

**Declaration of Performances**  
DoP MTHA4-en



1. Product type: MTHA4 anchor

2. Identification:

Product code	Metric	Length L [mm]	Outer diameter [mm]	Fixture thickness [mm]	
				$h_{ef}$ standard	$h_{ef}$ reduced
MIA406LLL	M6	3 last digits of product code	6	L-58	--
MIA408LLL	M8		8	L-70	L-57
MIA410LLL	M10		10	L-80	L-67
MIA412LLL	M12		12	L-92	L-77
MIA416LLL	M16		16	L-123	--
MIA420LLL	M20		20	L-147	--

3. Intended use:

Generic type:	Torque controlled anchor sleeve type
Base material:	Non cracked concrete C20/25 to C50/60 according to EN 206-1.
Material:	Made of A4 stainless steel
Durability:	Dry internal conditions, external atmospheric exposure (including industrial and marine environment) or exposure in permanently damp internal conditions if no particular aggressive conditions exist.
Loading:	Static, quasi static loads
Fire resistance:	Not declared performance
Assumed working life:	50 years

4. Manufacturer: Index Fixing Systems. Técnicas Expansivas S.L.  
Segador, 13  
26006 Logroño, La Rioja, SPAIN

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 05/0242
on the basis of:	ETAG 001, parte 1, 2
performed:	Determination of product type, initial inspection of the manufacturing plant and continuous surveillance of FPC
under system:	1
and issued:	Certificate CE 1219-CPR-0006

9. Declared performances:

Essential characteristics for standard embedment depth			Performance						Technical specification
			M6	M8	M10	M12	M16	M20	
<b>Installation parameters</b>									ETAG001 p1/2
$d_o$	Nominal diameter of drill bit:	[mm]	6	8	10	12	16	20	
$h_{ef}$	Effective standard embedment depth:	[mm]	40	48	55	65	84	103	
$d_f$	Fixture clearance hole diameter:	[mm]	7	9	12	14	18	22	
$T_{inst}$	Nominal installation torque:	[Nm]	7	20	35	60	120	240	
$h_1$	Depth of drilled hole:	[mm]	55	65	75	85	110	135	
$h_{nom}$	Minimum installation depth:	[mm]	49.5	59.5	66.5	77	103.5	125	
$h_{min}$	Minimum thickness of concrete member:	[mm]	100	100	110	130	168	206	
$s_{min}$	Minimum spacing:	[mm]	50	65	70	85	110	135	
$c_{min}$	Minimum edge distance:	[mm]	50	65	70	85	110	135	
<b>Tension load: steel failure</b>									ETAG001 p1/2
$N_{Rk,s}$	Tension steel characteristic resistance:	[kN]	10.1	19.1	34.3	49.6	85.9	140.7	
$\gamma_{Ms}$	Partial safety factor:	[-]	1.68	1.68	1.68	1.68	1.68	1.68	
<b>Tension load: concrete cone or splitting failure in concrete</b>									ETAG001 p1/2
$N_{Rk,p}$	Tension characteristic resistance in concrete C20/25:	[kN]	No decisive	12	16	25	35	50	
$\gamma_{Mp}$	Partial safety factor: <sup>1)</sup>	[-]	--	1.5	1.8	1.8	1.8	1.8	
$\psi_c$	C30/37	[-]	1.22	1.22	1.22	1.22	1.22	1.22	
$\psi_c$	C40/50	[-]	1.41	1.41	1.41	1.41	1.41	1.41	
$\psi_c$	C50/60	[-]	1.55	1.55	1.55	1.55	1.55	1.55	
<b>Tension load: concrete cone or splitting failure in concrete</b>									ETAG001 p1/2
$s_{cr,N}$	Critical spacing:	[mm]	120	144	165	195	252	309	
$s_{cr,sp}$	Critical spacing (splitting):	[mm]	160	192	220	260	336	412	
$c_{cr,N}$	Critical edge distance:	[mm]	60	72	83	98	126	155	
$c_{cr,sp}$	Critical edge distance (splitting):	[mm]	80	95	110	130	168	206	
$\gamma_{Mc}$	Partial safety factor: <sup>1)</sup>	[-]	1.5	1.5	1.8	1.8	1.8	1.8	
<b>Displacements under tension loads</b>									ETAG001 p1/2
$N$	Displacements under tension loads	[kN]	4.3	5.7	6.3	9.9	13.8	19.8	
$\delta_{N0}$	Displacements under tension loads	[mm]	0.42	0.22	0.17	0.19	0.19	0.11	
$\delta_{N\infty}$	Displacements under tension loads	[mm]	1.33	1.33	1.33	1.33	1.33	1.33	
<b>Shear load: steel failure</b>									ETAG001 p1/2
$V_{Rk,s}$	Shear steel characteristic resistance:	[kN]	6.0	10.9	17.4	25.2	47.1	73.5	
$M^0_{Rk,s}$	Characteristic bending moment:	[Nm]	9.2	22.5	44.9	78.6	200	389	
$\gamma_{Ms}$	Partial safety factor:	[-]	1.52	1.52	1.52	1.52	1.52	1.52	
<b>Shear load: concrete pryout failure</b>									ETAG001 p1/2
$K$	K factor:	[-]	1	1	1	2	2	2	
$\gamma_{Mpr}$	Partial safety factor:	[-]	1.5	1.5	1.5	1.5	1.5	1.5	
<b>Shear load: concrete edge failure</b>									ETAG001 p1/2
$l_f$	Effective anchorage depth under shear loads:	[mm]	40	48	55	65	84	103	
$d_{nom}$	Outside anchor diameter:	[mm]	6	8	10	12	16	20	
$\gamma_{Mc}$	Partial safety factor:	[-]1.5	1.5	1.5	1.5	1.5	1.5	1.5	
<b>Displacements under shear loads</b>									ETAG001 p1/2
$V$	Service shear load:	[kN]	2.8	5.1	8.1	11.8	22.1	34.5	
$\delta_{V0}$	Short term displacement under shear loads:	[mm]	1.66	1.79	3.83	4.13	5.75	6.59	
$\delta_{V\infty}$	Long term displacement under shear loads:	[mm]	2.49	2.68	5.74	6.19	8.62	9.88	

