Deutsches Institut für Bautechnik

DIBt

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Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

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

European Technical Assessment

ETA-05/0267 of 19 January 2016

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	allfa Iso-Universalanchor IUD
Product family to which the construction product belongs	Nailed-in plastic anchor for fixing of external thermal insulation composite systems with rendering in concrete and masonry
Manufacturer	allfa Dübel GmbH Braukämperstraße 101 45899 Gelsenkirchen
Manufacturing plant	allfa Dübel GmbH
This European Technical Assessment contains	13 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 "Plastic anchors for fixing of external thermal insulation composite systems with rendering", ETAG 014, Edition February 2011, used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011.
This version replaces	ETA-05/0267 issued on 20 June 2011

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Specific part

1 Technical description of the product

The allfa Iso-Universalanchor IUD with a plate consists of a plastic part made of polyethylene and an accompanying specific nail of galvanised steel with an integrally moulded plastic head made of polyamide.

The anchor may in addition be combined with the anchor plates IUS 140, IUS 110 or IUS 90 made of polyethylene.

The description of the product 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 25 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)

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

3.2 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.

3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance	See Annex C 1
Edge distances and spacing	See Annex B 2
Point thermal transmittance	See Annex C 2
Plate stiffness	See Annex C 2
Displacements	See Annex C 2

3.4 Sustainable use of natural resources (BWR 7)

For the sustainable use of natural resources no performance was determined for this product.

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

In accordance with guideline for European technical approval ETAG 014, February 2011 used as European Assessment Document (EAD) according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011 the applicable European legal act is: 97/463/EC.

The system to be applied is: 2+

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

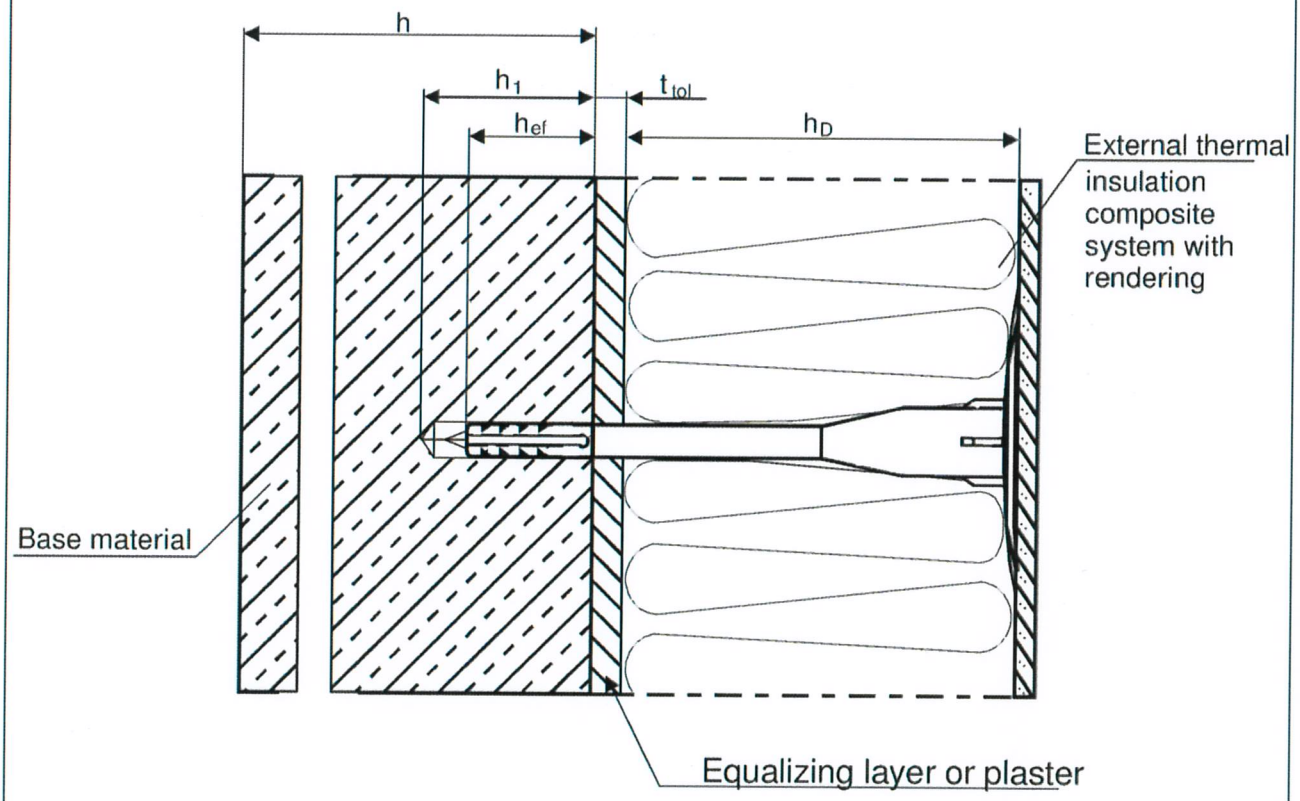
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 19. January 2016 by Deutsches Institut für Bautechnik

