

Declaration of Performance
DoP THRUMAXX-en

1. Product type: THRUMAXX anchor

2. Identification:

Product code with DIN 125 washer	Length [mm]	Metric	Outer diameter [mm]	Fixture thickness [mm]	
				h_{ef} standar	h_{ef} reduced
30551.060.LLL	3 last digits of product code	M6	6	L-58	--
30551.080.LLL		M8	8	L-70	L-57
30551.100.LLL		M10	10	L-80	L-67
30551.120.LLL		M12	12	L-92	L-77
30551.140.LLL		M14	14	L-108	--
30551.160.LLL		M16	16	L-123	--
30551.200.LLL		M20	20	L-147	--

3. Intended use: Generic type: Torque controlled anchor sleeve type
 Base material: Concrete C20/25 to C50/60 according to EN 206-1.
 Material: Made of steel, zinc plated ISO 4042 A2K
 Durability: Internal dry conditions
 Loading: Static, quasi static loads
 Assumed working life: 50 years

4. Manufacturer: Fabory Nederland B.V.
 Zevenheuvelenweg 44, 5048 AN Tilburg
 Postbus 5050, 5004 EB Tilburg (THE NETHERLANDS)

5. Authorised representative: No applicable

6. System of assessment of performance: 1

7. Harmonised standard: No applicable

8. European technical assessment : Tech. assessment body: IETcc: Instituto Eduardo Torroja de ciencias de la construcción.
 Notified body 1219.
 issued: ETA 11/0378
 on the basis of: ETAG 001, parts 1, 2.
 performed: Determination of product type, initial inspection of the manufacturing plant and continuous surveillance of FPC.
 under system: 1
 and issued: CE certificate 1219-CPR-0043

9. Declared performances:

Essential characteristics for standard embedment depth			Performance							Technical specification
			M6	M8	M10	M12	M14	M16	M20	
Installation parameters										ETAG001 p1/2
d_o	Nominal diameter of drill bit:	[mm]	6	8	10	12	14	16	20	
h_{ef}	Effective standard embedment depth:	[mm]	40	48	55	65	75	84	103	
d_f	Fixture clearance hole diameter:	[mm]	7	9	12	14	16	18	22	
T_{inst}	Nominal installation torque:	[Nm]	7	20	35	60	90	120	240	
h_1	Depth of drilled hole:	[mm]	55	65	75	85	100	110	135	
h_{nom}	Minimum installation depth:	[mm]	49.5	59.5	66.5	77	91	103.5	125	
h_{min}	Min. thickness of concrete member:	[mm]	100	100	110	130	150	168	206	
s_{min}	Minimum spacing:	[mm]	50	65	70	85	100	110	135	
c_{min}	Minimum edge distance:	[mm]	50	65	70	85	100	110	135	
Tension load: steel failure										ETAG001 p1/2
$N_{Rk,s}$	Tension steel character. resistance:	[kN]	7.7	16.4	25.6	35.4	51.7	65.0	104.4	
γ_{Ms}	Partial safety factor:	[-]	1.40	1.40	1.40	1.43	1.43	1.43	1.47	
Tension load: concrete cone or splitting failure in concrete										ETAG001 p1/2
$N_{Rk,p}$	Tension characteristic resistance in concrete C20/25:	[kN]	No decisive	12	16	25	30	35	50	
γ_{Mp}	Partial safety factor ¹⁾	[-]	--	1.5	1.8	1.8	1.8	1.8	1.8	
ψ_c	C30/37	[-]	1.22	1.22	1.22	1.22	1.22	1.22	1.22	
ψ_c	C40/50	[-]	1.41	1.41	1.41	1.41	1.41	1.41	1.41	
ψ_c	C50/60	[-]	1.55	1.55	1.55	1.55	1.55	1.55	1.55	
Tension load: concrete cone or splitting failure in concrete										ETAG001 p1/2
$s_{cr,N}$	Critical spacing:	[mm]	120	144	165	195	225	252	309	
$s_{cr,sp}$	Critical spacing (splitting):	[mm]	160	192	220	260	300	336	412	
$c_{cr,N}$	Critical edge distance:	[mm]	60	72	83	98	113	126	155	
$c_{cr,sp}$	Critical edge distance (splitting):	[mm]	80	95	110	130	150	168	206	
γ_{Mc}	Partial safety factor ¹⁾	[-]	1.5	1.5	1.8	1.8	1.8	1.8	1.8	
Displacements under tension loads										ETAG001 p1/2
N	Tension service load	[kN]	2.8	5.0	6.0	9.3	10.7	16.0	17.0	
δ_{N0}	Displacements under tension loads	[mm]	0.70	1.12	1.07	1.32	1.82	2.38	3.56	
$\delta_{N\infty}$	Displacements under tension loads	[mm]	1.47	2.34	2.24	2.77	3.82	4.99	7.47	
Shear load: steel failure										ETAG001 p1/2
$V_{Rk,s}$	Shear steel characteristic resistance:	[kN]	5.1	9.3	14.7	20.6	28.1	38.4	56.3	
$M_{Rk,s}^0$	Characteristic bending moment::	[Nm]	7.7	19.1	38.1	64.1	102.2	163.1	298.5	
γ_{Ms}	Partial safety factor:	[-]	1.25	1.25	1.25	1.25	1.25	1.25	1.25	
Shear load: concrete pryout failure										ETAG001 p1/2
K	K factor:	[-]	1	1	1	2	2	2	2	
γ_{Mpr}	Partial safety factor:	[-]	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Shear load: concrete edge failure										ETAG001 p1/2
l_f	Effective anchorage depth under shear loads:	[mm]	40	48	55	65	75	84	103	
d_{nom}	Outside anchor diameter:	[mm]	6	8	10	12	14	16	20	
γ_{Mc}	Partial safety factor:	[-]	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Displacements under shear loads										ETAG001 p1/2
V	Service shear load:	[kN]	2.9	5.3	8.4	11.8	16.0	21.9	32.1	
δ_{V0}	Short term displacement under shear loads:	[mm]	0.65	2.80	1.75	2.45	2.78	3.53	4.13	
$\delta_{V\infty}$	Long term displacement under shear loads:	[mm]	0.98	4.20	2.63	3.68	4.16	5.29	6.19	

