



Declaration of Performance nr.fm753

FM 753

Torque controlled expansion anchor wedge type made of galvanised steel

friulsider

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Intended use or uses of the construction product according to ETAG 001 p.1 and 2

Generic type	torque controlled expansion anchor wedge type
Base material	un-cracked concrete C20/25 to C50/60 acc. to EN 206-1:2003
Material	steel zinc coated acc. to EN ISO 4042 (cl. 5.8 min. for acc. to EN ISO 898-1)
Durability	internal dry conditions
Loading	static and quasi-static
Fire Resistance	NPD
Fire Reaction	A1 according to EN 13501-1
ETA-01/0014 issued by	CSTB approval body nr.0679
On the basis of	ETAG001 p.1-2
Certificate of Conformity 0679-CPD-0016 issued by	CSTB notify body nr.0679
Under System	1

Declared performances according to ETAG 001 p.1 and 2 - Design method ETAG001 Annex C

Essential Characteristics			Performance					
Installation parameters			M6 ²⁾	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 ²⁾	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 mode								
N _{Rk,s}	Tension Steel characteristic failure	[kN]	10,9	17,2	28,0	31,6	51,2	72,3
γ _{m,sN} ¹⁾	Partial safety factor for tension steel failure	[-]	1,5	1,4	1,4	1,4	1,5	1,5
Pull-out failure mode								
N _{Rk,p,ucr}	Tension characteristic load in un-cracked concrete C20/25	[kN]	6 ²⁾	9	12	20	25	35
γ ₂	Partial safety factor	[-]	1,2			1,0		
γ _{m,c} ¹⁾	Partial safety factor	[-]	1,8			1,5		
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
ψ _c C30/37	Increasing factor for concrete C30/37	[-]	1,17			1,22		
ψ _c C40/50	Increasing factor for concrete C40/50	[-]	1,32			1,41		
ψ _c C50/60	Increasing factor for concrete C50/60	[-]	1,42			1,55		
Splitting failure mode								
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
γ _{m,c} ¹⁾	Partial safety factor	[-]	1,8			1,5		
Displacement on Tension Load								
N _{ucr}	Service tension load in un-cracked concrete	[kN]	2,4	3,6	4,8	9,5	11,9	16,7
δ _{N0,ucr}	Short term displacement under tension load	[mm]	0,1	0,1	0,1	0,1	0,1	0,1
δ _{N∞,ucr}	Long term displacement under tension load	[mm]	0,6	0,6	0,6	0,6	0,6	0,6
Shear Steel failure mode			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
M ⁰ _{Rk,s}	Bending Moment characteristic failure	[Nm]	12	24	49	68	121	193
γ _{m,sV} ¹⁾	Partial safety factor for shear steel failure	[-]	1,5					
Shear Concrete Pry-out or Edge failure mode								
k	Factor equation (5.6) of ETAG, Annex C, § 5.2.3.3	[-]	1,0			2,0		
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
γ _m ¹⁾	Partial safety factor (γ _{m,c} =γ _{m,pr})	[-]	1,5					
Displacement on Shear Load								
V	Service shear load in concrete	[kN]	2,9	4,3	7,0	8,8	15,3	20,1
δ _{V0}	Short term displacement under shear load	[mm]	1,5	1,5	2,1	2,2	2,4	2,4
δ _{V∞}	Long term displacement under shear load	[mm]	1,9	2,0	2,6	2,7	3,0	3,0

¹⁾ In absence of other national regulations; ²⁾ Use restricted to anchoring of structural components statically indetermined.

We inform you that Friulsider is classified in the EC 1907/2006 Reach Directive as a Downstream-user of substances.
The product supplied does not contain substances classified as SVHC according to the Candidate List in a concentration equal or greater than 0.1% (weight / weight). Article 31 is not applicable to the present product.

The below performances apply for the following article numbers:

d	L ³⁾ [mm]	t _{fix} ⁴⁾ [mm]	Marking	ID	Cod.
M6	65	15	FM-L 6/15	B	75320b06065
	85	35	FM-L 6/35	C	75320b06085
	100	50	FM-L 6/50	D	75320b06100
M8	65	7	FM-L 8/7	B	75320b08065
	75	15	FM-L 8/15	C	75320b08075
	90	30	FM-L 8/30	D	75320b08090
	115	55	FM-L 8/55	E	75320b08115
	135	75	FM-L 8/75	F	75320b08135
	165	105	FM-L 8/105	G	75320b08165
M10	75	5	FM-L 10/5	B	75320b10075
	90	20	FM-L 10/20	C	75320b10090
	100	30	FM-L 10/30	I	75320b10100
	120	50	FM-L 10/50	D	75320b10120
	145	75	FM-L 10/75	E	75320b10145
	170	100	FM-L 10/100	F	75320b10170
M12	100	10	FM-L 12/10	B	75320b12100
	110	20	FM-L 12/20	C	75320b12110
	135	45	FM-L 12/45	D	75320b12135
	160	70	FM-L 12/70	E	75320b12160
	185	100	FM-L 12/100	F	75320b12185
M14	100	3	FM-L 14/3	A	75320b14100
	110	10	FM-L 14/10	B	75320b14110
	130	30	FM-L 14/30	C	75320b14130
	150	50	FM-L 14/50	D	75320b14150
	170	70	FM-L 14/70	E	75320b14170
	200	100	FM-L 14/100	F	75320b14200
M16	125	10	FM-S 16/10	A	75320b16125
	145	30	FM-S 16/30	B	75320b16145
	175	60	FM-S 16/60	C	75320b16175
	215	100	FM-S 16/100	D	75320b16215

³⁾ Length of anchor; ⁴⁾ Thickness fixture max.

The performances of the product identified by the above identification code are in conformity with the declared performance.

This declaration of performance is issued under the sole responsibility of Friulsider SpA.

Signed for and behalf of the manufacturer by:

Name and functions	Place and date of issue	Signature
Eng. Vittorio Pilla General Director	San Giovanni al Natisone, 01-07-2013	