisoBims, BisoTherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)		[mm]	\geq NF (\geq 240x115x71)
Minimum thickness of member	$h_{\min} =$	[mm]	115

Table C 11.76.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$	[mm] 8
Cutting diameter of drill bit	$d_{\text{cut}} \leq$	[mm] 8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm] 60 80
Drill method		[-] Hammer drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$	[mm] 50 70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm] 8.5
Spacing perpendicular / parallel to free edge	$s_{1,\text{min}}/s_{2,\text{min}}$	[mm] 100 / 100
Minimum edge distance	$c_{\min} \geq$	[mm] 100

Table C 11.76.3: Characteristic resistance F_{RK} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$	[mm] 50 70
Mean compressive strength acc. to EN 771		
Lightweight concrete solid brick V, $\geq 7.29 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN] 0.75 2.0
	$F_{RK, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN] 0.6 2.0
Lightweight concrete solid brick V, $\geq 5.0 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN] 0.6 1.5
	$F_{RK, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN] 0.5 1.5
Lightweight concrete solid brick V, $\geq 2.5 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$	[kN] 0.3 0.75
	$F_{RK, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$	[kN] ⁹⁾ 0.75
Partial safety factor	$\gamma_{Mm}^{2)}$	[-] 2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Lightweight concrete solid brick: V, NF

Brick data, Installation parameters, Characteristic resistance

Annex C 92

Base material solid masonry, Lightweight concrete solid brick: V and Vbl, 2DF

Table C 11.77.1: Brick data

Description of brick		771-3-017	V and Vbl
Type of brick			Lightweight concrete solid block Vbl
Bulk density	$\rho \geq$	[kg/dm ³]	2.0
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			e.g. Bisophon V Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)		[mm]	$\geq 3DF (\geq 240 \times 175 \times 113)$
Minimum thickness of member	$h_{min} =$	[mm]	240

Table C 11.77.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside /Reveal
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Hammer drilling
Overall plastic anchor embedment depth	h _{nom} ≥	[mm]	70
Diameter of clearance hole in the fixture	d _r ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}		90 / 180
Minimum edge distance	c _{min} ≥	[mm]	45

Table C 11.77.3: Characteristic resistance F_{RK} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside /Reveal
Overall plastic anchor embedment depth		$h_{nom} \geq$ [mm]	70
Mean compressive strength acc. to EN 771			
Lightweight concrete solid block V and Vbl, $\geq 25.12 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	6.0
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	5.0
Lightweight concrete solid block V and Vbl, $\geq 25.0 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	6.0
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	5.0
Lightweight concrete solid block V and Vbl, $\geq 20.0 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	5.0
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	4.0
Lightweight concrete solid block V and Vbl, $\geq 15.0 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	3.5
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	3.0
Lightweight concrete solid block V and Vbl, $\geq 12.5 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	3.0
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	2.5
Lightweight concrete solid block V and Vbl, $\geq 10.0 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	2.5
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	2.0
Partial safety factor		$\gamma_{Mm}^{2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Lightweight concrete solid brick: V and Vbl, 3DF

Brick data, Installation parameters, Characteristic resistance

Annex C 93

Base material solid masonry, Lightweight concrete solid block: V P 2.0 - 0.55

Table C 11.78.1: Brick data

Description of brick		771-3-032	V P 2.0 - 0.55
Type of brick			Lightweight concrete solid block
Bulk density	$\rho \geq$ [kg/dm ³]		0.65
Standard, approval/type-approval			EN 771-3:2011+A1:2015; Z-17.1-778:2019-10
Producer of brick			Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mühlheim-Kärlich
Format (measurement)	[mm]		$\geq 5DF (\geq 123 \times 300 \times 248)$
Minimum thickness of member	$h_{\min} =$ [mm]		123

Table C 11.78.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Reveal
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{\text{cut}} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Hammer drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,\text{min}}/s_{2,\text{min}}$ [mm]	100 / 250
Minimum edge distance	$c_{\text{min}} \geq$ [mm]	50
		200 / 250
		100

Table C 11.78.3: Characteristic resistance $F_{Rk}^{7)8)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Reveal
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771		
Lightweight concrete solid block V P 2.0 - 0.55, $\geq 2.95 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	1.5
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	2.0
Lightweight concrete solid block V P 2.0 - 0.55, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	1.2
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	1.5
Lightweight concrete solid block V P 2.0 - 0.55, $\geq 2.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	0.9
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	1.5
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Lightweight concrete solid block: V P 2.0 - 0.55

Brick data, Installation parameters, Characteristic resistance

Annex C 94

Base material solid masonry, Lightweight concrete solid block: V P 4.0 - 0.65

Table C 11.79.1: Brick data

Description of brick		771-3-033	V P 4.0 - 0.65
Type of brick			Lightweight concrete solid block
Bulk density	$\rho \geq$ [kg/dm ³]		0.8
Standard, approval/type-approval			EN 771-3:2011+A1:2015; Z-17.1-778:2019-10
Producer of brick			Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)	[mm]		$\geq 5DF (\geq 123 \times 300 \times 248)$
Minimum thickness of member	$h_{min} =$ [mm]		300 (Reveal = 123)

Table C 11.79.2: Installation parameters

Anchor size		8			10
Installation site ⁶⁾		Inside / Outside	Reveal	Reveal	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8			10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45			10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80			80
Drill method	[-]	Hammer drilling			Hammer drilling
Overall plastic anchor embedment depth	$h_{nom} \geq$ [mm]	70			70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5			10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	200/250	100/250	200/250	200/250
Minimum edge distance	$c_{min} \geq$ [mm]	100	50	100	100

Table C 11.79.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size		8			10
Installation site ⁶⁾		Inside / Outside	Reveal	Reveal	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} \geq$ [mm]	70			70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{7)}$	$F_{Rk}^{1)}$
Mean compressive strength acc. to EN 771					
Lightweight concrete solid block V P 4.0 - 0.65, $\geq 5.09 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0	1.5	4.0	2.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.5	1.5	4.0	2.0
Lightweight concrete solid block V P 4.0 - 0.65, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0	1.5	4.0	2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.5	1.5	4.0	2.0
Lightweight concrete solid block V P 4.0 - 0.65, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.9	0.9	2.0	1.2
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.75	0.9	2.0	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5			

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Lightweight concrete solid block: V P 4.0 - 0.65

Brick data, Installation parameters, Characteristic resistance

Annex C 95

Base material solid masonry, Lightweight concrete solid block: V 6 - 0.80

Table C 11.80.1: Brick data

Description of brick		771-3-035	V 6 - 0.80
Type of brick			Lightweight concrete solid block
Bulk density	$\rho \geq$ [kg/dm ³]		0.9
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mühlheim-Kärlich
Format (measurement)	[mm]		$\geq 5DF (\geq 123 \times 300 \times 248)$
Minimum thickness of member	$h_{min} =$ [mm]		300 (Reveal = 123)

Table C 11.80.2: Installation parameters

Anchor size		8		
Installation site ⁶⁾		Inside / Outside	Reveal	Reveal
Drill hole diameter	$d_0 =$ [mm]	8		
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45		
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80		
Drill method	[-]	Hammer drilling		
Overall plastic anchor embedment depth	$h_{nom} \geq$ [mm]	70		
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5		
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	200 / 250	100 / 250	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	100	50	100

Table C 11.80.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size		8		
Installation site ⁶⁾		Inside / Outside	Reveal	Reveal
Overall plastic anchor embedment depth	$h_{nom} \geq$ [mm]	70		
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771				
Concrete solid block V 6 - 0.80, $\geq 4.17 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	2.0	1.5	3.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	1.5	1.5	3.0
Concrete solid block V 6 - 0.80, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	1.2	0.9	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.9	0.9	2.0
Concrete solid block V 6 - 0.80, $\geq 2.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	0.6	1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.75	0.6	1.5
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5		

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Lightweight concrete solid block: V 6 - 0.80

