DECLARATION OF PERFORMANCE
NR. LE_0903450200_01_M_WIT-VM 250 (3)

LANGUAGE VERSIONS :

Language	Site
EN	2
ETA–99/0011 (EN)	4
BG	42
CZ	44
DA	46
DE	48
ES	50
ET	52
FI	54
FR	56
GA	58
GR	60
HR	62
HU	64
IT	66
LT	68
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SL	89
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DECLARATION OF PERFORMANCE

No. 0903450200_01_M_WIT-VM 250 (3)

This is an English translation of the original German wording.
In cases of doubt, the German version applies

1. Unique identification code of the product type: Würth Injektionssystem WIT-VM 250
[Würth WIT-VM 250 injection system]
Art. No.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*

2. Intended use(s): Bonded anchor for anchoring in masonry

3. Manufactured by: Adolf Würth GmbH & Co. KG
Reinhold-Würth-Straße 12–17
D-74653 Künzelsau

4. System(s) of assessment and verification of constancy of performance: System 1

5. European Assessment Document: ETAG 029, April 2013
European Technical Assessment: ETA-13/1040 – 01/13/2015
Technical Assessment Body: Deutsches Institut für Bautechnik (DIBT), Berlin
Notified Body or Bodies: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt

6. Declared performance:

Essential characteristics	**Performance**	**Harmonized technical specification**
Mechanical resistance and stability (BWR 1)		ETA-13/1040 ETAG 029
Characteristic load-bearing capacity for tensile and transverse loads	See Annex C1, C5 to C25	
Characteristic load-bearing capacity for bending moments	See Annex C1	
Deformations under transverse and tensile load	See Annex C26	
Reduction factor for construction site tests (β factor)	See Annex C26	
Axial and edge clearances	See Annexes C4 to C25	
Fire protection (BWR 2)		
Fire behavior	The dowel fulfills Class A1 requirements	
Fire resistance	No performance determined (NPD)	

The performance of the above product corresponds to the declared performance. The declaration of performance is issued in compliance with EU Regulation 305/2011 under the sole responsibility of the above manufacturer.

Signed for and on behalf of the manufacturer by:

Frank Wolpert

Dr.-Ing. Siegfried Beichter

Authorized Signatory, Head of Product Management

(Head of Quality, Authorized Signatory)

Künzelsau, January 01, 2021

Deutsches Institut für Bautechnik

Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

Member of EOTA
www.eota.eu

Designated according to Article 29 of Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment)

European Technical Assessment

ETA-13/1040 of 13 January 2015

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 Injection system WIT-VM 250 for use in masonry
Product family to which the construction product belongs	Injection system for use in masonry
Manufacturer	Adolf Würth GmbH & Co. KG Reinhold-Würth-Straße 12-17 74653 Künzelsau DEUTSCHLAND
Manufacturing plant	Werk 1 und Werk 3
This European Technical Assessment contains	38 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	Guideline for European technical approval of "Metal Injection Anchors for Use in Masonry", ETAG 029, April 2013, used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011.

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Specific Part

1 Technical description of the product

The Würth Injection system WIT-VM 250 for use in masonry is a bonded anchor (injection type) consisting of a mortar cartridge with Würth injection mortar, a perforated sieve sleeve and an anchor rod with hexagon nut and washer in the range of M6 to M12 or an internal threaded rod in the range of M6 and M8. The steel elements are made of zinc coated steel, stainless steel or high corrosion resistant steel.

The anchor rod is placed into a drilled hole filled with injection mortar and is anchored via the bond between steel element, injection mortar and masonry and mechanical interlock.

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 anchor 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 Mechanical resistance and stability (BWR 1)

Essential characteristic	Performance
Characteristic resistance for tension and shear loads	See Annex C1, C5 – C25
Characteristic resistance for bending moments	See Annex C1
Displacements under shear and tension loads	See Annex C26
Reduction Factor for job site tests (β-Factor)	See Annex C26
Edge distances and spacing	See Annex C4 – C25

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Anchorages satisfy requirements for Class A1
Resistance to fire	No performance determined (NPD)

3.3 Hygiene, health and the environment (BWR 3)

Regarding dangerous substances there may be requirements (e.g. transposed European legislation and national laws, regulations and administrative provisions) applicable to the products falling within the scope of this European Technical Assessment. In order to meet the provisions of Regulation (EU) No 305/2011, these requirements need also to be complied with, when and where they apply.

3.4 Safety in use (BWR 4)

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

3.5 Protection against noise (BWR 5)

Not applicable.

3.6 Energy economy and heat retention (BWR 6)

Not applicable.

3.7 Sustainable use of natural resources (BWR 7)

The sustainable use of natural resources was not investigated.

3.8 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.

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

According to Decision of the Commission of 17 February 1997 (97/177/EC) (OJ L 073 of 14.03.97 p. 24-25), the system of assessment and verification of constancy of performance (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) given in the following table applies.

Product	Intended use	Level or class	System
Metal injection anchors for use in masonry	For fixing and/or supporting to masonry, structural elements (which contributes to the stability of the works) or heavy units	—	1

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 13 January 2015 by Deutsches Institut für Bautechnik

Uwe Bender
Head of Department

beglaubigt:
Wittstock

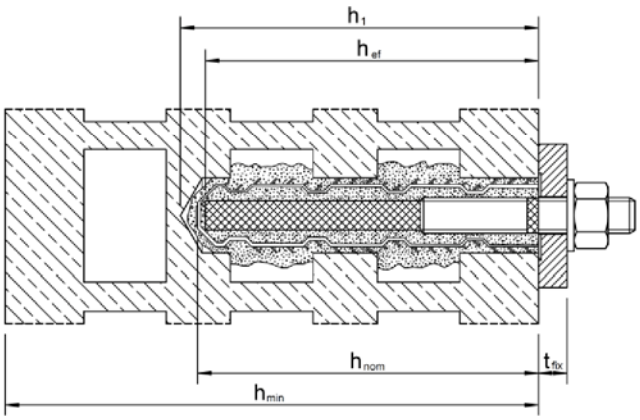
Deutsches Institut für Bautechnik

DIBt

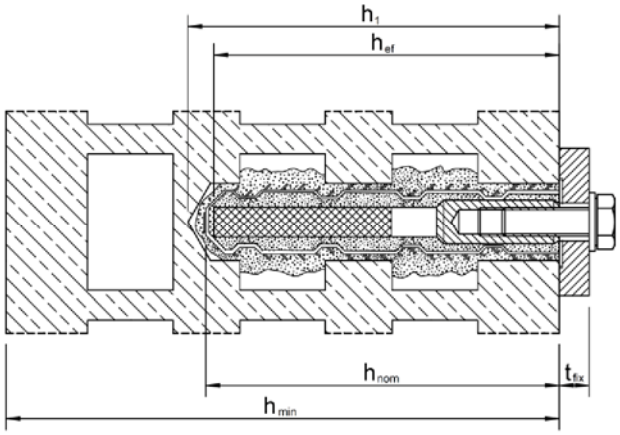
Installation anchor

Installation in perforated and solid brick masonry

a) Installation with sieve sleeve and anchor rod

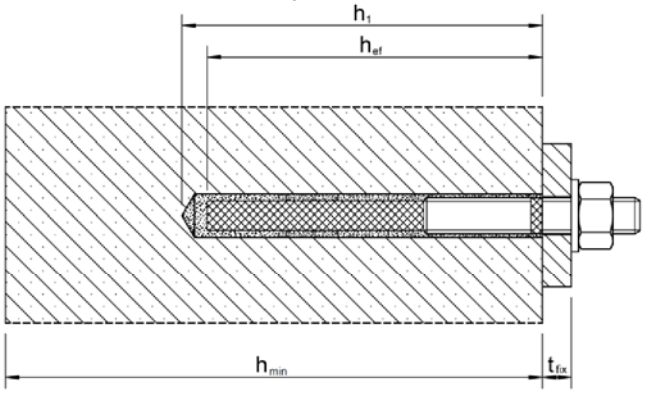


b) Installation with sieve sleeve and internal threaded rod



Installation in solid brick masonry without sieve sleeve

c) Installation without sieve sleeve and anchor rod (Installation with internal threaded rod: Not pictured)



h_{nom}: Embedment depth of the sieve sleeve
h_1: Depth of drill hole to deepest point
h_{min}: Thickness of member
t_{fix}: Thickness of fixture
h_{ef}: Effective anchorage depth

Würth Injektion System WIT-VM 250 for masonry

Product description
Installed condition

Annex A 1

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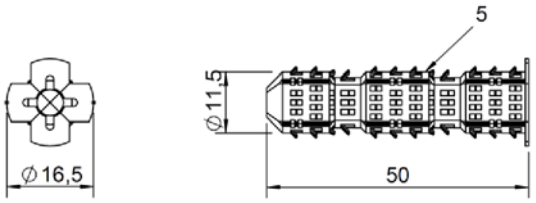
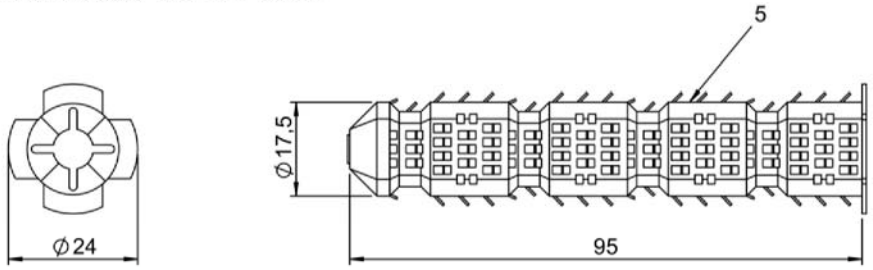
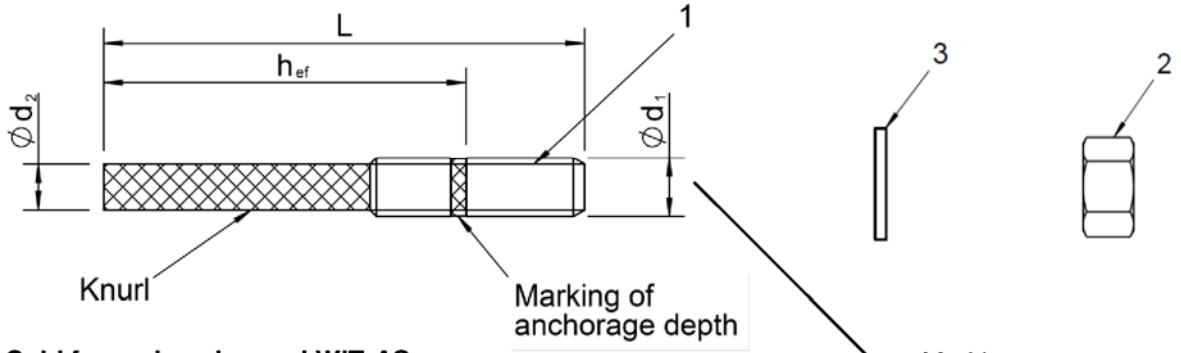
Sieve sleeve WIT-SH 12/50



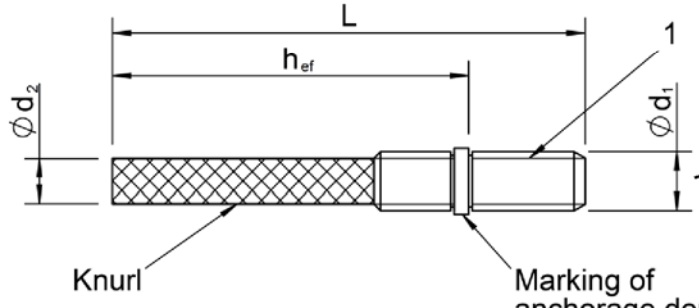
Sieve sleeve WIT-SH 18/95



Anchor rod WIT-AS



Cold formed anchor rod WIT-AS

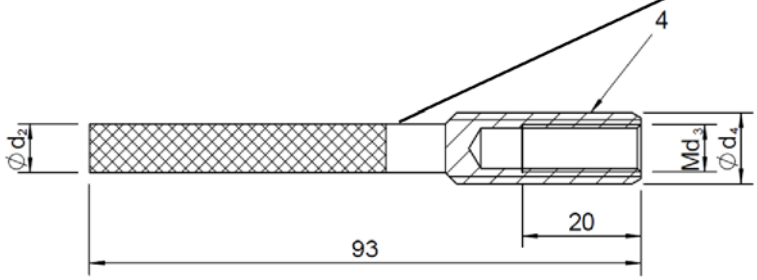


Marking: e.g.
◈ Identifying mark of manufacturing
Anchor size (M…)

for stainless steel A4, 1.4401, 1.4404 or 1.4571 additional A4

for high corrosion resistant steel HCR, 1.4529 additional HCR

Internal threaded rod WIT-IG



Würth Injektion System WIT-VM 250 for masonry	Annex A 2
Product description Sieve sleeve, anchor rod and internal threaded rod	

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Table A1: Materials

Part	Designation	**Steel, zinc plated** ≥ 5 µm acc. to EN ISO 4042:2001 **Steel, hot-dip galvanized** ≥ 40 µm acc. to EN ISO 1461:2009 or EN ISO 10684:2011	**Stainless steel A4,** **High corrosion resistant steel HCR**
1	Anchor rod	Steel property class 5.8 or 8.8, acc. to EN ISO 898-1:2013	EN 10 088:2012, 1.4401 / 1.4404 / 1.4571 EN ISO 3506:2010, A4-70, A4-80 or EN 10 088:2012, 1.4529 with $f_{uk} \geq 700$ N/mm², $f_{yk} \geq 350$ N/mm²
2	Hexagon nut acc. to DIN 934, EN ISO 4032:2013	Steel, property class 5 or 8 acc. to EN ISO 898-2:2012	EN 10 088:2012, 1.4401 / 1.4404 / 1.4571 EN ISO 3506:2010, A4-70, A4-80 or EN 10 088:2012, 1.4529 with $f_{uk} \geq 700$ N/mm², $f_{yk} \geq 350$ N/mm²
3	Washer acc. to EN ISO 7089:2000	Steel	EN 10 088:2012, 1.4401 / 1.4571 or 1.4529
4	Internal threaded rod	Steel, property class 5.8 or 8.8, acc. to EN ISO 898-1:2013	EN 10 088:2012, 1.4401 / 1.4404 / 1.4571 EN ISO 3506:2010, A4-70, A4-80 or EN 10 088:2012, 1.4529 with $f_{uk} \geq 700$ N/mm², $f_{yk} \geq 350$ N/mm²
5	Sieve sleeve	Polypropylene	
6	Injection mortar	Vinylester resin, styrene free, mixing ratio 1:10	

Table A2: Anchor dimensions

Anchor rod	**Size**	**Sieve sleeve**	**Anchor rod**				
			Ø d_1 [mm]	**Ø d_2** [mm]	**h_{ef}** [mm]	**L_{min}** [mm]	**L_{max}** [mm]
WIT-AS	M6/50	WIT-SH 12/50	6	6.2	49	65	500
WIT-AS	M8/50	WIT-SH 12/50	8	6.2	49	65	500
WIT-AS	M8	WIT-SH 18/95	8	8.2	93	110	500
WIT-AS	M10	WIT-SH 18/95	10	8.2	93	120	500
WIT-AS	M12	WIT-SH 18/95	12	8.2	93	125	500

Table A3: Internal threaded rod dimensions

Internal threaded rod	**Size**	**Sieve sleeve**	**Internal threaded rod**			**Minimum and maximum screw in depth**	
			Ø d_2 [mm]	**Ø d_3** [mm]	**Ø d_4** [mm]	**min s** [mm]	**max s** [mm]
WIT-IG	M6	WIT-SH 18/95	8.2	6	12	8	20
WIT-IG	M8	WIT-SH 18/95	8.2	8	12	8	20

Würth Injektion System WIT-VM 250 for masonry

Product description
Materials, anchor dimensions

Annex A 3

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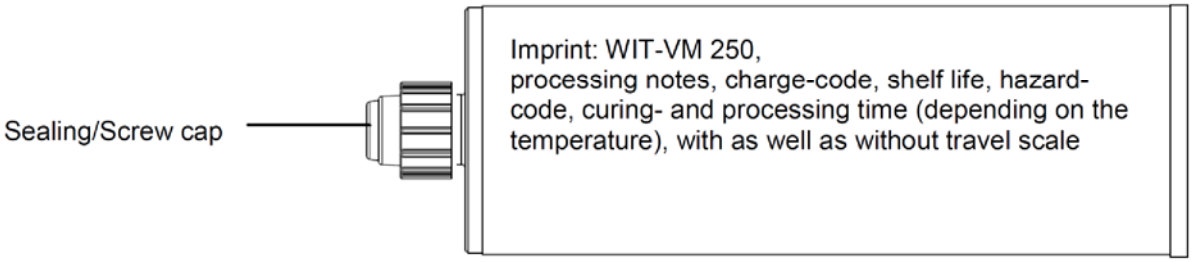
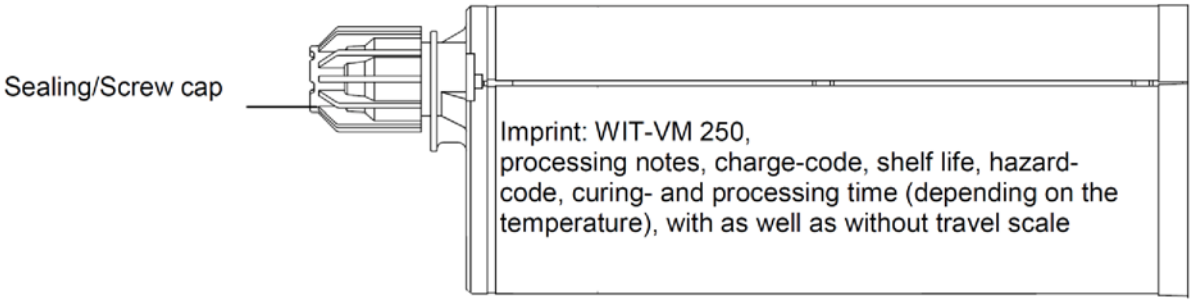
Cartridge: WIT-VM 250

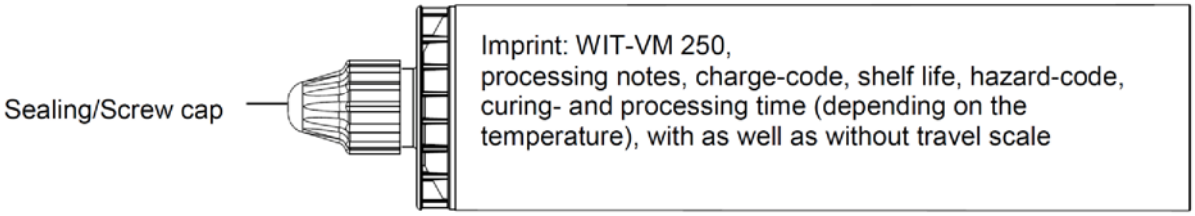
150 ml, 280 ml, 300 ml, 310 ml, 330 ml, 380 ml, 410 ml and 420 ml cartridge (Type: „coaxial“)



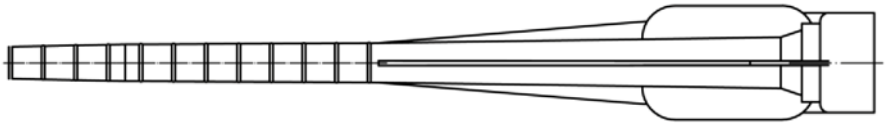
235 ml, 345 ml and 825 ml cartridge (Type: „side-by-side“)



165 ml and 300 ml cartridge (Type: „foil tube“)



Static Mixer



Cleaning brush

Würth Injektion System WIT-VM 250 for masonry	Annex A 4
Product description Mortar cartridge, static mixer, cleaning brush	

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Specifications of intended use

Anchorages subject to:
- Static and quasi-static loads

Base materials:
- Solid brick masonry (Use category b) and autoclaved aerated concrete masonry (Use category d), according to Annex C 2.
  Note: The characteristic resistance are also valid for larger brick sizes and larger compressive strength of the masonry unit.
- Hollow brick masonry (use category c), according to Annex C 3.
- Mortar strength class of the masonry M2.5 at minimum according to EN 998-2:2010.
- For other bricks in solid masonry and in hollow or perforated masonry, the characteristic resistance of the anchor may be determined by job site tests according to ETAG 029, Annex B under consideration of the β-factor according to Annex C 26, Table C6.

