



**DECLARATION OF PERFORMANCE NR:  
DOP fm753**

Version: V-1.2018

ACCORDING TO THE REGULATION (EU) No 574/2014 OF 21 FEBRUARY 2014r.

**1. Unique product type identification code:**

FM-753

**2. Intended use or uses of the construction product:**

Torque controlled expansion anchor of sizes M8, M10, M12 and M16 for use in concrete

**3. Manufacturer:**

Friulsider SpA via trieste,1 - 33048 San Giovanni al Natisone (UD) - Italy

**4. Authorized representative:**

Not applicable

**5. System of assessment and verification of constancy of performance:**

System 1 according Annex V Regulation No 305/2013 of the European Parliament and of the Council of 9 March 2011 (Construction Product Regulation - CPR)

**6. European Assessment Document:**

N/A

**European technical assessment:**

ETA-04/0014 dated 29.05.2017

**Technical Assessment Unit:**

Scientific and Technical Centre for Building nr 0679

**Notified body or bodies:**

0679,

CSTB - Centre Scientifique et Technique du Bâtiment

**7. Declared performance:**

Essential characteristic	Performance	European Technical Specification
Dimension	According to Annex A3 ETA 01/0014	ETA 01/0014
Characteristic values of tension resistance $N_{R,k}$ [ kN]	According to Annex C1 ETA 01/0014	
Characteristic values of shear resistance $V_{R,k}$ [ kN]	According to Annex C2 ETA 01/0014	

Table 1.

Declared Performances acc. to ETA-01/0014 - ETAG001 p.1 and 2 Design method ETAG001-Annex C or CEN/TS 1992-4								
ESSENTIAL CHARACTERISTICS			PERFORMANCE					
Installation parameters			M6 <sup>2)</sup>	M8	M10	M12	M14	M16
$d_0$	Nominal diameter of drill bit	[mm]	6	8	10	12	14	16
$h_{nom}$	Minimum installation depth	[mm]	41	48	59	71	80	96
$h_{ef}$	Effective anchorage depth	[mm]	35 <sup>2)</sup>	40	50	60	70	85
$h_{min}$	Minimum thickness of the concrete member	[mm]	100	100	100	120	140	170
$T_{inst}$	Nominal torque moment	[Nm]	6	15	25	50	70	100
$s_{min}$	Minimum spacing	[mm]	50	60	75	90	105	130
$c_{min}$	Minimum edge distance	[mm]	50	60	75	90	105	130
TENSION Steel failure			M6 <sup>2)</sup>	M8	M10	M12	M14	M16
$N_{Rk,s}$	Tension Steel characteristic failure	[kN]	10,9	17,2	28,0	31,6	51,2	72,3
$\alpha_{ms,N}^{1)}$	Partial safety factor for tension steel failure	[-]	1,5	1,4	1,4	1,4	1,5	1,5
Pull-out failure								
$N_{Rk,p,ucr}$	Tension characteristic load in un-cracked concrete C20/25	[kN]	6 <sup>2)</sup>	9	12	20	25	35
$\alpha_2$	Partial safety factor	[-]		1,2			1,0	
$\alpha_{mc}^{1)}$	Partial safety factor	[-]		1,8			1,5	
$\alpha_c C30/37$	Increasing factor for concrete C30/37	[-]		1,17			1,22	
$\alpha_c C40/50$	Increasing factor for concrete C40/50	[-]		1,32			1,41	
$\alpha_c C50/60$	Increasing factor for concrete C50/60	[-]		1,42			1,55	
Concrete cone failure and Splitting failure								
$K_{ucr}$	Factor for un-cracked concrete rif. CEN/TS 1992-4-4 §. 6.2.1. 4	[-]				10,1		
$s_{cr,N}$	Critical spacing	[mm]	105	120	150	180	210	255
$c_{cr,N}$	Critical edge distance	[mm]	53	60	75	90	105	130
$s_{cr,sp}$	Critical spacing (splitting)	[mm]	210	240	300	360	420	510
$c_{cr,sp}$	Critical edge distance (splitting)	[mm]	105	120	150	180	210	255
$\alpha_{mc} = \alpha_{msp}^{1)}$	Partial safety factor	[-]		1,8			1,5	
Displacement on Tension Load			M6 <sup>2)</sup>	M8	M10	M12	M14	M16
$N_{ucr}$	Service tension load in un-cracked concrete	[kN]	2,4	3,6	4,8	9,5	11,9	16,7
$\delta_{NO,ucr}$	Short term displacement under tension load	[mm]				0,1		
$\delta_{N\infty,ucr}$	Long term displacement under tension load	[mm]				1,6		
SHEAR Steel failure			M6	M8	M10	M12	M14	M16
$V_{Rk,s}$	Shear Steel characteristic failure	[kN]	6,0	9,1	14,8	18,4	32,1	42,3
$K_2$	Ductility factor acc.to CEN/TS 1992-4-5 Section § 6.3.2.1	[-]				0,8		
$M^0_{Rk,s}$	Bending Moment characteristic failure	[Nm]	12	24	49	68	121	193
$\alpha_{ms,V}^{1)}$	Partial safety factor for shear steel failure	[-]				1,5		
Shear Concrete Pry-out failure								
$k$	Factor equation (5.6) of ETAG, Annex C, § 5.2.3.3	[-]		1,0			2,0	
$k_3$	Factor equation (16) of CEN/TS 1992-4-4, § 6.2.2.3	[-]		1,0			2,0	
$\alpha_{mc}^{1)}$	Partial safety factor	[-]				1,5		
Shear Concrete Edge failure								
$l_{ef}$	Effective anchorage length	[mm]	35	40	50	60	70	85
$d_{nom}$	Nominal diameter of anchor	[mm]	6	8	10	12	14	16
$\alpha_{mc}^{1)}$	Partial safety factor	[-]				1,5		
Displacement on Shear Load			M6	M8	M10	M12	M14	M16
$V$	Service shear load in concrete	[kN]	2,9	4,3	7,0	8,8	15,3	20,1
$\delta_{V0}$	Short term displacement under shear load	[mm]	1,5	1,5	2,1	2,2	2,4	2,4
$\delta_{V\infty}$	Long term displacement under shear load	[mm]	1,9	2,0	2,6	2,7	3,0	3,0

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

<sup>2)</sup> Use restricted to anchoring of structural components statically indetermined.

**8. Relevant technical documentation or special technical documentation**

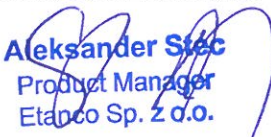
Not applicable

Performance properties of the product described above are compatible with the set of declared performance characteristics. This declaration of performance is issued in accordance with Regulation (EU) No 305/2011 under the sole responsibility of the manufacturer referred above

**On behalf of the producer signed:**

Aleksander Stec

in Ornetá, date 28.06.2018

  
**Aleksander Stec**  
Product Manager  
Etanco Sp. z o.o.