

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-05/0038**  
**of 16 December 2016**

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

SPIT UDZ

Product family  
to which the construction product belongs

Anchor made of galvanised steel for multiple use for  
non-structural applications in concrete

Manufacturer

Société Spit  
Route de Lyon  
26501 BOURG-LES-VALENCE  
FRANKREICH

Manufacturing plant

Workshop 5

This European Technical Assessment  
contains

10 pages including 3 annexes

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",  
April 2013,  
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 SPIT UDZ 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	Anchorage satisfy requirements for Class A1
Resistance to fire	See Annex C2

#### 3.3 Safety in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance for static and quasi-static loading, displacements	See Annex C1

### 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, April 2013 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+

English translation prepared by DIBt

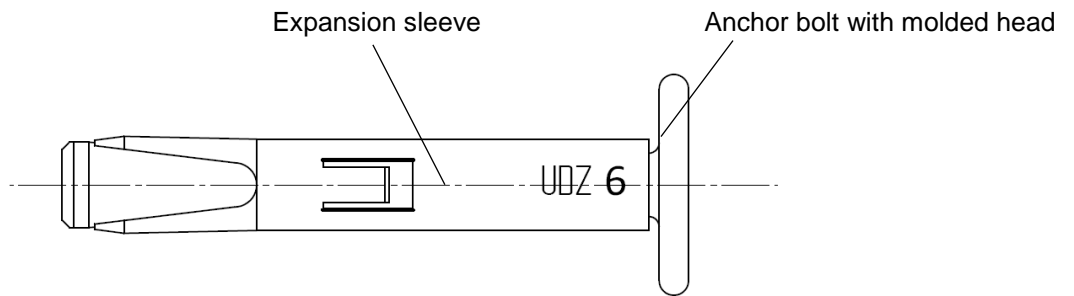
**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

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

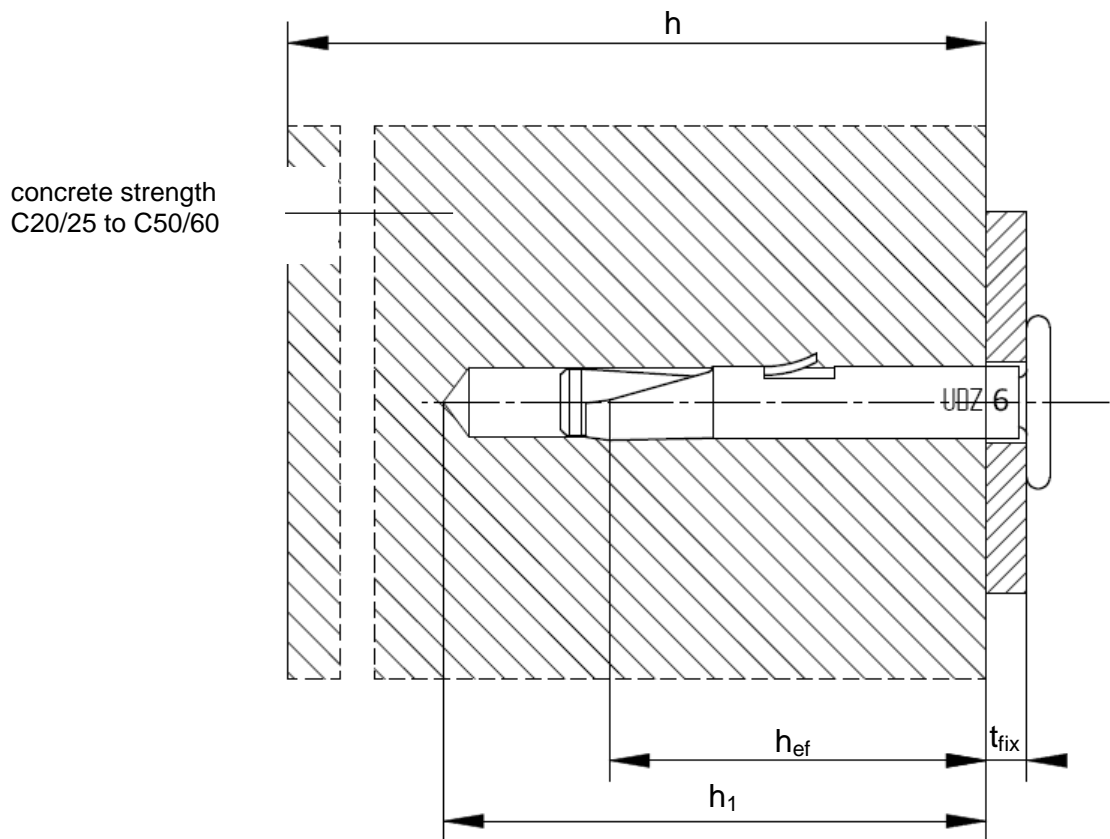
Issued in Berlin on 16 December 2016 by Deutsches Institut für Bautechnik