Brick data, Installation parameters, Characteristic resistance

Annex C 96

Base material solid masonry, Lightweight concrete solid block: Vbl

Table C 11.81.1: Brick data

Description of brick		LAC2	Vbl
Type of brick			Lightweight concrete solid block
Bulk density	$\rho \geq$	[kg/dm ³]	0.6
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			e.g. Liapor Massivwand LAC2 Liapor GmbH & Co. KG D-91352 Hallerndorf
Format (measurement)		[mm]	$\geq 24DF (\geq 500 \times 365 \times 238)$
Minimum thickness of member	$h_{min} =$	[mm]	365

Table C 11.81.2: Installation parameters

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80	80
Drill method		[-]	Hammer drilling	Hammer drilling
Overall plastic anchor embedment depth	$h_{nom} \geq$	[mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	60 / 60	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100	100

Table C 11.81.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} \geq$	[mm]	70	70
Mean compressive strength acc. to EN 771				
Lightweight concrete solid block Vbl, $\geq 4.24 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	1.5	1.5
Lightweight concrete solid block Vbl, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.2	1.2
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.9	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Lightweight concrete solid block: Vbl

Brick data, Installation parameters, Characteristic resistance

Annex C 97

Base material solid masonry, Lightweight concrete solid block: Vbl

Table C 11.82.1: Brick data

Description of brick		771-3-012	Vbl
Type of brick			Lightweight concrete solid block
Bulk density	$\rho \geq$	[kg/dm ³]	0.65
Standard, approval/type-approval			EN 771-3:2011+A1:2015 Z-17.1-839:2014-10
Producer of brick			e.g. Liapor Compact von: Liapor GmbH & Co. KG D-91352 Hallerndorf e.g. Meier Betonwerke GmbH Zur Schanze 2 D-92283 Lauterhofen
Format (measurement)		[mm]	$\geq 16DF (\geq 500 \times 240 \times 240)$
Minimum thickness of member	$h_{min} =$	[mm]	240

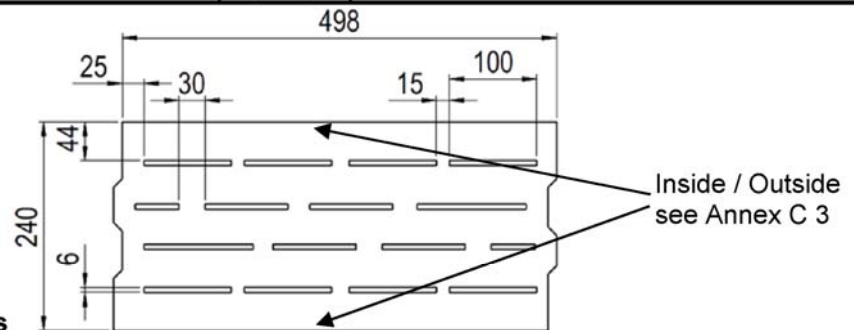


Table C 11.82.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Hammer drilling
Overall plastic anchor embedment depth	$h_{nom} \geq$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$		100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.82.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} \geq$	[mm]	70
Mean compressive strength acc. to EN 771			
Lightweight concrete solid block Vbl, $\geq 3.0 \text{ N/mm}^2$	$F_{RK}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.2
	$F_{RK}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.9
Lightweight concrete solid block Vbl, $\geq 2.5 \text{ N/mm}^2$	$F_{RK}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9
	$F_{RK}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Lightweight concrete solid block: Vbl

Brick data, Installation parameters, Characteristic resistance

Annex C 98

Base material solid masonry, Concrete solid block: Vbn

Table C 11.83.1: Brick data

Description of brick		LC16/18	Vbn
Type of brick			Concrete solid block
Bulk density	$\rho \geq$	[kg/dm ³]	1.4
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			e.g. Liapor Elementwand LC16/18 von: Liapor GmbH & Co. KG D-91352 Hallerndorf
Format (measurement)		[mm]	$\geq 12DF (500 \times 175 \times 238)$
Minimum thickness of member	$h_{min} =$	[mm]	175

Table C 11.83.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Hammer drilling
Overall plastic anchor embedment depth	$h_{nom} \geq$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.83.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} \geq$	[mm]	70
Mean compressive strength acc. to EN 771			
Concrete solid block Vbn, $\geq 14.7 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	3.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	4.0
Concrete solid block Vbn, $\geq 12.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	3.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	3.5
Concrete solid block Vbn, $\geq 10.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	2.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	2.5
Concrete solid block Vbn, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	2.0
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Concrete solid block: Vbn
Brick data, Installation parameters, Characteristic resistance

Annex C 99

Base material hollow masonry, Hollow brick lightweight concrete: 1K Hbl

Table C 11.84.1: Brick data

Description of brick		771-3-002	1K Hbl
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	1.2
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			e.g. Stark Betonwerk GmbH & Co. KG D-74547 Untermünkheim-Kupfer
Format (measurement)		[mm]	12DF (490x175x238)
Minimum thickness of member	$h_{min} =$	[mm]	175

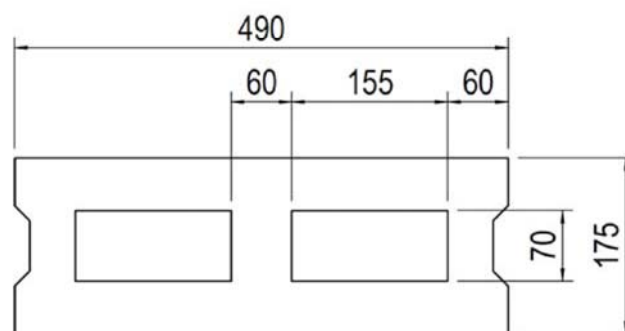


Table C 11.84.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.84.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Hollow brick lightweight concrete	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$	[kN]	2.0
1K Hbl, $\geq 3.79 \text{ N/mm}^2$	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$	[kN]	1.5
Hollow brick lightweight concrete	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$	[kN]	1.5
1K Hbl, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$	[kN]	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick lightweight concrete: 1K Hbl

Brick data, Installation parameters, Characteristic resistance

Annex C 100

Base material hollow masonry, Hollow brick lightweight concrete: 3K Hbl

Table C 11.85.1: Brick data

Description of brick		771-3-005	3K Hbl
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			e.g. Heinzmann Baustoffe GmbH, Liapor GmbH & Co. KG
Format (measurement)		[mm]	16DF (495x240x240)

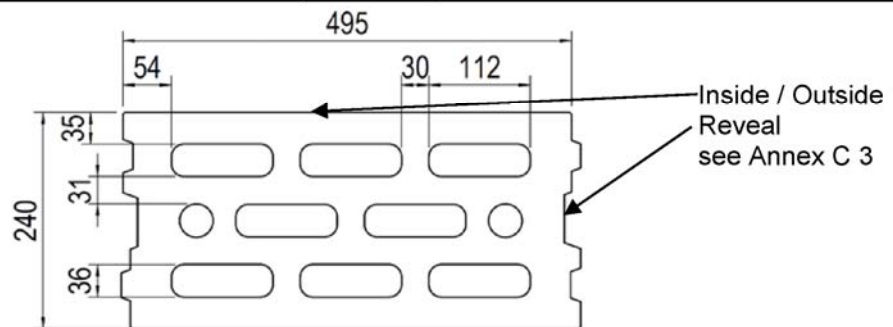


Table C 11.85.2: Installation parameters

Anchor size			8		10
Installation site ⁶⁾			Inside / Outside	Reveal	Inside / Outside
Drill hole diameter	d ₀ =	[mm]	8		10
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45		10.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80		80
Drill method		[-]	Rotary drilling		Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70		70
Diameter of clearance hole in the fixture	d _f ≤	[mm]	8.5		10.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	100 / 100	100 / 250	100 / 100
Minimum edge distance	c _{min} ≥	[mm]	100	50	100

Table C 11.85.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8		10
Installation site ⁶⁾			Inside / Outside	Reveal	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70		70
Mean compressive strength acc. to EN 771					
Hollow brick lightweight concrete 3K Hbl, $\geq 4.91 \text{ N/mm}^2$	$F_{RK}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	1.5	2.0	1.5
	$F_{RK}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.2	2.0	0.9
Hollow brick lightweight concrete 3K Hbl, $\geq 2.5 \text{ N/mm}^2$	$F_{RK}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.9	0.9	0.75
	$F_{RK}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.6	0.9	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5		

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick lightweight concrete: 3K Hbl

