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**European Technical Assessment Body
for construction products**



European Technical Assessment

**ETA-15/0231
of 28 February 2025**

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

EJOT SDF-K/-S plus 8UB

Product family
to which the construction product belongs

Plastic anchor for redundant non-structural systems in
concrete and masonry

Manufacturer

EJOT SE & Co. KG
Astenbergstraße 21
57319 Bad Berleburg
GERMANY

Manufacturing plant

manufacturing plant EJOT 1, 2, 3 and 4

This European Technical Assessment
contains

14 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

EAD 330284-00-0604 Edition 12/2020

This version replaces

ETA-15/0231 issued on 21 July 2015

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Specific part

1 Technical description of the product

The EJOT frame fixing SDF-K plus 8UB and SDF-S plus 8UB is a plastic anchor consisting of a plastic sleeve made of polyamide and an accompanying specific screw of galvanised steel or of stainless steel.

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

The product description is given in Annex A.

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

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

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

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

3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	No performance assessed

3.2 Mechanical resistance and stability (BWR 4)

Essential characteristic	Performance
Resistance to steel failure under tension loading	see Annex C 1
Resistance to steel failure under shear loading	see Annex C 1
Resistance to pull-out or concrete failure under tension loading (base material group a)	see Annex C 1
Resistance in any load direction without lever arm (base material group b, c, d)	see Annex C 2
Edge distance and spacing (base material group a)	see Annex B 2
Edge distance and spacing (base material group b, c, d)	see Annex B 3
Displacements under short-term and long-term loading	see Annex C 1
Durability	see Annex B 1

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

In accordance with European Assessment Document EAD 330284-00-0604 the applicable European legal act is: 97/463/EC.

The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

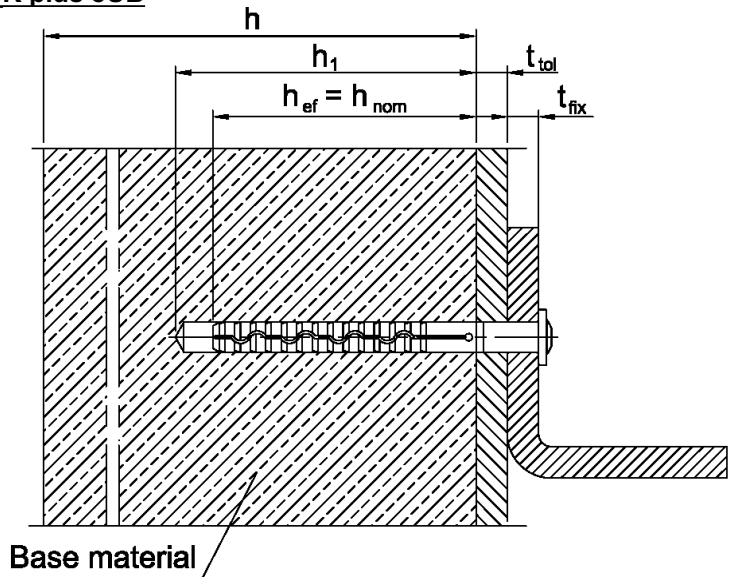
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 28 February 2025 by Deutsches Institut für Bautechnik