Uwe Bender
Head of Department

beglaubigt:
Ziegler

Deutsches Institut für Bautechnik DIBt



Intended use
- Fixing of external thermal insulation composite systems in concrete and masonry

Legend:

h_D	=	thickness of insulation material
h_{ef}	=	effective anchorage depth
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

allfa Iso-Universalanchor IUD	**Annex A 1**
Product description Installed condition	

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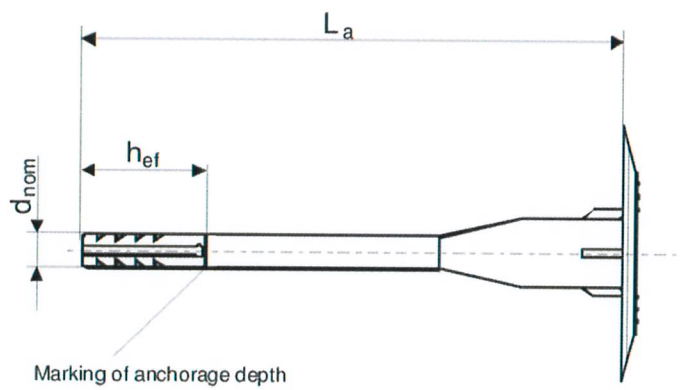

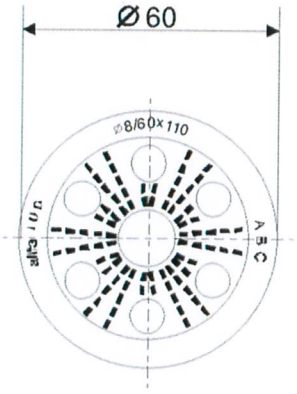

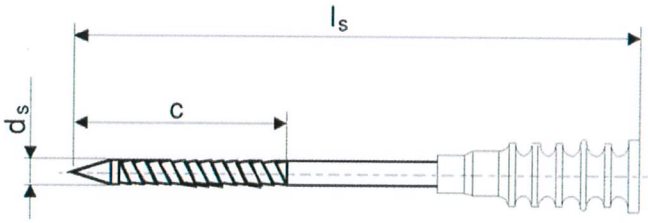

Marking:
Producer (allfa)
Type (IUD)
Anchor length (z.B. 110)
Use catagory (ABC)

Nail with an integrally moulded plastic head

Table 1: Dimensions

Measures in mm

Anchor type	Anchor sleeve				Nail	
	d_{nom}	h_{ef}	$min L_a$	$max L_a$	d_s	c
allfa IUD	8	30	90	240	5,2	45

Determination of maximum thickness of insulation material h_D

z.B.: $h_D = L_a - t_{tol} - h_{ef}$ (L_a = z.B. 90; t_{tol} = 10)

$h_D = 90 - 10 - 30$

$h_{Dmax} = 50$

Table 2: Materials

Element	**Material**
Anchor sleeve	Polyethylene PE, colours: natural, white, grey, blue, orange, red, green
Specific nail	Steel galvanized ≥ 5 µm according EN ISO 4042
Plastic head of the nail	Polyamide PA 6.0

allfa Iso-Universalanchor IUD

Product description
Dimensions, materials and marking of the anchor sleeve and specific nail

