Einfach. Sicher. Upat

PRESTANDADEKLARATION

DoP 0249

för Upats fasadplugg URD 10 (Plastankare för användning i betong och murverk) SV

1. Produkttypens unika identifikationskod: **DoP 0249**

2. Avsedd användning/avsedda användningar: **Plastankare för flera användningsområden i icke-strukturell betong och murverk (användningskategori a, b, c, d), se bilaga, särskilt bilagor B1 - B4.**

3. Tillverkare: **Upat Vertriebs GmbH, Bebelstraße 11, 79108 Freiburg im Breisgau, Tyskland**

4. Tillverkarens representant: **–**

5. System för bedömning och fortlöpande kontroll av prestanda: **2+**

6. Europeiskt bedömningsdokument: **ETAG020, 2012-03, används som EAD**
   Europeisk teknisk bedömning: **ETA-15/0553; 2015-10-15**
   Tekniskt bedömningsorgan: **ETA-Danmark A/S**
   Anmält/anmälda organ: **2873 TU Darmstadt**

7. Angiven prestanda:

Mekanisk hållfasthet och stabilitet (BWR 1)

Motstånd mot skador i stålet under draglast: Bilaga C1
Motstånd mot skador i stål eller polymer under tvärlast: Bilaga C1
Motstånd mot att det dras ut eller betongen skadas under draglast (basmaterialgrupp a): Bilaga C1

Motstånd i alla lastriktningar utan hävarm (basmaterialgrupp b, c och d): Bilagor C2, C3
Kant- och inbördes avstånd (basmaterialgrupp a): Bilaga B2
Kant- och inbördes avstånd (basmaterialgrupp b, c och d): Bilaga B3
Förflyttningar under kort- och långvarig belastning: Bilaga C1
Hållbarhet: Bilagor A3, B1

Säkerhet vid brand (BWR 2)

Reaktion vid brand:Klass A1
Motståndskraft mot eld: Bilaga C1

8. Lämplig teknisk dokumentation och/eller särskild teknisk dokumentation: **–**

Prestandan för ovanstående produkt överensstämmer med den angivna prestandan. Denna prestandadeklaration har utfärdats i enlighet med förordning (EU) nr 305/2011 på eget ansvar av den tillverkare som anges ovan.

Undertecknad på tillverkarens vägnar av:

Dr.-Ing. Oliver Geibig, Verkställande direktör affärsenheter och teknik

Jürgen Grün, Verkställande direktör kemi och kvalitet

Tumlingen, 2021-01-18

Denna DoP har förberetts på olika språk. I händelse av tvist om tolkningen ska den engelska versionen alltid råda.

Bilagan innehåller frivilliga och kompletterande information på engelska som överskrider (det specifika språkets) lagkrav.

II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of product and intended use

Technical description of the product

The Upat frame fixing URD 10 is a plastic anchor consisting of a plastic sleeve made of polyamide and an accompanying specific screw of galvanised steel, of galvanised steel with an additional Duplex-coating 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

Mechanical resistance and stability (BWR1)

The essential characteristics regarding mechanical resistance and stability are included under the Basic Works Requirement Safety in use.

Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Anchorages satisfy requirements for Class A 1
Resistance to fire	See Annex C 1

Hygiene, health and the environment (BWR 3)

The product does not contain/release dangerous substances specified in TR 034, dated March 2012.

Regarding the dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

Safety and accessibility (BWR 4)

Essential characteristic	Performance
Characteristic resistance for tension and shear loads	See Annexes C
Characteristic resistance for bending moments	See Annex C 1
Displacements under shear and tension loads	See Annex C 1
Anchor distances and dimensions of members	See Annex B 2

Sustainable use of natural resources (BWR 7)

The sustainable use of natural resources was not investigated.

Other Basic Requirements are not relevant.

General aspects

The verification of durability is part of testing the essential characteristics. Durability is only ensured if the specifications of intended use according to Annex B are taken into account.