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

Use conditions (Environmental conditions):
- Dry and wet structure (regarding injection mortar).
- Structures subject to dry internal conditions
  (zinc coated steel, stainless steel or high corrosion resistant steel).
- Structures subject to external atmospheric exposure including industrial and marine environment
  (stainless steel or high corrosion resistant steel).
- Structures subject to permanently damp internal condition, if no particular aggressive conditions exist
  (stainless steel or high corrosion resistant steel).
- Structures subject to permanently damp internal condition or in other particular aggressive conditions
  (high corrosion resistant steel).
  Note: Particular aggressive conditions are e.g. permanent, alternating immersion in seawater or the splash zone of seawater, chloride atmosphere of indoor swimming pools or atmosphere with extreme chemical pollution (e.g. in desulphurization plants or road tunnels where de-icing materials are used).

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

Installation:
- Dry or wet structures.
- Sieve sleeve WIT-SH 18/95: Use category c and d.
- Sieve sleeve WIT-SH 12/50: Use category c.
- Hole drilling by rotary drill mode or hammer drill mode according to Annex C.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Fastening screws or threaded rods (including nut and washer) must comply with the appropriate material and property class of Würth internal threaded anchor WIT-IG.

Würth Injektion System WIT-VM 250 for masonry	Annex B 1
Intended Use Specifications	

Deutsches Institut für Bautechnik DIBt

Table B1.1: Installation parameters WIT-SH 12/50

Injection system WIT-VM 250			**WIT-SH 12/50**			
Anchor size	**Anchor rod WIT-AS**		**M6**	**M8**	**M6**	**M8**
Sieve sleeve WIT-SH			without		WIT-SH 12/50	
Drill hole diameter	d_0 =	[mm]	8	10	12	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55			
Effective embedment depth	$h_{ef} \geq$	[mm]	49		49	
Embedment depth of the sieve sleeve	h_{nom} =	[mm]	-		50	
Diameter of clearance hole in the fixture WIT-AS	$d_f \leq$	[mm]	7	9	7	9
Diameter of steel brush	$d_B \geq$	[mm]	9	11	13	
Maximum torque moment	$T_{inst} \leq$	[Nm]	2			

Table B1.2: Installation parameters WIT-SH 18/95

Injection system WIT-VM 250			**WIT-SH 18/95**								
Anchor size,	**Anchor rod WIT-AS**		**M8**	**M10**	**M12**	**-**	**-**	**M8**	**M10**	**M12**	**-**	**-**
Anchor size,	**Internal threaded rod WIT-IG**		**-**	**-**	**-**	**M6**	**M8**	**-**	**-**	**-**	**M6**	**M8**
Sieve sleeve WIT-SH			without					WIT-SH 18/95				
Drill hole diameter	d_0 =	[mm]	10	12	14	14	14	18				
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100[1)]									
Effective embedment depth	$h_{ef} \geq$	[mm]	93									
Embedment depth of the sieve sleeve	h_{nom} =	[mm]	-	-	-	-	-	95				
Diameter of clearance hole in the fixture WIT-AS	$d_f \leq$	[mm]	9	12	14	-	-	9	12	14	-	-
Diameter of clearance hole in the fixture WIT-IG	$d_f \leq$	[mm]	-	-	-	7	9	-	-	-	7	9
Diameter of steel brush	$d_B \geq$	[mm]	11	13	15	15	15	19				
Maximum torque moment	$T_{inst} \leq$	[Nm]	2									

1) The remote face of the masonry member shall be inspected to ensure there has been no break-through by drilling. In case of break-through the ground of the drill hole shall be closed with high strength mortar. The full bonded length h_{ef} shall be achieved and any potential loss of injection mortar shall be compensated.

Table B2: Maximum working time and minimum curing time

Temperature [°C] in the drill hole	**Maximum working time**	**Minimum curing time[1)]**	
		Dry masonry	**Wet masonry**
> +40°C	1.5 min	15 min	30 min
> +35°C to +40°C	2 min	20 min	40 min
> +30°C to +35°C	4 min	25 min	50 min
> +20°C to +30°C	6 min	45 min	1:30 h
> +10°C to +20°C	15 min	1:20 h	2:40 h
> +5°C to +10°C	25 min	2 h	4 h
> 0°C to +5°C [2)]	45 min	7 h	14 h
> -5°C to 0°C[2)]	90 min	14 h	28 h
-10°C to -5°C[2)3)]	90 min	24 h	48 h

1) The cartridge temperature must exceed ≥ + 5°C
2) Not for autoclaved aerated concrete AAC. Minimum base ground temperature autoclaved aerated concrete AAC > +5°C.
3) The cartridge temperature must exceed ≥ + 15°C

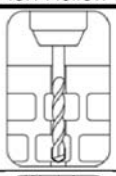
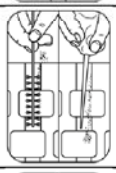
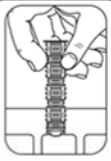
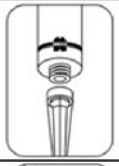
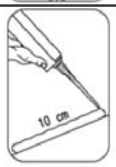
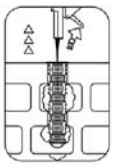
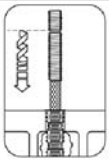
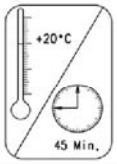
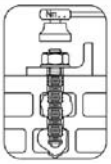
Würth Injektion System WIT-VM 250 for masonry

Intended Use
Installation parameters, maximum working times and minimum curing times

Annex B 2

Deutsches Institut für Bautechnik DIBt

Installation instructions (Installation with sieve sleeve)
Suitable for: Hollow brick, sand-lime perforated brick, hollow brick lightweight concrete, autoclaved aerated concrete.

1		Drill the hole. For depth of drill hole h_1 and drill hole diameter d_0 see Table B1.1 and B1.2. Drill method according to Annex C 5 to C 25. In case of aborted drill hole, the drill hole shall be filled with mortar.
2		Clean the drilled hole (2x blow out + 2x brushing + 2x blow out).
3		Insert the sieve sleeve into the drilled hole - the collar of the sieve sleeve is located on the masonry surface to.
4		Screw off the cap. Cartridge type "foil tube": Cut off the foil tube clip before use. Screw on the static mixer. **Never use the static mixer, if the helix is not present!** Place the cartridge (with the attached static mixer) in the Würth injection gun. For every working interruption longer than the recommended working time (Table B2) as well as for new cartridges, a new static-mixer shall be used.
5		Before use, press out a string of mortar about 10 cm long for cartridge type "coaxial" and "side-by-side" respectively 20 cm long for cartridge type "foil tube" until the mortar has a uniform grey colour. **Do not use the first string of pressed out mortar!**
6		**Sieve sleeve WIT-SH 18/95** Completely fill the sieve sleeve starting from the bottom with WIT-VM 250 mortar. **Sieve sleeve WIT-SH 12/50** Completely fill the sieve sleeve starting from the beginning of the sieve sleeve with WIT-VM 250 mortar. For the correct quantity of mortar see manufacturer's specification.
7		Insert the anchor rod by hand using light turning motions, until the effective anchorage depth is reached.
8		Observe the required curing time of the mortar. For minimum curing times see Table B2. Do not move or load the anchor until it is fully cured.
9		The fixture can be mounted after curing time. Installation torque T_{inst} according to Table B1.1 and B1.2 - T_{inst} must not be exceeded. Use a calibrated torque wrench.

Würth Injektion System WIT-VM 250 for masonry

Intended Use:
Installation with sieve sleeve WIT-SH 12/50 and WIT-SH 18/95

Annex B 3

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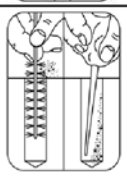
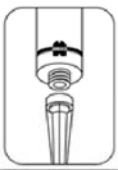
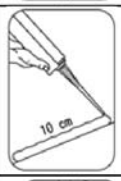
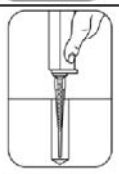
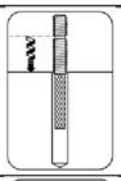
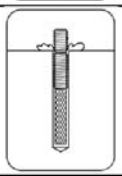
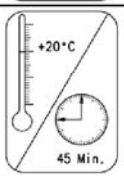
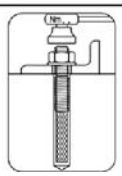
Installation instructions (Installation without sieve sleeve)
Suitable for: Solid brick, sand-lime brick, concrete solid brick, lightweight concrete solid brick

1		Drill the hole. For depth of drill hole h_1 and drill hole diameter d_0 see Table B1.1 and B1.2. Drill method according to Annex C 5 to C 25. In case of aborted drill hole, the drill hole shall be filled with mortar.
2		Clean the drilled hole (2x blow out + 2x brushing + 2x blow out). For drill hole diameter ≤ 8 mm, use a reduce-attachment for the blow pump.
3		Screw off the cap. Cartridge type "foil tube": Cut off the foil tube clip before use. Screw on the static mixer. **Never use the static mixer, if the helix is not present!** Place the cartridge (with the attached static mixer) in the Würth injection gun. For every working interruption longer than the recommended working time (Table B2) as well as for new cartridges, a new static-mixer shall be used.
4		Before use, press out a string of mortar about 10 cm long for cartridge type "coaxial" and "side-by-side" respectively 20 cm long for cartridge type "foil tube" until the mortar has a uniform grey colour. **Do not use the first string of pressed out mortar!**
5		Starting from the bottom, fill the drilled hole about 2/3 with WIT-VM 250 mortar.
6.1		Insert the anchor rod by hand using light turning motions, until the effective anchorage depth is reached.
6.2		The mortar must now be visible at the surface of the anchorage component. If no mortar appears at the surface, remove the anchoring element immediately.
7		Observe the required curing time of the mortar. For minimum curing times see Table B2. Do not move or load the anchor until it is fully cured.
8		The fixture can be mounted after curing time. Installation torque T_{inst} according to Table B1.1 and B1.2 - T_{inst} must not be exceeded. Use a calibrated torque wrench.

Würth Injektion System WIT-VM 250 for masonry	Annex B 4
Intended Use: Installation without sieve sleeve	

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Table C1: Characteristic values for tension loads (Design method A)

Anchor size	**Anchor rod WIT-AS**		**M6**	**M8**	**M8**	**M10**	**M12**	**-**	**-**
Anchor size	**Internal threaded rod WIT-IG**		**-**	**-**	**-**	**-**	**-**	**M6**	**M8**
Sieve sleeve			**WIT-SH 12/50**		**WIT-SH 18/95**				
Steel failure for anchor rods made of steel, strength 5.8, 8.8									
Characteristic resistance	$N_{Rk,s}$	[kN]	10.1	15.1	15.1	26.4	26.4	10.1	15.1
Steel failure for anchor rods made of stainless steel, strength class 70, 80									
Characteristic resistance	$N_{Rk,s}$	[kN]	14.1	21.1	21.1	37.0	37.0	14.1	21.1
Steel failure for anchor rods made of high corrosion resistant steel, HCR									
Characteristic resistance	$N_{Rk,s}$	[kN]	14.1	21.1	21.1	37.0	37.0	14.1	21.1
Pullout failure of the anchor in dry and wet masonry		$N_{Rk,p}$	see Annex C 5 to C 25						
Brick breakout failure in dry and wet masonry		$N_{Rk,b}$	see Annex C 5 to C 25						
Pull out of one brick		$N_{Rk,pb}$	see ETAG 029 Annex C						
Displacements under tension load		δ_N	see Annex C 26, Table C5						
Influence of joints		$N_{Rk,p}$	see ETAG 029 Annex C						

Table C2: Characteristic values for shear loads (Design method A)

Anchor size	**Anchor rod WIT-AS**		**M6**	**M8**	**M8**	**M10**	**M12**	**-**	**-**
Anchor size	**Internal threaded rod WIT-IG**		**-**	**-**	**-**	**-**	**-**	**M6**	**M8**
Sieve sleeve			**WIT-SH 12/50**		**WIT-SH 18/95**				
Steel failure without lever arm, for anchor rods made of steel, strength 5.8, 8.8									
Characteristic resistance	$V_{Rk,s}$	[kN]	5.0	7.5	9.2	14.5	21.1	5.0	9.2
Steel failure without lever arm, for anchor rods made of stainless steel, strength class 70, 80									
Characteristic resistance	$V_{Rk,s}$	[kN]	7.0	10.6	12.8	20.3	29.5	7.0	12.8
Steel failure without lever arm, for anchor rods made of high corrosion resistant steel, HCR									
Characteristic resistance	$V_{Rk,s}$	[kN]	7.0	10.6	12.8	20.3	29.5	7.0	12.8
Steel failure with lever arm, for anchor rods made of steel, strength 5.8, 8.8									
Characteristic resistance	$M_{Rk,s}$	[Nm]	7.6	14.0	18.7	32.5	32.5	7.6	18.7
Steel failure with lever arm, for anchor rods made of stainless steel, strength class 70, 80									
Characteristic resistance	$M_{Rk,s}$	[Nm]	10.7	18.7	26.2	45.5	45.5	10.7	26.2
Steel failure with lever arm, for anchor rods made of high corrosion resistant steel, HCR									
Characteristic resistance	$M_{Rk,s}$	[Nm]	10.7	18.7	26.2	45.5	45.5	10.7	26.2
Local brick failure		$V_{Rk,b}$	see Annex C 5 to C 25						
Brick edge failure		$V_{Rk,c}$	see ETAG 029 Annex C						
Push out of one brick		$V_{Rk,pb}$	see ETAG 029 Annex C						
Displacements under shear load		δ_V	see Annex C 26, Table C5						
Influence of joints		$V_{Rk,p}$	see ETAG 029 Annex C						

Würth Injektion System WIT-VM 250 for masonry

Performances
Characteristic values for tension and shear loads (Design method A)

Annex C 1

Deutsches Institut für Bautechnik DIBt

Table C3.1: Base material: Solid masonry

Base material	Format	Measurement [mm]	Minimum - compressive-strength [N/mm²]	Bulk-density-class [kg/dm³]	Annex
Solid masonry (use category "b", "d")					
Solid brick Mz acc. to DIN 105-1 DIN V 105-1:2002-06 DIN V 105-100:2005-10 EN 771-1	≥ NF	≥ 240x115x71	10 20 28 36	≥ 1.8	**Annex C 5** AX 771-1-020
Sand-lime solid brick Silka XL Basic, Silka XL Plus acc. to EN 771-2		≥ 498x200x498	10 20	≥ 2.0	**Annex C 12**
Concrete solid block Vn and Vbn acc. to DIN 18153 EN 771-3	≥ NF	≥ 240x115x71	10 20 28	≥ 2.0	**Annex C 14** O 771-3-004
Lightweight concrete solid brick V acc. to DIN V 18152-100 EN 771-3 e.g. Bisoclassic V Bisotherm GmbH	≥ NF	≥ 240x115x71	2 4	≥ 0.9	**Annex C 15** AI 771-3-008
Lightweight concrete solid brick acc. to DIN V 18152-100 EN 771-3 e.g. BisoBims V Bisotherm GmbH	≥ NF	≥ 240x115x71	2 4	≥ 1.0	**Annex C 16** AH 771-3-007
Lightweight concrete solid block – Vbl acc. to DIN 18152, EN 771-3 e.g. Liapor Massive Wall Liapor GmbH & Co. KG	≥ 24DF	≥ 500x365x238	2	≥ 0.6	**Annex C 21** LAC2
Concrete solid block – Vbn acc. to DIN 18153, EN 771-3 e.g. Liapor Element Wall Liapor GmbH & Co. KG	≥ 12DF	≥ 500x175x238	12 16	≥ 1.4	**Annex C 22** LC16/18
Autoclaved aerated concrete acc. to DIN 4165 EN 771-1		≥ 499x175x249	1.6 - 7	≥ 0.35	**Annex C 23 – C 25**

Würth Injektion System WIT-VM 250 for masonry

Base material: Concrete and Solid masonry (use category "b" and "d")
Format, measurement, minimum compressive strength, annex

Annex C 2

Deutsches Institut für Bautechnik DIBt

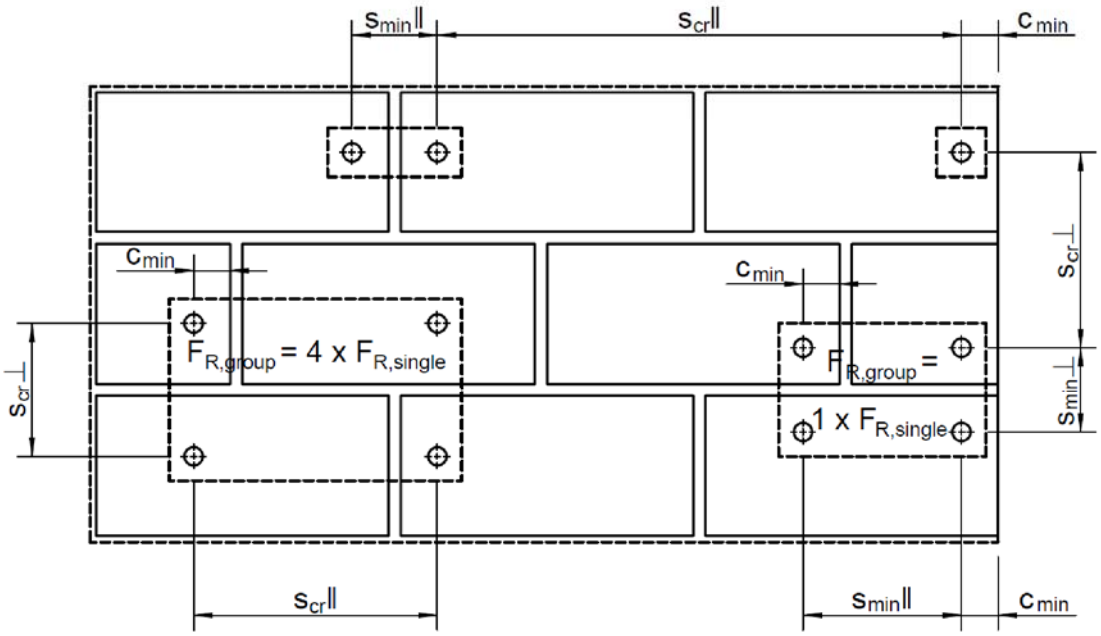
Table C3.2: Base material: Hollow or perforated masonry

