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European Technical Assessment Body  
for construction products



## European Technical Assessment

ETA-08/0191  
of 28 January 2026

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

KEW Frame plug RD 10 and RDD 10

Product family to which the construction product belongs

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

Manufacturer

Kunststofferzeugnisse GmbH Wilthen  
Dresdener Straße 19  
02681 Wilthen  
DEUTSCHLAND

Manufacturing plant

Kunststofferzeugnisse GmbH Wilthen  
Dresdener Straße 19  
02681 Wilthen  
DEUTSCHLAND

This European Technical Assessment contains

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

This European Technical Assessment is issued in accordance with Article 95(4) of Regulation (EU) No 2024/3110, on the basis of

EAD 330284-00-0604

This version replaces

ETA-08/0191 issued on 10 December 2013

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## Specific Part

### 1 Technical description of the product

The KEW Frame plug RD 10 and RDD 10 is a plastic anchor consisting of a plastic sleeve made of polyamide and an accompanying specific screw of galvanised steel or stainless steel.

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

The product description is given in Annex A.

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

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

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

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

#### 3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	See Annex C 1

#### 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 Annexes C 2 and C 3
Edge distance and spacing (base material group a)	See Annex B 3
Edge distance and spacing (base material group b, c, d)	See Annex B 4
Displacements under short-term and long-term loading	See Annex C 2
Durability	See Annex B 1

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

In accordance with 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**

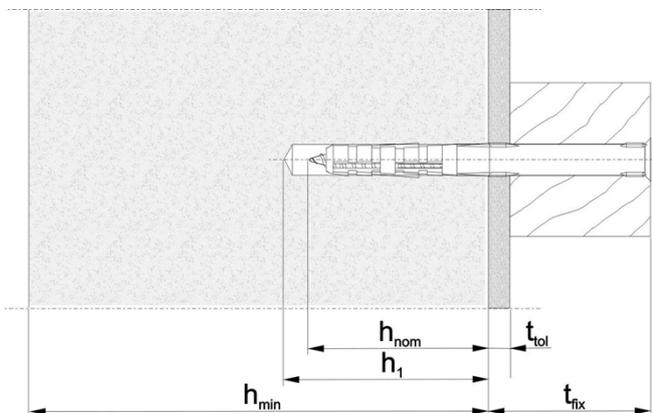
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 28 January 2026 by Deutsches Institut für Bautechnik

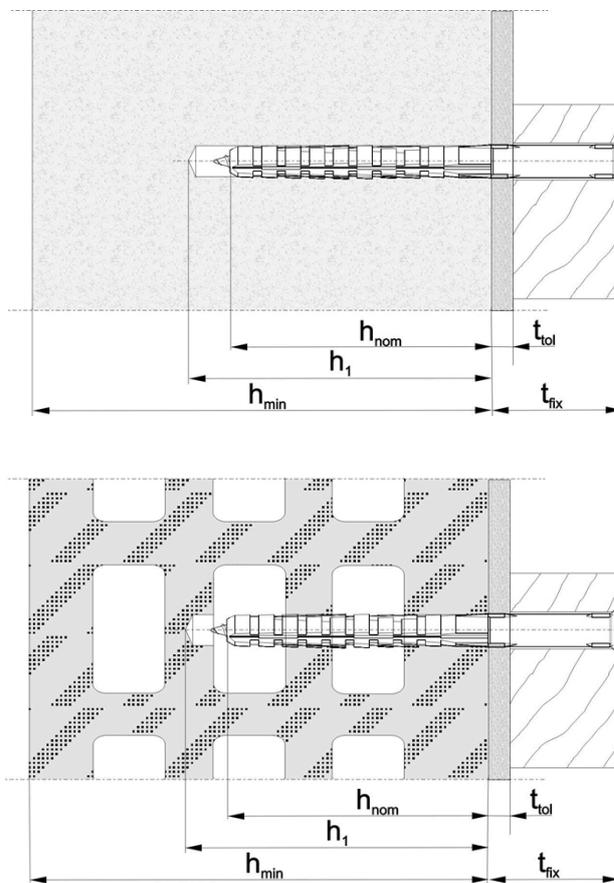
Dipl.-Ing. Beatrix Wittstock  
Head of Section

