Deutsches Institut für Bautechnik

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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-12/0074 of 1 March 2017

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 Ceiling Anchor ADH
Product family to which the construction product belongs	Anchor for multiple use for non-structural applications in concrete
Manufacturer	allfa Dübel GmbH Braukämperstraße 101 45899 Gelsenkirchen
Manufacturing plant	allfa Dübel GmbH Braukämperstraße 101 45899 Gelsenkirchen
This European Technical Assessment contains	9 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 anchors for use in concrete", ETAG 001 Part 6: "Anchors for multiple use for non-structural applications", January 2011, 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 allfa ceiling anchor ADH is an anchor made of galvanised steel which is pushed into a drilled hole and anchored by deformation-controlled expansion.

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)

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

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Anchorages satisfy requirements for Class A1
Resistance to fire	See Annex C 1

3.3 Safety in use (BWR 4)

Essential characteristic	Performance
Characteristic values	See Annex C 1

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 001, January 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: [97/161/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 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.

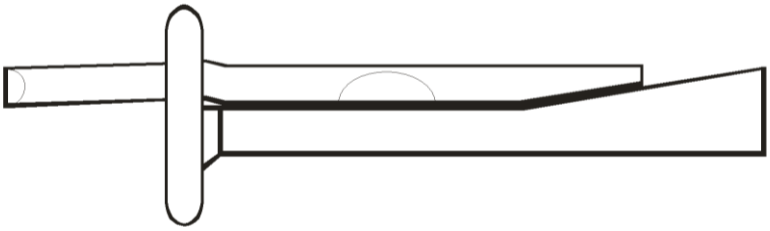
Issued in Berlin on 1 March 2017 by Deutsches Institut für Bautechnik