Methods of assessment

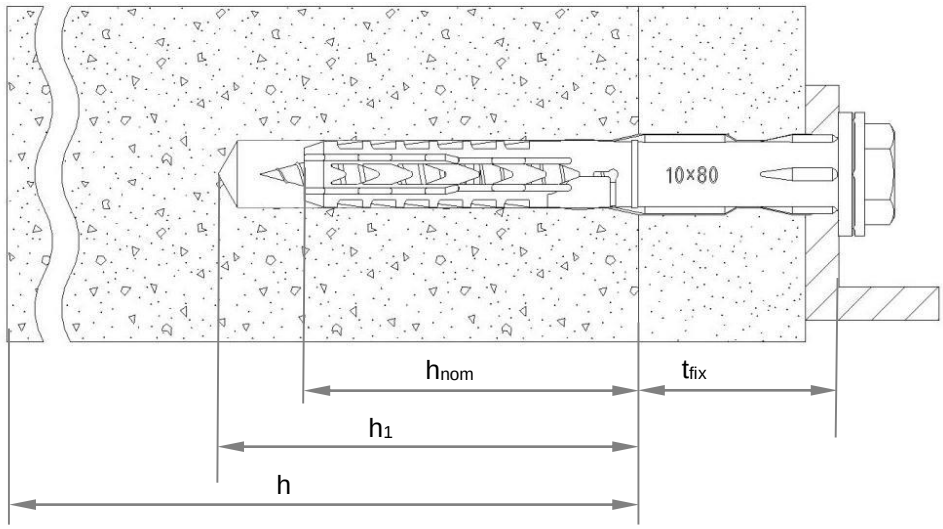
The assessment of fitness of the anchor for the intended use in relation to the requirements for safety in use in the sense of the Basic Requirement 4 has been made in accordance with the « Guideline for European Technical Assessment of Plastic anchor for multiple use in concrete and masonry for non-structural applications, March 2012», Part 1 «General».

4 Assessment and verification of constancy of performance (AVCP)

4.1 AVCP system

According to the decision 97/463/EC of the European Commission, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 2+.

URD



Legend

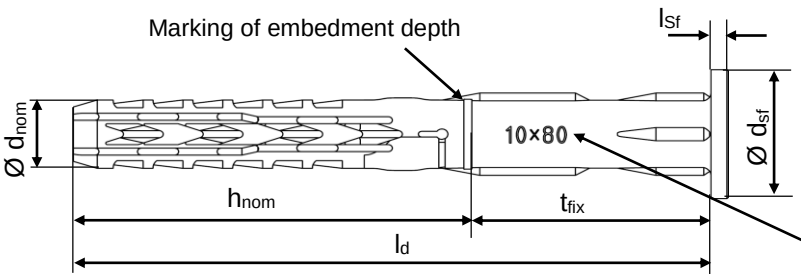
h_{nom} = overall plastic anchor embedment depth in the base material

h_1 = depth of drill hole to deepest point

h = thickness of member (wall)

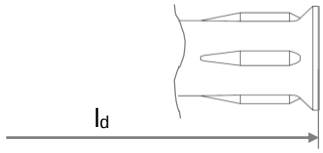
t_{fix} = thickness of fixture and / or non-load bearing layer

