



**DECLARATION OF PERFORMANCE**  
**DoP no. 2873-03810/1 EN**

Version: 1

Print date: 04.01.2021

1. Unique identification code of the product-type: **TOX Bonded Anchor Contact Plus 7**
2. Intended use/es:

| Product                           | Intended use  |
|-----------------------------------|---|
| Metal anchors for use in concrete | For fixing and/or supporting to concrete, structural elements (which contributes to the stability of the construction works) or heavy units |

3. Manufacturer: **TOX-Dübel-Technik GmbH, Brunnenstraße 31, D-72505 Krauchenwies Ablach**
4. Authorised representative: --
5. System/s of AVCP: **1**

6. a) Harmonised standard: --  
Notified body/ies: --
6. b) European Assessment Document: **ETAG 001-Part 1 and part 5; April 2013**  
European Technical Assessment: **ETA 17/0616; 31.08.2017**  
Technical Assessment Body: **DIBt**  
Notified body/ies: **2873 - TU Darmstadt**

7. Declared performance/s:

**Mechanical resistance and stability (BWR1)**

| Essential characteristics                   | Performances |
|---|--------------|
| Characteristic resistance for tension loads | See Annex C1 |
| Characteristic resistance for shear loads   | See Annex C2 |
| Displacement under tension loads            | See Annex C1 |
| Displacement under shear loads              | See Annex C2 |

**Safety in case of fire (BWR 2)**

| Essential characteristics | Performances                              |
|---------------------------|---|
| Reaction to fire          | Anchors satisfy requirements for Class A1 |
| Resistance to fire        | No performance assessed                   |

8. Appropriate Technical Documentation and/or Specific Technical Documentation: --

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

i.A. Daniel Wilhelm (Applications Engineering)  
Krauchenwies-Ablach, 04.01.2021

**Table C1: Characteristic values of resistance under tension loads**

| anchor size   |             |      | M8   | M10 | M12 | M16 | M20 | M24 |
|---|-------------|------|------|-----|-----|-----|-----|-----|
| <b>Steel failure</b>  |             |      |      |     |     |     |     |     |
| Characteristic resistance,<br>Steel property class 5.8                            | $N_{Rk,s}$  | [kN] | 17   | 26  | 38  | 72  | 114 | 165 |
| Characteristic resistance,<br>Steel property class 70                             | $N_{Rk,s}$  | [kN] | 23   | 34  | 52  | 97  | 153 | 222 |
| <b>Combined pull-out and concrete cone failure</b>                                |             |      |      |     |     |     |     |     |
| Characteristic resistance in<br>non-cracked concrete 50/80°C<br>Standard Cleaning | $N_{Rk,p}$  | [kN] | 9    | 12  | 16  | 25  | 40  | 60  |
| Characteristic resistance in<br>non-cracked concrete 50/80°C<br>Premium Cleaning  | $N_{Rk,p}$  | [kN] | 12   | 16  | 25  | 35  | 60  | 75  |
| Increasing factors for<br>concrete $\psi_c$                                       | C 30/37     |      | 1,08 |     |     |     |     |     |
|   | C 40/50     |      | 1,15 |     |     |     |     |     |
|   | C 50/60     |      | 1,19 |     |     |     |     |     |
| <b>Splitting failure</b>  |             |      |      |     |     |     |     |     |
| edge distance   | $c_{cr,sp}$ | [mm] | 120  | 135 | 165 | 190 | 255 | 315 |
| spacing   | $s_{cr,sp}$ | [mm] | 240  | 270 | 330 | 380 | 510 | 630 |
| Installation safety factor in<br>dry and wet concrete                             | $\gamma_2$  | [-]  | 1,2  |     |     |     |     |     |
| Installation safety factor in<br>flooded holes                                    | $\gamma_2$  | [-]  | -    | 1,2 |     |     |     |     |

**Table C2: Displacements under tension loads**

| anchor size  |                    |      | M 8 | M 10 | M 12 | M 16 | M 20 | M 24 |
|--------------|--------------------|------|-----|------|------|------|------|------|
| Displacement | $\delta_{N0}$      | [mm] | 0,1 | 0,1  | 0,1  | 0,2  | 0,3  | 0,3  |
| Displacement | $\delta_{N\infty}$ | [mm] | 1,1 | 1,1  | 1,1  | 2,2  | 3,3  | 3,3  |

**TOX bonded anchor Contact Plus 7**

**Performances**

Characteristic values of resistance under tension loads  
Displacements under tension loads

**Annex C 1**

**Table C3: Characteristic values of resistance under shear loads**

| anchor size   |              |      | M8  | M10 | M12 | M16 | M20 | M24 |
|---|--------------|------|-----|-----|-----|-----|-----|-----|
| <b>Steel failure without lever arm</b>                              |              |      |     |     |     |     |     |     |
| Characteristic resistance,<br>Steel property class 5.8              | $V_{Rk,s}$   | [kN] | 8   | 13  | 19  | 36  | 57  | 83  |
| Characteristic resistance,<br>Steel property class 70               | $V_{Rk,s}$   | [kN] | 11  | 17  | 26  | 49  | 77  | 111 |
| <b>Steel failure with lever arm</b>                                 |              |      |     |     |     |     |     |     |
| Characteristic bending moment,<br>Steel property class 5.8          | $M^0_{Rk,s}$ | [Nm] | 16  | 30  | 56  | 144 | 285 | 498 |
| Characteristic bending moment,<br>Steel property class 70           | $M^0_{Rk,s}$ | [Nm] | 22  | 41  | 75  | 194 | 384 | 670 |
| <b>Concrete pry-out failure</b>                                     |              |      |     |     |     |     |     |     |
| Factor k in equation (5.6) of ETAG 001,<br>Annex C, section 5.2.3.3 |              |      | 2,0 |     |     |     |     |     |
| Installation safety factor  | $\gamma_2$   | [-]  | 1,0 |     |     |     |     |     |
| <b>Concrete edge failure</b>  |              |      |     |     |     |     |     |     |
| effective length of anchor in shear<br>loading                      | $l_f$        | [mm] | 80  | 90  | 110 | 125 | 170 | 210 |
| outside diameter of anchor  | $d_{nom}$    | [mm] | 10  | 12  | 14  | 18  | 25  | 28  |
| Installation safety factor  | $\gamma_2$   | [-]  | 1,0 |     |     |     |     |     |

**Table C4: Displacements under shear loads**

| anchor size  |                    |      | M 8 | M 10 | M 12 | M 16 | M 20 | M 24 |
|--------------|--------------------|------|-----|------|------|------|------|------|
| Displacement | $\delta_{V0}$      | [mm] | 1,5 | 1,6  | 1,8  | 2,0  | 2,5  | 3,0  |
| Displacement | $\delta_{V\infty}$ | [mm] | 2,3 | 2,4  | 2,7  | 3,0  | 3,8  | 4,5  |

**TOX bonded anchor Contact Plus 7**

**Performances**

Characteristic values of resistance under shear loads  
Displacements under shear loads

**Annex C 2**