

DECLARATION OF PERFORMANCE
DoP No.: 1343-CPR-M 561-2 / 11.14 - EN

1. Unique identification code of the product-type: **Toge metal frame anchor TU 10**
2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):

Annex A 2

Batch number: see packaging of the product.

3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer:

generic type	Torque controlled expansion anchor
for use in	Cracked and non-cracked concrete C 20/25-C 50/60 (EN 206) only for multiple point fixings for non-structural systems covered sizes: 10
option / category	Part 6
loading	static or quasi-static
material	<u>zinc-plated steel:</u> dry internal conditions only covered sizes: 10

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):
Toge Dübel GmbH & Co. KG, Illesheimer Strasse 10, 90431 Nuernberg
5. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2): --
6. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: **System 2+**
7. In case of the declaration of performance concerning a construction product covered by a harmonised standard: --
8. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:

Deutsches Institut für Bautechnik, Berlin

has issued the following:

ETA-09/0238

on the basis of

ETAG 001-1, ETAG 001-6

The notified body **1343-CPR** performed

- i) factory production control,
- ii) testing of samples taken at the factory in accordance with a prescribed test plan

and has issued the following: certificate of conformity 1343-CPR-M 561-2 / 11.14.

9. Declared performance:

Essential Characteristics	Design Method	Performance	Harmonized Technical Specification
Characteristic resistance for tension load	ETAG 001 Annex C	Annex C 1	ETAG 001-06
Characteristic resistance for shear load	ETAG 001 Annex C	Annex C 1	
Minimum spacing and minimum edge distance	ETAG 001 Annex C	Annex B 2	
Characteristic resistance under fire exposure	TR 020	Annex C 2	

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

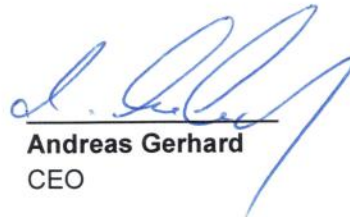
Signed for and on behalf of the manufacturer by:




Waldemar Gunkel

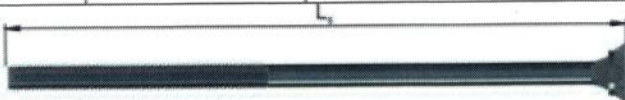

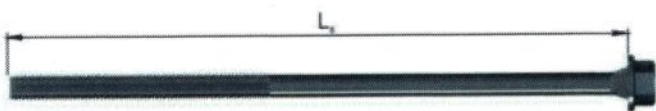
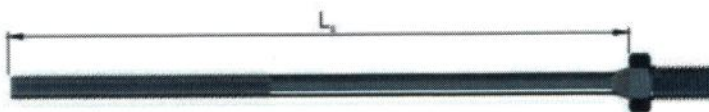



Dipl.-Wirtsch.-Ing. (FH), B.Eng.
 Anwendungstechnik und Technische Dokumente

Nuernberg, 2016-02-10


Andreas Gerhard
 CEO

Nuernberg, 2016-02-10

Table A 1: parts and materials

part	name	Material			
1,2,3,4	screw	steel acc. DIN EN ISO 896-1, zinc coated $\geq 5 \mu\text{m}$ DIN EN ISO 4042 A2K			
		charakteristische Streckgrenze	f_{yk}	[N/mm ²]	400
		charakteristische Zugfestigkeit	f_{uk}	[N/mm ²]	240
					
		1) screw with counter sunk cross head			
					
		2) screw with pan cross head			
					
		3) screw with washer and hexagonal head			
					
		4) screw with hexagonal head and connection thread			
5	clamping sleeve	steel acc. EN 10327 DX51D			
					
		5) clamping sleeve			
6	washer (optional) DIN-EN-ISO-887-7C	steel, zinc coated acc. DIN ISO 4042 A2K			
					