Beatrix Wittstock
Head of Section

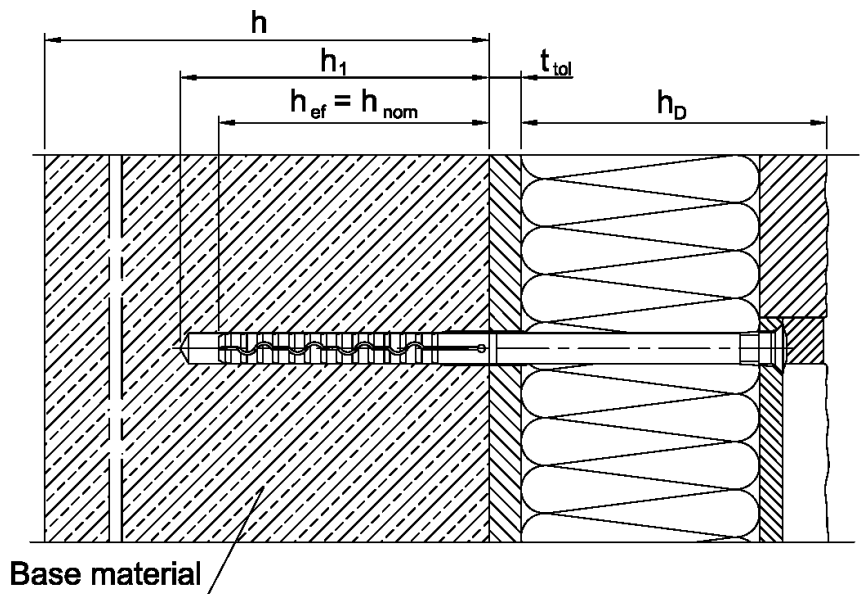
beglaubigt:
Ziegler

EJOT SDF-K plus 8UB



SDF-K_{plus} Ø8UB

EJOT SDF-S plus 8UB



SDF-S_{plus} Ø8UB

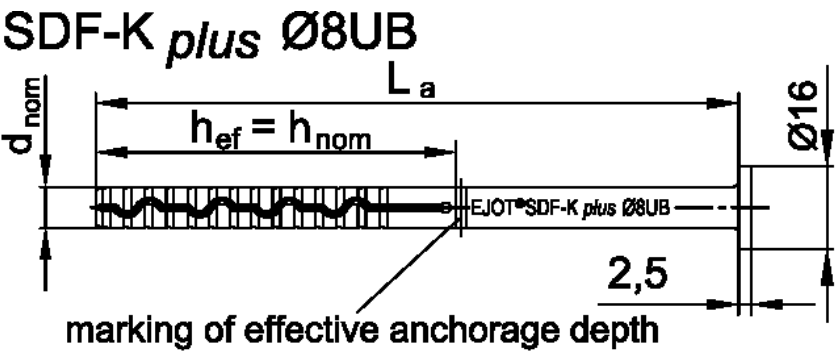
- Legend:
- h_D = thickness of insulation material
 - h_{nom} = overall anchor embedment depth in the base material
 - h = thickness of member (wall)
 - h_1 = depth of drilled hole to deepest point
 - t_{tol} = thickness of equalizing layer or non-load-bearing coating
 - t_{fix} = thickness of fixture

EJOT SDF-K/-S plus 8UB

Product description
Installed condition

Annex A 1

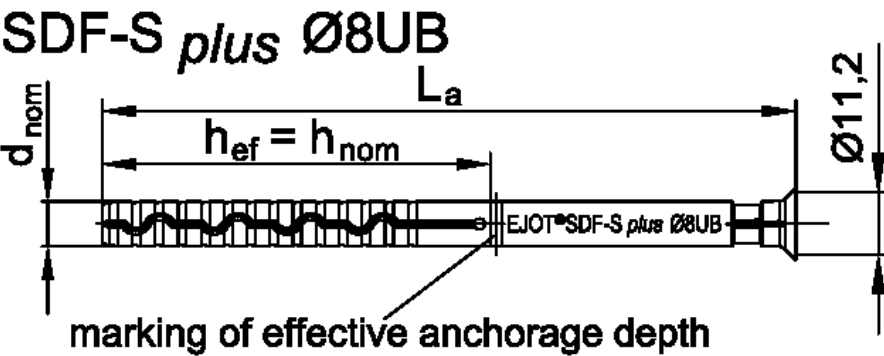
Anchor sleeve: head collar version



Anchor marking:

manufacturer, anchor type incl. head type, diameter, length
Example: EJOT SDF-K plus Ø8UB x L_a