*beglaubigt:*  
Ziegler

**KEW – RD 10**



**KEW – RDD 10**



**Legend**

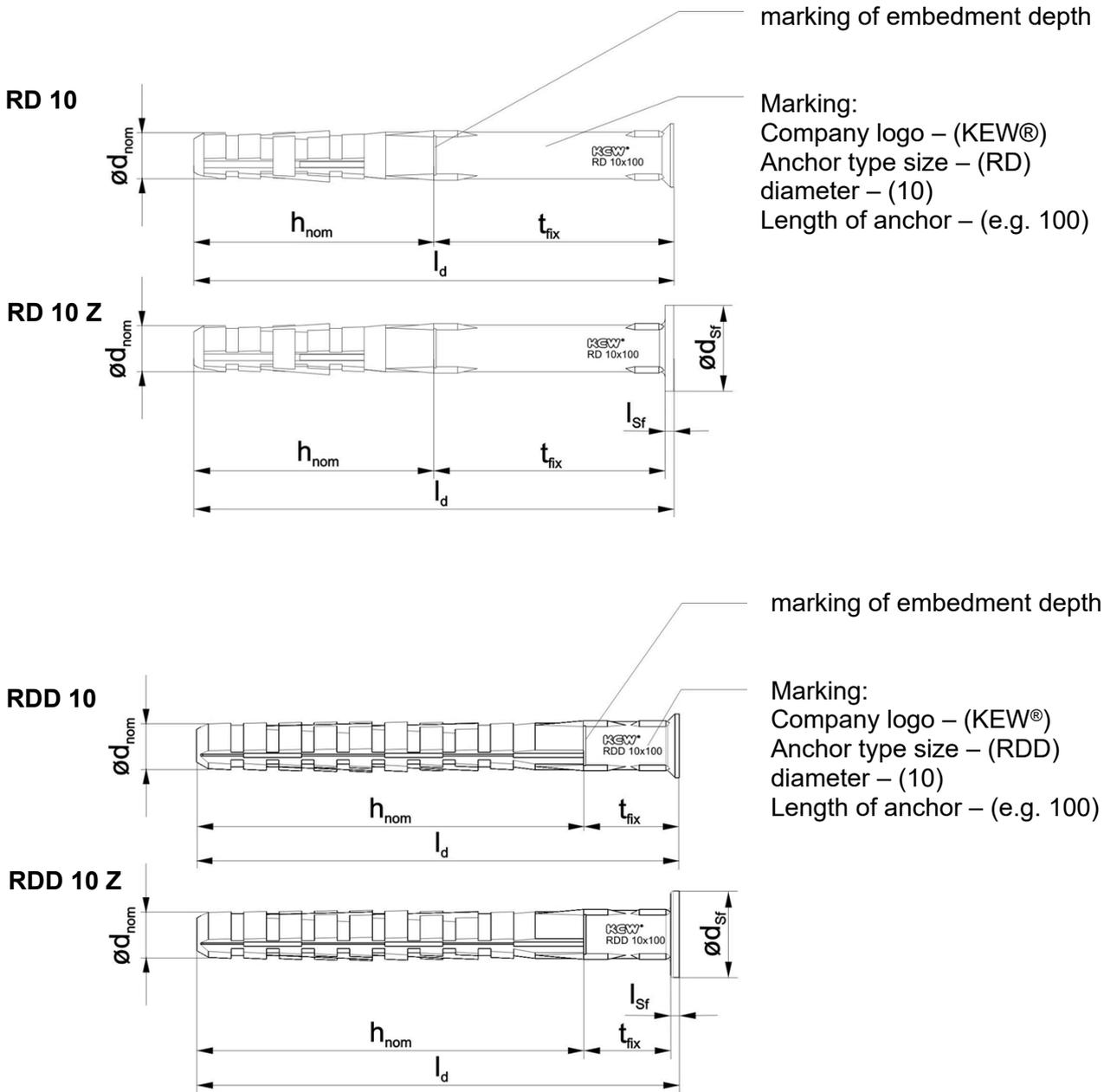
- $h_{nom}$  = overall plastic anchor embedment depth in the base material
- $h_1$  = depth of drill hole to deepest point
- $h_{min}$  = thickness of member (wall)
- $t_{fix}$  = thickness of fixture
- $t_{tol}$  = thickness of layer or non-load bearing coating