Base material	Format	Measurement [mm]	Minimum - compressive-strength [N/mm²]	Bulk-density-class [kg/dm³]	Annex
Hollow or perforated masonry (use category "c")					
Hollow brick HLz acc. to DIN 105-1 EN 771-1 e.g. Wienerberger Ziegelindustrie GmbH e.g. Schlagmann Baustoffwerke GmbH & Co. KG	2DF	240x115x113	8 12 20	≥ 1.2	**Annex C 6** AY 771-1-021
	12DF	373x240x238	6 8	≥ 1.2	**Annex C 7** AB 771-1-010
Hollow brick UNIPOR WS14 **Hollow brick UNIPOR WS12 CORISO** acc. to EN 771-1 Z-17.1-883 Unipor-Ziegel, Marketing GmbH	10DF	247x300x249	10 12	≥ 0.8	**Annex C 8** AM 771-1-016
Hollow brick POROTON Plan-T14 acc. to EN 771-1 Z-17.1-651 Wienerberger Ziegelindustrie GmbH Schlagmann Baustoffwerke GmbH & Co. KG	10DF	248x300x249	6	≥ 0.7	**Annex C 9** AT 771-1-019
Hollow brick for ceiling-DIN 4160-BN 0,8-530-250-210 (system Filigran) acc. to DIN 4160 e.g. Wienerberger Ziegelindustrie GmbH		530x250x210	4	0.8	**Annex C 10** W16 771-1-031
Hollow brick Blocchi Leggeri acc. to EN 771-1 Wienerberger Brunori s.r.l.; Italien		250x120x330	6	≥ 0.6	**Annex C 11** AD 771-1-012
Sand-lime perforated brick KS L acc. to DIN 106-1 EN 771-2 e.g. Xella Deutschland GmbH	8DF	248x240x238	10 12 16	≥ 1.4	**Annex C 13** AK 771-2-005
Hollow brick lightweight concrete 3K Hbl acc. to DIN 18151 EN 771-3 e.g. Heinzmann Baustoffe GmbH, Liapor GmbH & Co. KG	16DF	498x240x238	2 4	≥ 0.7	**Annex C 17** R3K 771-3-005
Hollow brick lightweight concrete Liapor-Super-K acc. to EN 771-3 Z-17.1-501 Liapor GmbH & Co. KG	16DF	495x240x238	2 4	≥ 0.8	**Annex C 18** S 771-3-006
Hollow brick lightweight concrete Gisoton Thermo Schall acc. to Z-15.2-18 Gisoton Wandsysteme, e.g. Baustoffwerke Gebhart & Söhne GmbH & Co.		498x300x248	2	≥ 0.45	**Annex C 19** AP 771-3-010
Hollow brick lightweight concrete 1K Hbl acc. to DIN 18151 EN 771-3 e.g. Stark Betonwerk GmbH & Co. KG	12DF	490x175x238	2 4	≥ 1.2	**Annex C 20** AU 771-3-002

Würth Injektion System WIT-VM 250 for masonry

Base material: Hollow masonry (use category "c")
Format, measurement, minimum compressive strength, annex

Annex C 3



$s_{min,II}$ = Minimum spacing anchor group parallel to bed joint
$s_{min,\perp}$ = Minimum spacing anchor group vertical to bed joint
$s_{cr,II}$ = Characteristic spacing anchor group parallel to bed joint
$s_{cr,\perp}$ = Characteristic spacing anchor group vertical to bed joint
c_{min} = Minimum edge distance
c_{cr} = Characteristic edge distance
$F_{R,single}$ = $N_{Rk,p}$ / $N_{Rk,b}$ / $V_{Rk,b}$ according to Annex C5 to C25 for design method A, respectively F_{Rd} for design method B

Würth Injektion System WIT-VM 250 for masonry

Edge distances, spacing and anchor groups

Annex C 4

Deutsches Institut für Bautechnik DIBt

Base material masonry, solid brick Mz, NF

Table C4.1.1: Brick data

Description of brick	AX 771-1-020	**Mz**
Type of brick		Solid brick Mz
Bulk density $\rho \geq$	[kg/dm³]	1.8
Standard, approval		DIN 105, EN 771-1
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ NF (≥ 240x115x71)
Minimum thickness of member h_{min} =	[mm]	115

Table C4.1.2: Installation parameters, Characteristic and design values of resistance

Effective embedment depth	$h_{ef} \geq$	[mm]	**50**	**90**
Anchor size	**Anchor rod WIT-AS**		**M6, M8**	**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**-**	**M6, M8**
Sieve sleeve			without	without
Drill method			Hammer drilling	Hammer drilling
Drill hole diameter	d_0	[mm]	M6 = 8 mm M8 = 10 mm	M8 = 10 mm M10 = 12 mm M12, IGM6, IGM8 = 14 mm
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	150	200
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	75	100
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	150	270
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250	250
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry				
Solid brick Mz, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	0.75	1.5
	$f_b \geq 20$ N/mm²	[kN]	0.9	2.0
	$f_b \geq 28$ N/mm²	[kN]	1.2	2.5
	$f_b \geq 36$ N/mm²	[kN]	1.5	2.5
Design method A: Shear load - Local brick failure in dry and wet masonry				
Solid brick Mz, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	2.5	4.0
	$f_b \geq 20$ N/mm²	[kN]	3.5	5.5
	$f_b \geq 28$ N/mm²	[kN]	4.0	6.5
	$f_b \geq 36$ N/mm²	[kN]	5.0	7.5
Design method B: All load directions - All failure modes in dry and wet masonry				
Solid brick Mz, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 36$ N/mm²**	[kN]	0.5	0.75

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Solid brick Mz, NF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 5

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick HLz, 2DF

Table C4.2.1: Brick data

Description of brick	AY 771-1-021		**HLz**
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm³]	1.2
Standard, approval			DIN 105, EN 771-1
Producer of brick			e.g. Wienerberger Ziegelindustrie GmbH
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	2DF (240x115x113)
Minimum thickness of member	$h_{min=}$	[mm]	115

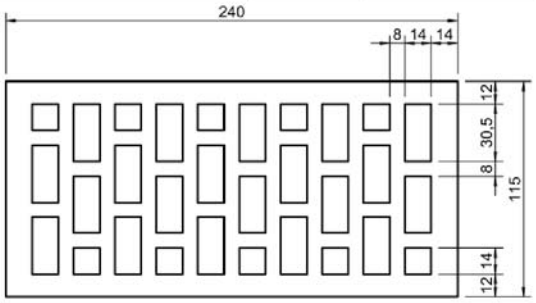


Table C4.2.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M6, M8**	**M8, M10, M12**	
Anchor size	**Internal threaded rod WIT-IG**		**-**	**M6, M8**	
Sieve sleeve			**WIT-SH 12/50**	**WIT-SH 18/95**	
Drill method			Rotary drilling	Rotary drilling	
Drill hole diameter	d_0	[mm]	12	18	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55	100	
Minimum spacing II for tension load	$s_{min,II,N}$	[mm]	200	170	200
Minimum spacing ⊥ for tension load	$s_{min,\perp,N}$	[mm]	113	113	113
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	100	85	100
Characteristic spacing II	$s_{cr,II}$	[mm]	240	240	
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	113	113	
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250	100	250
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry					
Hollow brick HLz, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 8$ N/mm²**	[kN]	0.5	1.5	1.5
	$f_b \geq 12$ N/mm²	[kN]	0.5	2.0	2.0
	$f_b \geq 20$ N/mm²	[kN]	0.75	2.5	2.5
Design method A: Shear load - Local brick failure in dry and wet masonry					
Hollow brick HLz, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 8$ N/mm²**	[kN]	0.5	0.5	3.5
	$f_b \geq 12$ N/mm²	[kN]	0.5	0.75	4.0
	$f_b \geq 20$ N/mm²	[kN]	0.9	0.9	5.5
Design method B: All load directions - All failure modes in dry and wet masonry					
Hollow brick HLz, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 20$ N/mm²**	[kN]	0.25	0.3	0.75

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Hollow brick HLz, 2DF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 6

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick HLz, 12DF

Table C4.3.1: Brick data

Description of brick AB 771-1-010			**HLz**
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm³]	1.2
Standard, approval			DIN 105, EN 771-1
Producer of brick			e.g. Schlagmann Baustoffwerke GmbH & Co. KG
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	12DF (373x240x238)
Minimum thickness of member	h_{min}=	[mm]	240

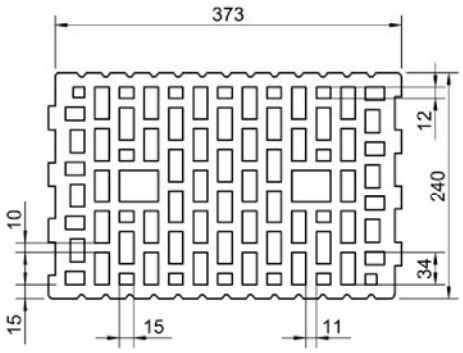


Table C4.3.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**	
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**	
Sieve sleeve			**WIT-SH 18/95**	
Drill method			Rotary drilling	
Drill hole diameter	d_0	[mm]	18	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100	
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	220	
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	110	
Characteristic spacing II	$s_{cr,II}$	[mm]	373	
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	238	
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250	373
Design method A: Tension load – Pull out and brick breakout failure in dry and wet masonry				
Hollow brick HLz, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 6$ N/mm²**	[kN]	0.9	
	$f_b \geq 8$ N/mm²	[kN]	1.2	
Design method A: Shear load - Local brick failure in dry and wet masonry				
Hollow brick HLz, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 6$ N/mm²**	[kN]	2.5	4.0
	$f_b \geq 8$ N/mm²	[kN]	2.5	4.5
Design method B: All load directions - All failure modes in dry and wet masonry				
Hollow brick HLz, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 8$ N/mm²**	[kN]	0.4	

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Hollow brick HLz, 12DF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 7

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick UNIPOR WS14 and UNIPOR WS12 CORISO

Table C4.4.1: Brick data

Description of brick		AM 771-1-016	**UNIPOR WS14 and UNIPOR WS12 CORISO**
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm³]	0.8
Standard, approval			EN 771-1, Z-17.1-883, DIN V 105-2
Producer of brick			UNIPOR Ziegel, Marketing GmbH, Landsberger Straße 392, D-81241 München
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	10DF (247x300x249)
Minimum thickness of member	h_{min}=	[mm]	300

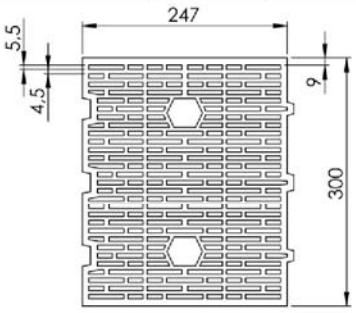


Table C4.4.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**	
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**	
Sieve sleeve			**WIT-SH 18/95**	
Drill method			Rotary drilling	
Drill hole diameter	d_0	[mm]	18	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100	
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	200	220
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	100	110
Characteristic spacing II	$s_{cr,II}$	[mm]	247	
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	249	
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	250
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry				
Hollow brick UNIPOR WS 14 and UNIPOR WS 12 CORISO, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	1.2	1.2
	$f_b \geq 12$ N/mm²	[kN]	1.2	1.2
Design method A: Shear load - Local brick failure in dry and wet masonry				
Hollow brick UNIPOR WS 14 and UNIPOR WS 12 CORISO, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	0.75	2.5
	$f_b \geq 12$ N/mm²	[kN]	0.9	2.5
Design method B: All load directions - All failure modes in dry and wet masonry				
Hollow brick UNIPOR WS 14 and UNIPOR WS 12 CORISO, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 12$ N/mm²**	[kN]	0.3	0.4

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Hollow brick UNIPOR WS14, 10DF and UNIPOR WS12 CORISO, 10DF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 8

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick POROTON Plan-T14, 10DF

Table C4.5.1: Brick data

Description of brick AT 771-1-019		**Hollow brick POROTON Plan-T14**
Type of brick		Hollow brick
Bulk density $\rho \geq$	[kg/dm³]	0.7
Standard, approval		EN 771-1, Z-17.1-625
Producer of brick		Schlagmann Baustoffwerke GmbH & Co. KG Ziegeleistraße 1, D-84367 Zeilarn
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	10DF (248x300x249)
Minimum thickness of member $h_{min=}$	[mm]	298

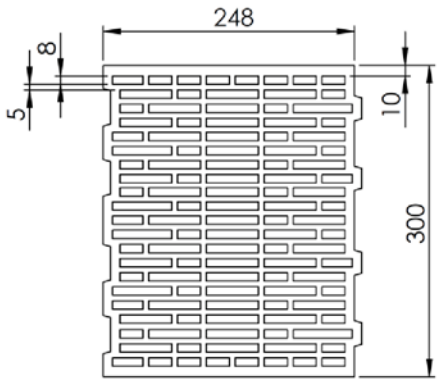


Table C4.5.2: Installation parameters, Characteristic and design values of resistance

Anchor size **Anchor rod WIT-AS**			**M8, M10, M12**		
Anchor size **Internal threaded rod WIT-IG**			**M6, M8**		
Sieve sleeve			**WIT-SH 18/95**		
Drill method			Rotary drilling		
Drill hole diameter	d_0	[mm]	18		
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100		
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	160	200	220
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	80	100	110
Characteristic spacing II	$s_{cr,II}$	[mm]	248		
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	249		
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	-	100	250
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry					
Hollow brick POROTON Planziegel T14, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 6$ N/mm²**	[kN]	1.2		
Design method A: Shear load - Local brick failure in dry and wet masonry					
Hollow brick POROTON Planziegel T14, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 6$ N/mm²**	[kN]	-	0.9	2.5
Design method B: All load directions - All failure modes in dry and wet masonry					
Hollow brick POROTON Planziegel T14, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 6$ N/mm²**	[kN]	-	0.3	0.3

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Hollow brick POROTON Plan-T14, 10DF
Brick data, installation parameters, characteristic and design values of resistance

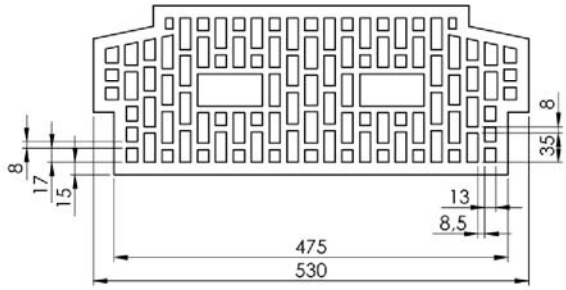
Annex C 9

Deutsches Institut für Bautechnik DIBt

Base material ceiling, hollow brick for ceiling-DIN 4160-BN 0.8-530-250-210 (System Filigran)

Table C4.6.1: Brick data

Description of brick W16 771-1-031		**Brick for ceiling (system Filigran)**
Type of brick		Brick for ceiling
Bulk density $\rho \geq$	[kg/dm³]	0.8
Standard, approval		DIN 4160
Producer of brick		Wienerberger Ziegelindustrie GmbH Oldenburger Allee 26, 30659 Hannover
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	530x250x210
Minimum thickness of member $h_{min=}$	[mm]	210



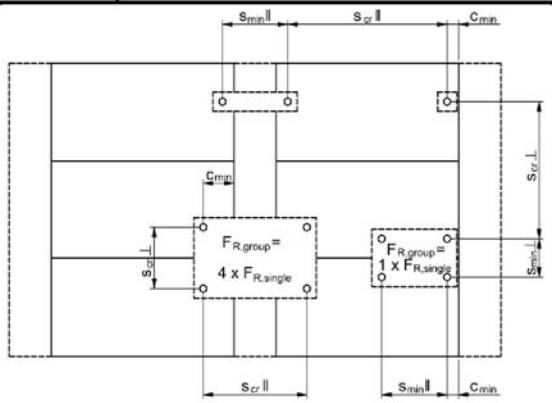


Table C4.6.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M6, M8**	
Anchor size	**Internal threaded rod WIT-IG**		**-**	
Sieve sleeve			**WIT-SH 12/50**	
Drill method			Rotary drilling	
Drill hole diameter	d_0	[mm]	12	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55	
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	80	200
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	40	100
Characteristic spacing II	$s_{cr,II}$	[mm]	530	
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	250	
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry				
Brick for ceiling (system Filigran), Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 4$ N/mm²**	[kN]	0.6	0.6
Design method A: Shear load - Local brick failure in dry and wet masonry				
Brick for ceiling (system Filigran), Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 4$ N/mm²** [2)]	[kN]	-	1.5
Design method B: All load directions - All failure modes in dry and wet masonry				
Brick for ceiling (system Filigran), Design value of resistance F_{Rd} [1)] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 4$ N/mm²**	[kN]	-	0.2

1) F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Brick for ceiling (system Filigran)
Brick data, installation parameters, characteristic and design values of resistance

Annex C 10

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick Blocchi Leggeri

Table C4.7.1: Brick data

Description of brick	AD 771-1-012		**Blocchi Leggeri**
Type of brick			Hollow brick
Bulk density	$\rho \geq$	[kg/dm³]	0.6
Standard, approval			EN 771-1
Producer of brick			Wienerberger Brunori s.r.l..Via Ringhiera 1 I-40020 Mordano (Bologna) fraz. Bubano, Italy
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	250x120x330
Minimum thickness of member	$h_{min=}$	[mm]	120

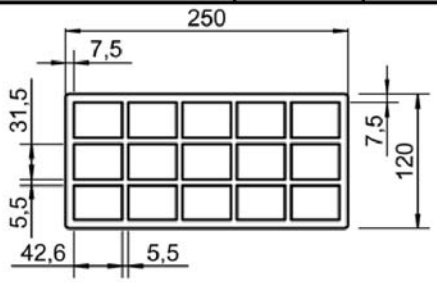


Table C4.7.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M6, M8**	**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**-**	**M6, M8**
Sieve sleeve			**WIT-SH 12/50**	**WIT-SH 18/95**
Drill method			Rotary drilling	
Drill hole diameter	d_0	[mm]	12	18
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55	100
Minimum spacing II for tension load	$s_{min,II,N}$	[mm]	200	200
Minimum spacing ⊥ for tension load	$s_{min,\perp,N}$	[mm]	330	330
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	100	100
Characteristic spacing II	$s_{cr,II}$	[mm]	250	250
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	330	330
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250	250
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry				
Hollow brick Blocchi Leggeri, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 6$ N/mm²**	[kN]	0.3	0.3
Design method A: Shear load - Local brick failure in dry and wet masonry				
Hollow brick Blocchi Leggeri, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 6$ N/mm²**	[kN]	1.2	0.9
Design method B: All load directions - All failure modes in dry and wet masonry				
Hollow brick Blocchi Leggeri, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 6$ N/mm²**	[kN]	0.1	0.1

