

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-14/0132
of 17 June 2014

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Trade name of the construction product

Product family
to which the construction product belongs

Manufacturer

Manufacturing plant

This European Technical Assessment
contains

This European Technical Assessment is
issued in accordance with Regulation (EU)
No 305/2011, on the basis of

Deutsches Institut für Bautechnik

Eurotec Ceiling anchor EDN

Anchor for multiple use for non-structural applications in
concrete

Eurotec GmbH
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58099 Hagen
DEUTSCHLAND

Werk I

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

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 Eurotec ceiling anchor EDN 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)**

Essential characteristic	Performance
Characteristic values	See Annex C 1

3.2 Safety in case of fire (BWR 2)

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

3.3 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.

3.4 Safety in use (BWR 4)

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

3.5 Protection against noise (BWR 5)

Not applicable.

3.6 Energy economy and heat retention (BWR 6)

Not applicable.

3.7 Sustainable use of natural resources (BWR 7)

The sustainable use of natural resources was not investigated.

3.8 General aspects

The verification of durability is part of testing the essential characteristics. Durability is only ensured if the specifications of intended use according to Annex B are taken into account.

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

According to Decision of the Commission of 17 February 1997 (97/161/EC) (OJ L 062 of 04.03.97 p. 41-42), the system of assessment and verification of constancy of performance (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) given in the following table applies.

Product	Intended use	Level or class	System
Metal anchors for use in concrete (light-duty type)	For use in redundant systems for fixing and/or supporting to concrete elements such as lightweight suspended ceilings, as well as installations	—	2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document

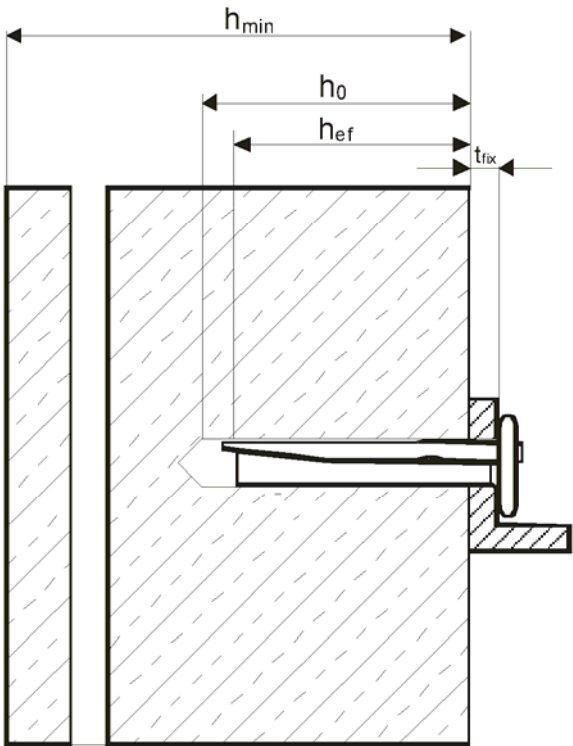
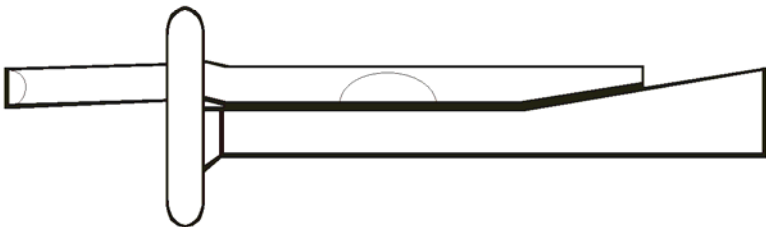
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Deutsches Institut für Bautechnik.

Issued in Berlin on 17 June 2014 by Deutsches Institut für Bautechnik

Dr.-Ing- Karsten Kathage
Vice President

Beglaubigt:
Baderschneider

Installed condition



Eurotec Ceiling Anchor EDN

Product description
Installed condition

Annex A 1

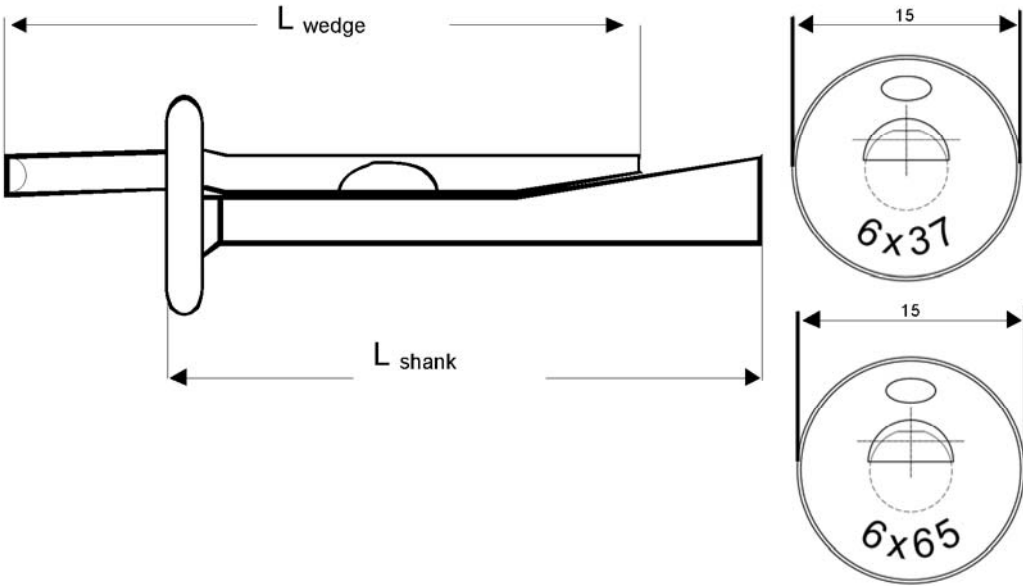


Table A1: Dimensions and material

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

Eurotec Ceiling Anchor EDN

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:

- 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 August 2010.

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.

Eurotec Ceiling Anchor EDN

Intended Use
Specifications

Annex B 1

Table B1: Installation Parameters

Ceiling Anchor			6	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	

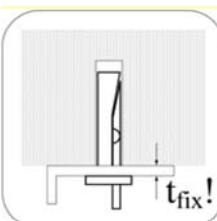
Installation Instructions



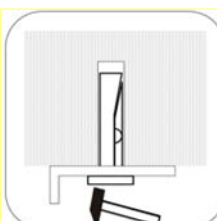
Hole drilling by hammer drilling.



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.

Eurotec Ceiling Anchor EDN

Intended Use
Installation parameters
Installation Instructions

Annex B 2

Table C1: Characteristic values

Ceiling Anchor			6	6/65
Any load direction				
Characteristic resistance (in concrete C20/25 to C50/60)	F_{Rk}	[kN]	4	
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_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			6	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

Eurotec Ceiling Anchor EDN

Performances
Characteristic values

Annex C 1