Brick data, Installation parameters, Characteristic resistance

Annex C 101

Base material hollow masonry, Hollow brick lightweight concrete: Liapor-Super-K

Table C 11.86.1: Brick data

Description of brick		771-3-006	Liapor-Super-K
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.8
Standard, approval/type-approval			EN 771-3:2011+A1:2015; Z-17.1-501:2006-03
Producer of brick			Liapor GmbH & Co. KG D-91352 Hallerndorf
Format (measurement)		[mm]	16DF (495x240x240)

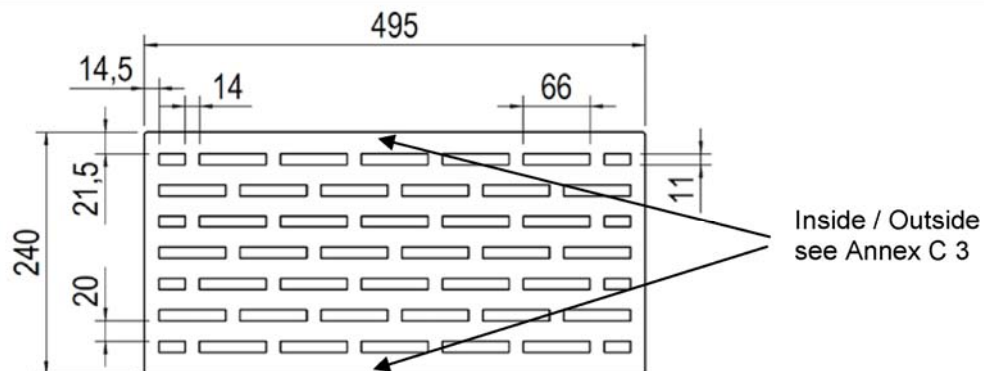


Table C 11.86.2: Installation parameters

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80	80
Drill method		[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Diameter of clearance hole in the fixture	$d_r \leq$	[mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	100 / 100	100 / 100
Minimum edge distance	$c_{min} \geq$	[mm]	100	100

Table C 11.86.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70	70
Mean compressive strength acc. to EN 771				
Hollow brick lightweight concrete Liapor-Super-K, $\geq 4.91 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	1.5	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	1.2	1.2
Hollow brick lightweight concrete Liapor-Super-K, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.75	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.6	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick lightweight concrete: Liapor-Super-K
Brick data, Installation parameters, Characteristic resistance

Annex C 102

Base material hollow masonry, Hollow brick lightweight concrete: Liapor PLANstein-SL-PLUS Hbl 2

Table C 11.87.1: Brick data

Description of brick		771-3-018	Liapor PLANstein-SL-PLUS Hbl 2
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$ [kg/dm ³]		0.55
Standard, approval/type-approval			EN 771-3:2011+A1:2015; Z-17.1-501:2006-03
Producer of brick			Liapor GmbH & Co. KG E. KNOBEL GmbH & Co. KG
Format (measurement)	[mm]		12DF (245x365x248)

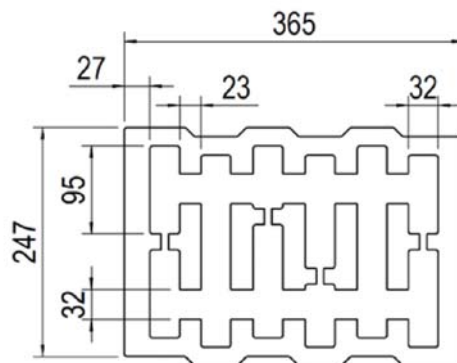


Table C 11.87.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	200 / 250	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	100	100

Table C 11.87.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Mean compressive strength acc. to EN 771			
Liapor PLANstein-SL-PLUS Hbl, ≥ 2.16 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	0.9	0.75
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	0.75	0.5
Liapor PLANstein-SL-PLUS Hbl, ≥ 2.0 N/mm ²	$F_{Rk, 30^\circ C^3) / 50^\circ C^4)}$ [kN]	0.9	0.6
	$F_{Rk, 50^\circ C^3) / 80^\circ C^4)}$ [kN]	0.6	0.5
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick lightweight concrete: Liapor PLANstein-SL-PLUS Hbl 2
Brick data, Installation parameters, Characteristic resistance

Annex C 103

Base material hollow masonry, Hollow brick lightweight concrete: Liapor PLANstein-SL-PLUS Hbl 6

Table C 11.88.1: Brick data

Description of brick		771-3-020	Liapor PLANstein-SL-PLUS Hbl 6
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$ [kg/dm ³]		0.9
Standard, approval/type-approval			EN 771-3:2011+A1:2015; Z-17.1-501:2006-03
Producer of brick			Liapor GmbH & Co. KG E. KNOBEL GmbH & Co. KG
Format (measurement)	[mm]		12DF (245x365x248)

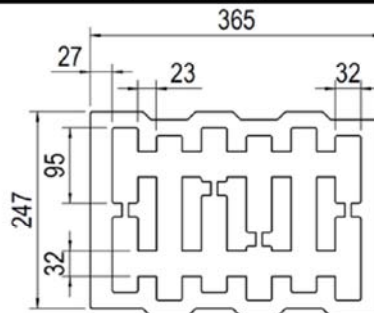


Table C 11.88.2: Installation parameters

Anchor size		8		10
Installation site ⁶⁾		Inside / Outside	Reveal	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8		10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45		10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80		80
Drill method	[-]	Rotary drilling		Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70		70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5		10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	200 / 250	200 / 250	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	100	100	100

Table C 11.88.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size		8		10
Installation site ⁶⁾		Inside / Outside	Reveal	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70		70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{1)}$
Mean compressive strength acc. to EN 771				
Liapor PLANstein-SL-PLUS Hbl, $\geq 6.63 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.5	4.0	2.5
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	2.0	4.0	2.5
Liapor PLANstein-SL-PLUS Hbl, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0	3.0	2.0
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.5	3.0	1.5
Liapor PLANstein-SL-PLUS Hbl, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.9	1.5	0.9
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.75	1.5	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5		

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick lightweight concrete: Liapor PLANstein-SL-PLUS Hbl 6
Brick data, Installation parameters, Characteristic resistance

Annex C 104

Base material hollow masonry, Hollow brick concrete: 2K Hbn

Table C 11.89.1: Brick data

Description of brick		771-3-011	2K Hbn
Type of brick			Hollow brick concrete
Bulk density	$\rho \geq$ [kg/dm ³]		1.2
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			e.g. Stark Betonwerk GmbH & Co. KG D-74547 Untermünkheim-Kupfer
Format (measurement)	[mm]		12DF (365x240x248)

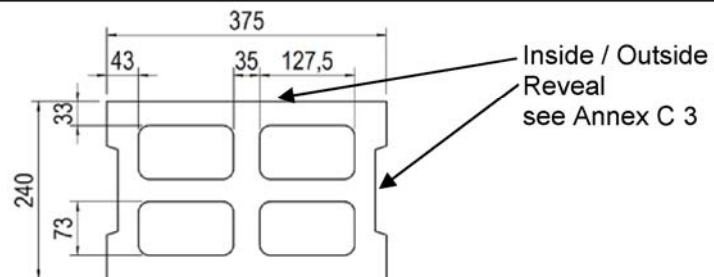


Table C 11.89.2: Installation parameters

Anchor size			8			10
Installation site ⁶⁾			Inside / Outside	Reveal		Inside / Outside
Drill hole diameter		d ₀ =	[mm]	8		10
Cutting diameter of drill bit		d _{cut} ≤	[mm]	8.45		10.45
Depth of drill hole to deepest point		h ₁ ≥	[mm]	80		80
Drill method		[-]		Rotary drilling		
Overall plastic anchor embedment depth		h _{nom} =	[mm]	70		70
Diameter of clearance hole in the fixture		d _f ≤	[mm]	8.5		10.5
Spacing perpendicular / parallel to free edge		s _{1,min} /s _{2,min}	[mm]	100/100	160/250	160/250
Minimum edge distance		c _{min} ≥	[mm]	100	80	80
						200 / 250

Table C 11.89.3: Characteristic resistance F_{RK} ¹⁾⁷⁾⁸⁾ in [kN] for single anchor

