ZAG

ZAVOD ZA GRADBENIŠTVO SLOVENIJE
SLOVENIAN NATIONAL BUILDING AND CIVIL ENGINEERING INSTITUTE

Designated according to Article 29 of Regulation (EU) No 305/2011

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European Technical Assessment

ETA-13/0634 of 16. 10. 2019

English version prepared by ZAG

General Part

Technical Assessment Body issuing the European Technical Assessment:	**ZAG Ljubljana**
Trade name of the construction product	**EVDBZ**
Product family to which the construction product belongs	**33: Metal anchor made of galvanised steel of size 6 × 40 and 6 × 65 for multiple use for non-structural application in concrete**
Manufacturer	**EVOLUTION FASTENERS (U.K.) Ltd** **One Oaks Court** **Warwick Road** **WD6 1SD Borehamwood Herts** **UNITED KINGDOM** http://www.evolutionfasteners.co.uk
Manufacturing plant	**Nantong Reliable Metal Products Co., Ltd. No.398 Yonghe Road, Nantong, Jiangsu, China**
This European Technical Assessment contains	9 pages including 6 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 May 2018, used as European Assessment Document (EAD)
This version is a corrigendum to	ETA-13/0634, 4. 9. 2018

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Specific parts

1. Technical description of the product

The EVDBZ anchor in sizes 6 × 40 and 6 × 65 is an anchor made of galvanised steel, which is placed into a drilled hole and anchored by deformation-controlled expansion.

For the installed anchor see Figure given in Annex A.

2. Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The performances given in Chapter 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The provisions made in this European Technical Assessment are based on an assumed working life of the anchor of 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, 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)

For basic work requirement mechanical resistance and stability are included under the basic work requirement safety in use.

3.2 Safety in case of fire (BWR 2)

The basic work requirements for safety in case of fire are listed in Annex C2.

3.3 Hygiene, health and environment (BWR 3)

Regarding dangerous substances contained in this European Technical Assessment, there may be requirements applicable to the products falling within its scope (e.g. transported European legislation and national laws, regulations and administrative provisions). In order to meet provisions of the regulation (EU) No 305/2011, these requirements need also to be complied with, when they apply.

3.4 Safety in use (BWR 4)

The basic work requirements for safety in use are listed in Annex C1.

3.5 Protection against noise (BWR 5)

Not relevant.

3.6 Energy economy and heat retention (BWR 6)

Not relevant.

3.7 Sustainable use of natural resources (BWR 7)

No performance assessed.

3.8 General aspects relating to fitness for use

Durability and serviceability are only ensured if specifications of intended use according to Annex B1 are kept.

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

According to the decision 97/161/EC of the European Commission[1] the system of assessment and verification of constancy of performance (see Annex V to regulation (EU) No 305/2011) 2+ apply.

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 and in Chapter 3 of EAD 330747-00-0601.

Issued in Ljubljana on 16. 10. 2019

Signed by:
Franc Capuder, M.Sc.
Head of Service of TAB

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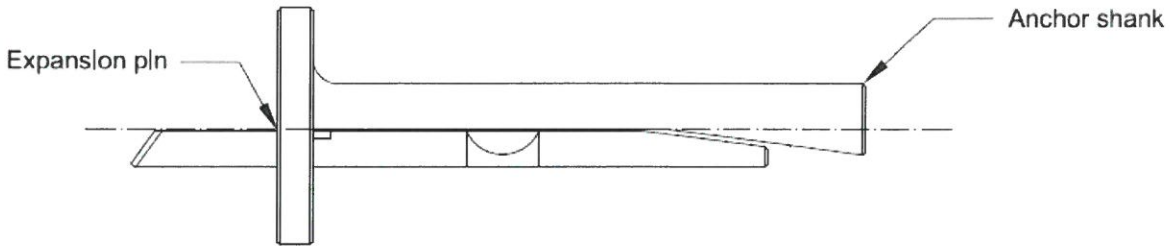
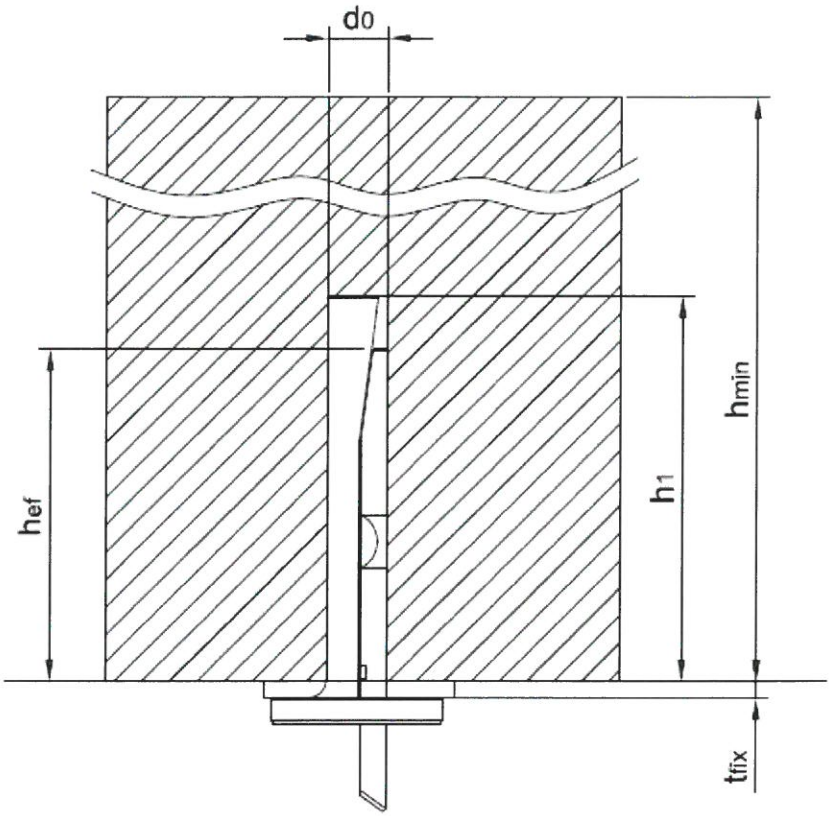
Annexes