1) In absence of other national regulations

Essential characteristics for reduced embedment depth			Performance							Technical specification
			M6	M8 ²⁾	M10	M12	M14	M16	M20	
Installation parameters										ETAG001 p1/2
d _o	Nominal diameter of drill bit:	[mm]	---	8	10	12	--	--	--	
h _{ef}	Effective reduced embedment depth:	[mm]	--	35	42	50	--	--	--	
d _f	Fixture clearance hole diameter:	[mm]	--	9	12	14	--	--	--	
T _{inst}	Nominal installation torque:	[Nm]	--	20	35	60	--	--	--	
h ₁	Depth of drilled hole:	[mm]	--	50	60	70	--	--	--	
h _{nom}	Minimum installation depth:	[mm]	--	46.5	53.5	62	--	--	--	
h _{min}	Min. thickness of concrete member:	[mm]	--	100	100	100	--	--	--	
s _{min}	Minimum spacing:	[mm]	--	65	70	85	--	--	--	
c _{min}	Minimum edge distance:	[mm]	--	65	70	85	--	--	--	
Tension load: steel failure										ETAG001 p1/2
N _{Rk,s}	Tension steel character. resistance:	[kN]	--	16.4	25.6	35.4	--	--	--	
γ _{Ms}	Partial safety factor:	[-]	--	1.40	1.40	1.43	--	--	--	
Tension load: concrete cone or splitting failure in concrete										ETAG001 p1/2
N _{Rk,p}	Tension characteristic resistance in concrete C20/25:	[kN]	--	9	12	16	--	--	--	
γ _{Mp}	Partial safety factor: ¹⁾	[-]	--	1.5	1.5	1.5	--	--	--	
ψ _c	C30/37	[-]	--	1.22	1.22	1.22	--	--	--	
ψ _c	C40/50	[-]	--	1.41	1.41	1.41	--	--	--	
ψ _c	C50/60	[-]	--	1.55	1.55	1.55	--	--	--	
Tension load: concrete cone or splitting failure in concrete										ETAG001 p1/2
s _{cr,N}	Critical spacing:	[mm]	--	105	126	150	--	--	--	
s _{cr,sp}	Critical spacing (splitting):	[mm]	--	140	168	200	--	--	--	
c _{cr,N}	Critical edge distance:	[mm]	--	53	63	75	--	--	--	
c _{cr,sp}	Critical edge distance (splitting):	[mm]	--	70	84	100	--	--	--	
γ _{Mc}	Partial safety factor: ¹⁾	[-]	--	1.5	1.5	1.5	--	--	--	
Displacements under tension loads										ETAG001 p1/2
N	Tension service load	[kN]	--	4.2	5.7	7.6	--	--	--	
δ _{N0}	Displacements under tension loads	[mm]	--	0.20	0.13	0.06	--	--	--	
δ _{N∞}	Displacements under tension loads	[mm]	--	1.78	1.78	1.78	--	--	--	
Shear load: steel failure										ETAG001 p1/2
V _{Rk,s}	Shear steel characteristic resistance:	[kN]	--	9.3	14.7	20.6	--	--	--	
M ⁰ _{Rk,s}	Characteristic bending moment:	[Nm]	--	19.1	38.1	64.1	--	--	--	
γ _{Ms}	Partial safety factor:	[-]	--	1.25	1.25	1.25	--	--	--	
Shear load: concrete pryout failure										ETAG001 p1/2
K	K factor:	[-]	--	1	1	1	--	--	--	
γ _{Mpr}	Partial safety factor:	[-]	--	1.5	1.5	1.5	--	--	--	
Shear load: concrete edge failure										ETAG001 p1/2
l _f	Effective anchorage depth under shear loads:	[mm]	--	35	42	50	--	--	--	
d _{nom}	Outside anchor diameter:	[mm]	--	8	10	12	--	--	--	
γ _{Mc}	Partial safety factor:	[-]	--	1.5	1.5	1.5	--	--	--	
Displacements under shear loads										ETAG001 p1/2
V	Service shear load:	[kN]	--	5.3	8.4	11.8	--	--	--	
δ _{V0}	Short term displacement under shear loads:	[mm]	--	0.59	1.22	1.10	--	--	--	
δ _{V∞}	Long term displacement under shear loads:	[mm]	--	0.89	1.83	1.65	--	--	--	

1) In absence of other national regulations

2) Use restricted to anchoring of structural components which are statically indeterminate

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 on behalf of the manufacturer by:



Jan van Ranst, Manager Quality & Technology
Tilburg, 03-03-2015