Anchor size		8			10
Installation site ⁶⁾		Inside / Outside	Reveal		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70			70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{1)}$
Mean compressive strength acc. to EN 771					
Hollow brick concrete 2K Hbn, $\geq 8.4 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	2.5	1.5	2.5	2.5
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	2.0	1.2	2.5	2.0
Hollow brick concrete 2K Hbn, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	2.0	1.5	2.5	2.0
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	2.0	0.9	2.5	1.5
Hollow brick concrete 2K Hbn, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	1.5	0.9	2.5	1.5
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	1.2	0.6	2.5	1.2
Hollow brick concrete 2K Hbn, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	0.6	0.5	1.5	0.6
	$F_{Rk}, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	0.6	0.4	1.5	0.6
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5			

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick concrete: 2K Hbn

Brick data, Installation parameters, Characteristic resistance

Annex C 105

Base material hollow masonry, Hollow brick lightweight concrete: Gisoton WärmeDämmBlock

Table C 11.90.1: Brick data

Description of brick		771-3-009	Gisoton WärmeDämmBlock
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.8
Standard, approval/type-approval			Z-17.1-873:2005-11
Producer of brick			Gisoton Wandsysteme Baustoffwerke Gebhart & Söhne GmbH & Co. Hochstraße 2 D-88317 Aichstetten
Format (measurement)		[mm]	15DF (360x300x250)
Minimum thickness of member	$h_{\min} =$	[mm]	300

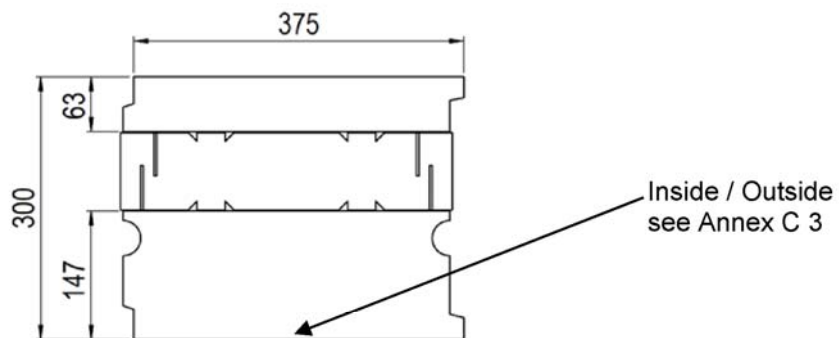


Table C 11.90.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{\text{cut}} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,\text{min}}/s_{2,\text{min}}$	[mm]	100 / 100
Minimum edge distance	$c_{\text{min}} \geq$	[mm]	100

Table C 11.90.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{\text{nom}} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Gisoton WärmeDämmBlock, ≥ 4.7 N/mm ²	$F_{\text{RK}}, 30^{\circ}\text{C}^{3)} / 50^{\circ}\text{C}^{4)}$	[kN]	2.0
	$F_{\text{RK}}, 50^{\circ}\text{C}^{3)} / 80^{\circ}\text{C}^{4)}$	[kN]	1.5
Gisoton WärmeDämmBlock, ≥ 2.5 N/mm ²	$F_{\text{RK}}, 30^{\circ}\text{C}^{3)} / 50^{\circ}\text{C}^{4)}$	[kN]	1.2
	$F_{\text{RK}}, 50^{\circ}\text{C}^{3)} / 80^{\circ}\text{C}^{4)}$	[kN]	0.9
Partial safety factor	$\gamma_{\text{Mm}}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick lightweight concrete: Gisoton WärmeDämmBlock
Brick data, Installation parameters, Characteristic resistance

Annex C 106

Base material hollow masonry, Hollow brick lightweight concrete: GisoPLAN therm 25/10

Table C 11.91.1: Brick data

Description of brick		771-3-037	GisoPLAN therm 25/10
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	1.3
Standard, approval/type-approval			Z-17.1-672:2015-03
Producer of brick			Gisoton Wandsysteme Baustoffwerke Gebhart & Söhne GmbH & Co. Hochstraße 2 D-88317 Aichstetten
Format (measurement)		[mm]	6DF (300x150x248)

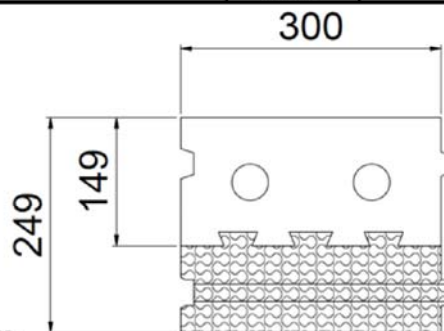


Table C 11.91.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Reveal
Drill hole diameter	$d_0 =$	[mm] 8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm] 8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm] 80
Drill method		[-] Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm] 8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm] 150 / 250
Minimum edge distance	$c_{min} \geq$	[mm] 75

Table C 11.91.3: Characteristic resistance F_{Rk} ⁷⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Reveal
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Characteristic resistance for single anchor		[kN] F_{Rk} ⁷⁾
Mean compressive strength acc. to EN 771		
GisoPLAN therm 25/10, $\geq 7.95 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN] 2.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN] 2.5
GisoPLAN therm 25/10, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN] 2.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN] 2.5
GisoPLAN therm 25/10, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN] 1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN] 1.5
Partial safety factor	$\gamma_{Mm}^{2)}$	[-] 2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick lightweight concrete: GisoPLAN therm 25/10
Brick data, Installation parameters, Characteristic resistance

Annex C 107

Base material hollow masonry, Hollow brick lightweight concrete: GISOTON Thermo-Schallstein

Table C 11.92.1: Brick data

Description of brick		771-3-038	GISOTON Thermo-Schallstein
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.55
Standard, approval/type-approval			Z-15.2-18:2021-02
Producer of brick			Giton Wandsysteme Baustoffwerke Gebhart & Söhne GmbH & Co. Hochstraße 2 D-88317 Aichstetten
Format (measurement)		[mm]	12DF (375x249x248)

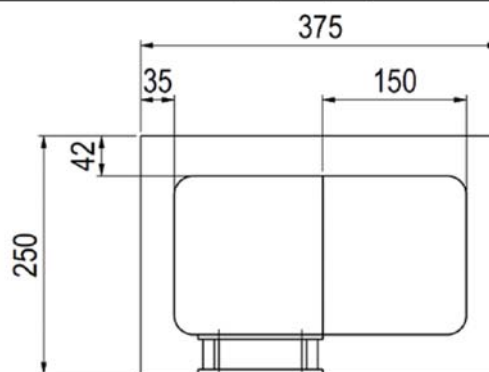


Table C 11.92.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Reveal
Drill hole diameter	d ₀ =	[mm]	8
Cutting diameter of drill bit	d _{cut} ≤	[mm]	8.45
Depth of drill hole to deepest point	h ₁ ≥	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	h _{nom} =	[mm]	70
Diameter of clearance hole in the fixture	d _r ≤	[mm]	8.5
Spacing perpendicular / parallel to free edge	s _{1,min} /s _{2,min}	[mm]	160 / 250
Minimum edge distance	c _{min} ≥	[mm]	80

Table C 11.92.3: Characteristic resistance $F_{Rk}^{7)8)}$ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Reveal
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Characteristic resistance for single anchor		[kN]	F_{Rk} ⁷⁾
Mean compressive strength acc. to EN 771			
GISOTON Thermo-Schallstein, ≥ 3.61 N/mm ²	$F_{Rk}, 30^{\circ}\text{C}^{3)} / 50^{\circ}\text{C}^{4)}$	[kN]	3.5
	$F_{Rk}, 50^{\circ}\text{C}^{3)} / 80^{\circ}\text{C}^{4)}$	[kN]	3.5
GISOTON Thermo-Schallstein, ≥ 2.5 N/mm ²	$F_{Rk}, 30^{\circ}\text{C}^{3)} / 50^{\circ}\text{C}^{4)}$	[kN]	2.0
	$F_{Rk}, 50^{\circ}\text{C}^{3)} / 80^{\circ}\text{C}^{4)}$	[kN]	2.0
Partial safety factor		$\gamma_{Mm}^{2)}$	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick lightweight concrete: GISOTON Thermo-Schallstein