Anchor sleeves – flat collar version of URD

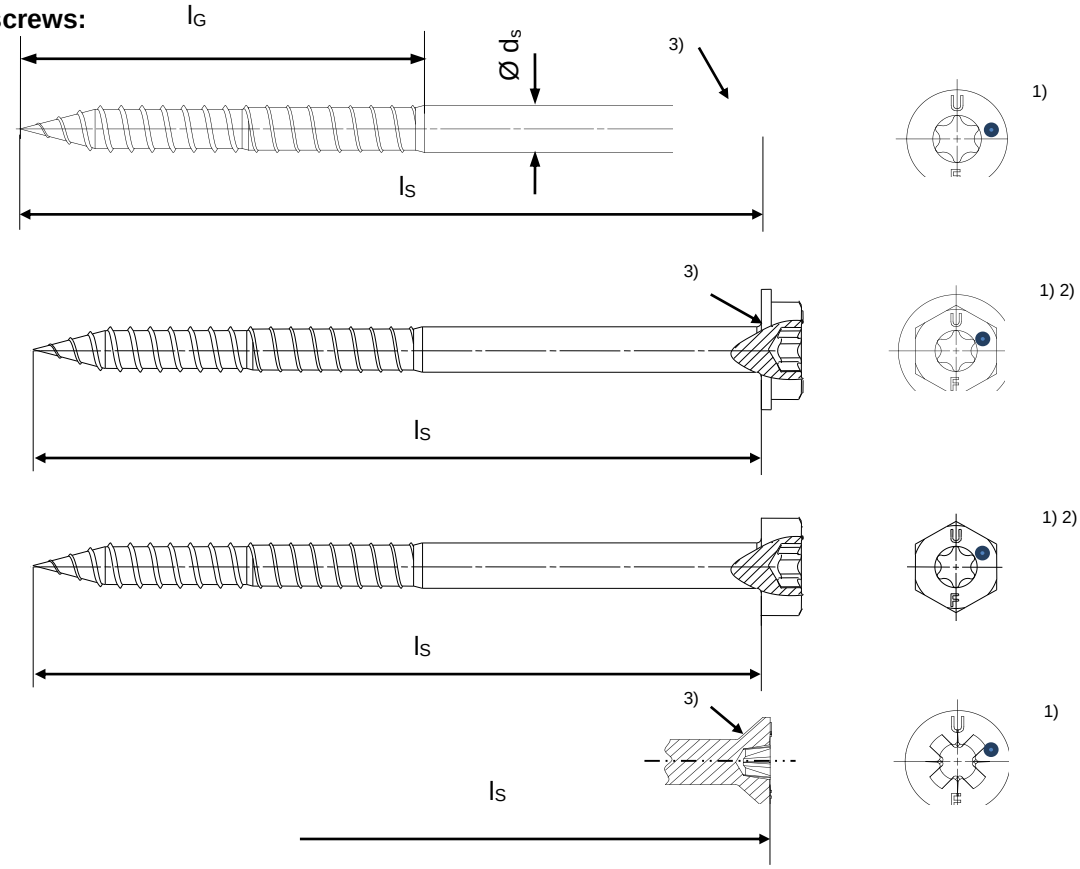


Marking:
Brand
Anchor type
Size
e.g. SXR 10x80

Countersunk version also available



Special screws:



1) Additional marking for the special screw, stainless steel version: „A4“.
2) Internal driving feature for Torx bit is optional for hexagonal head
3) Optional additional version with underhead ribs

Upat frame fixing URD	**Annex A2**
Anchor types/specific screws	Appendix 5 / 13

Table A3.1: Dimensions [mm]

Anchor type	Anchor sleeve						Special screw		
	h_{nom} [mm]	Ø d_{nom} [mm]	t_{fix} [mm]	l_d [mm]	l_{Sf} [2)] [mm]	Ø d_{Sf} [mm]	Ø d_s [mm]	l_G [mm]	l_s [mm]
URD 10	50	10	≥ 1	51-360	2,2	18,5	7,0	≥ 57	≥ 58 [1)]

1) To ensure that the screw penetrates the anchor sleeve, l_s must be $l_d + l_{Sf}$ [2)] + 7 mm
2) Only valid for flat collar version

Table A3.2: Materials

Name	Material
Anchor sleeve	Polyamide, PA6, colour: blue
Special screw	- Steel gvz A2G or A2F acc. to EN ISO 4042:2001-01 or - Steel gvz A2G or A2F acc. to EN ISO 4042:2001-01 + Duplex-coating type Delta-Seal in three layers (total layer thickness ≥ 6 µm) or - Stainless steel acc. to EN 10 088-3:2014, e.g. 1.4401, 1.4571, 1.4578, 1.4362

Specifications of intended use

Anchorages subject to:

- Static and quasi-static loads.
- Multiple fixing of non-structural applications.

Base materials:

- Reinforced or unreinforced normal weight concrete with strength classes ≥ C12/15 (use category “a”), according to EN 206-1:2000.
- Solid brick masonry (use category “b”), according to Annex C2.
  Note: The characteristic resistance is also valid for larger brick sizes and higher compressive strength of the masonry unit.
- Hollow brick masonry (use category “c”), according to Annex C3.
- Mortar strength class of the masonry ≥ M2,5 according to EN 998-2:2010.
- For other base materials of the use categories “a”, “b” and “c” the characteristic resistance of the anchor may be determined by job site tests according to ETAG 020, Annex B, Edition March 2012.