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Hollow brick Blocchi Leggeri
Brick data, installation parameters, characteristic and design values of resistance

Annex C 11

Deutsches Institut für Bautechnik DIBt

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

Table C4.8.1: Brick data

Description of brick			**KS**
Type of brick			Sand-lime solid brick
Bulk density	$\rho \geq$	[kg/dm³]	2.0
Standard, approval			DIN 106, EN 771-2
Producer of brick			Xella International GmbH Dr. Hammacher-Straße 49, 47119 Duisburg
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ 498x200x498
Minimum thickness of member	h_{min} =	[mm]	200

Table C4.8.2: Installation parameters, Characteristic and design values of resistance

Effective embedment depth	$h_{ef} \geq$	[mm]	**50**	**90**
Anchor size	**Anchor rod WIT-AS**		**M6, M8**	**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**-**	**M6, M8**
Sieve sleeve			without	without
Drill method			Hammer drilling	Hammer drilling
Drill hole diameter	d_0	[mm]	M6 = 8 mm M8 = 10 mm	M8 = 10 mm M10 = 12 mm M12, IGM6, IGM8 = 14 mm
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	150	270
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	75	135
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	150	270
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	100
Design method A: Tension load - Pull out and brick breakout failure in wet masonry				
Sand-lime solid brick Silka XL Basic, Silka XL Plus, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	0.75	0.9
	$f_b \geq 20$ N/mm²	[kN]	0.9	1.2
Design method A: Tension load - Pull out and brick breakout failure in dry masonry				
Sand-lime solid brick Silka XL Basic, Silka XL Plus, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	2.0	2.5
	$f_b \geq 20$ N/mm²	[kN]	3.0	3.5
Design method A: Shear load - Local brick failure in dry and wet masonry				
Sand-lime solid brick Silka XL Basic, Silka XL Plus, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	1.2	1.2
	$f_b \geq 20$ N/mm²	[kN]	1.2	1.2
Design method B: All load directions - All failure modes in dry and wet masonry				
Sand-lime solid brick Silka XL Basic, Silka XL Plus, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 20$ N/mm²**	[kN]	0.3	0.3

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Sand-lime solid brick Silka XL Basic and Silka XL Plus
Brick data, installation parameters, characteristic and design values of resistance

Annex C 12

Deutsches Institut für Bautechnik DIBt

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

Table: C4.9.1: Brick data

Description of brick	AK 771-2-005	**KS L**
Type of brick		Sand-lime perforated brick
Bulk density $\rho \geq$	[kg/dm³]	1.4
Standard, approval		DIN 106, EN 771-2
Producer of brick		e.g. Xella International GmbH
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	8DF (248x240x238)
Minimum thickness of member h_{min} =	[mm]	240

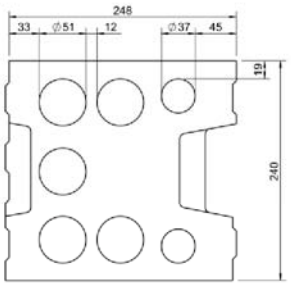


Table C4.9.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**
Sieve sleeve			**WIT-SH 18/95**
Drill method			Rotary drilling
Drill hole diameter	d_0	[mm]	18
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	220
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	110
Characteristic spacing II	$s_{cr,II}$	[mm]	248
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	238
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250
Design method A: Tension load - Pull out and brick breakout failure in wet masonry			
Sand-lime perforated brick KS L, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	0.9
	$f_b \geq 12$ N/mm²	[kN]	0.9
	$f_b \geq 16$ N/mm²	[kN]	1.2
Design method A: Tension load - Pull out and brick breakout failure in dry masonry			
Sand-lime perforated brick KS L, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	1.2
	$f_b \geq 12$ N/mm²	[kN]	1.2
	$f_b \geq 16$ N/mm²	[kN]	1.5
Design method A: Shear load - Local brick failure in dry and wet masonry			
Sand-lime perforated brick KS L, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	4.0
	$f_b \geq 12$ N/mm²	[kN]	4.5
	$f_b \geq 16$ N/mm²	[kN]	5.5
Design method B: All load directions - All failure modes in dry and wet masonry			
Sand-lime perforated brick KS L, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 16$ N/mm²**	[kN]	0.4

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Sand-lime perforated brick KS L, 8DF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 13

Deutsches Institut für Bautechnik DIBt

Base material masonry, concrete solid block Vbn, NF (Bisophon V12)

Table C4.10.1: Brick data

Description of brick	O 771-3-004	**Vbn**
Type of brick		Concrete solid block Vbn
Bulk density $\rho \geq$	[kg/dm³]	2.0
Standard, approval		DIN 18153, EN 771-3
Producer of brick		e.g. Bisotherm Bisotherm GmbH, Eisenbahnstraße 12, D-56218 Mühlheim-Klärlich
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ NF (≥ 240x115x71)
Minimum thickness of member h_{min} =	[mm]	115

Table C4.10.2: Installation parameters, Characteristic and design values of resistance

Effective embedment depth	$h_{ef} \geq$	[mm]	**50**	**90**
Anchor size	**Anchor rod WIT-AS**		**M6, M8**	**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**-**	**M6, M8**
Sieve sleeve			without	without
Drill method			Hammer drilling	Hammer drilling
Drill hole diameter	d_0	[mm]	M6 = 8 mm M8 = 10 mm	M8 = 10 mm M10 = 12 mm M12, IGM6, IGM8 = 14 mm
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	150	270
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	75	135
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	150	270
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	135
Design method A: Tension load - Pull out and brick breakout failure in wet and dry masonry				
Concrete solid block Vbn, NF, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	0.75	3.0
	$f_b \geq 20$ N/mm²	[kN]	1.2	4.5
	$f_b \geq 28$ N/mm²	[kN]	1.5	5.5
Design method A: Shear load - Local brick failure in dry and wet masonry				
Concrete solid block Vbn, NF, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 10$ N/mm²**	[kN]	0.75	5.0
	$f_b \geq 20$ N/mm²	[kN]	0.75	5.0
	$f_b \geq 28$ N/mm²	[kN]	0.75	5.0
Design method B: All load directions - All failure modes in dry and wet masonry				
Concrete solid block Vbn, NF, Design value of resistance F_{Rd} [1)] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 28$ N/mm²**	[kN]	0.4	1.2

1) F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Concrete solid block Vbn, NF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 14

Deutsches Institut für Bautechnik DIBt

Base material masonry, lightweight concrete solid brick V, NF

Table C4.11.1: Brick data

Description of brick	AI 771-3-008	**V**
Type of brick		Lightweight concrete solid brick
Bulk density $\rho \geq$	[kg/dm³]	0.9
Standard, approval		EN 771-3, DIN V 18152-100
Producer of brick		e.g. Bisoclassic Bisotherm GmbH, Eisenbahnstraße 12, D-56218 Mühlheim-Kärlich
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ NF (≥ 240x115x71)
Minimum thickness of member h_{min} =	[mm]	115

Table C4.11.2: Installation parameters, Characteristic and design values of resistance

Effective embedment depth	$h_{ef} \geq$	[mm]	**50**	**90**	
Anchor size	**Anchor rod WIT-AS**		**M6, M8**	**M8, M10, M12**	
Anchor size	**Internal threaded rod WIT-IG**		**-**	**M6, M8**	
Sieve sleeve			without	without	
Drill method			Hammer drilling	Hammer drilling	
Drill hole diameter	d_0	[mm]	M6 = 8 mm M8 = 10 mm	M8 = 10 mm M10 = 12 mm M12, IGM6, IGM8 = 14 mm	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55	100	
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	150	160	270
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	75	80	135
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	150	270	
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	100	250
Design method A: Tension load - Pull out and brick breakout failure in wet and dry masonry					
Lightweight concrete solid block V, NF Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.75	0.9	0.9
	$f_b \geq 4$ N/mm²	[kN]	0.9	1.5	1.5
Design method A: Shear load - Local brick failure in dry and wet masonry					
Lightweight concrete solid block V, NF Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.6	0.75	1.5
	$f_b \geq 4$ N/mm²	[kN]	0.75	0.9	2.5
Design method B: All load directions, all failure modes in dry and wet masonry					
Lightweight concrete solid block V, NF Design value of resistance F_{Rd} [1)] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 4$ N/mm²**	[kN]	0.25	0.3	0.4

1) F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Lightweight concrete solid block V, NF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 15

Deutsches Institut für Bautechnik DIBt

Base material masonry, lightweight concrete solid brick V, NF

Table C4.12.1: Brick data

Description of brick	AH 771-3-007	**V**
Type of brick		Lightweight concrete solid brick
Bulk density $\rho \geq$	[kg/dm³]	1.0
Standard, approval		EN 771-3, DIN V 18152-100
Producer of brick		e.g. BisoBims, Bisotherm GmbH, Eisenbahnstraße 12, D-56218 Mühlheim-Klärlich
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ NF (≥ 240x115x71)
Minimum thickness of member h_{min} =	[mm]	115

Table C4.12.2: Installation parameters, Characteristic and design values of resistance

Effective embedment depth	$h_{ef} \geq$	[mm]	**50**	**90**	
Anchor size, Anchor rod WIT-AS			**M6, M8**	**M8, M10, M12**	
Anchor size, Internal threaded rod WIT-IG			**-**	**M6, M8**	
Sieve sleeve WIT-SH			without	without	
Drill method			Hammer drilling	Hammer drilling	
Drill hole diameter	d_0	[mm]	M6 = 8 mm M8 = 10 mm	M8 = 10 mm M10 = 12 mm M12, IGM6, IGM8 = 14 mm	
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55	100	
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	150	160	270
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	75	80	135
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	150	270	
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	100	250
Design method A: Tension load - Pull out and brick breakout failure in wet and dry masonry					
Lightweight concrete solid block V, NF, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.6	1.2	1.2
	$f_b \geq 4$ N/mm²	[kN]	0.9	1.5	2.0
Design method A: Shear load - Local brick failure in dry and wet masonry					
Lightweight concrete solid block V, NF, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.6	1.2	1.5
	$f_b \geq 4$ N/mm²	[kN]	0.9	2.0	2.5
Design method B: All load directions - All failure modes in dry and wet masonry					
Lightweight concrete solid block V, NF, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 4$ N/mm²**	[kN]	0.25	0.5	0.5

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Lightweight concrete solid block V, NF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 16

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick lightweight concrete 3K Hbl, 16DF

Table C4.13.1: Brick data

Description of brick	R 771-3-005	**3K Hbl**
Type of brick		Hollow brick lightweight concrete 3K Hbl
Bulk density $\rho \geq$	[kg/dm³]	0.7
Standard, approval		DIN 18151, EN 771-3
Producer of brick		e.g. Heinzmann Baustoffe GmbH, Liapor GmbH & Co. KG
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	16DF (498x240x238)
Minimum thickness of member h_{min} =	[mm]	240

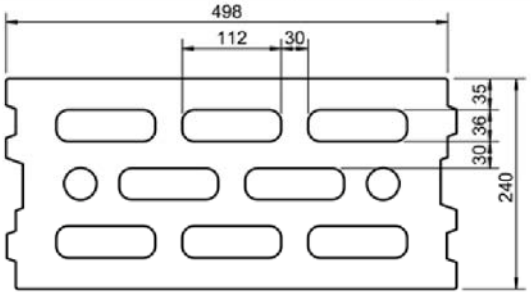


Table C4.13.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M6, M8**
Anchor size	**Internal threaded rod WIT-IG**		**-**
Sieve sleeve			**WIT-SH 12/50**
Drill method			Rotary drilling
Drill hole diameter	d_0	[mm]	12
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	55
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	200
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	100
Characteristic spacing II	$s_{cr,II}$	[mm]	498
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	238
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry			
Hollow brick lightweight concrete 3K Hbl, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.6
	$f_b \geq 4$ N/mm²	[kN]	0.75
Design method A: Shear load - Local brick failure in dry and wet masonry			
Hollow brick lightweight concrete 3K Hbl, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.9
	$f_b \geq 4$ N/mm²	[kN]	1.5
Design method B: All load directions - All failure modes in dry and wet masonry			
Hollow brick lightweight concrete 3K Hbl, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 4$ N/mm²**	[kN]	0.25

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Hollow brick lightweight concrete 3K Hbl, 16DF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 17

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick lightweight concrete Liapor-Super-K, 16DF

Table C4.14.1: Brick data

Description of brick	S 771-3-006	**Liapor-Super-K**
Type of brick		Hollow brick lightweight concrete 7K
Bulk density $\rho \geq$	[kg/dm³]	0.8
Standard, approval		EN 771-3, Z-17.1-501
Producer of brick		Liapor GmbH & Co. KG, D-91352 Hallerndorf
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	16DF 495x240x238)
Minimum thickness of member h_{min} =	[mm]	240

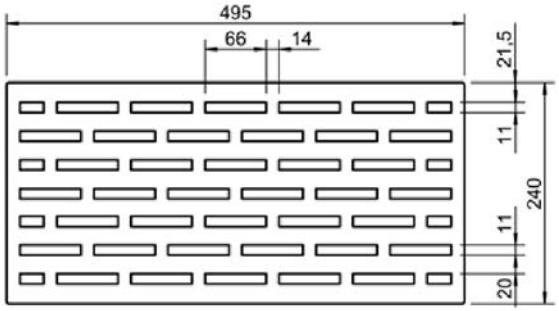


Table C4.14.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**			
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**			
Sieve sleeve			**WIT-SH 18/95**			
Drill method			Rotary drilling			
Drill hole diameter	d_0	[mm]	18			
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100			
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	160	200	220	
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	80	100	110	
Characteristic spacing II	$s_{cr,II}$	[mm]	495			
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	238			
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	100	250	495
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry						
Hollow brick lightweight concrete Liapor-Super-K, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	1.2	1.5	1.5	
	$f_b \geq 4$ N/mm²	[kN]	1.5	2.5	2.5	
Design method A: Shear load - Local brick failure in dry and wet masonry						
Hollow brick lightweight concrete Liapor-Super-K, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	-	0.75	2.5	3.0
	$f_b \geq 4$ N/mm²	[kN]	-	0.9	2.5	4.0
Design method B: All load directions - All failure modes in dry and wet masonry						
Hollow brick lightweight concrete Liapor-Super-K, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 4$ N/mm²**	[kN]	-	0.3	0.6	

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Hollow brick lightweight concrete Liapor-Super-K, 16DF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 18

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick lightweight concrete Gisoton Thermo Schall

Table C4.15.1: Brick data

Description of brick	AP 771-3-010	**Gisoton Thermo Schall**
Type of brick		Hollow brick lightweight concrete
Bulk density $\rho \geq$	[kg/dm³]	0.45
Standard, approval		Z-15.2-18
Producer of brick		Gisoton Wandsysteme, Baustoffwerke Gebhart & Söhne GmbH & Co, Hochstraße 2, D-88317 Aichstetten
Format (measurement) (l_{brick}/ b_{brick}/ h_{brick})	[mm]	498x300x248
Minimum thickness of member h_{min}=	[mm]	300

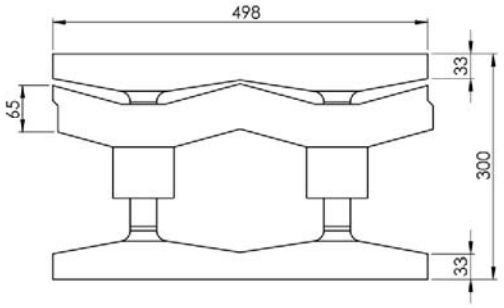


Table C4.15.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**		
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**		
Sieve sleeve			**WIT-SH 18/95**		
Drill method			Rotary drilling		
Drill hole diameter	d_0	[mm]	18		
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100		
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	160	220	
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	80	110	
Characteristic spacing II	$s_{cr,II}$	[mm]	498		
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	248		
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	250	498
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry					
Gisoton Thermo Schall, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.9	1.2	
Design method A: Shear load - Local brick failure in dry and wet masonry					
Gisoton Thermo Schall, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.9	2.5	3.5
Design method B: All load directions - All failure modes in dry and wet masonry					
Gisoton Thermo Schall, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 2$ N/mm²**	[kN]	0.3	0.3	

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Gisoton Thermo Schall
Brick data, installation parameters, characteristic and design values of resistance

Annex C 19

Deutsches Institut für Bautechnik DIBt

Base material masonry, hollow brick lightweight concrete 1K Hbl, 12DF

Table C4.16.1: Brick data

Description of brick		AU	**1K Hbl**
Type of brick			Hollow brick lightweight concrete 1K Hbl
Bulk density	$\rho \geq$	[kg/dm³]	1.2
Standard, approval			DIN 18151, EN 771-3
Producer of brick			e.g. Stark Betonwerk GmbH & Co. KG D-74547 Untermünkheim-Kupfer
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	12DF (490x175x238)
Minimum thickness of member	h_{min}=	[mm]	175

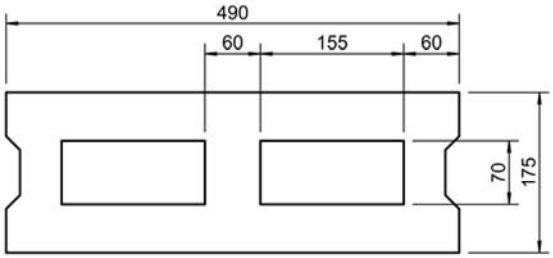


Table C4.16.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**		
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**		
Sieve sleeve			**WIT-SH 18/95**		
Drill method			Rotary drilling		
Drill hole diameter	d_0	[mm]	18		
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100		
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	200	238	
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	100	245	
Characteristic spacing II	$s_{cr,II}$	[mm]	490		
Characteristic spacing ⊥	$s_{cr,\perp}$	[mm]	238		
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	100	250	490
Design method A: Tension load - Pull out and brick breakout failure in dry and wet masonry					
Hollow brick lightweight concrete 1K Hbl, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.9	1.2	
	$f_b \geq 4$ N/mm²	[kN]	1.2	1.5	
Design method A: Shear load - Local brick failure in dry and wet masonry					
Hollow brick lightweight concrete 1K Hbl, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.75	2.5	4.0
	$f_b \geq 4$ N/mm²	[kN]	0.9	2.5	5.5
Design method B: All load directions - All failure modes in dry and wet masonry					
Hollow brick lightweight concrete 1K Hbl, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 4$ N/mm²**	[kN]	0.3	0.4	