Annex A 2

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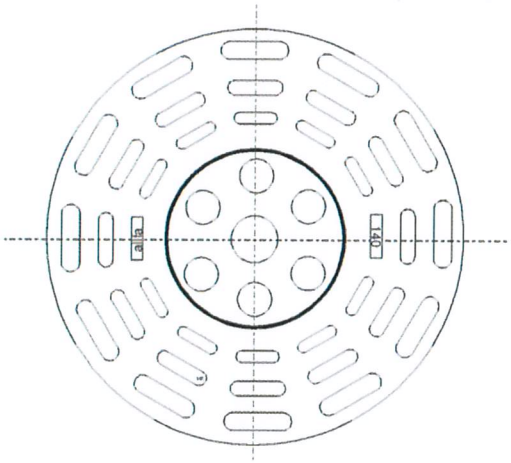
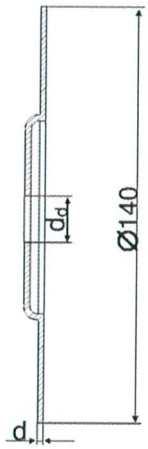
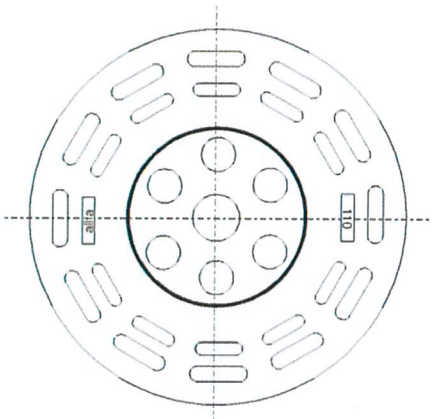
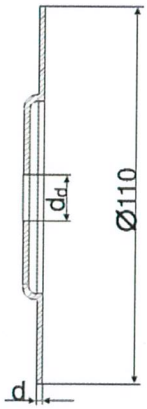


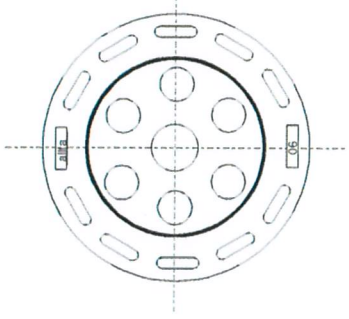


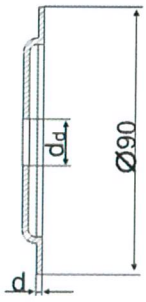
IUS 140	
colour	natural
d_d [mm]	20,0
d [mm]	3,0
material	1)





IUS 110	
colour	natural
d_d [mm]	20,0
d [mm]	2,5
material	1)





IUS 90	
colour	natural
d_d [mm]	20,0
d [mm]	2,5
material	1)

1) Polyethylene PE

allfa Iso-Universalanchor IUD	**Annex A 3**
Product description Anchor plates in combination with allfa Iso-Universalanchor IUD	

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Specifications of intended use

Anchorages subject to:

- The anchor may only be used for transmission of wind suction loads and shall not be used for the transmission of dead loads of the thermal insulation composite system.

Base materials:

- Normal weight concrete (use category A) according to Annex C 1
- Solid masonry (use category B), according to Annex C 1
- Hollow or perforated masonry (use category C), according to Annex C 1
- For other base materials of the use categories A, B or C the characteristic resistance of the anchor may be determined by job site tests according to ETAG 014 Edition February 2011, Annex D.

Temperature Range:

- 0°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C)

Design:

- The anchorages are designed in accordance with the ETAG 014 Edition February 2011 under the responsibility of an engineer experienced in anchorages and masonry work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings.
- Fasteners are only to be used for multiple fixings of thermal insulation composite systems.

Installation:

- Hole drilling by the drill modes according to Annex C 1
- 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 +40°C
- Exposure to UV due to solar radiation of the anchor not protected by rendering ≤ 6 weeks

allfa Iso-Universalanchor IUD	**Annex B 1**
Intended use Specifications	

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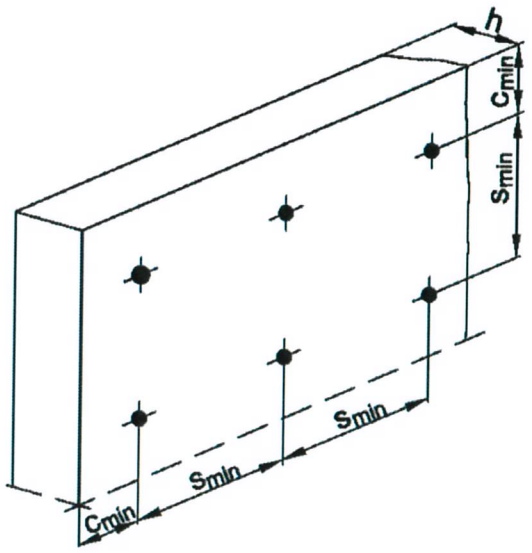
Table 3: Installation parameters		
Anchor type		allfa IUD
Drill hole diameter	d_0 [mm] =	8
Cutting diameter of drill bit	d_{cut} [mm] ≤	8,45
Depth of drilled hole to deepest point	h_1 [mm] ≥	40
Effective anchorage depth	h_{ef} [mm] ≥	30

