

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-12/0074**  
**of 6 November 2020**

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

alfa Ceiling Anchor ADH

Product family  
to which the construction product belongs

Fasteners for use in concrete for  
redundant non-structural systems

Manufacturer

alfa Dübel GmbH  
Braukämperstraße 101  
45899 Gelsenkirchen

Manufacturing plant

alfa 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

EAD 330747-00-0601, Edition 06/2018

This version replaces

ETA-12/0074 issued on 1 March 2017

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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 Safety in case of fire (BWR 2)

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

#### 3.2 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance for all load directions and modes of failure for simplified design	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 No. 330747-00-0601, 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**

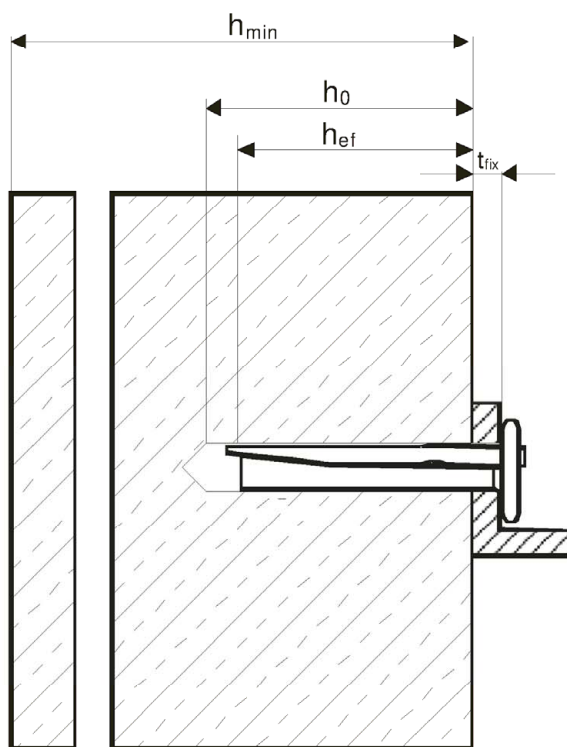
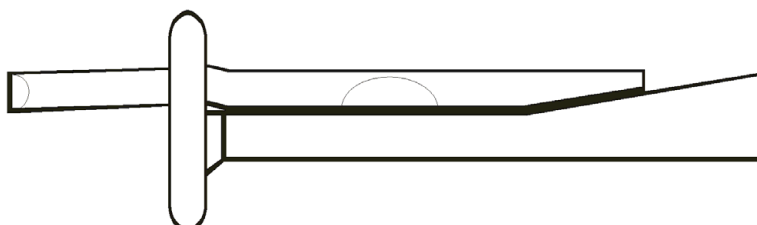
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 6 November 2020 by Deutsches Institut für Bautechnik