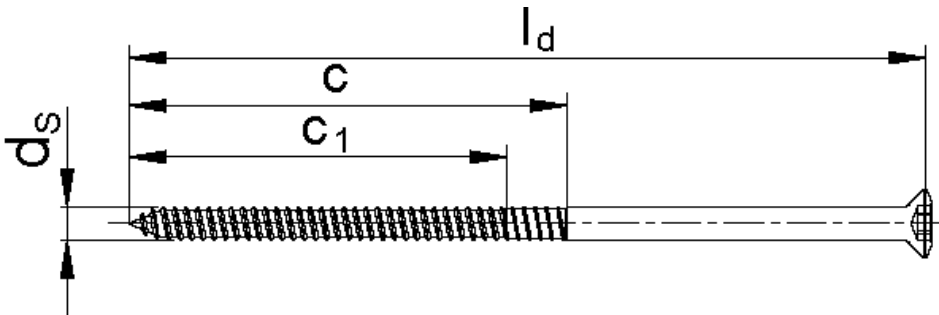
Anchor sleeve: Countersunk version



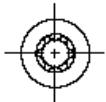
Anchor marking:

manufacturer, anchor type incl. head type, diameter, length
Example: EJOT SDF-S plus Ø8UB x L_a

Specific screw



Screw head



EJOT SDF-K/-S plus 8UB

Product description
Marking and dimension of the anchor sleeve
Specific screw

Annex A 2

Table A1: Dimensions

Anchor Type	Anchor sleeve				Specific screw			
	d_{nom}	h_{nom}	min L_a	max L_a	l_d	d_s	c_1	c
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
SDF-K/-S plus 8UB	8	70	80	300	$L_a + 8\text{mm}$	5,5	60	70

Table A2: Materials

Name	Materials
Anchor sleeve	Polyamide, PA 6 colour: green
Specific screw	Steel, electrogalvanized $\geq 5 \mu\text{m}$ according to EN ISO 4042:2022, blue passivated
	stainless steel according EN 10088-3:2014
	Stainless steel A2 (material No. 1.4301 or 1.4567) of corrosion resistance class CRC II according to EN 1993-1-4:2006 + A1:2015; Stainless steel A4 (material No. 1.4401 or 1.4571) of corrosion resistance class CRC II according to EN 1993-1-4:2006 + A1:2015

EJOT SDF-K/-S plus 8UB

Product description

Dimensions of the anchor sleeve and the specific screw
Materials

Annex A 3

Specifications of intended use

Anchorage subject to:

- Static and quasi-static loads.
- Redundant non-structural systems

Base materials:

- Reinforced or unreinforced compacted normal weight concrete without fibres with strength classes $\geq$ C12/15 (base material group a) according to EN 206:2013 + A1:2016, Annex C 1.
- Solid brick masonry (base material group b) according to Annex C 2.
Note: The characteristic resistance is also valid for larger brick sizes and higher compressive strength of the masonry unit.
- Hollow brick masonry (base material group c) according to Annex C 2.
- Mortar strength class of the masonry $\geq$ M2,5 according to EN 998-2:2010.
- For other base materials of the base material group a, b or c the characteristic resistance of the anchor may be determined by job site tests according to TR 051:2018-04.

Temperature Range:

- c: - 40° C to 50° C (max. short term temperature + 50° C and max long term temperature + 30° C)

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions: screw made of zinc coated steel or of stainless steel
- The specific screw made of galvanised steel may also be used in structures to external atmospheric exposure, if the area of the head of the screw is protected against moisture and driving rain after mounting of the fixing unit in this way, that intrusion of moisture into the anchor shaft is prevented. Therefore, there shall be an external cladding or a ventilated rainscreen mounted in front of the head of the screw and the head of the screw itself shall be coated with a soft plastic, permanently elastic bitumen-oil-combination coating (e. g. undercoating or body cavity protection for cars)
- Structures subject to external atmospheric exposure (including industrial and marine environment) and to permanently damp internal condition, if no particular aggressive conditions exist: screw made of stainless steel of corrosion resistance class CRC III.
Note: Particular aggressive conditions are e.g. permanent, alternating immersion in seawater or the splash zone of seawater, chloride atmosphere of indoor swimming pools or atmosphere with extreme chemical pollution (e.g. in desulphurization plants or road tunnels where de-icing materials are used).