Table 4: Anchor distances and dimensions of members		
Anchor type		allfa IUD
Minimum allowable spacing	s_{min} ≥ [mm]	100
Minimum allowable edge distance	c_{min} ≥ [mm]	100
Minimum thickness of member	h ≥ [mm]	100

Scheme of distances and spacings



allfa Iso-Universalanchor IUD	**Annex B 2**
Intended use Installation parameters, edge distances and spacings	

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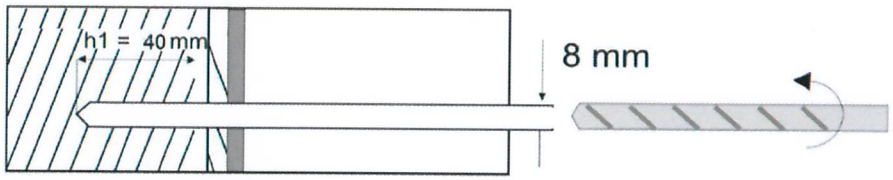
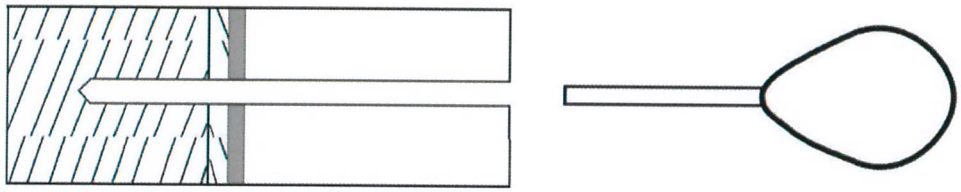
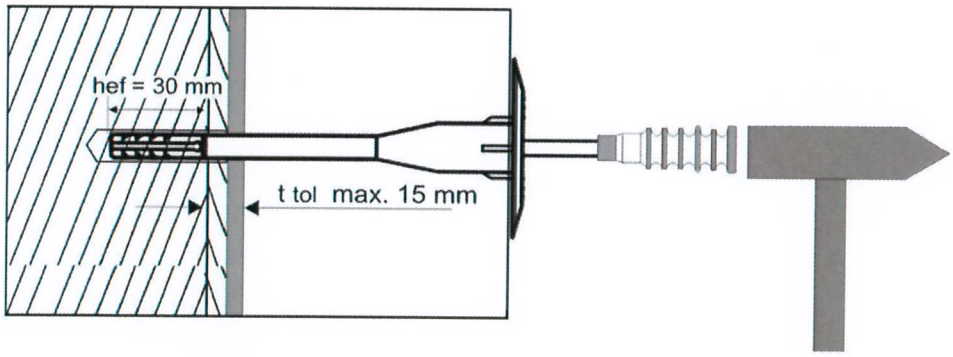
Installation instructions



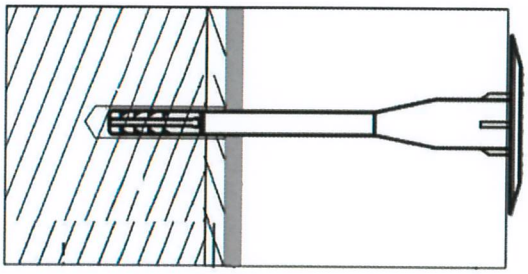
Drill the hole perpendicular to the substrate surface.



Clean the drill hole.



Place the anchor into the drill hole.
Drive in the nail with a hammer.



Installed condition.

allfa Iso-Universalanchor IUD	
Intended use Installation instructions	**Annex B 3**

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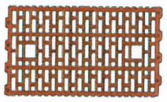
Table 5: Characteristic resistance to tension loads N_{Rk} in concrete and masonry for a single anchor in kN

