

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

allfa Ceiling Anchor ADH

Product family
to which the construction product belongs

Fasteners for use in concrete for
redundant non-structural systems

Manufacturer

allfa Dübel GmbH
BrauKämpferstraße 101
45899 Gelsenkirchen

Manufacturing plant

allfa Dübel GmbH
BrauKämpferstraße 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

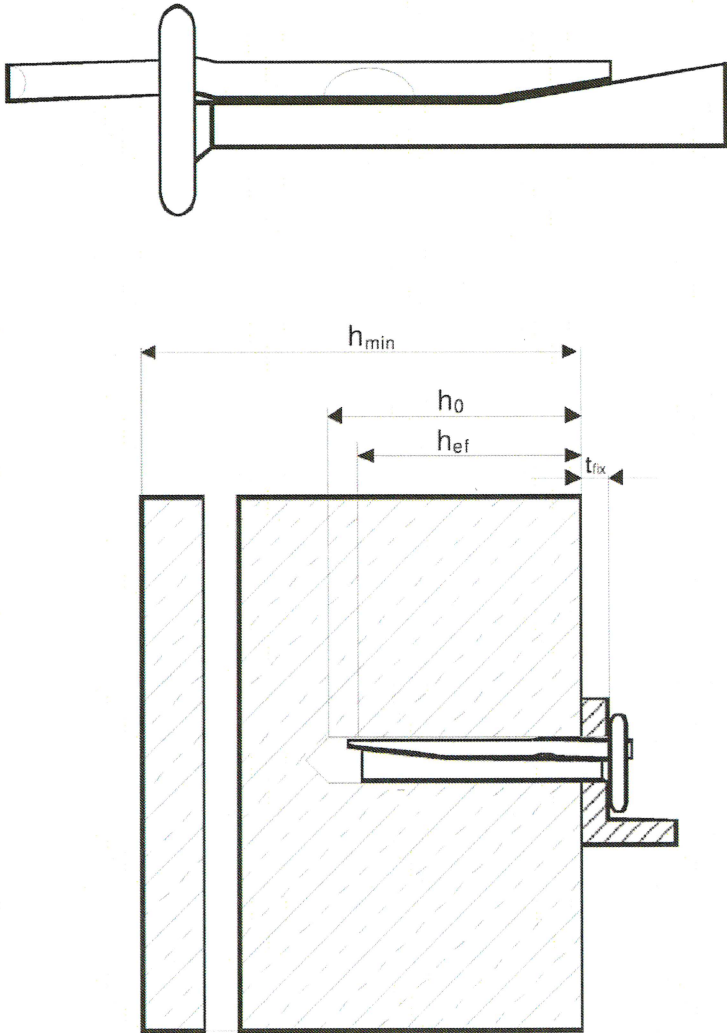
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

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

Dipl.-Ing. Beatrix Wittstock
Head of Section

beglaubigt:
Baderschneider

Installed condition



allfa Ceiling Anchor ADH

Product description
Installed condition

Annex A 1

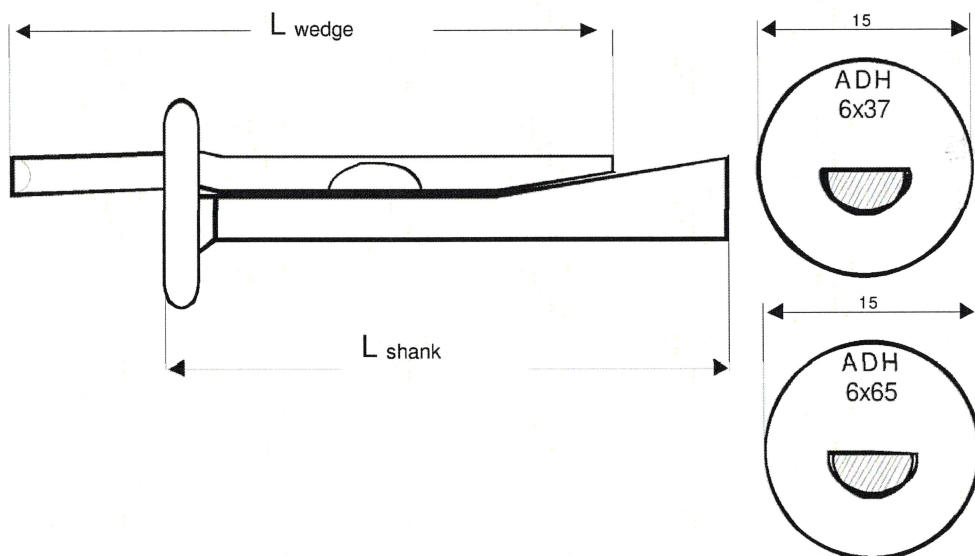


Table A1: Dimensions and material

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		

allfa Ceiling Anchor ADH
Product description
Dimensions and Material

Annex A 2

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

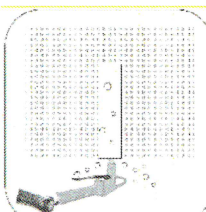
Table B1: Installation Parameters

alfa Ceiling Anchor			ADH 6	ADH 6/65
Nominal diameter of drill bit	d_0	[mm]	6	
Cutting diameter of drill bit	d_{cut}	[mm]	$\leq 6,4$	
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	

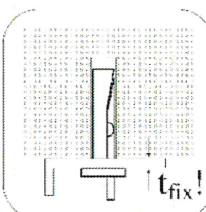
Installation Instructions



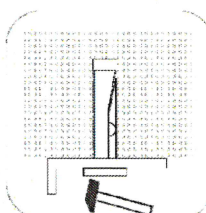
Hole drilling by hammer drilling.



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
For all load directions and for all failures modes				
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	γ_M	[-]		1,5
Installation factor	γ_{inst}	[-]		1,0
Shear load with lever arm				
Characteristic bending moment	$M_{Rk, S}^0$	[Nm]		6,6
Partial factor	γ_M	[-]		1,5
Installation factor	γ_{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
R 30	Characteristic resistance without lever arm	$F_{Rk, s, fi30}^{1)}$	[kN]		0,36
R 60	Characteristic resistance without lever arm	$F_{Rk, s, fi60}^{1)}$	[kN]		0,28
R 90	Characteristic resistance without lever arm	$F_{Rk, s, fi90}^{1)}$	[kN]		0,20
R 120	Characteristic resistance without lever arm	$F_{Rk, s, fi120}^{1)}$	[kN]		0,15
R 30 to 120	Characteristic resistance with lever arm	$M_{Rk, s, fi}^0$	[Nm]		No performance assessed
R 30 to 120	Spacing	$s_{cr, fi}$	[mm]		200
	Edge distance	$c_{cr, fi}$	[mm]		150

¹⁾ $N_{Rk, s, fi} = N_{Rk, p, fi} = V_{Rk, s, fi} = F_{Rk, s, fi}$

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

alfa Ceiling Anchor ADH

Performances

Characteristic resistance and
Characteristic resistance under fire exposure

Annex C 1