Design:

- The anchorages are to be designed in accordance with TR 064:2018-05 under the responsibility of an engineer experienced in anchorages and masonry work.
- Verifiable calculation notes and drawings shall be prepared taking account of the loads to be anchored, the nature and strength of the base materials and the dimensions of the anchorage members as well as of the relevant tolerances. The position of the anchor is indicated on the design drawings.

Installation:

- Hole drilling by the drill modes according to Annex C1 and C 2 for base material group a, b and c
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site
- Installation temperature from 0°C to + 50°C
- Exposure to UV due to solar radiation of the anchor not protected $\leq$ 6 weeks
- No ingress of water in the core hole $<$ 0°C

EJOT SDF-K/-S plus 8UB

Intended use
Specifications

Annex B 1

Table B1: Installation Parameters

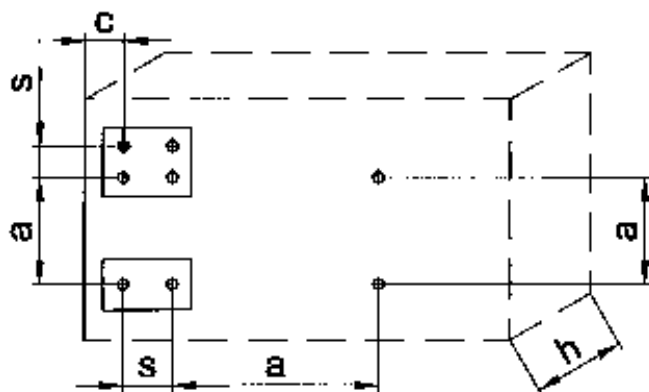
Anchor Type	SDF-K/-S plus 8UB	
Drill hole diameter	d_0 [mm] =	8
Cutting diameter of drill bit	d_{cut} [mm] ≤	8,45
Depth of drill hole to deepest point	h_1 [mm] ≥	80
Overall anchor embedment depth in the base material	h_{nom} [mm] ≥	70
Diameter of clearance hole in the fixture	d_f [mm] ≤	8,5
Minimum temperature during setting process	T [°C] =	0
Temperature range (c)	T [°C] =	+ 30 / + 50

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

Anchor Type	Characteristic edge distance and spacing		Minimum edge distance and spacing		Minimum thickness of member
	$c_{cr,N}$	$s_{cr,N}$	c_{min}	s_{min}	h_{min}
SDF-K/-S plus 8UB	[mm]	[mm]	[mm]	[mm]	[mm]
Concrete C 20/25	60	75	80	50	120

Fixing points with a spacing $a \leq s_{cr,N}$ are considered as a group with a max. characteristic resistance $N_{Rk,p}$ acc. to Table C3. For a spacing $a > s_{cr,N}$ the anchors are considered as single anchors, each with a characteristic resistance $N_{Rk,p}$ acc. to Table C3.

Scheme of distance and spacing in concrete



EJOT SDF-K/-S plus 8UB

Intended use

Installation parameters,
Distance and spacing for use in concrete

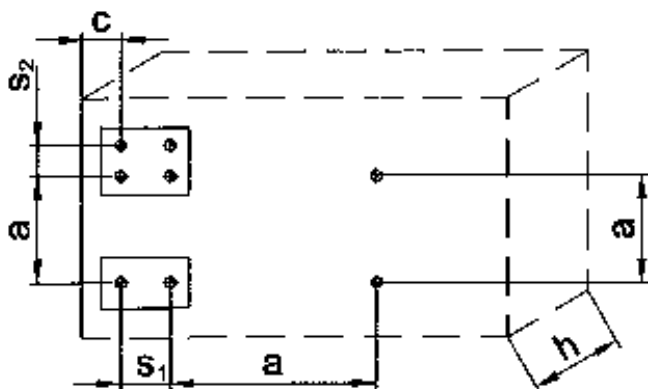
Annex B 2

Tabelle B3: Minimum thickness of member, edge distance and spacing in solid and hollow brick