Brick data, Installation parameters, Characteristic resistance

Annex C 108

Base material hollow masonry, Hollow brick lightweight concrete: Gisoton Thermo Schall

Table C 11.93.1: Brick data

Description of brick		771-3-010 771-3-036	Gisoton Thermo Schall
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$ [kg/dm ³]		0.45
Standard, approval/type-approval			Z-15.2-18:2021-02
Producer of brick			Gisoton Wandsysteme Baustoffwerke Gebhart & Söhne GmbH & Co. Hochstraße 2 D-88317 Aichstetten
Format (measurement)	[mm]		21DF (500x300x250)

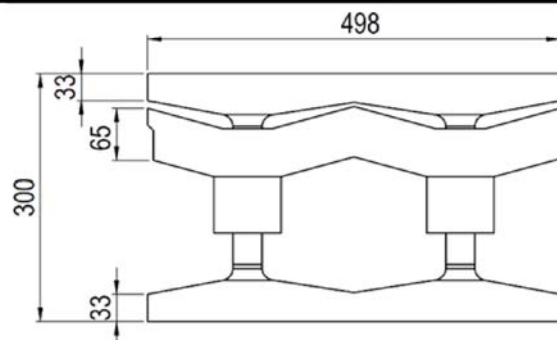


Table C 11.93.2: Installation parameters

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]		8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]		8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]		80	80
Drill method	[-]		Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]		8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]		100 / 100	200 / 250
Minimum edge distance	$c_{min} \geq$ [mm]		100	100

Table C 11.93.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8	10
Installation site ⁶⁾			Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]		70	70
Mean compressive strength acc. to EN 771				
Gisoton Thermo Schall, $\geq 2.54 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.2	1.5
Gisoton Thermo Schall, $\geq 2.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	1.2	1.5
Gisoton Thermo Schall, $\geq 1.8 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	9)	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	9)	1.5
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick lightweight concrete: Gisoton Thermo Schall
Brick data, Installation parameters, Characteristic resistance

Annex C 109

Base material hollow masonry, Hollow brick lightweight concrete: Bisoplan 09 Super 1.6-0.4

Table C 11.94.1: Brick data

Description of brick		771-3-029	Bisoplan 09 Super 1.6-0.4
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.65
Standard, approval/type-approval			EN 771-3:2011+A1:2015; Z-17.1-1003:2014-08
Producer of brick			Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)		[mm]	12DF (247x365x249)

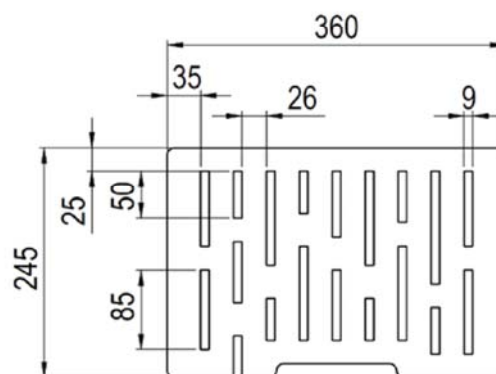


Table C 11.94.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.94.3: Characteristic resistance F_{RK} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Bisoplan 09 Super 1.6-0.4, $\geq 1.80 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.6
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.5
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick lightweight concrete: Bisoplan 09 Super 1.6-0.4
Brick data, Installation parameters, Characteristic resistance

Annex C 110

Base material hollow masonry, Hollow brick lightweight concrete: Bisoplan 10 Hbl-P 2.0-0.45

Table C 11.95.1: Brick data

Description of brick		771-3-034	Bisoplan 10 Hbl-P 2.0-0.45
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.6
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)		[mm]	10DF (247x300x249)

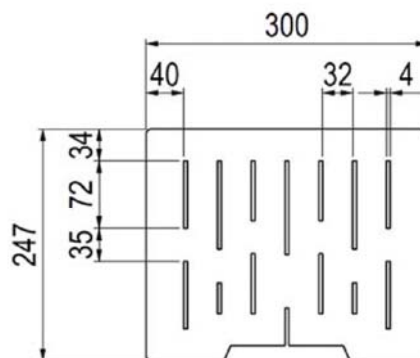


Table C 11.95.2: Installation parameters

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Drill hole diameter	$d_0 =$	[mm]	80
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	200 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	100

Table C 11.95.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size			8
Installation site ⁶⁾			Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Mean compressive strength acc. to EN 771			
Bisoplan 10 Hbl-P 2.0-0.45, $\geq 2.03 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.6
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.4
Bisoplan 10 Hbl-P 2.0-0.45, $\geq 2.0 \text{ N/mm}^2$	$F_{Rk}, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$	[kN]	0.6
	$F_{Rk}, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$	[kN]	0.4
Partial safety factor	$\gamma_{Mm}^{2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick lightweight concrete: Bisoplan 10 Hbl-P 2.0-0.45
Brick data, Installation parameters, Characteristic resistance

Annex C 111

Base material hollow masonry, Hollow brick lightweight concrete: Bisomark^{TEC}

Table C 11.96.1: Brick data

Description of brick		771-3-015	Bisomark ^{TEC}
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.7
Standard, approval/type-approval			Z-17.1-1026:2015-05
Producer of brick			Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)		[mm]	20DF (497x300x249)

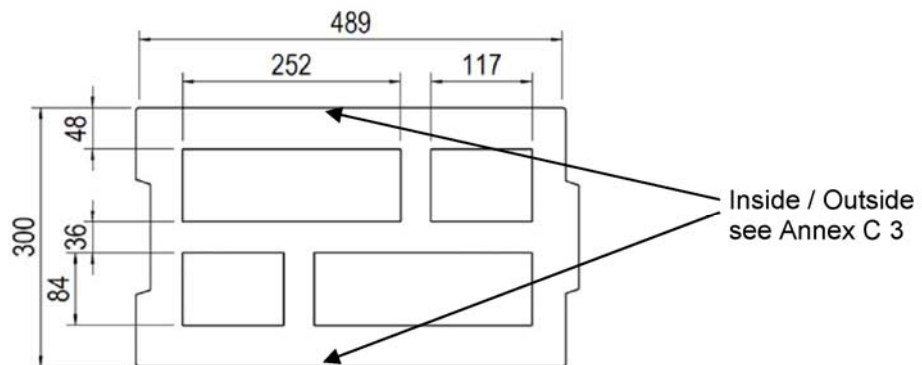


Table C 11.96.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$	[mm] 8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm] 8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm] 80
Drill method		[-] Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm] 8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm] 100 / 100
Minimum edge distance	$c_{min} \geq$	[mm] 100

Table C 11.96.3: Characteristic resistance F_{Rk} ¹⁾⁸⁾ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 70
Mean compressive strength acc. to EN 771		
Bisomark ^{TEC} , $\geq 3.58 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 1.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 1.2
Bisomark ^{TEC} , $\geq 2.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.75
Partial safety factor	$\gamma_{Mm}^{2)}$	[-] 2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick lightweight concrete: Bisomark^{TEC}

Brick data, Installation parameters, Characteristic resistance

Annex C 112

Base material hollow masonry, Hollow brick lightweight concrete: Bisotherm Hbl-P 4.0 - 0.50

Table C 11.97.1: Brick data

Description of brick		771-3-030	Bisotherm Hbl-P 4.0 - 0.50
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$ [kg/dm ³]		0.55
Standard, approval/type-approval			Z-17.1-1029:2015-05
Producer of brick			Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)	[mm]		12DF (247x365x249)

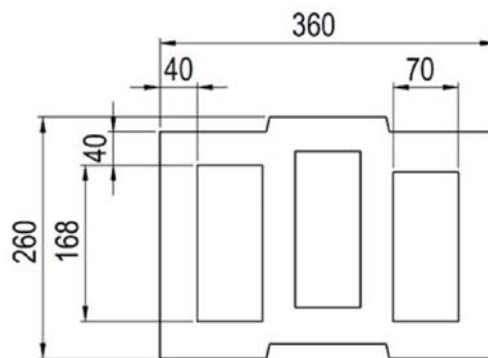


Table C 11.97.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45	10.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80	80
Drill method	[-]	Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	120 / 240	120 / 240
Minimum edge distance	$c_{min} \geq$ [mm]	60	60