		6) washer			
7	con nut	steel acc. DIN 1651			
					
		7) con nut			

Toge metal frame anchor TU 10

Product description
parts and materials

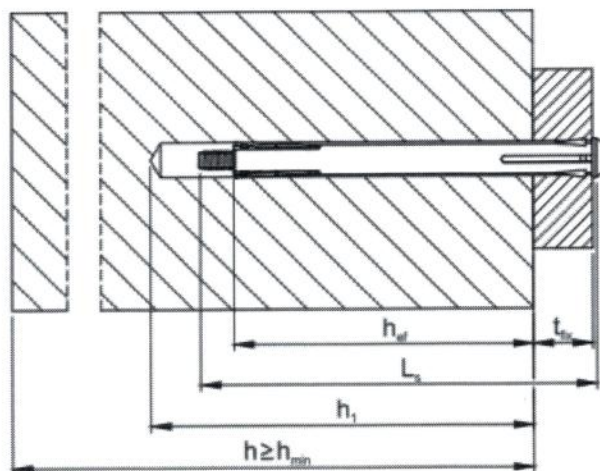
Annex A 2

Table B 1: Installation parameters

anchor identity			TU 10
nominal drill bit diameter	d_0	[mm]	10,0
cutting diameter opf drill bit	d_{cut}	\leq [mm]	10,45
depth of drill hole	h_1	\geq [mm]	55
effective anchorage depth	h_{ef}	\geq [mm]	40
diameter of clearing hole in the fixture	d_f	\geq [mm]	10
Installation torque	T_{inst}	[Nm]	8

Table B 2: Minimum thickness of member, minimum edge distance and minimum spacing

anchor identity			TU 10
minimum thickness of member	h_{min}	[mm]	100
minimum edge distance	c_{min}	[mm]	70
minimum spacing	s_{min}	[mm]	60

**Toge metal frame anchor TU 10****Intended use**

Installation parameters

Annex B 2

Table C 1: Characteristic values for design method A according to ETAG 001, Annex C or CEN TS 1992-4

anchor identity		TU 10	
steel failure for tension- and sear load			
characteristic load	$N_{Rk,s}$	[kN]	8,0
	$V_{Rk,s}$	[kN]	4,0
	$M^0_{Rk,s}$	[Nm]	6,1
Poll-out failure			
characteristic tension load in concrete C20/25	$N_{Rk,p}$	[kN]	6,0
concrete cone and splitting failure			
effective anchorage depth	h_{ef}	[mm]	44
factor for	cracked $k_{cr}^{1)}$	[-]	7,2
	non cracked $k_{ucr}^{1)}$	[-]	10,1
concrete cone failure	spacing $s_{cr,N}$	[mm]	$3 \times h_{ef}$
	edge distance $c_{cr,N}$	[mm]	$1,5 \times h_{ef}$
splitting failure	spacing $s_{cr,Sp}$		80
	edge distance $c_{cr,Sp}$		160
concrete pry out failure (pry-out)			
k-Factor	$k^{1)} = k_3^{2)}$	[-]	1,0
concrete edge failure			
effective length of anchor	$l_t = h_{ef}$	[mm]	40
outside diameter of anchor	d_{nom}	[mm]	10
installation safety factor	$\gamma_2^{1)} = \gamma_{Inst}^{2)}$	[-]	$1,0^{2)}$

¹⁾ Parameter relevant only for design according to CEN/TS 1992-4:2009

²⁾ Parameter relevant only for design according ETAG 001 Annex C

Toge metal frame anchor TU 10

Performances

Characteristic values for design method A

Annex C 1

Table C 2: Characteristic values of resistance under fire exposure

ancor identity				TU 10
fire resistance class				
R 30	characteristic resistance	$F_{Rk,fi30}$	[kN]	0,20
R 60	characteristic resistance	$F_{Rk,fi60}$	[kN]	0,18
R 90	characteristic resistance	$F_{Rk,fi90}$	[kN]	0,14
R 120	characteristic resistance	$F_{Rk,fi120}$	[kN]	0,10
R 30 bis R 120	spacing	$S_{cr,fi}$	[mm]	120
	edge distance	$c_{cr,fi}$		2 h_{ef}

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Performances

Characteristic values of resistance to fire exposure

Annex C 2