Temperature range:

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

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions (zinc coated steel, stainless steel).
- The specific screw made of galvanised steel or galvanised steel with an additional Duplex-coating 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).

  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 to be designed in accordance with the ETAG 020, Annex C 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 drilling method according to Annex C2 – C3 for use categories “b” and “c”.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Installation temperature: -5 °C to + 40 °C
- Exposure to UV due to solar radiation of the not protected anchor ≤ 6 weeks.

Table B2.1: Characteristic resistance – installation parameters

Anchor type				URD 10
Drill hole diameter	d_0	=	[mm]	10
Cutting diameter of drill bit	d_{cut}	≤	[mm]	10,45
Depth of drill hole to deepest point [1)]	h_1	≥	[mm]	60
Overall plastic anchor embedment depth in the base material [1) 2)]	h_{nom}	≥	[mm]	50
Diameter of clearance hole in the fixture	d_f	≤	[mm]	10,5/12,5[3)]

1) See Annex A1.
2) If the embedment depth is higher than h_{nom} given in Table B2.1 (only for hollow and perforated masonry), job site tests have to be carried out according to ETAG 020, Annex C.
3) See Table C1.4

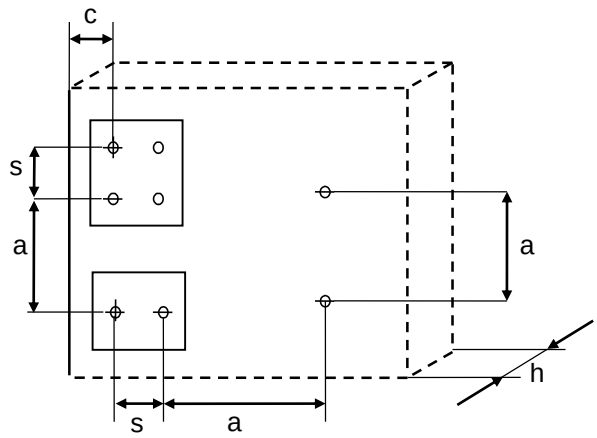
Table B2.2: Minimum thickness of member, edge distance and spacing in concrete

Anchor type		Min. thickness of member h_{min} [mm]	Characteristic edge distance $c_{cr,N}$ [mm]	Characteristic spacing $s_{cr,N}$ [mm]	Min. spacing and edge distances [1)] [mm]
URD 10	≥ C16/20	100	100	90	s_{min} = 50 for c ≥ 150 c_{min} = 60 for s ≥ 70
	C12/15		140	100	s_{min} = 70 for c ≥ 210 c_{min} = 85 for s ≥ 100

1) Intermediate values by linear interpolation.

Fixing points with a spacing a ≤ $s_{cr,N}$ are considered as a group with a max. characteristic resistance $N_{Rk,p}$ acc. to Table C1.3. For a spacing a > $s_{cr,N}$ the anchors are considered as single anchors, each with a characteristic resistance $N_{Rk,p}$ acc. to Table C1.3

Scheme of distance and spacing in concrete



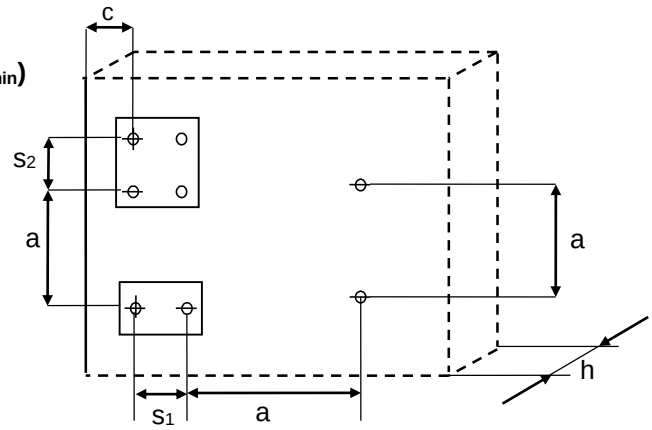
Upat frame fixing URD	Annex B2
Installation parameters, minimum thickness of member, edge distance and spacing for use in concrete	Appendix 8 / 13