SDF-K/-S plus 8UB	Minimum thickness of member h_{min}	Minimum edge distance c_{min}	Minimum spacing	
			vertical to edge $s_{1,min}$	parallel to edge $s_{2,min}$
	[mm]	[mm]	[mm]	[mm]
Clay brick, Mz (EN 771-1:2011+A1:2015)	115	30	60	120
Calcium silicate solid brick, KS (EN 771-2:2011+A1:2015)	175	30	60	120
Vertically perforated clay bricks, Hlz (EN 771-1:2011+A1:2015)	175	100	100	100
Hollow calcium silicate brick, KSL (EN 771-2:2011+A1:2015)	175	100	100	100
Hollow brick lightweight concrete, Hbl (EN 771-1:2011+A1:2015)	300	100	100	100

$a \geq \max(250 \text{ mm}; s_{1,min}; s_{2,min})$

Scheme of distance and spacing in masonry



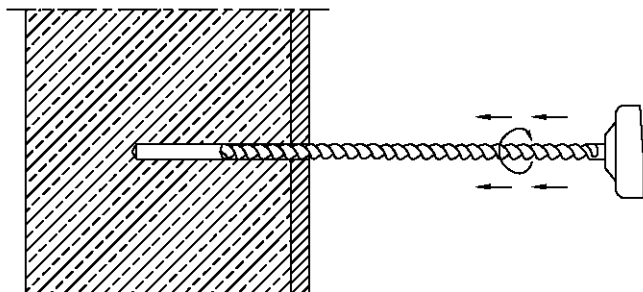
EJOT SDF-K/-S plus 8UB

Intended use

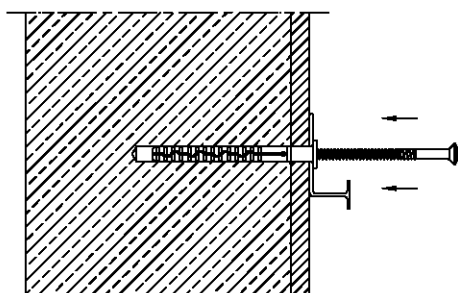
Distance and spacing for use in masonry

Annex B 3

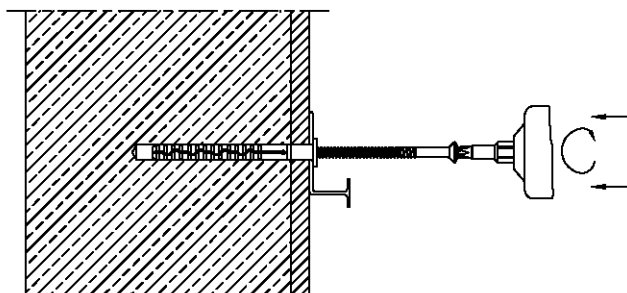
Installation instructions



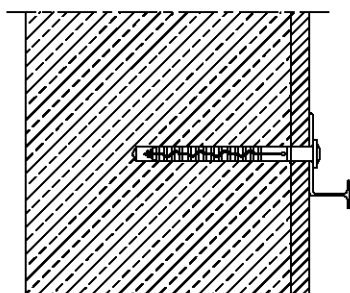
Drill the hole perpendicular to the substrate surface. Clean the drill hole 3x.



Place the anchor into the drill hole.
The bottom side of the anchor plate must be flush with the rail.



Install the screw into the anchor.



Installed condition of
EJOT SDF-K plus 8UB.