**KEW Frame plug RD 10 and RDD 10**

**Product description**  
Intended use

**Annex A 1**

**Anchor sleeve**



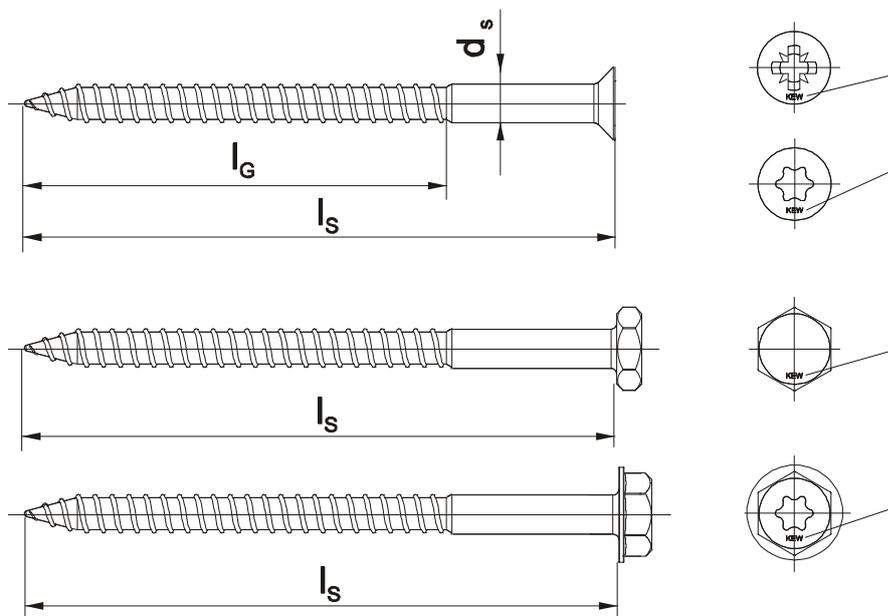
KEW Frame plug RD 10 and RDD 10

Product description  
Anchor type - dimensions

Annex A 2

### Special screw

Marking:  
Company logo – (KEW)



**Table A1: Dimensions [mm]**

Anchor type	Anchor sleeve						Special screw		
	$h_{nom}$ [mm]	$\varnothing d_{nom}$ [mm]	$t_{fix}$ [mm]	$l_d$ [mm]	$l_{sf}$ [mm]	$\varnothing d_{sf}$ [mm]	$\varnothing d_s$ [mm]	$l_G$ [mm]	$l_s^{3)}$ [mm]
<b>RD 10</b>	<b>50</b>	<b>10</b>	$\geq 8^{1)/10}$	<b>80 - 300</b>	<b>1,8</b>	<b>18</b>	<b>7</b>	<b>70</b>	$\geq 85$
<b>RD 10<sup>2)</sup></b>	<b>50</b>	<b>10</b>	$\geq 8^{1)/10}$	<b>60</b>	<b>1,8</b>	<b>18</b>	<b>7</b>	<b>60</b>	<b>65</b>
<b>RDD 10</b>	<b>80</b>	<b>10</b>	$\geq 8^{1)/10}$	<b>90 - 300</b>	<b>1,8</b>	<b>18</b>	<b>7</b>	<b>70</b>	$\geq 95$