Uwe Bender  
Head of Department

*beglaubigt:*  
Lange



**Installed fastener**

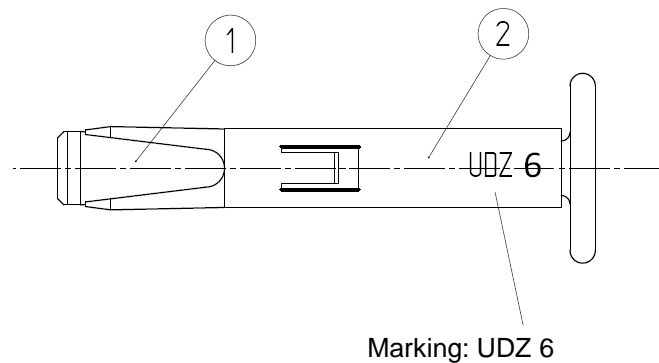


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SPIT UDZ

**Product description**  
Product and installed anchor

Annex A1



**Table 1: Designation and materials**

Part	Designation	Material galvanised $\geq 5 \mu\text{m}$ acc. to EN ISO 4042
1	Expansion sleeve	C45 (1.0503) acc. to EN 10083-2
2	Anchor bolt	C10C (1.0214) acc. to EN 10263-2 $f_{yk} \geq 500 \text{ N/mm}^2$ , $f_{uk} \geq 580 \text{ N/mm}^2$

**Table 2: Installation parameters**

Anchor size				UDZ 6
Effective anchorage depth	$h_{ef}$	$\geq$	[mm]	30
Nominal diameter of drill bit	$d_0$	=	[mm]	6
Maximum cutting diameter of drill bit	$d_{cut}$	$\leq$	[mm]	6,45
Thickness of fixture	$t_{fix}$	$\leq$	[mm]	5
Depth of drill hole	$h_1$	$\geq$	[mm]	45
Minimum thickness of member	$h_{min}$	=	[mm]	80
Minimum spacing	$s_{min}$	=	[mm]	200
Minimum edge distance	$c_{min}$	=	[mm]	100
Diameter of clearance hole in the fixture	$d_f$	$\leq$	[mm]	7

SPIT UDZ

**Product description**  
Designation, material and installation parameters

Annex A2

## Specification of intended use

### Anchorage subject to:

- Static and quasi-static loads.
- Only to be used for multiple use for non-structural applications, according to ETAG 001, Part 6, Edition January 2011.
- Fire exposure: concrete strength classes C20/25 to C50/60

### Base materials:

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

### Use conditions (Environmental conditions)

- Anchorages 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 are designed in accordance with:
  - ETAG 001, Annex C, design method C, Edition August 2010
- Anchorages under fire exposure are designed in accordance with:
  - ETAG 001, Annex C, design method C, Edition August 2010 and EOTA Technical Report TR 020, Edition May 2004
  - In case of requirements to resistance to fire local spalling of the concrete cover must be avoided.