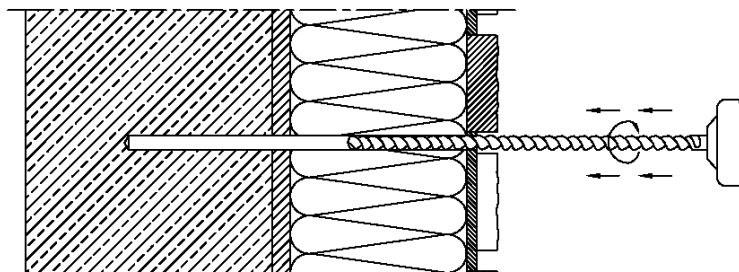
EJOT SDF-K/-S plus 8UB

Intended use

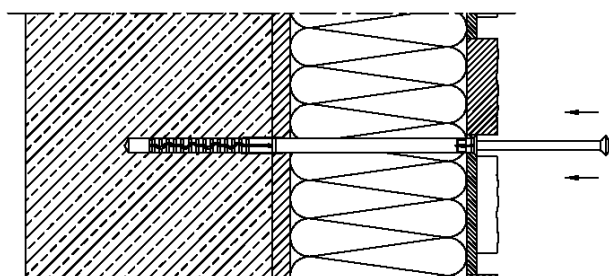
Installation instructions EJOT SDF-K plus 8UB

Annex B 4

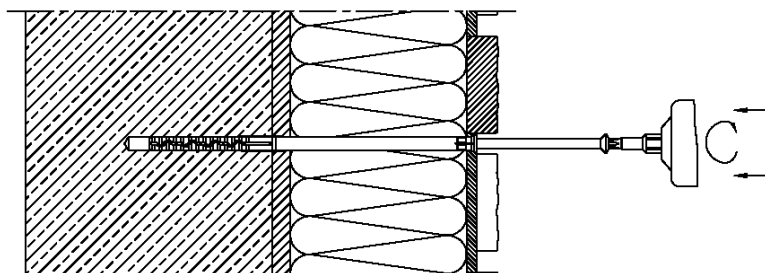
Installation instructions



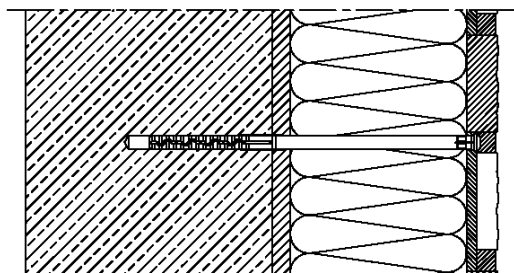
Drill the hole perpendicular to the substrate surface. Clean the drill hole 3x.



Place the anchor into the drill hole.



Install the anchor.



Installed condition of
EJOT SDF-S plus 8UB.

EJOT SDF-K/-S plus 8UB

Intended use

Installation instructions EJOT SDF-S plus 8UB

Annex B 5

Table C1: Characteristic resistance of the screw

Failure of expansion element	SDF-K/-S plus 8UB	
Base materials	Galvanised steel	Stainless steel
Characteristic tension resistance $N_{Rk,s}$ [kN]	11,3	13,2
Characteristic shear resistance $V_{Rk,s}$ [kN]	6,4	7,4
Characteristic bending resistance $M_{Rk,s}$ [Nm]	9,9	11,6

Table C2: Characteristic resistance for pullout failure¹⁾ for use in concrete $\geq$ C16/20

	SDF-K/-S plus 8UB	
Temperature range	30 / 50 °C	
Characteristic tension resistance $N_{Rk,p}$ [kN]	1,5	

¹⁾ drill method: hammer drilling

Table C3: Displacements²⁾ under tension and shear loading in concrete and masonry