1) For RD 10 Z and RDD 10 Z

2) For RD 10x60 and RD 10x60 Z

3) To insure that the screw penetrates the anchor sleeve,  $l_s$  must be  $l_d + l_{sf}^{4)} + 5$  mm

4) Only valid for flat collar version

**KEW Frame plug RD 10 and RDD 10**

**Product description**  
Special screw - dimensions

**Annex A 3**

**Table A2: Materials**

Name	Material
<b>Anchor sleeve</b>	Polyamide, PA 6 colour: papyrus white
<b>Special screw</b>	Steel, electrogalvanized $\geq 5 \mu\text{m}$ according to EN ISO 4042:2022, blue passivated
	Steel, hot-dip galvanized 100 $\mu\text{m}$ according to EN ISO 1461:2022
	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 III according to EN 1993-1-4:2006 + A1:2015

**KEW Frame plug RD 10 and RDD 10**

**Product description**  
Materials

**Annex A 4**

### 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:

- a:  $-40^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$  (max short term temperature  $+40^{\circ}\text{C}$  and max long term temperature  $+24^{\circ}\text{C}$ )
- b:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  (max short term temperature  $+80^{\circ}\text{C}$  and max long term temperature  $+50^{\circ}\text{C}$ )

#### 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  $0^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$
- Exposure to UV due to solar radiation of the anchor not protected  $\leq$  6 weeks
- No ingress of water in the core hole  $< 0^{\circ}\text{C}$

KEW Frame plug RD 10 and RDD 10

Intended Use  
Specifications

Annex B 1

Table B1: Installation parameters			
Anchor type		RD 10	RDD 10
Drill hole diameter	$d_0 =$ [mm]	10	10
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	10,45	10,45
Depth of drill hole to deepest point <sup>1)</sup>	$h_1 \geq$ [mm]	60	90
Overall plastic anchor embedment depth <sup>1)</sup>	$h_{nom} \geq$ [mm]	50	80 <sup>2)</sup>
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	10,5	10,5

<sup>1)</sup> See Annex 1

<sup>2)</sup> For hollow and perforated masonry the influence of  $h_{nom} \geq 80$  mm has to be detected by job site tests according to TR 051:2018-04.

KEW Frame plug RD 10 and RDD 10

Intended Use  
Installation parameters

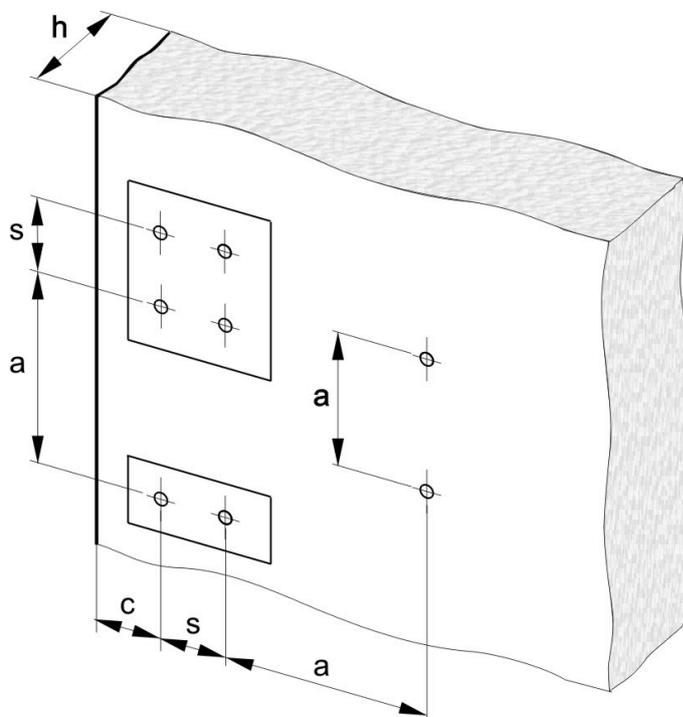
Annex B 2

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

Anchor Type	Minimum thickness of member	Characteristic edge distance and spacing		Minimum edge distance and spacing	
	$h_{min}$ [mm]	$c_{cr,N}$ [mm]	$s_{cr,N}$ [mm]	$c_{min}$ [mm]	$s_{min}$ [mm]
<b>RD 10</b>					
Concrete C 20/25	100	50	60	50	50
Concrete C 12/15	100	70	50	70	70
<b>RDD 10</b>					
Concrete C 20/25	110	70	85	50	75
Concrete C 12/15	110	100	65	70	105