Anchor type					allfa IUD
Base material	Bulk density class p [kg/dm³]	Minimum compressive strength f_b [N/mm²]	General remarks	Drill method	N_{Rk} [kN]
Concrete C12/15 (EN 206-1:2000)				Hammer	0,75
Concrete C20/25 (EN 206-1:2000)				Hammer	1,2
Concrete C50/60 (EN 206-1:2000)				Hammer	1,5
Sand-lime solid bricks, KS e.g. according to DIN V 106:2005-10 / EN 771-2:2011	≥ 1,8	12	Vertically perforation up to 15 %	Hammer	1,2
Clay bricks, Mz e.g. according to DIN 105-100:2012-01 / EN 771-1:2011	≥ 2,0	12	Vertically perforation up to 15 %	Hammer	0,9
Sand-lime perforated bricks, KSL e.g. according to DIN V 106:2005-10 / EN 771-2:2011	≥ 1,4	12	Vertically perforation up to 15 % outer web thickness ≥ 24 mm	Hammer	0,6
Vertically perforated clay bricks, Hlz e.g. according to DIN 105-100:2012-01 / EN 771-1:2011	≥ 1,0	12	Vertically perforation up to 15 % and less than 50 % outer web thickness ≥ 14 mm	Rotary	0,5
Vertically perforated clay bricks Hlz 25 x 38 x 23,5	≥ 1,0	12	 Outer web thickness ≥ 10,3 mm, see Annex C 3	Rotary	0,5
Lightweight aggregate concrete V e.g. according to DIN V 18152-100:2005-10 / EN 771-3:2011	≥ 0,9	4	 Area of grip hole ≤ 10%, max. size: length 110 mm, width 45 mm	Rotary	0,4
Lightweight concrete hollow blocks Hbl e.g. according to DIN V 18151-100:2005-10 / EN 771-3:2011	≥ 0,7	2	see Annex C 3	Rotary	0,5

allfa Iso-Universalanchor IUD	**Annex C 1**
Performances Characteristic resistance	

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Table 6: Displacements allfa IUD

Base materials	Bulk density class ρ [kg/dm³]	Minimum Compressive strength f_b [N/mm²]	Tension load N [kN]	Displacements δ_m(N) [mm]
Concrete (EN206-1) C 12/15			0,25	1,2
Concrete (EN206-1) C 20/25			0,40	1,2
Concrete (EN206-1) C 50/60			0,50	1,2
Sand-lime solid bricks, KS (DIN V 106:2005-10/ EN 771-2:2011)	≥ 1,8	12	0,40	1,3
Clay bricks, Mz (DIN 105-100:2012-01/EN 771-1:2011)	≥ 2,0	12	0,30	1,0
Sand-lime perforated bricks, KSL (DIN V 106:2005-10/ EN 771-2:2011)	≥ 1,4	12	0,20	0,8
Vertically perforated clay bricks, HLz (DIN 105-100:2012-01/EN 771-1:2011)	≥ 1,0	12	0,15	0,8
Vertically perforated clay bricks, HLz 25 x 38 x 23,5 (DIN 105-100:2012-01/EN 771-1:2011)	≥ 1,0	12	0,15	0,5
Lightweight aggregate concrete V (DIN V 18152-100:2005-10 / EN 771-3:2011)	≥ 0,9	4	0,13	0,5
Lightweight concrete hollow blocks Hbl (DIN V 18151-100:2005-10 / EN 771-3:2011)	≥ 0,7	2	0,15	0,5

Table 7: Point thermal transmittance according EOTA Technical Report TR025:2007-06

anchor type	insulation thickness h_D [mm]	Point thermal transmittance χ [W/K]
allfa Iso-Universalanchor IUD	60 - 210	0,002

Table 8: Plate stiffness according EOTA Technical Report TR026:2007-06

anchor type	diameter of the anchor plate [mm]	load resistance of the anchor plate [kN]	plate stiffness [kN/mm]
allfa Iso-Universalanchor IUD	60	1,3	0,4

allfa Iso-Universalanchor IUD	**Annex C 2**
Performances Displacements, point thermal transmittance, plate stiffness	

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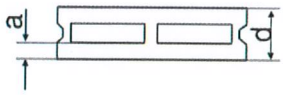
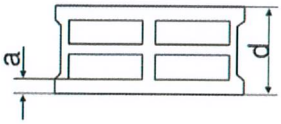
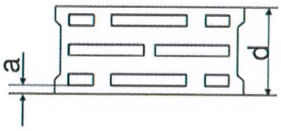
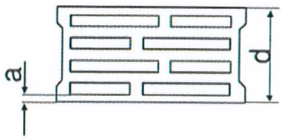
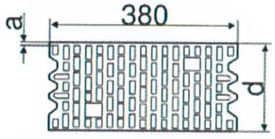
Table 9: Geometry of Hbl acc. DIN V 18151-100 and HLz 250 x 380 x 235

Geometry	Thickness of brick d [mm]	Outer web in longitudinal direction a [mm]	
	175	50	
	240 300	50	
	175	35	
	240 300 365	35	
	240 300 365	30	
Hlz 250 x 380 x 235 	250	10,3	

The anchor shall be placed in the brick in such way, that the spreading part of the expansion sleeve is located in the outer web.

allfa Iso-Universalanchor IUD

Performances
Geometry of Hbl according DIN V 18151-100 and Hlz 250 x 380 x 235

Annex C 3