1) In absence of other national regulations

Essential characteristics for reduced embedment depth			Prestaciones						Technical specification
			M6	M8 <sup>2)</sup>	M10	M12	M16	M20	
<b>Installation parameters</b>									ETAG001 p1/2
d <sub>o</sub>	Nominal diameter of drill bit:	[mm]	---	8	10	12	--	--	
h <sub>ef</sub>	Effective reduced embedment depth:	[mm]	--	35	42	50	--	--	
d <sub>f</sub>	Fixture clearance hole diameter:	[mm]	--	9	12	14	--	--	
T <sub>inst</sub>	Nominal installation torque:	[Nm]	--	20	35	60	--	--	
h <sub>1</sub>	Depth of drilled hole:	[mm]	--	50	60	70	--	--	
h <sub>nom</sub>	Minimum installation depth:	[mm]	--	46.5	53.5	62	--	--	
h <sub>min</sub>	Minimum thickness of concrete member:	[mm]	--	100	100	100	--	--	
s <sub>min</sub>	Minimum spacing:	[mm]	--	65	70	85	--	--	
c <sub>min</sub>	Minimum edge distance:	[mm]	--	65	70	85	--	--	
<b>Tension load: steel failure</b>									ETAG001 p1/2
N <sub>Rk,s</sub>	Tension steel characteristic resistance:	[kN]	--	19.1	34.3	49.6	--	--	
γ <sub>Ms</sub>	Partial safety factor:	[-]	--	1.68	1.68	1.68	--	--	
<b>Tension load: concrete cone or splitting failure in concrete</b>									ETAG001 p1/2
N <sub>Rk,p</sub>	Tension characteristic resistance in concrete C20/25:	[kN]	--	9	12	16	--	--	
γ <sub>Mp</sub>	Partial safety factor: <sup>1)</sup>	[-]	--	1.8	1.8	1.8	--	--	
ψ <sub>c</sub>	C30/37	[-]	--	1.22	1.22	1.22	--	--	
ψ <sub>c</sub>	C40/50	[-]	--	1.41	1.41	1.41	--	--	
ψ <sub>c</sub>	C50/60	[-]	--	1.55	1.55	1.55	--	--	
<b>Tension load: concrete cone or splitting failure in concrete</b>									ETAG001 p1/2
s <sub>cr,N</sub>	Critical spacing:	[mm]	--	105	126	150	--	--	
s <sub>cr,sp</sub>	Critical spacing (splitting):	[mm]	--	140	168	200	--	--	
c <sub>cr,N</sub>	Critical edge distance:	[mm]	--	53	63	75	--	--	
c <sub>cr,sp</sub>	Critical edge distance (splitting):	[mm]	--	70	84	100	--	--	
γ <sub>Mc</sub>	Partial safety factor: <sup>1)</sup>	[-]	--	1.8	1.8	1.8	--	--	
<b>Displacements under tension loads</b>									ETAG001 p1/2
N	Tension service load	[kN]	--	4.2	5.7	7.6	--	--	
δ <sub>N0</sub>	Displacements under tension loads	[mm]	--	0.07	0.04	0.32	--	--	
δ <sub>N∞</sub>	Displacements under tension loads	[mm]	--	0.60	0.680	0.60	--	--	
<b>Shear load: steel failure</b>									ETAG001 p1/2
V <sub>Rk,s</sub>	Shear steel characteristic resistance:	[kN]	--	10.9	17.4	25.2	--	--	
M <sup>0</sup> <sub>Rk,s</sub>	Characteristic bending moment:	[Nm]	--	22.5	44.9	78.6	--	--	
γ <sub>Ms</sub>	Partial safety factor:	[-]	--	1.52	1.52	1.52	--	--	
<b>Shear load: concrete pryout failure</b>									ETAG001 p1/2
K	K factor:	[-]	--	1	1	1	--	--	
γ <sub>Mpr</sub>	Partial safety factor:	[-]	--	1.5	1.5	1.5	--	--	
<b>Shear load: concrete edge failure</b>									ETAG001 p1/2
l <sub>f</sub>	Effective anchorage depth under shear loads:	[mm]	--	35	42	50	--	--	
d <sub>nom</sub>	Outside anchor diameter:	[mm]	--	8	10	12	--	--	
γ <sub>Mc</sub>	Partial safety factor:	[-]	--	1.5	1.5	1.5	--	--	
<b>Displacements under shear loads</b>									ETAG001 p1/2
V	Service shear load:	[kN]	--	5.3	8.1	11.8	--	--	
δ <sub>V0</sub>	Short term displacement under shear loads:	[mm]	--	0.60	3.83	4.13	--	--	
δ <sub>V∞</sub>	Long term displacement under shear loads:	[mm]	--	0.90	5.74	6.19	--	--	

1) 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:



Santiago Reig. Technical manager  
Logroño, 24.11.2014