Fixing points with a spacing  $a \leq s_{cr,N}$  are considered as a group with a maximum characteristic resistance  $N_{Rk,p}$  according to Table C2. For a spacing  $a > s_{cr,N}$  the anchors are considered as single anchors, each with a characteristic resistance  $N_{Rk,p}$  according to Table C2.

**Scheme of distance and spacing in concrete**



**KEW Frame plug RD 10 and RDD 10**

**Intended Use**  
Installation parameters, distance and spacing for use in concrete

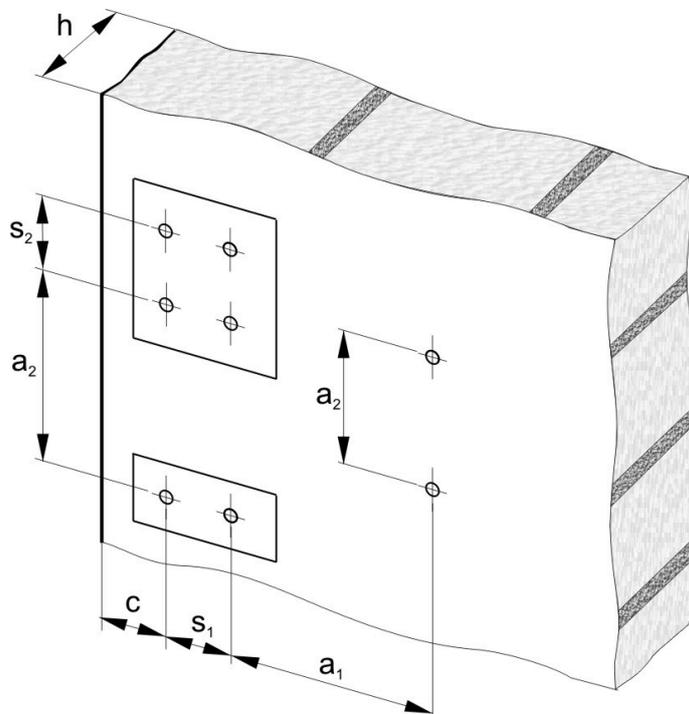
**Annex B 3**

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

RD 10 / RDD 10	Minimum thickness of member $h_{min}$ [mm]	Minimum edge distance $c_{min}$ [mm]	Minimum spacing	
			vertical to edge $s_{1,min}$ [mm]	parallel to edge $s_{2,min}$ [mm]
Clay brick, Mz 20-1,8-NF (EN 771-1:2011+A1:2015)	115	100	100	100
Calcium silicate solid brick, KS 12-1,0-2 DF (EN 771-2:2011+A1:2015)	115	100	100	100
Vertically perforated clay bricks, Hlz 12-1,0-2 DF (EN 771-1:2011+A1:2015)	115	100	100	100
Hollow calcium silicate brick, KSL 12-1,4-8 DF (EN 771-2:2011+A1:2015)	115	100	100	100

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

**Scheme of distance and spacing in masonry**



**KEW Frame plug RD 10 and RDD 10**

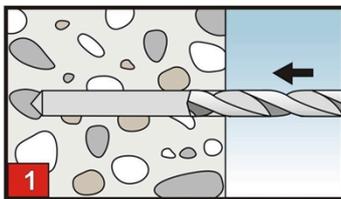
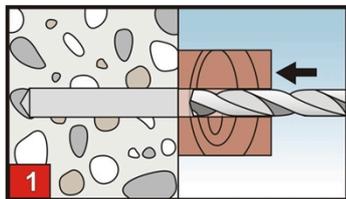
**Intended use**  
Distance and spacing for use in masonry