### Installation:

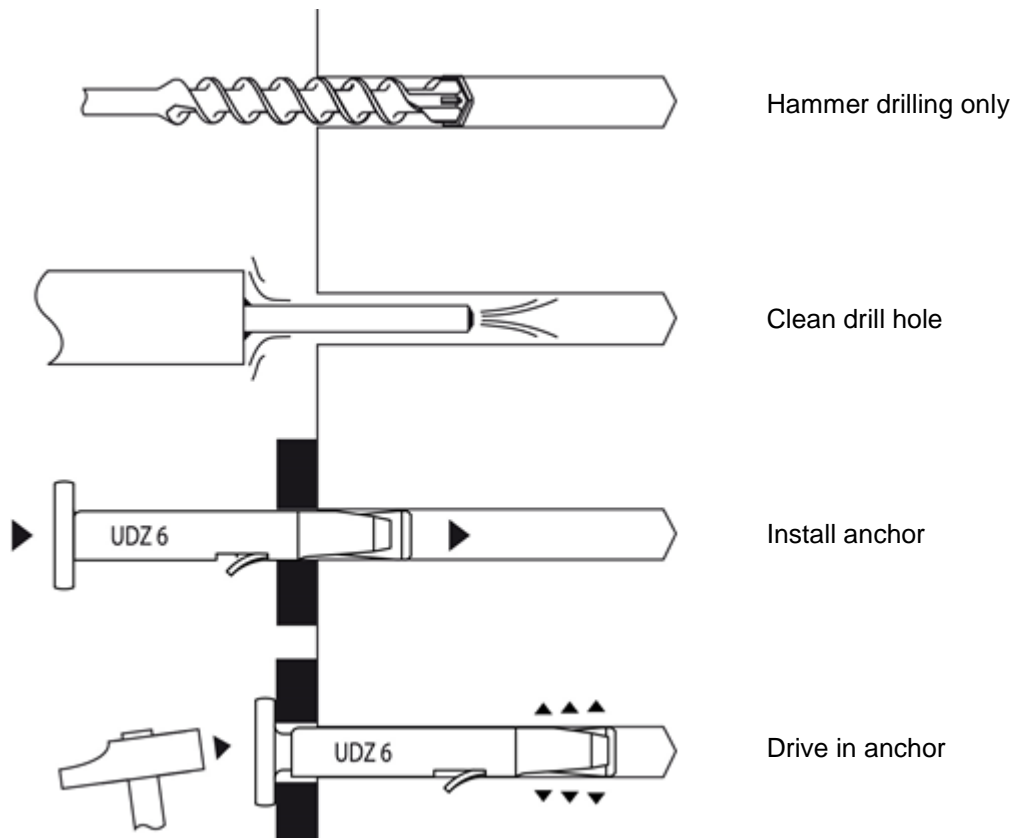
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole or smaller distance if the aborted hole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

SPIT UDZ

**Intended use**  
Specifications

Annex B1

### Installation Instructions



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SPIT UDZ	Annex B2
<b>Intended use</b> Installation instructions	



**Table 3: Design method C: Characteristic values**

<b>Anchor size</b>			<b>UDZ 6</b>
<b>Any load direction</b>			
Characteristic resistance in C20/25 to C50/60	$F_{Rk}$	[kN]	<b>1,5</b>
Installation safety factor	$\gamma_2^{1)}$	-	<b>1.0</b>
<b>Shear load with lever arm</b>			
Characteristic bending moment for equation (5.5) in ETAG 001, Annex C	$M_{Rk,S}^0$	[Nm]	<b>4.5</b>
Installation safety factor	$\gamma_2^{1)}$	-	<b>1.0</b>

<sup>1)</sup> In absence of other national regulations

**Table 4: Displacements**

<b>Anchor Size</b>			<b>UDZ 6</b>
Tension load	<b>N</b>	[kN]	<b>0,6</b>
Displacement	$\delta_{N0}$	[mm]	<b>0,8</b>
	$\delta_{N\infty}$	[mm]	<b>1,2</b>
Shear load	<b>V</b>	[kN]	<b>0,7</b>
Displacements <sup>1)</sup>	$\delta_{V0}$	[mm]	<b>1,3</b>
	$\delta_{V\infty}$	[mm]	<b>1,95</b>

<sup>1)</sup> Additional displacements under shear loads occur if there is a hole clearance.

SPIT UDZ

**Product performances**  
Characteristic resistance under static and quasi-static loading  
Displacements

Annex C1

**Table 5: Characteristic values under fire exposure in concrete  
C20/25 to C50/60 in any load direction**

Fire-resistance-class	Anchor Size		UDZ 6
R30	Characteristic resistance	$F_{Rk,fi}$ [kN]	0,45
R60	Characteristic resistance	$F_{Rk,fi}$ [kN]	0,36
R90	Characteristic resistance	$F_{Rk,fi}$ [kN]	0,26
R120	Characteristic resistance	$F_{Rk,fi}$ [kN]	0,26
R30 – R120	Spacing	$s_{cr,fi}$ [mm]	200
	Edge distance <sup>1)</sup>	$s_{cr,fi}$ [mm]	150

<sup>1)</sup> In case of fire attack from more than one side, the edge distance shall be  $c \geq 300$  mm.

SPIT UDZ

**Product performances**  
Characteristic resistance under fire exposure

Annex C2