Table C 11.97.3: Characteristic resistance $F_{Rk}^{1)8)}$ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Inside / Outside	Inside / Outside
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Mean compressive strength acc. to EN 771			
Bisotherm Hbl-P 4.0 - 0.50, $\geq 2.30 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.9	0.9
Bisotherm Hbl-P 4.0 - 0.50, $\geq 2.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.9	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.9	0.9
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick lightweight concrete: Bisotherm Hbl-P 4.0 - 0.50
Brick data, Installation parameters, Characteristic resistance

Annex C 113

Base material hollow masonry, Hollow brick lightweight concrete: Bisotherm Bisomark plus 4/06 (special shaped)

Table C 11.98.1: Brick data

Description of brick		771-3-031	Bisotherm Bisomark plus 4/06 (special shaped)
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.65
Standard, approval/type-approval			-
Producer of brick			Bisotherm GmbH Eisenbahnstraße 12 D-56218 Mülheim-Kärlich
Format (measurement)		[mm]	12DF (247x365x249)

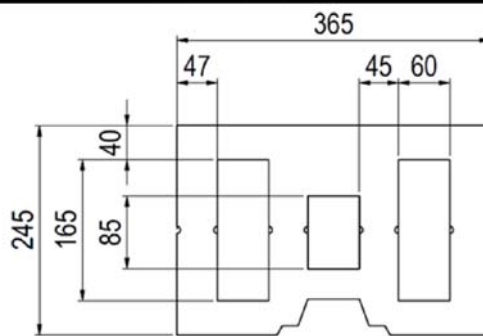


Table C 11.98.2: Installation parameters

Anchor size		8	10
Installation site ⁶⁾		Reveal	Reveal
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		Rotary drilling	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm]	150 / 250
Minimum edge distance	$c_{min} \geq$	[mm]	75

Table C 11.98.3: Characteristic resistance F_{Rk} ⁷⁾⁸⁾ in [kN] for single anchor

Anchor size		8	10
Installation site ⁶⁾		Reveal	Reveal
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{(7)}$	$F_{Rk}^{(7)}$
Mean compressive strength acc. to EN 771			
Bisotherm Bisomark plus 4/06 $\geq 4.51 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.9
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.9
Bisotherm Bisomark plus 4/06 $\geq 2.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.6
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.6
Bisotherm Bisomark plus 4/06 $\geq 2.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN]	0.5
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN]	0.5
Partial safety factor	$\gamma_{Mm}^{(2)}$	[-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Hollow brick lightweight concrete: Bisotherm Bisomark plus 4/06 (special shaped)
Brick data, Installation parameters, Characteristic resistance

Annex C 114

Base material hollow masonry, Hollow brick lightweight concrete: SEPA Blocs Creux

Table C 11.99.1: Brick data

Description of brick		771-3-025	SEPA Blocs Creux
Type of brick			Hollow brick lightweight concrete
Bulk density	$\rho \geq$	[kg/dm ³]	0.9
Standard, approval/type-approval			EN 771-3:2011+A1:2015
Producer of brick			SEPA-Alsace Groupe (France)
Format (measurement)		[mm]	11DF (500x200x200)
Minimum thickness of member	$h_{min} =$	[mm]	200

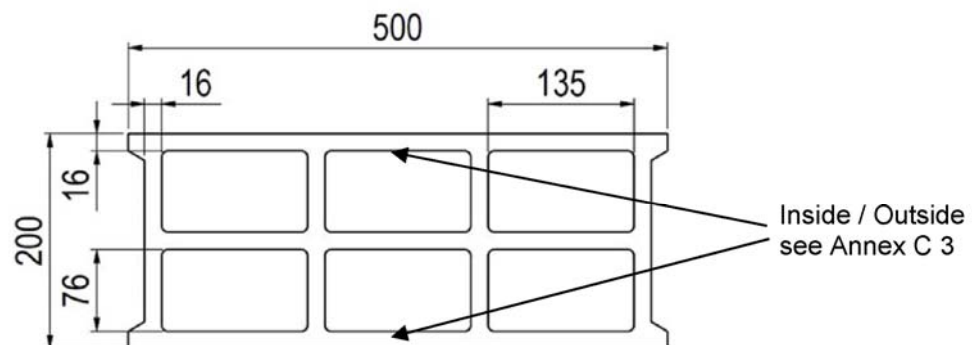


Table C 11.99.2: Installation parameters

Anchor size		10
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$	[mm] 10
Cutting diameter of drill bit	$d_{cut} \leq$	[mm] 10.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm] 60 80
Drill method		[-] Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm] 50 70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm] 10.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$	[mm] 100 / 100 100 / 100
Minimum edge distance	$c_{min} \geq$	[mm] 100 100

Table C 11.99.3: Characteristic resistance F_{RK} ¹⁾⁵⁾⁸⁾ in [kN] for single anchor

Anchor size		10
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	h_{nom}	[mm] $50 \text{ mm} \leq h_{nom} \leq 70 \text{ mm}^5)$
Mean compressive strength acc. to EN 771		
SEPA Blocs Creux, $\geq 7.32 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 1.2 1.2
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.6 0.75
SEPA Blocs Creux, $\geq 5.0 \text{ N/mm}^2$	$F_{RK, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$	[kN] 0.75 0.75
	$F_{RK, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$	[kN] 0.5 0.5
Partial safety factor	$\gamma_{Mm}^2)$	[-] 2.5

Footnotes see Annex C 3

Recommendation: On the basis of experience values, the characteristic resistance F_{RK} must be confirmed by job site tests.

Würth Plastic Anchor W-UR / SHARK UR

Performances
Hollow brick lightweight concrete: SEPA Blocs Creux
Brick data, Installation parameters, Characteristic resistance

Annex C 115

Base material solid masonry: Autoclaved Aerated Concrete AAC

Table C 11.100.1: Brick data

Description of brick		AAC
Type of brick		Autoclaved Aerated Concrete
Bulk density	$\rho \geq$ [kg/dm ³]	0.3
Standard, approval/type-approval		EN 771-4:2015
Format (measurement)	[mm]	$\geq 499 \times 100 \times 249$

Table C 11.100.2: Installation parameters

Anchor size		8			10			
Installation site ⁶⁾		Inside / Outside / Reveal			Inside / Outside / Reveal			
Drill hole diameter	$d_0 =$ [mm]	8			10			
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45			10.45			
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80			80			
Drill method	[-]	Hammer drilling			Hammer drilling			
Overall plastic anchor embedment depth	$h_{nom} \geq$ [mm]	70			70			
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5			10.5			
Minimum thickness of member	$h_{min} =$ [mm]	115	175		100	175		
Minimum edge distance	$c_{min} \geq$ [mm]	80	80	100	80	80	100	120

Table C 11.100.3: Characteristic resistance $F_{Rk}^{1)}$ in [kN] for single anchor

Anchor size		8			10			
Installation site ⁶⁾		Inside / Outside / Reveal			Inside / Outside / Reveal			
Overall plastic anchor embedment depth	$h_{nom} \geq$ [mm]	70			70			
Mean compressive strength acc. to EN 771								
AAC	$F_{Rk, 30^\circ C^{3)} / 50^\circ C^{4)}$ [kN]	1.5	1.5	2.5	⁹⁾	1.5	2.5	3.0
$f_{cm,decl} \geq 7.0 \text{ N/mm}^2$	$F_{Rk, 50^\circ C^{3)} / 80^\circ C^{4)}$ [kN]	1.5	1.5	2.5	⁹⁾	1.5	2.5	3.0
AAC	$F_{Rk, 30^\circ C^{3)} / 50^\circ C^{4)}$ [kN]	1.5	1.5	2.5	⁹⁾	1.5	2.5	3.0
$f_{cm,decl} \geq 6.6 \text{ N/mm}^2$	$F_{Rk, 50^\circ C^{3)} / 80^\circ C^{4)}$ [kN]	1.5	1.5	2.5	⁹⁾	1.5	2.5	3.0
AAC	$F_{Rk, 30^\circ C^{3)} / 50^\circ C^{4)}$ [kN]	1.2	1.2	1.5	1.5	1.5	2.0	2.5
$f_{cm,decl} \geq 5.0 \text{ N/mm}^2$	$F_{Rk, 50^\circ C^{3)} / 80^\circ C^{4)}$ [kN]	1.2	1.2	1.5	1.5	1.5	2.0	2.0
AAC	$F_{Rk, 30^\circ C^{3)} / 50^\circ C^{4)}$ [kN]	0.6	0.6	0.6	0.9	0.9	1.2	1.2
$f_{cm,decl} \geq 2.5 \text{ N/mm}^2$	$F_{Rk, 50^\circ C^{3)} / 80^\circ C^{4)}$ [kN]	0.5	0.5	0.5	0.9	0.9	0.9	0.9
AAC	$F_{Rk, 30^\circ C^{3)} / 50^\circ C^{4)}$ [kN]	0.6	0.6	0.6	0.9	0.9	0.9	0.9
$f_{cm,decl} \geq 2.0 \text{ N/mm}^2$	$F_{Rk, 50^\circ C^{3)} / 80^\circ C^{4)}$ [kN]	0.5	0.5	0.5	0.75	0.75	0.75	0.75
Partial safety factor	$\gamma_{MAAC}^{2)}$ [-]	2.0			2.0			