Anchor Type	Tension load	Displacements under tension load		Shear load	Displacements under shear load	
	$F=N$ [kN]	δ_{NO} [mm]	$\delta_{N\infty}$ [mm]	$F=V$ [kN]	δ_{VO} [mm]	$\delta_{V\infty}$ [mm]
SDF-K/-S plus 8UB	0,6	0,26	0,52	2,2	1,04	1,56

²⁾ intermediate values by linear interpolation

EJOT SDF-K/-S plus 8UB

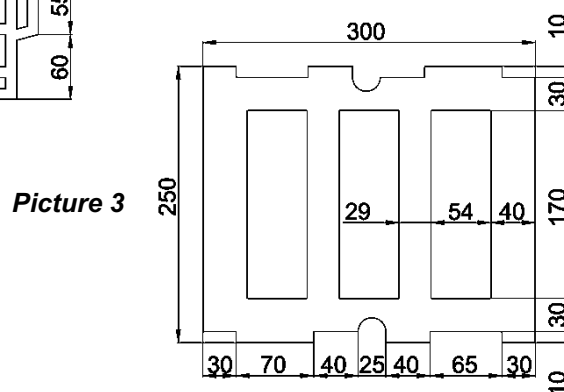
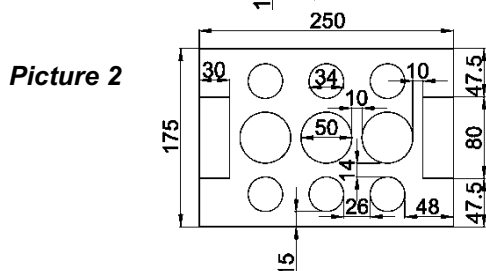
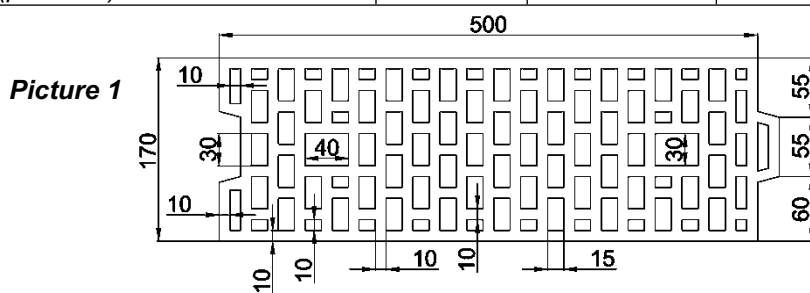
Performances

Characteristic resistance of the screw, characteristic resistance for use in concrete,
Displacements in concrete and masonry

Annex C 1

Table C4: Characteristic resistance F_{Rk} for use in solid or perforated masonry

Anchor Type					SDF-K/-S plus 8UB
Base materials	Bulk density ρ [kg/dm ³]	minimum compressive strength f_b [N/mm ²]	minimum format or minimum size (L x W x H) [mm]	Drilling method ¹⁾	F_{Rk} [kN]
solid masonry					
Clay brick, Mz e.g. according to EN 771-1:2011+A1:2015	$\geq 1,8$	36	NF (240 x 115 x 71)	H	3,5
Calcium silicate solid brick, KS e.g. according to EN 771-2:2011+A1:2015	$\geq 1,8$	28	3 DF (240 x 175 x 113)	H	3,5
perforated masonry					
Vertically perforated clay bricks, Hlz e.g. according to EN 771-1:2011+A1:2015 (picture 1)	$\geq 0,75$	12	12 DF (498 x 175 x 238)	R	0,75
Hollow calcium silicate brick, KSL e.g. according to EN 771-2:2011+A1:2015 (picture 2)	$\geq 1,4$	20	6 DF (248 x 175 x 248)	R	2,5
Hollow lightweight concrete brick, Hbl; e.g. according to EN 771-3:2011+A1:2015 (picture 3)	$\geq 0,9$	4	10 DF (247 x 300 x 249)	R	0,9



EJOT SDF-K/-S plus 8UB

Performances

Characteristic resistance for use in solid or perforated masonry

Annex C 2