**Annex B 4**

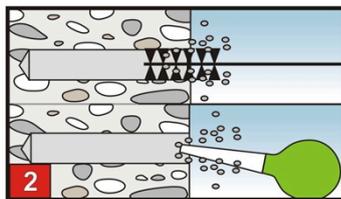
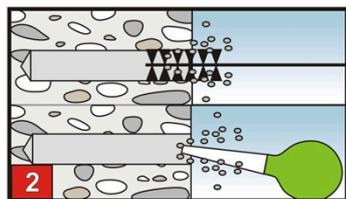
### Installation instructions

**RD**

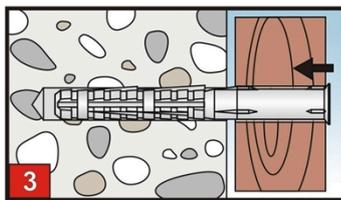
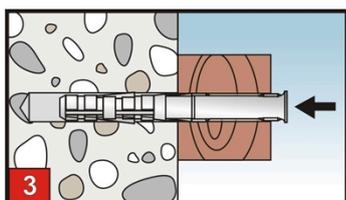
**RDD**



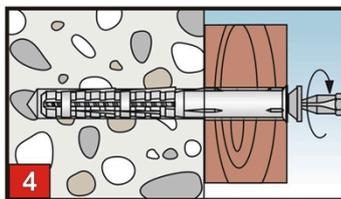
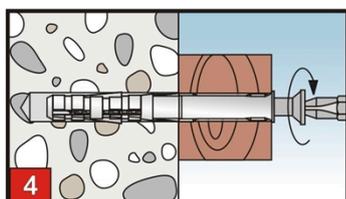
Create a hole about observation of the drill method according to Table C2 and C4.



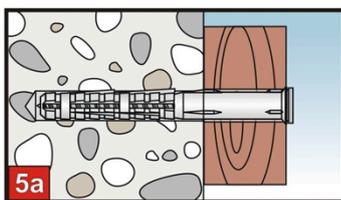
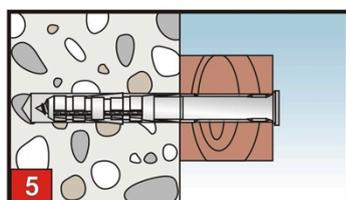
Holes to be cleaned of drilling dust.



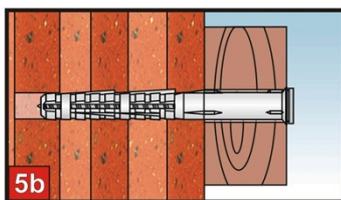
The plastic sleeve is inserted through the fixture by slight hammer blows



The special screw is screwed



Mounted in concrete and solid brick



Mounted in Hollow brick

**KEW Frame plug RD 10 and RDD 10**

**Intended use**  
Installation instructions

**Annex B 5**

**Table C1: Characteristic resistance of the screw**

Anchor Type		RD 10 / RDD 10	
Material		Galvanised steel	Stainless steel
Characteristic tension resistance	$N_{Rk,s}$ [kN]	14,3	16,6
Characteristic shear resistance	$V_{Rk,s}$ [kN]	7,1	8,3
Characteristic bending resistance	$M_{Rk,s}$ [Nm]	11,8	13,7

**Table C2: Characteristic resistance for pullout failure<sup>1)</sup> for use in concrete**

	RD 10	RDD 10	RD 10	RDD 10
<b>Concrete <math>\geq</math> C16/20</b>				
Temperature range	24 / 40 °C		50 / 80 °C	
Characteristic tension resistance $N_{Rk,p}$ [kN]	3,0	5,0	2,0	4,0
<b>Concrete <math>\geq</math> C12/15</b>				
Characteristic tension resistance $N_{Rk,p}$ [kN]	2,0	3,5	1,2	3,0