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Hollow brick lightweight concrete 1K Hbl, 12DF
Brick data, installation parameters, characteristic and design values of resistance

Annex C 20

Deutsches Institut für Bautechnik DIBt

Base material masonry, lightweight concrete solid block Vbl

Table C4.17.1: Brick data

Description of brick			**Vbl 2-0.6-24DF**
Type of brick			Lightweight Aggregate Concrete
Bulk density	$\rho \geq$	[kg/dm³]	0.6
Standard, approval			DIN 18152
Producer of brick			e.g. Liapor Massivwand LAC2 by: Liapor GmbH & Co. KG D-91352 Hallerndorf
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ 24DF
Minimum thickness of member	$h_{min=}$	[mm]	365

Table C4.17.2: Installation parameters, Characteristic and design values of resistance

Effective embedment depth	$h_{ef} \geq$	[mm]	**90**
Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**
Sieve sleeve			without
Drill method			Hammer drilling
Drill hole diameter	d_0	[mm]	M8 = 10 mm M10 = 12 mm M12, IGM6, IGM8 = 14 mm
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	140
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	70
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	270
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250
Design method A: Tension load - Pull out and brick breakout failure in wet and dry masonry			
Lightweight Aggregate Concrete Vbl, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	1.5
Design method A: Shear load - Local brick failure in dry and wet masonry			
Lightweight Aggregate Concrete Vbl, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	2.5
Design method B: All load directions - All failure modes in dry and wet masonry			
Lightweight Aggregate Concrete Vbl, Design value of resistance F_{Rd} [1)] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 2$ N/mm²**	[kN]	0.5

1) F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Lightweight concrete solid block Vbl
Brick data, installation parameters, characteristic and design values of resistance

Annex C 21

Deutsches Institut für Bautechnik DIBt

Base material masonry, concrete solid block Vbn

Table C4.18.1: Brick data

Description of brick			**Vbn 12-1,4-12DF**
Type of brick			Concrete
Bulk density	$\rho \geq$	[kg/dm³]	1.4
Standard, approval			DIN 18153
Producer of brick			e.g. Liapor Elementwand LC16/18 by: Liapor GmbH & Co. KG D-91352 Hallerndorf
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ 12DF
Minimum thickness of member	$h_{min=}$	[mm]	175

Table C4.18.2: Installation parameters, Characteristic and design values of resistance

Effective embedment depth	$h_{ef} \geq$	[mm]	**90**
Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**
Sieve sleeve			without
Drill method			Hammer drilling
Drill hole diameter	d_0	[mm]	M8 = 10 mm M10 = 12 mm M12, IGM6, IGM8 = 14 mm
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	140
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	70
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	270
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250
Design method A: Tension load - Pull out and brick breakout failure in wet and dry masonry			
Concrete solid block Vbn, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 12$ N/mm²**	[kN]	3.5
	$f_b \geq 16$ N/mm²	[kN]	4.0
Design method A: Shear load - Local brick failure in dry and wet masonry			
Concrete solid block Vbn, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 12$ N/mm²**	[kN]	8.0
	$f_b \geq 16$ N/mm²	[kN]	9.5
Design method B: All load directions - All failure modes in dry and wet masonry			
Concrete solid block Vbn, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 16$ N/mm²**	[kN]	0.75

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Concrete solid block Vbn
Brick data, installation parameters, characteristic and design values of resistance

Annex C 22

Deutsches Institut für Bautechnik DIBt

Base material masonry, Autoclaved Aerated Concrete AAC

Table C4.19.1: Brick data

Description of brick			**AAC**
Type of brick			Autoclaved Aerated Concrete
Bulk density	$\rho \geq$	[kg/dm³]	0.35
Standard, approval			DIN 4165, EN 771-4
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ 499x175x249
Minimum thickness of member	h_{min} =	[mm]	175

Table C4.19.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**
Sieve sleeve			**WIT-SH 18/95**
Drill method			Rotary drilling
Drill hole diameter	d_0	[mm]	18
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	270
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	135
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	270
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250
Design method A: Tension load - Pull out and brick breakout failure in wet and dry masonry			
Autoclaved Aerated Concrete AAC, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 1.6$ N/mm²**	[kN]	0.9
Design method A: Shear load - Local brick failure in dry and wet masonry			
Autoclaved Aerated Concrete AAC, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 1.6$ N/mm²**	[kN]	2.0
Design method B: All load directions - All failure modes in dry and wet masonry			
Autoclaved Aerated Concrete AAC, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 1.6$ N/mm²**	[kN]	0.3

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Autoclaved Aerated Concrete
Brick data, installation parameters, characteristic and design values of resistance

Annex C 23

Deutsches Institut für Bautechnik DIBt

Base material masonry, Autoclaved Aerated Concrete AAC

Table C4.20.1: Brick data

Description of brick			**AAC**
Type of brick			Autoclaved Aerated Concrete
Bulk density	$\rho \geq$	[kg/dm³]	0.4
Standard, approval			DIN 4165, EN 771-4
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ 499x175x249
Minimum thickness of member	h_{min} =	[mm]	175

Table C4.20.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**
Sieve sleeve			**WIT-SH 18/95**
Drill method			Rotary drilling
Drill hole diameter	d_0	[mm]	18
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	270
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	135
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	270
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250
Design method A: Tension load - Pull out and brick breakout failure in wet and dry masonry			
Autoclaved Aerated Concrete AAC, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	0.9
Design method A: Shear load - Local brick failure in dry and wet masonry			
Autoclaved Aerated Concrete AAC, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 2$ N/mm²**	[kN]	2.5
Design method B: All load directions - All failure modes in dry and wet masonry			
Autoclaved Aerated Concrete AAC, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 2$ N/mm²**	[kN]	0.4

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Autoclaved Aerated Concrete
Brick data, installation parameters, characteristic and design values of resistance

Annex C 24

Deutsches Institut für Bautechnik DIBt

Base material masonry, Autoclaved Aerated Concrete AAC

Table C4.21.1: Brick data

Description of brick			**AAC**
Type of brick			Autoclaved Aerated Concrete
Bulk density	$\rho \geq$	[kg/dm³]	0.6
Standard, approval			DIN 4165, EN 771-4
Format (measurement)	(l_{brick}/ b_{brick}/ h_{brick})	[mm]	≥ 499x175x249
Minimum thickness of member	h_{min} =	[mm]	175

Table C4.21.2: Installation parameters, Characteristic and design values of resistance

Anchor size	**Anchor rod WIT-AS**		**M8, M10, M12**
Anchor size	**Internal threaded rod WIT-IG**		**M6, M8**
Sieve sleeve			**WIT-SH 18/95**
Drill method			Rotary drilling
Drill hole diameter	d_0	[mm]	18
Depth of drill hole to deepest point	$h_1 \geq$	[mm]	100
Minimum spacing II & ⊥ for tension load	$s_{min,II,N}$ $s_{min,\perp,N}$	[mm]	270
Minimum and characteristic edge distance for tension load	$c_{min,N} = c_{cr,N}$	[mm]	135
Characteristic spacing II & ⊥	$s_{cr,II}$ $s_{cr,\perp}$	[mm]	270
Minimum and characteristic edge distance for shear load	$c_{min,V} = c_{cr,V}$	[mm]	250
Design method A: Tension load: Pull out and brick breakout failure in wet and dry masonry			
Autoclaved Aerated Concrete AAC, Characteristic resistance $N_{Rk,p}/N_{Rk,b}$	**$f_b \geq 7$ N/mm²**	[kN]	2.0
Design method A: Shear load: Local brick failure in dry and wet masonry			
Autoclaved Aerated Concrete AAC, Characteristic shear resistance $V_{Rk,b}$	**$f_b \geq 7$ N/mm²**	[kN]	5.0
Design method B: All load directions, all failure modes in dry and wet masonry			
Autoclaved Aerated Concrete AAC, Design value of resistance F_{Rd} [1] ($c \geq c_{cr,N}$ and $c_{cr,V}$; $s \geq s_{cr}$)	**$f_b \geq 7$ N/mm²**	[kN]	0.75

[1] F_{Rd} includes all failure modes and the influence of joints

Würth Injektion System WIT-VM 250 for masonry

Autoclaved Aerated Concrete
Brick data, installation parameters, characteristic and design values of resistance

Annex C 25

Table C5: Displacements under tension load and shear load

	Anchor size: M6, M8, M10, M12 with and without sieve sleeve					
	Displacements under tension load			Displacements under shear load		
Sieve sleeve	**max N** [kN]	**Displacement** δ_{N0} [mm]	$\delta_{N\infty}$ [mm]	**max V** [kN]	**Displacement** δ_{V0} [mm]	$\delta_{V\infty}$ [mm]
WIT-SH 12/50	$N=\frac{N_{Rk}}{1.4 \times \gamma_M}$	0.2	0.4	$V=\frac{V_{Rk}}{1.4 \times \gamma_M}$	2.0	3.0
WIT-SH 18/95		1.5	3.0		0.9	1.2

Table C6: β- factors, reduction factors for tests at the construction site

Masonry	**Solid**			**Hollow**		
	Mz, Vn, Vbn, V, Vbl, LC, LAC	**KS**	**AAC**	**Hbl**	**HLz**	**KSL**
Drill method	Hammer drilling		Rotary drilling	Rotary drilling		
β for dry masonry and $h_{ef} \geq 49$ mm	0.35	0.35	0.3	0.35	0.35	0.35
β for dry masonry and $h_{ef} \geq 93$ mm	0.43	0.43	0.37	0.43	0.43	0.43
β for wet masonry and $h_{ef} \geq 49$ mm	0.35	0.12	0.3	0.35	0.35	0.28
β for wet masonry and $h_{ef} \geq 93$ mm	0.43	0.15	0.37	0.43	0.43	0.34

Design method A: To convert the characteristic resistances $N_{Rk,b}$, $V_{Rk,b}$ of a masonry unit given in Annex C 5 to Annex C 25 related to the strength $f_{b,nom}^{Table}$ to a lower nominal strength $f_{b,nom}$ the following equation can be used:

$$N_{Rk,b}(f_{b,nom}) = N_{Rk,b}^{Table} \times \left(\frac{f_{b,nom}}{f_{b,nom}^{Table}}\right)^{\alpha}$$

$$V_{Rk,b}(f_{b,nom}) = V_{Rk,b}^{Table} \times \left(\frac{f_{b,nom}}{f_{b,nom}^{Table}}\right)^{\alpha}$$

with $N_{Rk,b}$ = Characteristic resistance in masonry with a strength $f_{b,nom} < f_{b,nom}^{Table}$ as given in Annex C 5 to C 25

$N_{Rk,b}^{Table}$ = Characteristic resistance in masonry with a strength $f_{b,nom}^{Table}$ as given in Annex C 5 to C 25

$V_{Rk,b}$ = Characteristic resistance in masonry with a strength $f_{b,nom} < f_{b,nom}^{Table}$ as given in Annex C 5 to C 25

$V_{Rk,b}^{Table}$ = Characteristic resistance in masonry with a strength $f_{b,nom}^{Table}$ as given in Annex C 5 to C 25

α = 0,5 for masonry units of clay, concrete, lightweight concrete and solid units of calcium silicate

α = 0,75 for masonry units of perforated calcium silicate bricks

ДЕКЛАРАЦИЯ ЗА ЕКСПЛОАТАЦИОННИ ПОКАЗАТЕЛИ

Nr. 0903450200_01_M_WIT-VM 250 (3)

Настоящият текст е превод от немски на български.
В случай на съмнение важи оригиналът на немски

1. Уникален идентификационен код на типа на продукта: Würth инжекционна система WIT-VM 250
Арт. №: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*

2. Предвидена употреба/употреби: Verbunddübel zur Verankerung im Beton (Свързващ дюбел за закотвяне в зидария)

3. Производител: Adolf Würth GmbH & Co. KG
Reinhold-Würth-Straße 12 – 17
D – 74653 Künzelsau

4. Система (и) за оценка и проверка на постоянството на експлоатационните показатели: Система 1

5. Европейски документ за оценяване: ETAG 029, април 2013
Европейска техническа оценка: ETA-13/1040 - 13.1.2015 г.
Орган за техническа оценка: Deutsches Institut für Bautechnik (DIBt), Berlin
Нотифициран(и) орган(и): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt

6. Деклариран(и) експлоатационен(и) показател(и):

Основни характеристики	**Експлоатационни показатели**	**Хармонизирана техническа спецификация**
Механична якост и устойчивост (BWR 1)		ETA-13/1040 ETAG 029
Характерна товароносимост при натоварване под опън и при напречно натоварване	Вижте приложение C1, C5 до C25	
Характерна товароносимост за огъващи моменти	Вижте приложение C1	
Деформации под напречно натоварване и натоварване на опън	Вижте приложение C26	
Намаляващ коефициент за опити на строителен обект (β-фактор)	Вижте приложение C26	
Разстояния до ръба и осите	Вижте приложения C4 до C25	
Противопожарна защита (BWR 2)		
Реакция на огън	Дюбелът изпълнява изискванията на клас A1	
Огнеустойчивост	Не е определен експлоатационен показател (KLF)	

Експлоатационните показатели на продукта, посочен по-горе, са в съответствие с декларираните експлоатационни показатели. Отговорност за издаването на декларацията за експлоатационни показатели носи изцяло производителят в съответствие с Регламент на (ЕС) № 305/2011.

Подписана за производителя и от името на производителя от:

Франк Волперт
Прокурист мениджър Продуктов мениджмънт

Др. инж. Зигфрид Байхтер
(Прокурист мениджър Качество)

Кюнцелзау, 01.1.2021 г.

PROHLÁŠENÍ O VLASTNOSTECH

Č. 0903450200_01_M_WIT-VM 250 (3)

Jedná se o verzi přeloženou z němčiny.
V případě pochybností platí německý originál

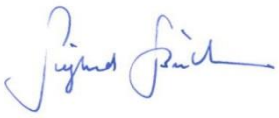
1. Jednoznačný identifikační kód typu výrobku: Injekční systém Würth WIT-VM 250
   Č. výr.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Zamýšlené/zamýšlená použití: Spojovací hmoždinka pro ukotvení do zdiva
3. Výrobce: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Systém(y) pro hodnocení a kontrolu stálosti vlastností: Systém 1
5. Evropský dokument pro posuzování: ETAG 029, duben 2013
   Evropské technické schválení: ETA-13/1040 – 13. 01. 2015
   Pracoviště pro technické posuzování: Deutsches Institut für Bautechnik, Berlin (DIBt, Německý institut pro stavební techniku v Berlíně)
   Oznámený subjekt/oznámené subjekty: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Deklarovaná vlastnost/deklarované vlastnosti:

Podstatné charakteristické vlastnosti	**Vlastnost**	**Harmonizovaná technická specifikace**
Mechanická pevnost a stálost (BWR 1)		ETA-13/1040 ETAG 029
Charakteristická nosnost pro zatížení tahem a příčné zatížení	Viz přílohu C1, C5 až C25	
Charakteristická nosnost pro ohybové momenty	Viz přílohu C1	
Deformace při příčném a tahovém zatížení	Viz přílohu C26	
Redukční faktor pro zkoušky na stavbě (β-faktor)	Viz přílohu C26	
Vzdálenosti od okraje a osové vzdálenosti	Viz přílohy C4 až C25	
Požární ochrana (BWR 2)		
Reakce na oheň	Hmoždinka splňuje požadavky třídy A1	
Požární odolnost	Vlastnosti neurčeny (KLF)	

Vlastnosti výše uvedeného výrobku jsou ve shodě se souborem deklarovaných vlastností. Za vyhotovení prohlášení o vlastnostech v souladu s nařízením (EU) č. 305/2011 je odpovědný výhradně výše uvedený výrobce.

Podepsal za výrobce a jeho jménem:

Frank Wolpert
(zmocněnec – ředitel produktového managementu)



Dr.–Ing. Siegfried Beichter
(zmocněnec – ředitel oddělení jakosti)

Künzelsau, 01. 01. 2021

YDEEVNEDEKLARATION

Nr. 0903450200_01_M_WIT-VM 250 (3)

Denne version er oversat fra tysk.
I tvivlstilfælde gælder den tyske original

1. Produkttypens entydige identifikationskode: Würth injektionssystem WIT-VM 250
   Art.-nr.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Anvendelsesformål: Skruedyvel til forankring i murværk
3. Producent: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. System(er) til bedømmelse og kontrol af ydelsesbestandigheden: System 1
5. Europæisk vurderingsdokument: ETAG 029, april 2013
   Europæisk teknisk bedømmelse: ETA-13/1040 – 13-01-2015
   Teknisk evalueringsmyndighed: Deutsches Institut für Bautechnik (DIBt), Berlin
   Notificeret myndighed/notificerede myndigheder: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Deklareret ydeevne/deklarerede ydeevner:

Væsentlige egenskaber	**Ydelse**	**Harmoniseret teknisk specifikation**
Mekanisk modstandsdygtighed og stabilitet (BWR 1)		ETA-13/1040 ETAG 029
Karakteristisk bæreevne til træk- og tværlaster	Se bilag C1, C5 til C25	
Karakteristisk bæreevne til bøjningsmomenter	Se bilag C1	
Deformationer under tværlast og træklast	Se bilag C26	
Reduktionsfaktor for byggepladsforsøg (β-faktor)	Se bilag C26	
Afstande til kanter og akser	Se bilag C4 til C25	
Brandsikkerhed (BWR 2)		
Brandreaktion	Dyvlen opfylder kravene til klasse A1	
Brandmodstand	Ingen ydelse konstateret	

Det ovenstående produkts ydeevne svarer til den deklarerede ydeevne/de deklarerede ydeevner. For udstedelsen af ydeevnedeklarationen i henhold til forordning (EU) nr. 305/2011 er udelukkende ovenstående producent ansvarlig.

Underskrevet for og på vegne af producenten af:

Frank Wolpert
(Prokurist - leder produktmanagement)

Dr.-ing. Siegfried Beichter
(Prokurist - leder af kvalitetsafdelingen)

Künzelsau, den 01.01.2021

LEISTUNGSERKLÄRUNG

Nr. 0903450200_01_M_WIT-VM 250 (3)

1. Eindeutiger Kenncode des Produkttyps: Würth Injektionssystem WIT-VM 250
   Art.-Nr.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Verwendungszweck(e): Verbunddübel zur Verankerung im Mauerwerk
3. Hersteller: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 - 17
   D - 74653 Künzelsau
4. System(e) zur Bewertung und Überprüfung der Leistungsbeständigkeit: System 1
5. Europäisches Bewertungsdokument: ETAG 029, April 2013
   Europäische Technische Bewertung: ETA-13/1040 - 13.01.2015
   Technische Bewertungsstelle: Deutsches Institut für Bautechnik (DIBt), Berlin
   Notifizierte Stelle(n): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Erklärte Leistung(en):

Wesentliche Merkmale	**Leistung**	**Harmonisierte technische Spezifikation**
Mechanische Festigkeit und Standsicherheit (BWR 1)		ETA-13/1040 ETAG 029
Charakteristische Tragfähigkeit für Zug- und Querlasten	Siehe Anhang C1, C5 bis C25	
Charakteristische Tragfähigkeit für Biegemomente	Siehe Anhang C1	
Verformungen unter Querlast und Zuglast	Siehe Anhang C26	
Reduktionsfaktor für Baustellenversuche (β-Faktor)	Siehe Anhang C26	
Rand- und Achsabstände	Siehe Anhänge C4 bis C25	
Brandschutz (BWR 2)		
Brandverhalten	Der Dübel erfüllt die Anforderungen der Klasse A1	
Feuerwiderstand	Keine Leistung festgestellt (KLF)	

Die Leistung des vorstehenden Produkts entspricht der erklärten Leistung/den erklärten Leistungen. Für die Erstellung der Leistungserklärung im Einklang mit der Verordnung (EU) Nr. 305/2011 ist allein der obengenannte Hersteller verantwortlich.