Table B3.3: Minimum thickness of member, edge distance and spacing in masonry

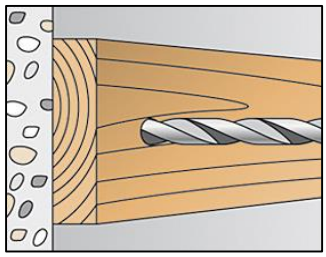
Anchor type			URD 10
Minimum thickness of member	h_{min}	[mm]	100
Minimum spacing perpendicular to free edge	$s_{1,min}$	[mm]	100
Minimum spacing parallel to free edge	$s_{2,min}$	[mm]	100
Minimum edge distance	c_{min}	[mm]	100

Scheme of distance and spacing in masonry

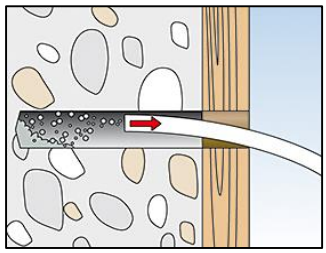
a ≥ max (250 mm; $s_{1,min}$; $s_{2,min}$)



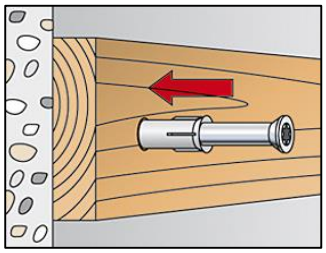
Installation instruction (the following pictures show fixing through timber in concrete)



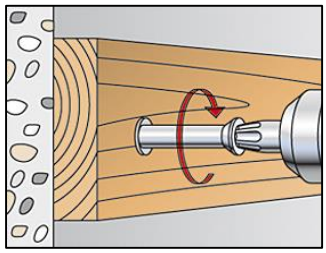
1. Drill the bore hole Ø 10 mm, using the drill method described in the corresponding annex.



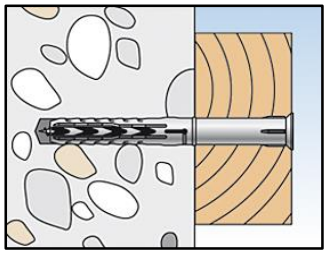
2. Remove dust from borehole.



3. Insert anchor (screw and plug) by using a hammer until the collar of the plastic sleeve is flush with the surface of the fixture.



4. The screw is screwed-in until the head of the screw touches the sleeve.



5. Correctly installed anchor.

Upat frame fixing URD	**Annex B4**
Setting procedure	Appendix 10 / 13

Table C1.1: Characteristic bending resistance of the screw

Anchor type			URD 10	
Material			galvanised steel	stainless steel
Characteristic bending resistance	$M_{Rk,s}$	[Nm]	**20,6**	**20,6**
Partial safety factor	γ_{Ms} [1)]		**1,25**	**1,25**

1) In absence of other national regulations.

Table C1.2: Characteristic resistance of the screw

Failure of expansion element (special screw)			URD 10	
			galvanised steel	stainless steel
Characteristic tension resistance	$N_{Rk,s}$	[kN]	**21,7**	**21,7**
Partial safety factor	γ_{Ms} [1)]		**1,55**	**1,55**
Characteristic shear resistance	$V_{Rk,s}$	[kN]	**10,8**	**10,8**
Partial safety factor	γ_{Ms} [1)]		**1,29**	**1,29**

1) In absence of other national regulations.

Table C1.3: Characteristic resistance for use in concrete

Pull-out failure (plastic sleeve)			URD 10	
Temperature range			30/50 °C	50/80 °C
Concrete ≥ C12/15				
Characteristic resistance	$N_{Rk,p}$	[kN]	**4,5**	**4,0**
Partial safety factor	γ_{Mc} [1)]		**1,8**	

1) In absence of other national regulations.