Dipl.-Ing. Beatrix Wittstock  
Head of Section

*beglaubigt:*  
Baderschneider

**Installed condition**

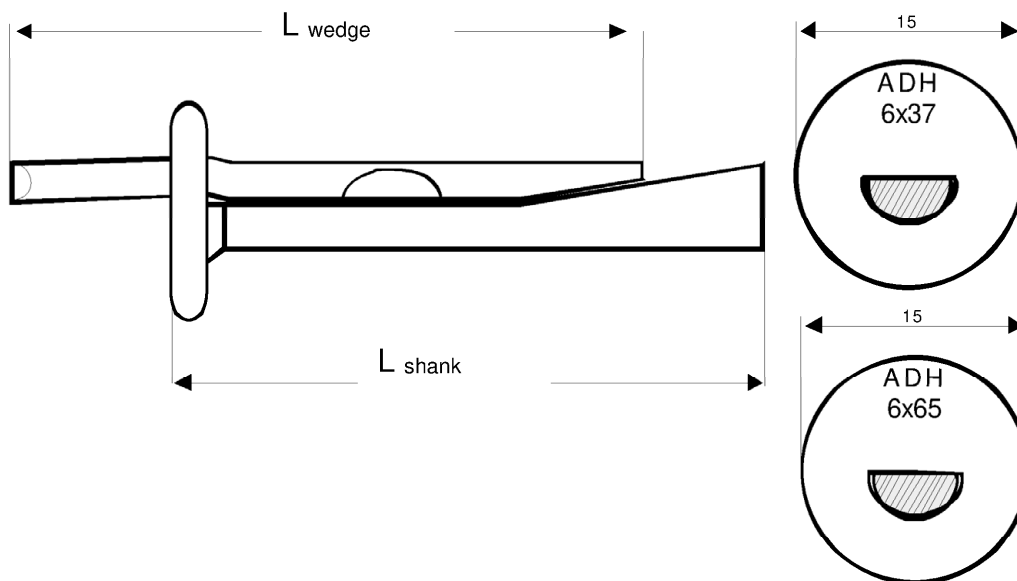


Electronic copy of the ETA by DIBt: ETA-12/0074

**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 10263-2:2017		

## Specifications of intended use

### Anchorage subject to:

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

### Base materials:

- Compacted reinforced and unreinforced normal weight concrete without fibres according to EN 206:2013
- Strength classes C20/25 to C50/60 according to EN 206:2013.
- 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.).
- Design of fastenings according to EN 1992-4:2018, Design Method B and Technical Report TR 055

### 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**

**Intended Use**  
Specifications

**Annex B 1**

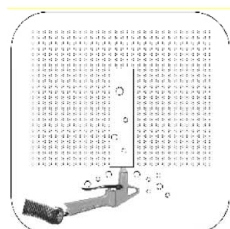
**Table B1: Installation Parameters**

<b>alfa Ceiling Anchor</b>			<b>ADH 6</b>	<b>ADH 6/65</b>
Nominal diameter of drill bit	$d_0$	[ mm ]	6	
Cutting diameter of drill bit	$d_{cut}$	[ mm ]	≤ 6,4	
Depth of drill hole	$h_0 \geq$	[ 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	

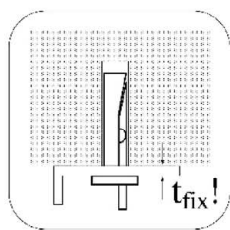
**Installation Instructions**



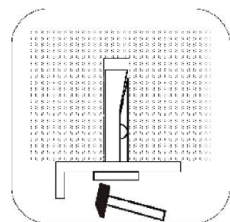
Hole drilling by hammer drilling.



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.

**alfa Ceiling Anchor ADH**

**Intended Use**  
Installation parameters  
Installation Instructions

**Annex B 2**



**Table C1: Characteristic resistance**

alfa Ceiling Anchor			ADH 6	ADH 6/65
<b>For all load directions and for all failures modes</b>				
Characteristic resistance (in concrete C20/25 to C50/60)	$F_{Rk}^0$	[ kN ]	4	
Characteristic edge distance	$c_{cr} = c_{min}$	[ mm ]	150	
Characteristic spacing	$s_{cr} = s_{min}$	[ mm ]	200	
Partial factor	$\gamma_M$	[ - ]	1,5	
Installation factor	$\gamma_{inst}$	[ - ]	1,0	
<b>Shear load with lever arm</b>				
Characteristic bending moment	$M_{Rk, S}^0$	[ Nm ]	6,6	
Partial factor	$\gamma_M$	[ - ]	1,5	
Installation factor	$\gamma_{inst}$	[ - ]	1,0	

**Table C2: Characteristic resistance under fire exposure in concrete C20/25 to C50/60 in any load direction**

fire resistance class			ADH 6	ADH 6/65
<b>R 30</b>	Characteristic resistance without lever arm	$F_{Rk, s, fi30}^1$	[ kN ]	0,36
<b>R 60</b>	Characteristic resistance without lever arm	$F_{Rk, s, fi60}^1$	[ kN ]	0,28
<b>R 90</b>	Characteristic resistance without lever arm	$F_{Rk, s, fi90}^1$	[ kN ]	0,20
<b>R 120</b>	Characteristic resistance without lever arm	$F_{Rk, s, fi120}^1$	[ kN ]	0,15
<b>R 30 to 120</b>	Characteristic resistance with lever arm	$M_{Rk, s, fi}^0$	[ Nm ]	No performance assessed
<b>R 30 to 120</b>	Spacing	$s_{cr, fi}$	[ mm ]	200
	Edge distance	$c_{cr, fi}$	[ mm ]	150

<sup>1)</sup>  $N_{Rk, s, fi} = N_{Rk, p, fi} = V_{Rk, s, fi} = F_{Rk, s, fi}$

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

**alfa Ceiling Anchor ADH**

**Performances**

Characteristic resistance and  
Characteristic resistance under fire exposure

**Annex C 1**