Unterzeichnet für den Hersteller und im Namen des Herstellers von:

Frank Wolpert
(Prokurist - Leiter Produktmanagement)

Dr. -Ing. Siegfried Beichter
(Prokurist - Leiter Qualität)

Künzelsau, den 01.01.2021

DECLARACIÓN DE PRESTACIONES

N.º 0903450200_01_M_WIT-VM 250 (3)

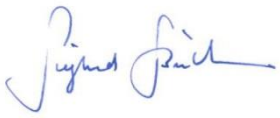
Esta versión está traducida del alemán.
En caso de duda es aplicable el original alemán

1. Código de identificación única del producto tipo: Würth Injektionssystem WIT-VM 250 (sistema de inyección Würth)
   N.° de art.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Uso(s) previsto(s): Taco químico para anclaje en mampostería
3. Fabricante: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Sistema(s) de evaluación y verificación de la constancia de las prestaciones: Sistema 1
5. Documento de evaluación europeo: ETAG 029, abril de 2013
   Evaluación Técnica Europea: ETA-13/1040 – del 13/01/2015
   Organismo de Evaluación Técnica: Deutsches Institut für Bautechnik (DIBt), Berlín
   Organismo(s) notificado(s): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Prestaciones declaradas:

Características esenciales	**Prestación**	**Especificaciones técnicas armonizadas**
Resistencia mecánica y estabilidad (BWR 1)		ETA-13/1040 ETAG 029
Carga soportada característica para esfuerzos de tracción y transversales	Véanse los anexos C1, C5 hasta C25	
Carga soportada característica para momentos de flexión	Véase el anexo C1	
Deformaciones bajo esfuerzo transversal y esfuerzo de tracción	Véase el anexo C26	
Factor reductor para ensayos en la obra (factor ß)	Véase el anexo C26	
Distancias al borde y entre ejes	Véanse los anexos C4 hasta C25	
Protección contra incendios (BWR 2)		
Reacción al fuego	El anclaje cumple los requisitos de la clase A1	
Resistencia al fuego	No se ha determinado ninguna prestación (KLF)	

Las prestaciones del producto identificado anteriormente son conformes con el conjunto de prestaciones declaradas. La presente declaración de prestaciones se emite de conformidad con el Reglamento (UE) n.° 305/2011, bajo la sola responsabilidad del fabricante arriba identificado.

Firmado por y en nombre del fabricante por:



Frank Wolpert
(Apoderado – Director de Product Management)

Dr. –Ing. Siegfried Beichter
(Apoderado – Director de Calidad)

Künzelsau, el 01/01/2021

TOIMIVUSDEKLARATSIOON

Nr. 0903450200_01_M_WIT-VM 250 (3)

Tegemist on saksa keelest tõlgitud versiooniga.
Kahtluste korral kehtib saksakeelne originaaltekst

1. Tootetüübi kordumatu identifitseerimiskood: Würthi ankurdussüsteem WIT-VM 250
   Art-nr: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Ettenähtud kasutusotstarve või -otstarbed: Sidumisankur kinnitamiseks müüri
3. Tootja: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Toimivuse püsivuse hindamise ja kontrolli süsteem(id): Süsteem 1
5. Euroopa hindamisdokument: ETAG 029, aprill 2013
   Euroopa tehniline hinnang: ETA-13/1040 – 13.01.2015
   Tehnilise hindamise asutus: Deutsches Institut für Bautechnik (DIBt), Berliin
   Teavitatud asutus(ed): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Deklareeritud toimivus(ed):

Põhiomadused	**Toimivus**	**Ühtlustatud tehniline kirjeldus**
Mehaaniline tugevus ja vastupidavus (BWR 1)		ETA-13/1040 ETAG 029
Iseloomulik kandevõime tõmbekoormuse ja ristkoormuse osas	Vt lisa C1, C5 kuni C25	
Iseloomulik kandevõime paindemomentide osas	Vt lisa C1	
Deformatsioonid ristkoormuse ja tõmbekoormuse all	Vt lisa C26	
Vähendusfaktor ehituslike katsete puhul (ß-faktor)	Vt lisa C26	
Serva ja telgede vahekaugused	Vt lisad C4 kuni C25	
Tulekaitse (BWR 2)		
Tuletundlikkus	Tüübel täidab klassi A1 nõuded.	
Tuletakistus	Toimivust pole kindlaks määratud	

Eespool nimetatud toodete toimivus vastab deklareeritud toimivusele / deklareeritud toimivustele. Vastavusdeklaratsiooni koostamise eest kooskõlas määrusega (EL) nr 305/2011 vastutab ainuisikuliselt eespool nimetatud tootja.

Tootja poolt ja nimel allkirjastanud:

Frank Wolpert
(Prokurist-tootejuht)

Dr. ins. Siegfried Beichter
(Prokurist-kvaliteedijuht)

Künzelsau, 01.01.2021

SUORITUSTASOILMOITUS

Nro 0903450200_01_M_WIT-VM 250 (3)

Tämä on käännös saksankielisestä.
Epäilyksissä pätee saksankielinen alkuperäisilmoitus.

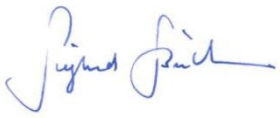
1. Tuotetyypin yksilöllinen tunniste: Würth injektiojärjestelmä WIT-VM 250
   Tuote-nro: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Aiottu käyttötarkoitus (aiotut käyttötarkoitukset): Vaarnaruuvi tiilivuoraukseen ankkuroimiseksi
3. Valmistaja: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau, Saksa
4. Suoritustason arvioinnin ja tarkistamisen järjestelmä(t): Järjestelmä 1
5. Eurooppalainen arviointidokumentti: ETAG 029, April 2013 (ETAG 029, huhtikuu 2013)
   Eurooppalainen tekninen arviointi: ETA-13/1040 – 13.01.2015
   Teknisestä arvioinnista vastaava laitos: Deutsches Institut für Bautechnik (DIBt; Saksan rakennustekninen instituutti), Berliini
   Ilmoitettu laitos / ilmoitetut laitokset: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW; teräsrakenneteollisuuden ja materiaalimekaniikan instituutti), Darmstadt
6. Ilmoitettu suoritustaso/ilmoitetut suoritustasot:

Perusominaisuudet	**Suoritustaso**	**Yhdenmukaistetut tekniset eritelmät**
Mekaaninen lujuus ja vakaus (BWR 1)		ETA-13/1040 ETAG 029
Ominaiskantavuus veto- ja poikkikuormille	Katso liitteet C1, C5 - C25	
Ominaiskantavuus taivutusmomentille	Katso liite C1	
Epämuodostumat poikittais- ja vetokuormien alla	Katso liite C26	
Vähennyskerroin työmaatesteille (β-kerroin)	Katso liite C26	
Reuna- ja akselietäisyydet	Katso liitteet C4 - C25	
Palosuoja (BWR 2)		
Palokäyttäytyminen	Ankkuri vastaa luokan A1 vaatimuksia	
Palonkestävyys	Ei todettua suoritustasoa (KLF)	

Edellä yksilöidyn tuotteen suoritustaso on ilmoitettujen suoritustasojen joukon mukainen. Tämä suoritustasoilmoitus on asetuksen (EU) N:o 305/2011 mukaisesti annettu edellä ilmoitetun valmistajan yksinomaisella vastuulla.

Valmistajan puolesta allekirjoittanut:

Frank Wolpert
(Prokuristi - tuotehallinnon johtaja)



TkT Siegfried Beichter
(Prokuristi - laadunjohtaja)

Künzelsau, 01.01.2021

DÉCLARATION DE PERFORMANCES

N° 0903450200_01_M_WIT-VM 250 (3)

Il s'agit ici de la version traduite à partir de l'allemand.
En cas de doute, la version allemande fait foi

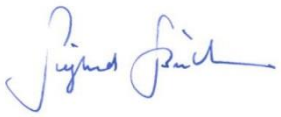
1. Code d'identification unique du produit type : Système à injecter Würth WIT-VM 250
   N° de réf. : 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Usage(s) prévu(s) : Cheville composite d'ancrage dans la maçonnerie
3. Fabricant : Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Strasse 12 – 17
   D – 74653 Künzelsau
4. Système(s) d'évaluation et de vérification de la constance des performances : Système 1
5. Document d'évaluation européen : ETAG 029, avril 2013
   Évaluation technique européenne : ETA-13/1040 – délivrée le 13/01/2015
   Organisme d'évaluation technique : Deutsches Institut für Bautechnik (DIBt), Berlin
   Organisme(s) notifié(s) : 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Performance(s) déclarée(s) :

Caractéristiques essentielles	**Performance**	**Spécification technique harmonisée**
Résistance mécanique et stabilité verticale (BWR 1)		ETA-13/1040 ETAG 029
Capacité de charge caractéristique pour charges de traction et transversales	Voir les annexes C1, C5 à C25	
Capacité de charge caractéristique pour couples de flexion	Voir annexe C1	
Déformations sous charges de traction et transversales	Voir annexe C26	
Facteur de réduction pour essais sur chantiers (facteur ß)	Voir annexe C26	
Distance au bord et entraxe	Voir les annexes C4 à C25	
Protection incendie (BWR 2)		
Réaction au feu	La cheville répond aux exigences de la classe A1	
Résistance au feu	Pas de performance constatée	

La performance du produit susmentionné correspond à la performance / aux performances déclarée(s). Conformément au règlement (UE) N°305/2011, la présente déclaration des performances est établie sous la seule responsabilité du fabricant mentionné ci-dessus.

Signée pour le fabricant et en son nom par :

Frank Wolpert
(Fondé de pouvoir – Directeur Gestion Produits)



Dr. –Ing. Siegfried Beichter
(Fondé de pouvoir – Directeur Qualité)

Künzelsau, le 01/01/2021

DEARBHÚ FEIDHMÍOCHTA

Uimh 0903450200_01_M_WIT-VM 250 (3)

Is é seo an leagan a aistríodh ón nGearmáinis.
Má tá aon amhras ort tá feidhm ag an bunleagan Gearmáinise

1. Cód aitheantais uathúil an chineáil táirge: Würth Injektionssystem WIT-VM 250
   Uimh.earra: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Úsáid(í) b(h)eartaithe: Ancaire nasctha le haghaidh daingnithe i gcoincréit
3. Déantúsóir: Adolf Würth GmbH & Co. KG
   Reinhold- Würth-Str. 12 - 17
   D – 74653 Künzelsau
4. Córa(i)s chun seasmhacht feidhmíochta a mheas agus a scrúdú: Córas 1
5. Doiciméad Measúnaithe Eorpach: ETAG 029, Aibreán 2013
   Measúnú Teicniúil Eorpach: ETA-13/1040 – 13/01/2015
   Ionad Measúnaithe Teicniúil: Deutsches Institut für Bautechnik, DIBt (Ionad Teicníocht Tógála na Gearmáine), Beirlín
   Iona(i)d dá dtugtar fógra: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt (Institiúid um Fhoirgníocht Chruach agus Meicníocht Ábhair (IFSW), Darmstadt
6. Feidhmíocht(aí) d(h)earbhaithe:

Príomhthréithe	**Feidhmíocht**	**Sonraíocht theicniúil chomhchuibhithe**
Friotaíocht agus Cobhsaíocht Mheicniúil (BWR 1)		ETA-13/1040 ETAG 029
Cumas lompair saintréitheach d'ualaigh tarraingthe agus trasnacha	Féach Aguisín C1, C5 go C25	
Cumas lompair saintréitheach maidir le casmhóimintí lúbtha	Féach iarscríbhinn C1	
Dífhoirmiú faoi strus trasnach agus tarraingthe	Féach iarscríbhinn C26	
Fachtóir laghdaithe do thriallacha sa láthair tógála (fachtóir ß)	Féach iarscríbhinn C26	
Achair imill agus acastóra	Féach Iarscríbhinní C4 go C25	
Cosaint dóiteáin (BWR 2)		
Iompar i gcás dóiteáin	Comhlíonann an t-ancaire riachtanais Aicme A1	
Friotaíocht i gcoinne tine	Níor deimhníodh aon fheidhmíocht	

Tá feidhmíocht an táirge thuas ag teacht leis an bhfeidhmíocht dhearbhaithe/na feidhmíochtaí dearbhaithe. Is ar an déantúsóir thuasluaite amháin atá an fhreagracht Dearbhú Feidhmíochta a dhéanamh de réir Rialacháin (AE) Uimh. 305/2011.

Sínithe ar son agus thar ceann an déantúsóra ag:

Frank Wolpert

Dr. –Ing. Siegfried Beichter

(Oifigeach Údaraithe - Stiúrthóir um Bainistíocht Táirgí)

(Oifigeach Údaraithe - Stiúrthóir Cáilíochta)

Künzelsau, 01/01/2021

ΔΗΛΩΣΗ ΕΠΙΔΟΣΕΩΝ

Αρ. 0903450200_01_M_WIT-VM 250 (3)

Πρόκειται για την έκδοση μεταφρασμένη από τα γερμανικά.
Σε περίπτωση αμφιβολιών, ισχύει το γερμανικό πρωτότυπο

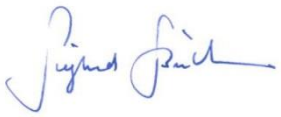
1. Μοναδικός κωδικός αναγνώρισης του τύπου του προϊόντος: Σύστημα έγχυσης Würth WIT-VM 250
   Αρ. είδ.: 09034502*, 090344 121, 090344 180, 0903451*, 0903452*, 0903461*, 0903462*
2. Σκοπός (-οί) χρήσης: Χημικό αγκύριο για αγκύρωση σε τοιχοποιία
3. Κατασκευαστής: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Σύστημα (-τα) για την αξιολόγηση και τον έλεγχο της διατήρησης της επίδοσης: Σύστημα 1
5. Ευρωπαϊκό έντυπο αξιολόγησης: ETAG 029, Απρίλιος 2013
   Ευρωπαϊκή τεχνική αξιολόγηση: ETA-13/1040 – 13.01.2015
   Οργανισμός τεχνικής αξιολόγησης: Deutsches Institut für Bautechnik (DIBt), Βερολίνο
   Κοινοποιημένος οργανισμός (-οί): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Δηλωμένη επίδοση (-εις):

Σημαντικά χαρακτηριστικά	**Επίδοση**	**Εναρμονισμένες τεχνικές προδιαγραφές**
Μηχανική αντοχή και αντίσταση (BWR 1)		ETA-13/1040 ETAG 029
Χαρακτηριστική φέρουσα ικανότητα για εφελκυστικά και εγκάρσια φορτία	Βλέπε παράρτημα C1, C5 έως C25	
Χαρακτηριστική φέρουσα ικανότητα για ροπές κάμψης	Βλέπε παράρτημα C1	
Παραμορφώσεις υπό εγκάρσιο φορτίο και εφελκυστικό φορτίο	Βλέπε παράρτημα C26	
Συντελεστής ελάπτωσης για εργοταξιακές δοκιμές (συντελεστής β)	Βλέπε παράρτημα C26	
Αποστάσεις ακμών και αποστάσεις αξόνων	Βλέπε παραρτήματα C4 έως C25	
Πυροπροστασία (BWR 2)		
Συμπεριφορά σε πυρκαγιά	Το αγκύριο ικανοποιεί τις απαιτήσεις της κατηγορίας A1	
Αντοχή σε πυρκαγιά	Δεν διαπιστώθηκε επίδοση (KLF)	

Η επίδοση του προαναφερόμενου προϊόντος αντιστοιχεί στη δηλωμένη επίδοση/στις δηλωμένες επιδόσεις. Για τη σύνταξη της δήλωσης επιδόσεων σε συμμόρφωση με τον κανονισμό (ΕΕ) αρ. 305/2011 ο μόνος υπεύθυνος είναι ο προαναφερόμενος κατασκευαστής.

Υπογράφεται για τον κατασκευαστή και εν ονόματι του κατασκευαστή από:

Frank Wolpert
(Γενικός εμπορικός πληρεξούσιος - Διευθυντής διαχείρισης παραγωγής)



Dr. –Ing. Siegfried Beichter
(Γενικός εμπορικός πληρεξούσιος - Διευθυντής ποιότητας)

Künzelsau, την 01.01.2021

IZJAVA O SVOJSTVIMA

Br. 0903450200_01_M_WIT-VM 250 (3)

Ova je verzija teksta prevedena s njemačkog.
U slučaju dvojbe original na njemačkom ima prednost

1. Jedinstvena identifikacijska oznaka tipa proizvoda: Würth injekcijski sustav WIT-VM 250
   Br. art.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Namjena(e): Spojni zatici za kotvljenje u zidove
3. Proizvođač: Adolf Würth GmbH & Co. KG
   Reinhold- Würth-Str. 12 – 17
   D – 74653 Künzelsau
4. Sustav/i za ocjenjivanje i provjeru postojanosti svojstava: Sustav 1
5. Europski dokument za ocjenjivanje: ETAG 029, travanj 2013.
   Europska tehnička ocjena: ETA-13/1040 – 13.1.2015.
   Tijelo za tehničku ocjenu: Njemački institut građevinarstva (DIBt), Berlin
   Prijavljeno/a tijelo/a: 2873, Institut za čelične konstrukcije i mehaniku materijala (IFSW), Darmstadt
6. Navedeno svojstvo/a:

Bitna obilježja	**Svojstvo**	**Usklađene tehničke specifikacije**
Mehanička čvrstoća i stabilnost (BWR 1)		ETA-13/1040 ETAG 029
Karakteristična nosivost za uzdužno i poprečno opterećenje	Vidi prilog C1, C5 do C25	
Karakteristična nosivost za moment savijanja	Vidi prilog C1	
Deformacija uzrokovana uzdužnim i poprečnim opterećenjem	Vidi prilog C26	
Faktor redukcije za testiranja na gradilištima (ß faktor)	Vidi prilog C26	
Udaljenost ruba i osi	Vidi priloge C4 do C25	
Zaštita od požara (BWR 2)		
Ponašanje u slučaju požara	Zatik zadovoljava zahtjeve razreda A1	
Otpornost na požar	Nije utvrđeno svojstvo (KLF)	

Svojstvo gore navedenog proizvoda odgovara navedenom svojstvu / navedenim svojstvima. Za izradu Izjave o svojstvima prema Odredbi (EU) br. 305/2011 isključivo je odgovoran gore navedeni proizvođač.