Table C1.4: Displacements[1)] under tension and shear loading in concrete and masonry

Anchor type		Tension load [2)]		Shear load [2)]	
	F [kN]	δ_{NO} [mm]	$\delta_{N\infty}$ [mm]	δ_{VO} [mm]	$\delta_{V\infty}$ [mm]
URD 10	**1,8**	**1,29**	**2,58**	**1,15/3,05[3)]**	**1,74/4,58[3)]**

1) Valid for all ranges of temperatures.
2) Intermediate values by linear interpolation.
3) Valid for diameter in the clearance hole ≤ 12,5 mm (see Table B2.1).

Table C1.5: 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

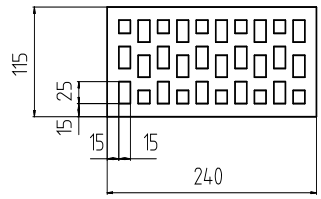
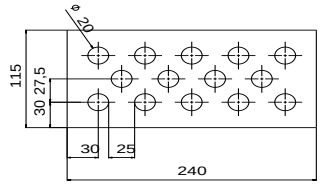
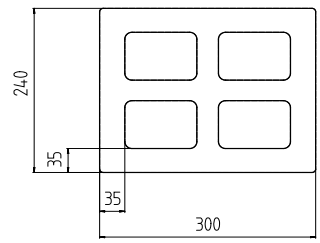
Anchor type	Fire resistance class	F_{Rk}
URD 10	**R 90**	0,8 kN

Table C2.1: URD 10 characteristic resistance F_{Rk} in [kN] in solid masonry (use category "b")

Base material	Min. DF or min. size (L x W x H) [mm]	Min. compressive strength f_b [N/mm²] / bulk density ≥ ρ [kg/dm³]	Drill method [1]	Characteristic resistance F_{Rk} [kN]
				URD 10 h_{nom} ≥ 50mm
				50/80 °C
Clay brick Mz, e.g. acc. to DIN 105-100:2012-01 EN 771-1:2011, e.g. **Schlagmann**, *Mz*	NF (240x115x71)	20/1,8	H	**2,5**
		10/1,8		**1,5**
Calcium silicate solid brick KS e.g. acc. to DIN V 106:2005-10, EN 771-2:2011 e.g. **KS Wemding**, *KS*	NF (240x115x71)	20/1,8	H	**2,0**
		10/1,8		**0,9**
Lightweight concrete solid brick, e.g. acc. to DIN V 18152-100:2005 EN 771-3:2011 e.g. **KLB,** *V*	(490x115x240)	2/1,2	H	**0,9**
Partial safety factor			γ_{Mm} [2]	**2,5**

[1] H = Hammer drilling.
[2] In absence of other national regulations.

Table C3.1: URD 10 characteristic resistance F_{Rk} in [kN] in hollow or perforated masonry (use category "c")

Base material [**Supplier** *Title*]	Geometry and DF or size (L x W x H) [mm]	Min. compressive strength f_b [N/mm²] / bulk density ≥ ρ [kg/dm³]	Drill method [1]	Characteristic resistance F_{RK} [kN] URD 10 h_{nom} 50mm 50/80 °C
Clay brick Form B, HLz acc. to DIN 105-100:2012-01, EN 771-1:2011 e.g. **Wienerberger,** *HLz*	 2DF (240x115x113)	20/1,2	**R**	**2,0**
		10/1,2		**0,9**
Hollow calcium silicate brick acc. to DIN V 106:2005-10, EN 771-2:2011 e.g. **KS Wemding,** *KSL*	 2 DF (240x115x113)	12/1,4	**H**	**2,0**
		10/1,4		**1,5**
		8/1,4		**1,2**
Hollow brick normal concrete,e.g. acc. to DIN V 18151-100:2005, EN 771-3:2011, e.g. **Adolf Blatt**, *Hbn*	 (300x240x240)	6/1,6	**H**	**2,5**
Hollow brick lightweight concrete, e.g. acc. to DIN V18153-100:2005-10, EN 771-3, e.g. **KLB**, *Hbl*		2/1,2		**1,5**
Partial safety factor			γ_{Mm} [2]	**2,5**

[1] H = Hammer drilling, R = Rotary drilling.
[2] In absence of other national regulations.