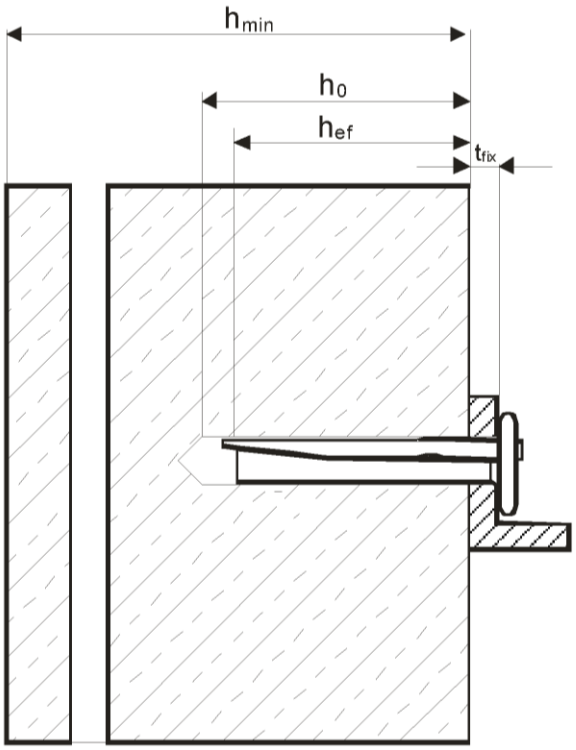
Uwe Bender
Head of Department

beglaubigt:
Baderschneider

Deutsches Institut für Bautechnik

Installed condition





allfa Ceiling Anchor ADH

Product description
Installed condition

Annex A 1

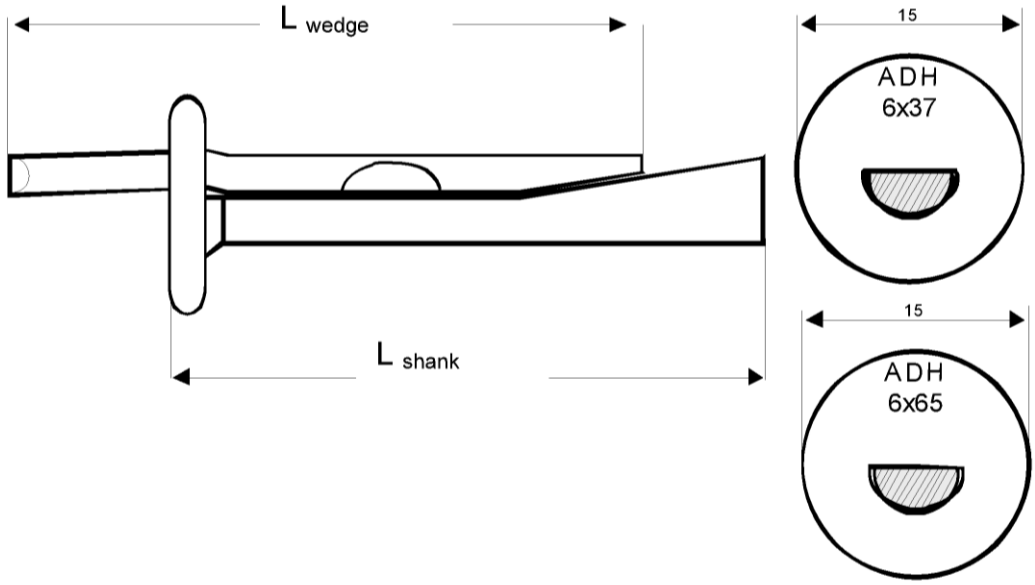


Table A1: Dimensions and material

allfa Ceiling Anchor		**ADH 6**	**ADH 6/65**
Length of wedge	[mm]	43	68
Length of shank	[mm]	39	64,5
Material	Steel acc. to EN 10263-2:2001		

allfa Ceiling Anchor ADH	**Annex A 2**
Product description Dimensions and Material	

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Specifications of intended use

Anchorages subject to:

- Static and quasi-static loads: all sizes.
- Fire exposure: all sizes.

Base materials:

- Reinforced or unreinforced normal weight concrete according to EN 206-1:2000.
- Strength classes C20/25 to C50/60 according to EN 206-1:2000.
- Cracked and non-cracked concrete: all sizes.

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions

Design:

- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete 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 (e. g. position of the anchor relative to reinforcement or to supports, etc.).
- Anchorages under static or quasi-static actions and under fire exposure are designed for design method C in accordance with ETAG 001, Annex C, Edition August 2010.
- In case of requirements to resistance to fire local spalling of the concrete cover must be avoided.
- Fasteners are only to be used for multiple use for non-structural application, according to ETAG 001 Part 6, Edition January 2011.

Installation:

- Hole drilling by hammer drilling only.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- The anchor may only be set once.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole or smaller distance if the aborted drill hole is filled with high strength mortar and if under shear or oblique tension load it is not in the direction of load application.

allfa Ceiling Anchor ADH	**Annex B 1**
Intended Use Specifications	

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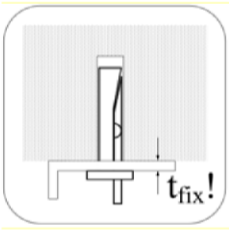
Table B1: Installation Parameters

allfa Ceiling Anchor			ADH 6	ADH 6/65
Nominal diameter of drill bit	d_0	[mm]	6	
Cutting diameter of drill bit	d_{cut}	[mm]	≤ 6,4	
Depth of drill hole	h_0 ≥	[mm]	40	
Effective anchorage depth	h_{ef}	[mm]	32	
Minimum thickness of member	h_{min}	[mm]	80	
Maximal thickness of fixture	t_{fix}	[mm]	4,5	32,5
Minimum spacing	s_{min}	[mm]	200	
Minimum edge distance	c_{min}	[mm]	150	

Installation Instructions

Hole drilling by hammer drilling.

Blow out dust from drilling hole.



Insert anchor with fixture.

Hammer down wedge. The anchor is properly set if the wedge is fully dropped in.

allfa Ceiling Anchor ADH	Annex B 2
Intended Use Installation parameters Installation Instructions	

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Table C1: Characteristic values

allfa Ceiling Anchor			**ADH 6**	**ADH 6/65**
Any load direction				
Characteristic resistance (in concrete C20/25 to C50/60)	F_{Rk}	[kN]	4	
Partial safety factor	γ_M	[-]	1,5	
Installation safety factor	γ_2	[-]	1,0	
Shear load with lever arm				
Characteristic bending moment	$M^0_{Rk,S}$	[Nm]	6,6	
Partial safety factor	γ_M	[-]	1,5	
Installation safety factor	γ_2	[-]	1,0	

Table C2: Characteristic values under fire exposure in concrete C20/25 to C50/60 in any load direction without lever arm

fire resistance class				**ADH 6**	**ADH 6/65**
R 30	Characteristic resistance	$F_{Rk,fi}$	[kN]	0,36	
R 60	Characteristic resistance	$F_{Rk,fi}$	[kN]	0,28	
R 90	Characteristic resistance	$F_{Rk,fi}$	[kN]	0,20	
R 120	Characteristic resistance	$F_{Rk,fi}$	[kN]	0,15	
R 30 to 120	Spacing	$s_{cr,fi}$	[mm]	200	
	Edge distance	$c_{cr,fi}$	[mm]	150	

In case of fire exposure from more than one side, the edge distance shall be ≥ 300 mm