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Solid masonry: Autoclaved Aerated Concrete AAC

Brick data, Installation parameters, Characteristic resistance

Annex C 116

Base Material: (Prefabricated) Reinforced components made of autoclaved aerated concrete (AAC)

Table C 11.101.1: Data

Description	(Prefabricated) Reinforced components made of autoclaved aerated concrete	
Bulk density $\rho \geq$ [kg/dm ³]	0.4	
Standard, approval/type-approval	EN 12602:2016	
Minimum thickness of member $h_{\min} =$ [mm]	175	

Table C 11.101.2: Installation parameters

Anchor size		10	
Installation site ⁶⁾		Inside / Outside	
Drill hole diameter $d_0 =$ [mm]		10	
Cutting diameter of drill bit $d_{\text{cut}} \leq$ [mm]		10.45	
Depth of drill hole to deepest point $h_1 \geq$ [mm]		80	
Drill method	[-]	Hammer drilling	
Overall plastic anchor embedment depth $h_{\text{nom}} \geq$ [mm]		70	
Diameter of clearance hole in the fixture $d_f \leq$ [mm]		10.5	
Minimum thickness of member $h_{\min} =$ [mm]		240	175
Minimum edge distance $c_{\min} \geq$		150	150

Table C 11.101.3: Characteristic resistance F_{Rk} ¹⁾ in [kN] for single anchor

Anchor size		10	
Installation site ⁶⁾		Inside / Outside	
Overall plastic anchor embedment depth $h_{\text{nom}} \geq$ [mm]		70	
Compressive strength acc. to EN 12602			
(Prefabricated) Reinforced AAC 6,0 $f_{ck} \geq 6.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.5	1.5
(Prefabricated) Reinforced AAC 4,0 $f_{ck} \geq 4.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	2.0	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.5	1.5
(Prefabricated) Reinforced AAC 3,0 $f_{ck} \geq 3.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	1.2	9)
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	1.2	9)
(Prefabricated) Reinforced AAC 2,0 $f_{ck} \geq 2.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.75	9)
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.6	9)
(Prefabricated) Reinforced AAC 1,5 $f_{ck} \geq 1.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)$ [kN]	0.4	9)
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)$ [kN]	0.3	9)
Partial safety factor $\gamma_{MAAC}^{2)}$	[-]	2.0	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Base Material: (Prefabricated) Reinforced components of AAC
Brick data, Installation parameters, Characteristic resistance

Annex C 117

Base material, Precast prestressed hollow core elements: VMM-L SCD 20

Table C 11.102.1: Data

Description of brick		VMM-L SCD 20
Type		Precast prestressed hollow core elements
Bulk density	$\rho \geq$ [kg/dm ³]	2.4
Standard, approval/type-approval		Z-15.10-276:2015-08
Producer of brick		e.g. Ketonía GmbH Spannbeton-Fertigteilwerk Almesbach 4 D-92637 Weiden
Format (measurement)	[mm]	$\geq 1200 \times 800 \times 200$
Minimum thickness of member	$h_{\min} =$ [mm]	200

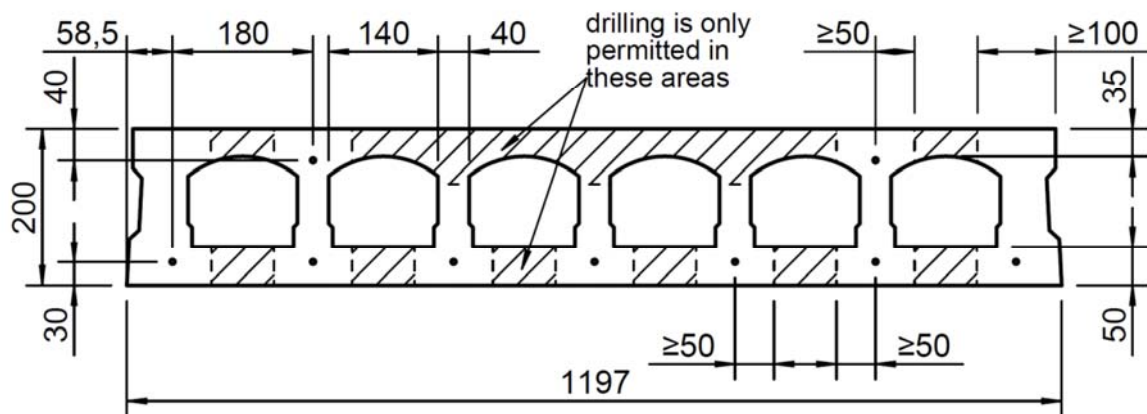


Table C 11.102.2: Installation parameters

Anchor size			8
Installation site			top view / bottom view
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Hammer drilling
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5

Table C 11.102.3: Characteristic resistance $F_{Rk}^{1)}$ in [kN] for single anchor

Anchor size			8
Installation site			top view / bottom view
Overall plastic anchor embedment depth	$h_{nom} =$	[mm]	70
Precast prestressed hollow core elements VMM-L SCD 20, C45/55	$F_{Rk, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$	[kN]	1.5
	$F_{Rk, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$	[kN]	1.2
Partial safety factor	$\gamma_{Mc^{2)}$	[-]	1.8

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Precast prestressed hollow core elements: VMM-L SCD 20

Brick data, Installation parameters, Characteristic resistance

Annex C 118

Base material, Precast prestressed hollow core elements: VMM-L EPD 32

Table C 11.103.1: Data

Description of brick		VMM-L EPD 32
Type		Precast prestressed hollow core elements
Bulk density	$\rho \geq$ [kg/dm ³]	2.4
Standard, approval/type-approval		Z-15.10-276:2015-08
Producer of brick		e.g. Ketonía GmbH Spannbeton-Fertigteílwerk Almesbach 4 D-92637 Weiden
Format (measurement)	[mm]	$\geq 1200 \times 800 \times 320$
Minimum thickness of member	$h_{\min} =$ [mm]	320

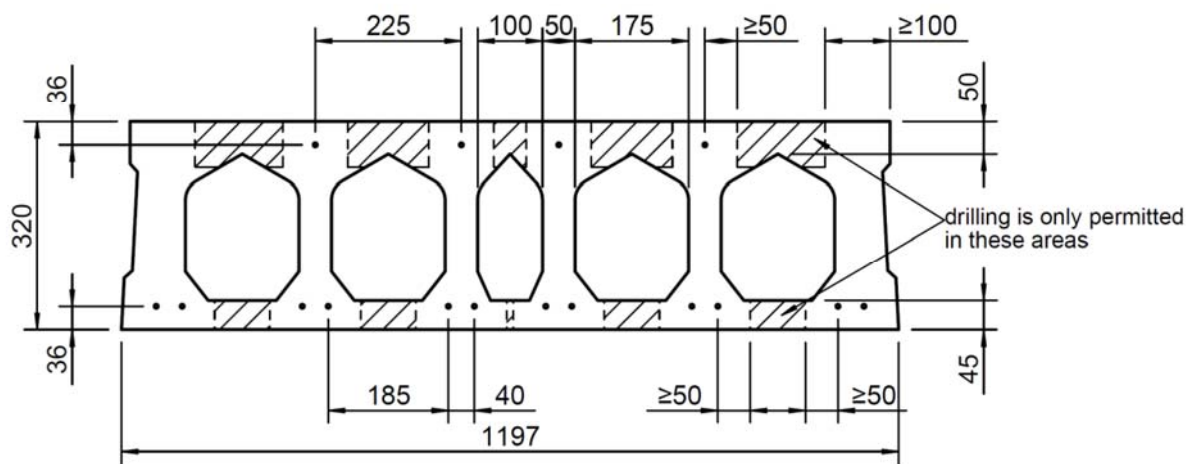


Table C 11.103.2: Installation parameters

Anchor size			8
Installation site			Top view / bottom view
Drill hole diameter	$d_0 =$	[mm]	8
Cutting diameter of drill bit	$d_{\text{cut}} \leq$	[mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	80
Drill method		[-]	Hammer drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} =$	[mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	8.5