[1] Official Journal of the European Communities L 254 of 8.10.1996

Installation condition
Multiple use for non-structural applications only





EVDBZ

Annex A1

Product description
Installed condition

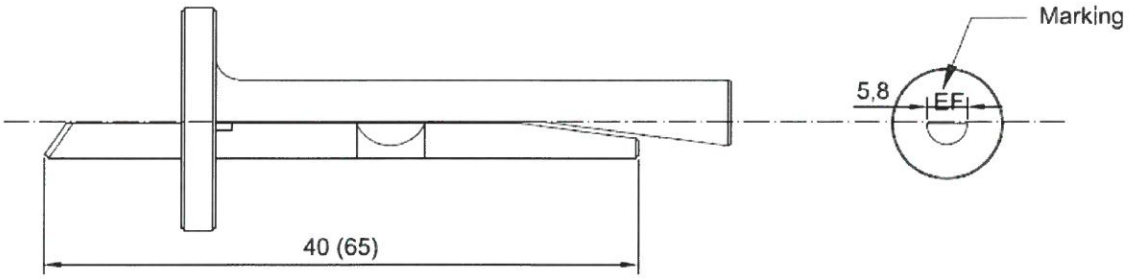


Table A1: Materials

Component	Material
Anchor shank	Steel AISI 1022 galvanized ≥ 5µm
Expansion pin	

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EVDBZ

Product description
Marking and material

Annex A2

Specifications of intended use

Multiple use for non-structural applications only

Base materials:

- Reinforced or unreinforced normal weight concrete according to EN 206:2013+A1:2016.
- Strength classes C20/25 to C50/60 according to EN 206:2013+A1:2016.

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 loading are designed in accordance with EOTA TR 055, Edition December 2016 or EN 1992-4: 2018.
- Anchorages under fire exposure are designed in accordance with: EN 1992-4:2018 and EOTA Technical Report TR 020, 5/2004

Installation:

- 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.
- Overhead applications are permitted.

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EVDBZ	
Intendent use Specifications	**Annex B1**

Table A2: Installation data

Anchor (d × L)		M6×40	M6×65
Nominal diameter of drill bit	d_0 [mm]	6	
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	6.40	
Diameter of clearance hole in the fixture	d_f [mm]	8	
Depth of drill hole	$h_1 \geq$ [mm]	40	
Effective anchorage depth	h_{ef} [mm]	35	
Thickness of fixture-maximum	t_{fix} [mm]	5	30

Table A3: Minimum spacing and edge distance

Anchor (d × L)		M6×40	M6×65
Minimum thickness of the member	h_{min} [mm]	80	
Minimum spacing	h_{ef} [mm]	200	
Minimum edge distance	t_{fix} [mm]	100	

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EVDBZ

Performance

Installation parameters;
Minimum spacing and minimum edge distance

Annex B2

Table C1: Characteristic values

EVDBZ			Anchor size	
			6 × 40	6 × 65
Any load direction				
Characteristic resistance in C20/25 to C50/60	F_{Rk}	[kN]	3.0	
Partial safety factor (including installation safety factor)	γ_M [1)]	-	1.8 [2)]	
Characteristic edge distance	$c_{cr,}$	[mm]	150	
Characteristic spacing	s_{cr}	[mm]	200	
Shear load with lever arm				
Characteristic bending moment	$M^0_{Rk,s}$	[Nm]	6.3	
Partial safety factor	γ_{Ms} [1)]	-	1.34	

1) In absence of other national regulations

2) The installation safety factor γ_2 = 1,0 is included

EVDBZ	Annex C1
Performance Characteristic values of resistance under fire exposure	

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

Fire resistance class	**EVDBZ**			Anchor size	
				6 × 40	6 × 65
R30	Characteristic resistance	$F_{Rk,fi}$ [1]	[kN]	0.26	
R60				0.23	
R90				0.18	
R120				0.13	
R30 to R120	Spacing[2]	$s_{cr,fi}$	[mm]	200	
	Edge distance[2]	$c_{cr,fi}$	[mm]	150	
In case of fire attack from more than one side, the minimum edge distance shall be ≥ 300 mm. The anchorage depth has to be increased for wet concrete by at least 30 mm compared to the given value					

[1] In absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M,fi}$ = 1.0 is recommended

EVDBZ	
Performance Characteristic values of resistance under fire exposure	**Annex C2**