<sup>1)</sup> drill method: hammer drilling

**Table C3: Values under fire exposure in concrete C20/25 to C50/60 in any load direction, no permanent centric tension and shear load without lever arm, fastening of façade systems**

Anchor Type		RD 10 / RDD 10	
Material		Galvanised steel	Stainless steel
Fire resistance class: R 90	$F_{Rk,fi,90}$ <sup>1)</sup> [kN]	0,8	

<sup>1)</sup> partial safety factor  $\gamma_{M,fi} = 1,0$

**KEW Frame plug RD 10 and RDD 10**

**Performances**

Characteristic resistance of the screw, characteristic resistance for use in concrete, values under fire exposure

**Annex C 1**

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

Anchor Type					RD	RDD	RD	RDD
					24°C / 40°C		50°C / 80°C	
Base materials	Bulk Density $\rho$ [kg/dm <sup>3</sup> ]	Mean compressive strength according EN 771 [N/mm <sup>2</sup> ]	minimum format or minimum size (L x W x H) [mm]	Drilling method <sup>1)</sup>	$F_{Rk}$ [kN]			
<b>solid masonry</b>								
Clay brick, Mz 20-1,8-NF, e.g. according to EN 771-1:2011+A1:2015	$\geq 1,8$	$\geq 20$	NF (240 x 116 x 71)	H	2,5	4,0	2,0	4,0
		$\geq 10$				5,0 <sup>1)</sup>		5,0 <sup>1)</sup>
Calcium silicate solid brick, KS 12-1,0-2 DF e.g. according to EN 771-2:2011+A1:2015	$\geq 1,8$	$\geq 20$	NF (240 x 115 x 70)	H	3,0	4,0	2,0	4,0
		$\geq 10$				5,0 <sup>1)</sup>		3,0
<b>perforated masonry</b>								
Vertically perforated, Hlz 12-1,0-2 DF e.g. according to EN 771-1:2011+A1:2015 (picture 1)	$\geq 1,0$	$\geq 15$	2 DF (240 x 115 x 115)	R	-	1,2	-	0,9
		$\geq 12$				0,9		0,75
Hollow calcium silicate brick, KSL 12-1,4-8 DF e.g. according to EN 771-2:2011+A1:2015 (picture 2)	$\geq 1,4$	$\geq 12$	8 DF (250 x 240 x 237)	R	-	2,0	-	1,5

<sup>1)</sup> Only for edge distance  $c \geq 150$ mm; intermediate values by linear interpolation.

**Table C5: Displacements under tension and shear loading in concrete and masonry**

Anchor Type	Tension load $F^{(1)}=N$ [kN]	Displacements under tension load		Shear load $F^{(1)}=V$ [kN]	Displacements under shear load	
		$\delta_{N0}$ [mm]	$\delta_{N\infty}$ [mm]		$\delta_{V0}$ [mm]	$\delta_{V\infty}$ [mm]
<b>RD 10</b>	1,2	0,01	0,11	2,83	2,2	3,3
<b>RDD 10</b>	2,0	0,02	0,21	2,83	3,0	4,5

<sup>1)</sup> Intermediate values by linear interpolation

**KEW Frame plug RD 10 and RDD 10**

**Performances**

Characteristic resistance for use in masonry, displacements in concrete and masonry

**Annex C 2**

**Table C6: Geometry and dimensions of the hollow or perforated masonry**

<p><b>picture 1</b></p> <p>Vertically perforated, Hz 12-1,0-2 DF e.g. according to EN 771-1:2011+A1:2015</p>	
<p><b>picture 2</b></p> <p>Hollow calcium silicate brick, KSL 12-1,4-8 DF e.g. according to EN 771-2:2011+A1:2015</p>	

**KEW Frame plug RD 10 and RDD 10**

**Performances**  
Geometry and dimensions of the hollow or perforated masonry

**Annex C 3**