Potpisano za i u ime proizvođača od strane:

Frank Wolpert
(Prokurist – voditelj upravljanja proizvodima)

Dr. – Ing. Siegfried Beichter
(Prokurist – voditelj za kvalitetu)

Künzelsau, 1.1.2021.

TELJESÍTMÉNYNYILATKOZAT

0903450200_01_M_WIT-VM 250 (3) sz.

Ez a német nyelvről lefordított változat.
Kétség esetén a német nyelvű eredeti az érvényes.

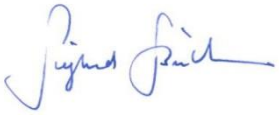
1. A terméktípus egyedi azonosító kódja: Würth WIT-VM 250 injekciós rendszer
   Cikkszámok: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Felhasználási cél(ok): Kötőanyaggal rögzített horgony falazatban való horgonyzáshoz
3. Gyártó: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. A teljesítményállandóság értékelésére és ellenőrzésére szolgáló rendszer(ek): 1-es rendszer
5. Európai értékelési dokumentum: ETAG 029, 2013. április
   Európai Műszaki Értékelés: ETA-13/1040 – 2015.01.13.
   Műszaki értékelő szervezet: Deutsches Institut für Bautechnik (DIBt), Berlin
   Bejelentett szerv(ek): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Nyilatkozatban szereplő teljesítmény(ek):

Lényeges jellemzők	**Teljesítmény**	**Harmonizált műszaki specifikáció**
Mechanikai szilárdság és állékonyság (BWR 1)		ETA-13/1040 ETAG 029
Jellemző teherbíró képesség húzó és keresztirányú terhelésre	Lásd a C1, C5 – C25 mellékleteket	
Jellemző teherbíró képesség hajlító nyomatékra	Lásd a C1 mellékletet	
Alakváltozás keresztirányú és húzó terhelés alatt	Lásd a C26 mellékletet	
Redukciós tényező építési helyszíni kísérletekhez (ß-tényező)	Lásd a C26 mellékletet	
Szél- és tengelytávok	Lásd a C4 – C25 mellékleteket	
Tűzvédelem (BWR 2)		
Tűzzel szembeni viselkedés	A horgony teljesíti az A1 osztály követelményeit	
Tűzállóság	Nincs megállapított teljesítmény (KLF)	

A fent megnevezett termék teljesítménye megfelel a teljesítménynyilatkozatban rögzített teljesítménynek/teljesítményeknek. A 305/2011 sz. EU rendelet előírásai alapján készült teljesítménynyilatkozat összeállítása kizárólag a fent nevezett gyártó felelőssége.

A gyártó képviseletében és nevében aláírta:

Frank Wolpert
(cégvezető – termékmenedzsment vezető)



Dr. –Ing. Siegfried Beichter
(cégvezető – minőségügyi vezető)

Künzelsau, 2021.01.01.

DICHIARAZIONE DI PRESTAZIONE

N. 0903450200_01_M_WIT-VM 250 (3)

La presente è la versione tradotta dal tedesco.
In caso di incertezze si considera valido l'originale in tedesco

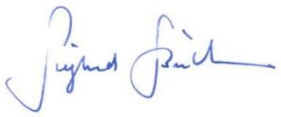
1. Codice di identificazione unico del prodotto-tipo: Würth Injektionssystem WIT-VM 250 (Ancorante chimico - sistema ad iniezione Würth WIT-VM 250)
   Art. n.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Utilizzo/i previsto/i: Ancorante chimico per l'ancoraggio in muratura
3. Azienda produttrice: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Sistema/i di valutazione e verifica della prestazione: Sistema 1
5. Documento per la Valutazione Europea: ETAG 029, aprile 2013
   Valutazione tecnica europea: ETA-13/1040 – 13.01.2015
   Organismo di valutazione tecnica: Deutsches Institut für Bautechnik (DIBt), Berlino
   Organismo/i notificato/i: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Prestazione/i dichiarata/e:

Caratteristiche essenziali	**Prestazione**	**Norma tecnica armonizzata**
Resistenza meccanica e stabilità (BWR 1)		ETA-13/1040 ETAG 029
Capacità di portata caratteristica per carichi a trazione e trasversali	Si vedano Allegati C1 da C5 a C25	
Capacità di portata caratteristica per momenti flettenti	Si veda Allegato C1	
Deformazioni sotto carico trasversale e carico a trazione	Si veda Allegato C26	
Coefficiente di riduzione per prove in cantiere (coefficiente β)	Si veda Allegato C26	
Distanze dai bordi e interassi	Si vedano Allegati da C4 a C25	
Sicurezza in caso di incendio (BWR 2)		
Reazione al fuoco	Il tassello soddisfa i requisiti della Classe A1	
Resistenza al fuoco	Nessuna prestazione determinata (NPD)	

La prestazione del prodotto di cui sopra è conforme alla prestazione dichiarata/alle prestazioni dichiarate. Si rilascia la presente dichiarazione di prestazione ai sensi del Regolamento (UE) N. 305/2011 sotto la responsabilità esclusiva del suddetto fabbricante.

Firmato a nome e per conto del fabbricante da:

Frank Wolpert
(Procuratore - Responsabile gestione prodotto)



Dr. –Ing. Siegfried Beichter
(Procuratore - Responsabile Qualità)

Künzelsau, 01.01.2021

EKSPLOATACINIŲ SAVYBIŲ DEKLARACIJA

Nr. 0903450200_01_M_WIT-VM 250 (3)

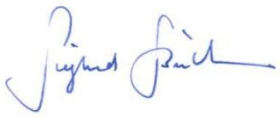
Tai yra vertimas iš vokiečių kalbos.
Kilus abejonių, vadovautis originalu vokiečių kalba.

1. Produkto tipo unikalus atpažinimo kodas: „Würth" injekcinė sistema WIT-VM 250
   Artikulo Nr. 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Naudojimo paskirtis (-ys): sujungimo kaištis tvirtinimui į mūrą
3. Gamintojas: „Adolf Würth GmbH & Co. KG"
   Reinhold-Würth g. 12–17
   D – 74653 Kiuncelsau
4. Eksploatacinių savybių atsparumo įvertinimo ir patikrinimo sistema (-os): 1 sistema
5. Europos įvertinimo dokumentas: ETAG 029, 2013 balandis
   Europos techninis įvertinimas: ETA-13/1040, atliktas 2015-01-13
   Techninio vertinimo įstaiga: „Deutsches Institut für Bautechnik (DIBt)", Berlynas
   Notifikuotoji (-osios) įstaiga (-os): 2873, „Institut für Stahlbau und Werkstoffmechanik" (IFSW), Darmštatas
6. Deklaruojama (-os) eksploatacinė (-s) savybė (-s):

Pagrindinės charakteristikos	**Eksploatacinės savybės**	**Darnusis techninis standartas**
Mechaninis stiprumas ir stabilumas (BWR 1)		ETA-13/1040 ETAG 029
Būdingas atsparumas tempimo ir šlyties apkrovai	Žr. priedą: nuo C1, C5 iki C25	
Būdingas atsparumas lenkimo apkrovai	Žr. C1 priedą.	
Deformacija esant tempimo ir šlyties apkrovai	Žr. C26 priedą.	
Redukcijos koeficientas vykdant betono stiprumo bandymus (ß-koeficientas)	Žr. C26 priedą.	
Krašto ir ašių atstumai	Žr. priedą: C4 iki C25	
Priešgaisrinė apsauga (BWR 2)		
Degumas	Kaištis atitinka A1 klasės reikalavimus	
Atsparumas ugniai	Eksploatacinė savybė nenustatyta (KLF)	

Turimos produkto eksploatacinės savybės atitinka deklaruotas eksploatacines savybes. Už eksploatacinių savybių deklaracijos, atitinkančios potvarkį (ES) Nr. 305/2011, sudarymą atsako tik nurodytas gamintojas.

Pasirašo gamintojas ir atstovas gamintojo vardu:



Frank Wolpert
(Įgaliotasis produkto vadovas)

Dr. inž. Siegfried Beichter
(Įgaliotasis kokybės vadovas)

Kiuncelsau, 2021-01-01

EKSPLUATĀCIJAS ĪPAŠĪBU DEKLARĀCIJA

Nr. 0903450200_01_M_WIT-VM 250 (3)

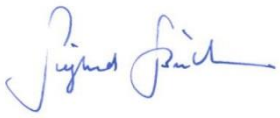
Šī ir no vācu valodas tulkota dokumenta versija.
Šaubu gadījumā spēkā ir oriģināls vācu valodā

1. Nepārprotams produkta tipa identifikācijas kods: *Würth* injekciju sistēma WIT-VM 250
   Preces Nr. 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Lietojuma mērķis(-i): savienošanas dībelis enkurošanai mūrī
3. Ražotājs: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau (Kincelzava)
4. Ekspluatācijas īpašību noturības novērtējuma un pārbaudes sistēma(-as): Sistēma 1
5. Eiropas novērtējuma dokuments: ETAG 029, 2013. gada aprīlī
   Eiropas Tehniskais novērtējums: ETA-13/1040 – 13.01.2015
   Tehniskā novērtējuma iestāde: Deutsches Institut für Bautechnik (DIBt), Berlin (Berlīne)
   Paziņotā(-ās) iestāde(-es): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt (Darmštate)
6. Deklarētā(-ās) ekspluatācijas īpašība(-as):

Būtiskie raksturlielumi	**Ekspluatācijas īpašības**	**Saskaņotā tehniskā specifikācija**
Mehāniskā izturība un stiprība *(BWR 1)*		ETA-13/1040 ETAG 029
Raksturīgā nestspēja vilces un šķērsvirziena slodzē	Skatīt C1, C5 līdz C25 pielikumu	
Raksturīgā nestspēja lieces gadījumā	Skatīt C1 pielikumu	
Šķērsvirziena un vilces slodzes izraisītas deformācijas	Skatīt C26 pielikumu	
Samazinājuma koeficients būvniecības testos (ß koeficients)	Skatīt C26 pielikumu	
Malas un ass attālumi	Skatīt C4 līdz C25 pielikumu	
Ugunsdrošība *(BWR 2)*		
Degšanas īpašības	Dībelis atbilst A 1 klases prasībām	
Ugunsizturība	Veiktspēja nav konstatēta (KLF)	

Šā produkta ekspluatācijas īpašības atbilst deklarētajai(-ām) ekspluatācijas īpašībai(-ām). Par ekspluatācijas īpašību deklarācijas sagatavošanu saskaņā ar Regulu (ES) Nr. 305/2011 ir atbildīgs tikai iepriekš minētais ražotājs.

Ražotāja un ražotāja pārstāvja paraksts:



Frank Wolpert (Franks Volperts)

(*Prokurist – Leiter Produktmanagement* (prokūrists – produktu nodaļas vadītājs))

Dr. –Ing. Siegfried Beichter (Dr. ing. Zigfrīds Beihters)

(*Prokurist – Leiter Qualität* (prokūrists – kvalitātes sistēmas vadītājs))

Künzelsau (Kincelzava), 01.01.2021.

DIKJARAZZJONI TA' PRESTAZZJONI

Nru 0903450200_01_M_WIT-VM 250 (3)

Din hija l-verżjoni tradotta mill-Ġermaniż.
F'każ ta' dubju jgħodd id-dokument oriġinali bil-lingwa Ġermaniża

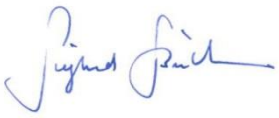
1. Kodiċi uniku ta' identifikazzjoni tat-tip tal-prodott: Würth Sistema b'Injezzjoni WIT-VM 250
   Nru tal-oġġett: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Użu/i intenzjonat/i: Kavilja għat-twaħħil, għall-ankraġġ fil-ħitan tal-ġebel
3. Manifattur: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Str. 12 – 17
   D – 74653 Künzelsau
4. Sistema jew sistemi ta' valutazzjoni u verifika tal-kostanza ta' prestazzjoni: Sistema 1
5. Dokument Ewropew ta' valutazzjoni: ETAG 029, April 2013
   Valutazzjoni Teknika Ewropea: ETA-13/1040 – 13/01/2015
   Korp tal-valutazzjoni teknika: Deutsches Institut für Bautechnik (DIBt), Berlin
   Korp/i nnotifikat/i: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt, Germany
6. Prestazzjoni/jiet ddikjarata/i:

Karatteristiċi essenzjali	**Prestazzjoni**	**Speċifikazzjoni teknika armonizzata**
Stabbiltà u ebusija mekkanika (BWR 1)		ETA-13/1040 ETAG 029
Kapaċità ta' ġarr karatteristika għal tagħbija ta' ġbid u laterali	Ara l-Annessi C1, C5 sa C25	
Kapaċità ta' ġarr karatteristika għal mumenti ta' liwi	Ara l-Anness C1	
Deformazzjoni taħt tagħbija laterali u ġbid	Ara l-Anness C26	
Fattur tat-tnaqqis għat-testijiet fil-post tal-bini (fattur β)	Ara l-Anness C26	
Distanzi mit-tarf u mill-assi	Ara l-Annessi C4 sa C25	
Protezzjoni kontra n-nar (BWR 2)		
Reazzjoni għan-nar	Il-kavilja tilħaq ir-rekwiżiti tal-klassi A 1	
Reżistenza kontra n-nar	L-ebda prestazzjoni determinata (NPD)	

Il-prestazzjoni tal-prodott identifikat hawn fuq hija konformi mal-prestazzjonijiet iddikjarati. Din id-dikjarazzjoni ta' prestazzjoni hi maħruġa skont ir-Regolament (UE) Nru 305/2011 taħt ir-responsabbiltà unika tal-manifattur identifikat hawn fuq.

Iffirmat għal u f'isem il-manifattur minn:

Frank Wolpert
(Rapp. Awtorizzat - Kap, Ġestjoni tal-Prodott)



Dr. –Ing. Siegfried Beichter
(Rapp. Awtorizzat - Kap, Ġestjoni tal-Kwalità)

Künzelsau, 01/01/2021

PRESTATIEVERKLARING

Nr. 0903450200_01_M_WIT-VM 250 (3)

Dit is een uit het Duits vertaalde versie.
In twijfelgevallen geldt het Duitse origineel.

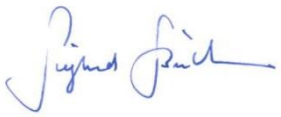
1. Eenduidige identificatiecode van het producttype: Würth injectiesysteem WIT-VM 250
   Art.nr.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Gebruiksdoel(en): compoundanker voor verankering in metselwerk
3. Fabrikant: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Systeem/systemen voor beoordeling en verificatie van de prestatiebestendigheid: Systeem 1
5. Europees beoordelingsdocument: ETAG 029, april 2013
   Europese technische beoordeling: ETA-13/1040 – 13/01/2015
   Technische beoordelingsinstantie: Deutsches Institut für Bautechnik (DIBt), Berlijn
   Aangemelde instantie(s): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Vastgestelde prestatie(s):

Belangrijkste eigenschappen	**Prestatie**	**Geharmoniseerde technische specificatie**
Mechanische sterkte en stabiliteit (BWR 1)		ETA-13/1040 ETAG 029
Karakteristiek draagvermogen voor trek- en dwarsbelasting	Zie bijlage C1, C5 t/m C25	
Karakteristiek draagvermogen voor buigmomenten	Zie bijlage C1	
Vervormingen onder dwarsbelasting en trekbelasting	Zie bijlage C26	
Reductiefactor voor bouwplaatstests (ß-factor)	Zie bijlage C26	
Rand- en asafstanden	Zie bijlage C4 t/m C25	
Brandveiligheid (BWR 2)		
Brandgedrag	De plug voldoet aan de eisen van klasse A1	
Brandweerstand	Geen prestatie vastgesteld (GPV)	

De prestatie van het bovenvermelde product voldoet aan de vastgestelde prestatie(s). Voor het opstellen van de prestatieverklaring overeenkomstig verordening (EU) nr. 305/2011 is uitsluitend de bovengenoemde fabrikant verantwoordelijk.

Ondertekend voor de fabrikant en in naam van de fabrikant door:

Frank Wolpert
(Procuratiehouder - Hoofd Productmanagement)



dr.-ing. Siegfried Beichter
(Procuratiehouder - Hoofd Kwaliteit)

Künzelsau, 01/01/2021

YTELSESERKLÆRING

Nr. 0903450200_01_M_WIT-VM 250 (3)

Dette er en versjon som er oversatt fra tysk.
Skulle det oppstå tvil, gjelder den tyske originalen

1. Entydig kode for produkttypen: Würth injeksjonssystem WIT-VM 250
   Art.-nr.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Bruksområde: Kompositttplugg til forankring i mur
3. Produsent: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. System(er) til vurdering og kontroll av ytelsesbestandigheten: System 1
5. Europeisk vurderingsdokument: ETAG 029, april 2013
   Europeisk teknisk godkjenning: ETA-13/1040 – 13.01.2015
   Teknisk godkjenningsorgan: Deutsches Institut für Bautechnik, Berlin
   Teknisk(e) kontrollorgan(er): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt, Tyskland
6. Erklært(e) ytelse(r):

Vesentlige egenskaper	**Ytelse**	**Harmonisert teknisk spesifikasjon**
Mekanisk fasthet og stabilitet (BWR 1)		ETA-13/1040 ETAG 029
Karakteristisk bæreevne for strekk- og tverrlastbelastning	Se vedlegg C1, C5 til C25	
Karakteristisk bæreevne for bøyemomenter	Se vedlegg C1	
Deformasjoner under tverrbelastning og strekkbelastning	Se vedlegg C26	
Reduksjonsfaktor for anleggsforsøk (ß-faktor)	Se vedlegg C26	
Kant- og akselavstander	Se vedlegg C4 til C25	
Brannvern (BWR 2)		
Egenskaper ved brann	Pluggen oppfyller kravene til klasse A1	
Brannmotstand	Ingen ytelse registrert	

Ytelsen til dette produktet tilsvarer den erklærte ytelsen / de erklærte ytelsene. Produsenten som er nevnt over, er eneansvarlig for at det lages en ytelseserklæring i henhold til forordningen (EU) nr. 305/2011.

Undertegnet for produsenten og på vegne av produsenten:

Frank Wolpert
(prokurist - leder produktstyring)

Dr. ing. Siegfried Beichter
(prokurist- leder kvalitet)

Künzelsau, den 01.01.2021

DEKLARACJA WŁAŚCIWOŚCI UŻYTKOWYCH

Nr 0903450200_01_M_WIT-VM 250 (3)

Ten dokument jest wersją przełożoną z języka niemieckiego.
W razie wątpliwości obowiązuje wersja niemiecka.