Table C 11.103.3: Characteristic resistance $F_{RK}^{1)}$ in [kN] for single anchor

Anchor size		8
Installation site		Top view / bottom view
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Precast prestressed hollow core elements VMM-L EPD 32, C45/55	$F_{RK, 30^{\circ}C^{3)} / 50^{\circ}C^{4)}$ [kN]	2.0
	$F_{RK, 50^{\circ}C^{3)} / 80^{\circ}C^{4)}$ [kN]	1.5
Partial safety factor	$\gamma_{Mc}^{2)}$ [-]	1.8

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances

Precast prestressed hollow core elements: VMM-L EPD 32

Brick data, Installation parameters, Characteristic resistance

Annex C 119

Base material, Gypsum blocks: MultiGips R.max acoustic panel

Table C 11.105.1: Brick data

Description of brick		MultiGips R.max acoustic panel
Type of brick		Gypsum blocks
Bulk density	$\rho \geq$ [kg/dm ³]	1.2
Standard, approval/type-approval		EN 12859:2011
Producer of brick		VG-ORTH GmbH & Co. KG Holeburgweg 24 D-37627 Stadtoldendorf
Format (measurement)	[mm]	$\geq 500 \times 500 \times 100$
Minimum thickness of member	$h_{\min} =$ [mm]	100

Table C 11.105.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{\text{cut}} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,\text{min}}/s_{2,\text{min}}$ [mm]	200 / 250
Minimum edge distance	$c_{\min} \geq$ [mm]	100

Table C 11.105.3: Characteristic resistance $F_{Rk}^{1)}$ in [kN] for single anchor

Anchor size		8
Installation site ⁶⁾		Inside / Outside
Overall plastic anchor embedment depth	$h_{\text{nom}} \geq$ [mm]	70
Mean compressive strength according to EN 12859		
Gypsum blocks MultiGips R.max acoustic panel, $\geq 11.7 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	1.2
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	1.2
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Gypsum blocks: MultiGips R.max acoustic panel
Brick data, Installation parameters, Characteristic resistance

Annex C 121

Base material masonry lintel: Rastersturz HLz

Table C 11.106.1 Brick data

Description of brick		Rastersturz HLz
Type of brick		Masonry lintel
Bulk density	$\rho \geq$ [kg/dm ³]	1.6
Standard, approval/type-approval		Z-17.1-981:2018-12
Producer of brick		Ziegelwerk Turber GmbH Riedenburger Straße 25 85104 Pförring
Format (measurement)	[mm]	115x113x >250

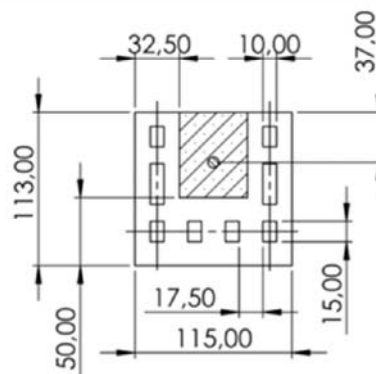


Table C 11.106.2: Installation parameters

Anchor size		8	
Installation site ⁶⁾		bottom view	
Drill hole diameter	$d_0 =$ [mm]	8	
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45	
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	60	80
Drill method	[-]	Hammer drilling	
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	50	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5	
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	90 / 180	90 / 180
Minimum edge distance	$c_{min} \geq$ [mm]	45	45

Table C 11.106.3: Characteristic resistance $F_{Rk}^{1)7)8)}$ in [kN] for single anchor

Anchor size		8		
Installation site ⁶⁾		bottom view		bottom view
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	50		70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{1)}$	$F_{Rk}^{7)}$	$F_{Rk}^{1)}$
Mean compressive strength acc. to EN 771				
Rastersturz HLz, $\geq 7.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^3) / 50^\circ\text{C}^4)}$ [kN]	0.6	1.2	2.0
	$F_{Rk, 50^\circ\text{C}^3) / 80^\circ\text{C}^4)}$ [kN]	0.5	1.2	1.5
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5		

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Masonry lintel: Rastersturz HLz
Brick data, Installation parameters, Characteristic resistance

Annex C 122

Base material masonry lintel: Dämmsturz HLz

Table C 11.107.1 Brick data

Description of brick		Dämmsturz HLz
Type of brick		Masonry lintel
Bulk density	$\rho \geq$ [kg/dm ³]	1.4
Standard, approval/type-approval		Z-17.1-981: 2018-12
Producer of brick		Ziegelwerk Turber GmbH Riedenburger Straße 25 85104 Pförring
Format (measurement)	[mm]	365x113x >240

Hammer drilling is permitted in the area made of concrete (C_{min} is to be considered)

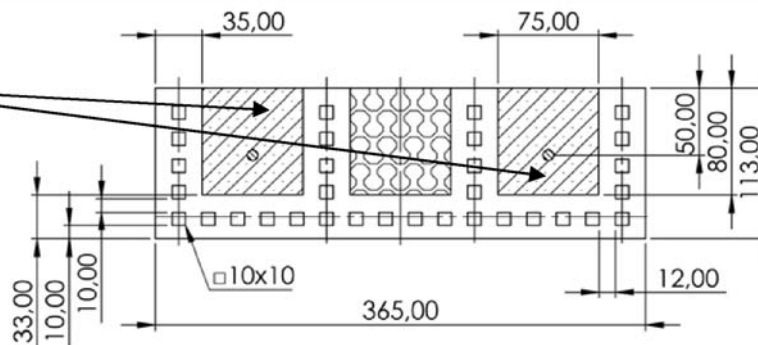


Table C 11.107.2: Installation parameters

Anchor size		8
Installation site ⁶⁾		bottom view
Drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8.45
Depth of drill hole to deepest point	$h_1 \geq$ [mm]	80
Drill method	[-]	Rotary drilling
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	8.5
Spacing perpendicular / parallel to free edge	$s_{1,min}/s_{2,min}$ [mm]	130 / 250
Minimum edge distance	$c_{min} \geq$ [mm]	65

Table C 11.107.3: Characteristic resistance $F_{Rk}^{7)8)}$ in [kN] for single anchor

Anchor size		8	
Installation site ⁶⁾		bottom view	bottom view
Overall plastic anchor embedment depth	$h_{nom} =$ [mm]	70	70
Characteristic resistance for single anchor	[kN]	$F_{Rk}^{7)}$	$F_{Rk}^{7)}$
Mean compressive strength acc. to EN 771			
Dämmsturz HLz, $\geq 6.5 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	2.0	2.5
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	2.0	2.5
Dämmsturz HLz, $\geq 5.0 \text{ N/mm}^2$	$F_{Rk, 30^\circ\text{C}^{3)} / 50^\circ\text{C}^{4)}$ [kN]	1.5	1.5
	$F_{Rk, 50^\circ\text{C}^{3)} / 80^\circ\text{C}^{4)}$ [kN]	1.5	1.5
Partial safety factor	$\gamma_{Mm}^{2)}$ [-]	2.5	

Footnotes see Annex C 3

Würth Plastic Anchor W-UR / SHARK UR

Performances
Masonry lintel: Dämmsturz HLz
Brick data, Installation parameters, Characteristic resistance

Annex C 123