1. Niepowtarzalny kod identyfikacyjny typu produktu: Würth system do zastrzyków WIT-VM 250
   Nr artykułu: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Przeznaczenie: kołek rozporowy do kotwienia w murze
3. Producent: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. System (systemy) oceny i weryfikacji stałości właściwości użytkowych: System 1
5. Europejski dokument oceny: ETAG 029, kwiecień 2013
   Europejska Ocena Techniczna: ETA-13/1040 – 13.01.2015
   Placówka sporządzająca ocenę techniczną: Deutsches Institut für Bautechnik (DIBt), Berlin
   Jednostka/-i notyfikowana/-e: 2873, Institut für Stahlbau und Werkstoffmechanik (Instytut konstrukcji stalowych i mechaniki tworzyw), Darmstadt
6. Deklarowane właściwości użytkowe:

Istotne cechy	**Właściwości użytkowe**	**Zharmonizowana specyfikacja techniczna**
Wytrzymałość mechaniczna i stateczność (BWR 1)		ETA-13/1040 ETAG 029
Wartości charakterystyczne dla obciążenia w wyniku rozciągania i obciążeń poprzecznych	Patrz załącznik C1, C5 do C25	
Wartości charakterystyczne dla momentów zginających	Patrz załącznik C1	
Deformacje na skutek obciążenia poprzecznego i rozciągania	Patrz załącznik C26	
Współczynnik redukcji dla prób w miejscu budowy (współczynnik β)	Patrz załącznik C26	
Odstępy na obrzeżu i odstępy osi	Patrz załączniki C4 do C25	
Ochrona przeciwpożarowa (BWR 2)		
Klasyfikacja ogniowa	Kołek spełnia wymagania klasy A1	
Odporność ogniowa	Nie stwierdzono (KLF)	

Właściwości użytkowe powyższego produktu pokrywają się z deklarowanymi właściwościami użytkowymi. Za sporządzenie deklaracji właściwości użytkowych zgodnie z rozporządzeniem (UE) nr 305/2011 odpowiedzialny jest wyłącznie wyżej wymieniony producent.

Podpisano za producenta i w jego imieniu:

Frank Wolpert
(Prokurent - Kierownik działu zarządzania produktami)

Dr inż. Siegfried Beichter
(Prokurent - Kierownik działu jakości)

Künzelsau, dnia 01.01.2021 r.

DECLARAÇÃO DE DESEMPENHO

N.º 0903450200_01_M_WIT-VM 250 (3)

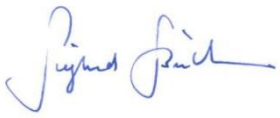
Versão traduzida da versão alemã.
Em caso de dúvida, é válido o original em alemão

1. Código de identificação inequívoco do tipo de produto: Würth Sistema de injeção WIT-VM 250
   N.° art.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Fim/fins de utilização: Cavilha de fixação por aderência para ancoragem em parede de alvenaria
3. Fabricante: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Sistema(s) para avaliação e verificação da constância do desempenho: Sistema 1
5. Documento de avaliação europeu: ETAG 029, abril de 2013
   Avaliação Técnica Europeia: ETA-13/1040 – 13.01.2015
   Organismo de Avaliação Técnica: Deutsches Institut für Bautechnik (DIBt), Berlim
   Organismo(s) notificado(s): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Desempenho(s) declarado(s):

Características essenciais	**Desempenho**	**Especificação técnica harmonizada**
Resistência mecânica e estabilidade (BWR 1)		ETA-13/1040 ETAG 029
Capacidade de carga característica para cargas de tração e cargas transversais	Veja anexo C1, C5 até C25	
Capacidade de carga característica para momentos de flexão	Veja anexo C1	
Deformações sob carga transversal e carga de tração	Veja anexo C26	
Fator de redução para testes em locais de obras (fator β)	Veja anexo C26	
Distâncias aos bordos e distâncias entre eixos	Veja anexos C4 a C25	
Proteção contra incêndio (BWR 2)		
Comportamento em caso de incêndio	A cavilha cumpre os requisitos da classe A1	
Resistência ao fogo	Não foi determinado nenhum rendimento (KLF)	

O desempenho do presente produto corresponde ao(s) desempenho(s) declarado(s). O fabricante acima mencionado é o único responsável pela elaboração da declaração de desempenho, em conformidade com o Regulamento (UE) n.° 305/2011.

Assinado pelo fabricante e em nome do fabricante por:



Frank Wolpert
(Procurador - Diretor de gestão de produtos)

Dr. Eng.° Siegfried Beichter
(Procurador - Diretor de qualidade)

Künzelsau, a 01.01.2021

DECLARAȚIE DE PERFORMANȚĂ

Nr. 0903450200_01_M_WIT-VM 250 (3)

Prezenta versiune este o traducere din limba germană.
În caz de dubiu, se aplică originalul în limba germană

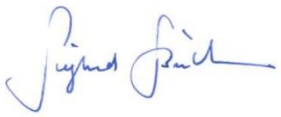
1. Cod unic de identificare al tipului de produs: Sistem de injecție Würth WIT-VM 250
   Nr. articol: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Scopul sau scopurile de utilizare: Diblu de îmbinare pentru ancorare în zidărie
3. Producător: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Sistem(e) pentru evaluarea și verificarea constanței performanței: Sistem 1
5. Document european de evaluare: ETAG 029, Aprilie 2013
   Evaluare tehnică europeană: ETA-13/1040 – 13.01.2015
   Organism de evaluare tehnică: Deutsches Institut für Bautechnik (DIBt), Berlin
   Organism(e) notificat(e): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt (Institutul pentru construcții mertalice și mecanica materialelor)
6. Performanța(e) declarată(e):

Caracteristici esențiale	**Performanță**	**Specificație tehnică armonizată**
Rezistență mecanică și stabilitate (BWR 1)		ETA-13/1040 ETAG 029
Capacitate portantă caracteristică pentru solicitări la tracțiune și solicitări transversale	A se vedea anexele C1, C5 până la C25	
Capacitate portantă caracteristică pentru momente de încovoiere	A se vedea anexa C1	
Deformări sub sarcină transversală și sarcină de tracțiune	A se vedea anexa C26	
Coeficient de reducere pentru încercări pe șantier (factorul β)	A se vedea anexa C26	
Distanțe față de margine și față de axă	A se vedea anexele C4 până la C25	
Protecție contra incendiilor (BWR 2)		
Comportament la incendiu	Diblul îndeplinește cerințele clasei A1	
Rezistență la foc	Nu s-a constatat nicio performanță (KLF)	

Performanța produsului prezentat este în conformitate cu performanța declarată / cu performanțele declarate. Pentru realizarea declarației de performanță în conformitate cu Ordonanța (UE) nr. 305/2011, singurul responsabil este producătorul menționat mai sus.

Semnată pentru și în numele producătorului, de către:

Frank Wolpert
(Reprezentant legal - director pentru producție)



Dr.-Ing. Siegfried Beichter
(Reprezentant legal - director dep. calitate)

Künzelsau, 01.01.2021

ДЕКЛАРАЦИЯ ХАРАКТЕРИСТИК

№ 0903450200_01_M_WIT-VM 250 (3)

Здесь речь идет о переведенной с немецкого языка версии.
В случае сомнений руководствоваться немецким оригиналом

1. Однозначная маркировка типа продукта: Система инъекции Würth WIT-VM 250
   Арт. №: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Цель(и) применения: Комбинированный дюбель для анкеровки в каменной кладке
3. Изготовитель: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße12 – 17
   D – 74653 Künzelsau
4. Система(ы) для оценки и проверки стабильности характеристик: Система 1
5. Европейский оценочный документ: ETAG 029, апрель 2013 г.
   Европейская техническая оценка: ETA-13/1040 – 13.01.2015
   Орган технической оценки Уполномоченный(е) орган(ы): Германский институт строительных технологий (DIBt), Берлин
   2873, Институт строительных конструкций и механики материалов (IFSW), Дармштадт
6. Заявленная(-ые) характеристика(-и):

Важные признаки	**Характеристика**	**Гармонизированная техническая спецификация**
Механическая прочность и устойчивость (BWR 1)		ETA-13/1040 ETAG 029
Характерная несущая способность для растяжения и поперечных нагрузок	См. Приложение C1, с C5 по C25	
Характерная несущая способность для изгибающих моментов	См. Приложение C1	
Деформации при поперечной нагрузке и растяжении	См. Приложение C26	
Редукционный коэффициент для экспериментов на строительной площадке (ß-коэффициент)	См. Приложение C26	
Расстояния от краев и межосевые расстояния	См. Приложения с C4 по C25	
Противопожарная защита (BWR 2)		
Огнестойкость	Дюбель выполняет требования класса A1	
Огнестойкость	Характеристика не определена (KLF)	

Характеристика вышеприведенного продукта соответствует заявленной(-ым) характеристике/характеристикам. За составление декларации характеристик в соответствии с предписанием (EU) № 305/2011 отвечает исключительно вышеупомянутый изготовитель.

Подписано за изготовителя и от имени изготовителя:

Франк Вольперт
(Прокурист -
Нач.производств.отдела)

Д-р-инж. Зигфрид Байхтер
(Прокурист - Нач. ОТК)

Кюнцельзау, 01.01.2021

PRESTANDADEKLARATION

Nr. 0903450200_01_M_WIT-VM 250 (3)

Denna version är översatt från tyska.
I tveksamma fall gäller originalet på tyska.

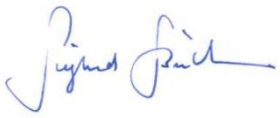
1. Produkttypens unika identifikationskod: Würth injekteringssystem WIT-VM 250
   Art.-nr.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Användningsändamål: Ankarplugg för förankring i murverk
3. Tillverkare: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. System för bedömning och kontroll av prestandabeständighet: System 1
5. Europeiskt bedömningsdokument: ETAG 029, april 2013
   Europeisk teknisk bedömning: ETA-13/1040 – 2015-01-13
   Tekniskt bedömningsorgan: Deutsches Institut für Bautechnik (DIBt), Berlin
   Notificerade organ: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Deklarerad prestanda:

Väsentliga egenskaper	**Prestanda**	**Harmoniserad teknisk specifikation**
Mekanisk hållfasthet och stabilitet (BWR 1)		ETA-13/1040 ETAG 029
Karakteristisk bärförmåga för drag- och tvärbelastningar	Se Bilaga C1, C5 till C25	
Karakteristisk bärförmåga för böjmoment	Se Bilaga C1	
Deformationer under tvärbelastning och dragbelastning	Se Bilaga C26	
Reduktionsfaktor för undersökningar på byggplats (β-faktor)	Se Bilaga C26	
Kant- och axelavstånd	Se Bilaga C4 till C25	
Brandskydd (BWR 2)		
Branduppförande	Pluggen uppfyller kraven för klass A1	
Brandmotstånd	Ingen prestanda fastställd (KLF)	

Ovanstående produkts prestanda överensstämmer med den prestanda som anges. Denna prestandadeklaration utfärdas i överensstämmelse med förordning (EU) nr. 305/2011 på eget ansvar av ovanstående tillverkare.

Undertecknad för tillverkaren och på tillverkarens vägnar av:

Frank Wolpert
(Prokurist - Chef Produkthantering)



Dr.-ing. Siegfried Beichter
(Prokurist - Chef Kvalitet)

Künzelsau, 2021-01-01

VYHLÁSENIE O VLASTNOSTIACH

Č. 0903450200_01_M_WIT-VM 250 (3)

Jedná sa tu o preloženú nemeckú verziu.
V prípade pochybností platí nemecký originál

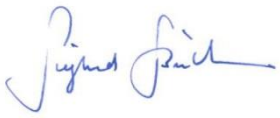
1. Jednoznačný identifikačný kód typu výrobku: Würth Injekčný systém WIT-VM 250
   Výr. č.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Účel(y) použitia: Spojovacie hmoždinky na ukotvenie do muriva
3. Výrobca: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Systém (systémy) na posudzovanie a overovanie odolnosti parametrov: Systém 1
5. Európsky vyhodnocovací dokument: ETAG 029, apríl 2013
   Európske technické vyhodnotenie: ETA-13/1040 – 13. 01. 2015
   Pracovisko pre technické vyhodnotenie: Deutsches Institut für Bautechnik (Nemecký inštitút pre stavebnú techniku) (DIBt), Berlín
   Notifikovaný orgán(y): 2873, Ústav pre oceľové konštrukcie a mechaniku materiálov (IFSW), Darmstadt
6. Vlastnosť(i) uvedené vo vyhlásení:

Podstatné znaky	**Vlastnosť**	**Harmonizovaná technická špecifikácia**
Mechanická pevnosť a stabilita (BWR 1)		ETA-13/1040 ETAG 029
Charakteristická únosnosť pre ťahové a šmykové zaťaženie	Pozri dodatok C1, C5 až C25	
Charakteristická únosnosť pre ohybové momenty	Pozri dodatok C1	
Deformácie pri priečnom a ťahovom zaťažení	Pozri dodatok C26	
Redukčný činiteľ pre skúšky na stavenisku (β-faktor)	Pozri dodatok C26	
Okrajové a stredové vzdialenosti	Pozri dodatok C4 až C25	
Protipožiarna ochrana (BWR 2)		
Reakcia látky pri požiari	Hmoždinka spĺňa požiadavky triedy A1	
Požiarna odolnosť	Nezistený žiadny výkon (KLF)	

Vlastnosť vyššie uvedeného produktu zodpovedá vyhlásenej vlastnosti / vyhláseným vlastnostiam. Na vyhotovenie vyhlásenia o parametroch v súlade s nariadením (EÚ) č. 305/2011 je zodpovedný sám vyššie uvedený výrobca.

Podpísané pre výrobcu a v mene výrobcu:

Frank Wolpert
(Prokurista - vedúci výrobného manažmentu)



Dr. –Ing. Siegfried Beichter
(Prokurista - vedúci kvality)

Künzelsau, dňa 01. 01. 2021

IZJAVA O LASTNOSTIH

Št. 0903450200_01_M_WIT-VM 250 (3)

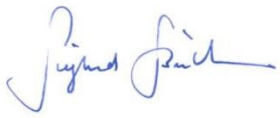
To besedilo je prevod iz nemščine.
V primeru dvoma velja nemški izvirnik

1. Enotna identifikacijska oznaka tipa izdelka: Vbrizgalni sistem Würth WIT-VM 250
   Št. art.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Nameni uporabe: Kombinirano sidro za sidranje v zidovih
3. Proizvajalec: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau, Nemčija
4. Sistemi za vrednotenje in preverjanje trajnosti lastnosti: Sistem 1
5. Evropski ocenjevalni dokument: ETAG 029, april 2013
   Evropsko tehnično vrednotenje: ETA-13/1040 – 13.01.2015
   Organ, ki je opravil tehnično vrednotenje: Deutsches Institut für Bautechnik (DIBt), Berlin
   Obveščeni organ: 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Navedene lastnosti:

Bistvene značilnosti	**Lastnost**	**Harmonizirana tehnična specifikacija**
Mehanska trdnost in stabilnost (BWR 1)		ETA-13/1040 ETAG 029
Značilna nosilnost za vlečne in strižne obremenitve	Glejte Priloge C1 in od C5 do C25	
Značilna nosilnost pri upogibanju	Glejte Prilogo C1	
Deformacije pod strižno in vlečno obremenitvijo	Glejte Prilogo C26	
Faktor zmanjšanja za preizkuse na gradbišču (β-faktor)	Glejte Prilogo C26	
Razdalje od robov in osi	Glejte Priloge od C4 do C25	
Protipožarna zaščita (BWR 2)		
Požarne lastnosti	Vložek izpolnjuje zahteve razreda A1	
Požarna odpornost	Lastnost ni določena (KLF)	

Lastnosti tega izdelka ustrezajo navedenim lastnostim. Za pripravo izjave o lastnostih po uredbi (EU) št. 305/2011 je odgovoren izključno zgoraj navedeni proizvajalec.

Podpis za proizvajalca in v njegovem imenu:



Frank Wolpert
(prokurist – vodja izdelkov)

Dr. –Ing. Siegfried Beichter
(prokurist – vodja za kakovost)

Künzelsau, 1. 1. 2021

PERFORMANS BEYANI

No. 0903450200_01_M_WIT-VM 250 (3)

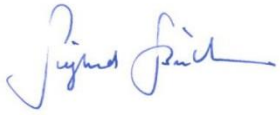
Bu metin, Almanca dilinden yapılmış bir çeviridir.
Şüpheli durumlarda Almanca orijinal metin geçerli olacaktır

1. Ürün tipinin açık kodu: Würth Enjeksiyon sistemi WIT-VM 250
   Ürün No.: 09034502*; 090344 121; 090344 180; 0903451*; 0903452*; 0903461*; 0903462*
2. Kullanma amacı (amaçları): Duvara ankraj için kimyasal dübel
3. Üretici: Adolf Würth GmbH & Co. KG
   Reinhold-Würth-Straße 12 – 17
   D – 74653 Künzelsau
4. Performansın sürdürülebilirliğinin değerlendirilmesi ve kontrolü için sistem(ler): Sistem 1
5. Avrupa Değerlendirme Belgesi: ETAG 029, Nisan 2013
   Avrupa Teknik Değerlendirmesi: ETA-13/1040 – 13.01.2015
   Teknik Değerlendirme Kuruluşu: Deutsches Institut für Bautechnik (DIBt), Berlin
   Akredite kuruluş(lar): 2873, Institut für Stahlbau und Werkstoffmechanik (IFSW), Darmstadt
6. Beyan edilen performans(lar):

Önemli özellikler	**Performans**	**Uyumlandırılmış teknik nitelik**
Mekanik dayanıklılık ve kararlılık (BWR 1)		ETA-13/1040 ETAG 029
Çekme yükleri ve yan yükler için karakteristik taşıyıcılık	Bkz. Ek C1, C5 ila C25	
Bükme momenti için karakteristik taşıyıcılık	Bkz. Ek C1	
Enine yük ve çekme yükü altında deformasyonlar	Bkz. Ek C26	
Şantiye deneyleri için redüksiyon faktörü (β faktörü)	Bkz. Ek C26	
Kenar ve eksen mesafeleri	Bkz. Ek C4 ila C25	
Yangından koruma (BWR 2)		
Yangındaki tutum	Dübel Sınıf A1'deki beklentileri karşılamaktadır	
Yangına dayanıklılık	Bir performans belirlenemedi (KLF)	

Mevcut ürünün performansı, beyan edilen performansa / beyan edilen performanslara uygundur. Performans beyanının 305/2011 numaralı yönetmelikle (AB) uyumlu olarak oluşturulmasından yukarıda belirtilen üretici tek başına sorumludur.

Üretici için ve üretici adına imzalayan:



Frank Wolpert
(İmzaya yetkili ürün yönetim bölümü yöneticisi)

Dr. Müh. Siegfried Beichter
(İmzaya Yetkili Kalite Yöneticisi)

Künzelsau, 01.01.2021