



TLA SM Anti-seismic anchor cl. C1- C2

APPLICATION

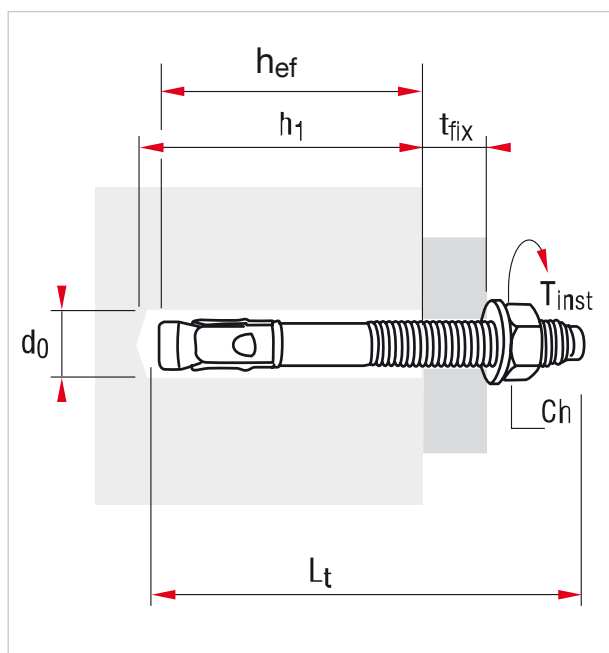
It is used in seismic zones for installations on concrete.

FEATURES AND BENEFITS

- > High performing anchor ranked **C1-C2 seismic class**, according to EAD 330232-00-0601.
- > It is approved for installations on **concrete and cracked concrete**.
- > It is also approved for **fire resistance**, but only with standard inserting depth, according to TR020 R30-R120 regulations.
- > Provided with **Shock Approval** by the Swiss Federal Office.



EAD 330232-00-0601
Cat.C1-C2



COD	TYPE	Lt (mm)	hef (mm)	d0 x h1 (mm)	Tfix (mm)	Tinst (Nm)	Ch
130162	TLA SM 8x80	80	46/35	8x60/8x49	15/26	20	13
130164	TLA SM 8x95	95	46/35	8x60/8x49	30/41	20	13
130172	TLA SM 10x90	90	60/40	10x75/10x55	10/30	25	17
130174	TLA SM 10x110	110	60/40	10x75/10x55	30/50	25	17
130182	TLA SM 12x105	105	70/50	12x90/12x70	10/30	45	19
130184	TLA SM 12x125	125	70/50	12x90/12x70	30/50	45	19

h1 = Minimal hole depth / **Lt** = Plug length / **d0** = Hole diameter / **tfix** = Fixable thickness / **tinst** = Tightening torque / **hef** = Anchoring depth / **Ch** = Wrench



MATERIALS TECHNICAL DATA

MATERIAL

Zinc plated steel 8.8 EN ISO 898-1:2013, provided with stainless steel washer AISI 304 EN ISO 10088

RECOMMENDED LOADS COMPLIANT WITH FM

			M8	M10	M12
Nominal diameter	d ₀	mm	8	10	12
Tightening torque	T _{inst}	Nm	20	25	45
Wrench size	SW	mm	13	17	19
Standard inserting depth	h _{nom}	mm	46	60	70
Min. concrete thickness	h _{min}	mm	100	120	140
Hole depth	h ₁	mm	60	75	90
Hole diameter of the item to be fixed	d _f	mm	9	12	14

Performance according to EAD 330232-00-0601

			M8	M10	M12
Steel breaking point					
Tension	N _{Rk,s}	kN	16	27	40
Safety coefficient	Y _{Ms}		1,53	1,53	1,5
Shear	V _{Rk,s}	kN	12,2	20,1	30
Safety coefficient	Y _{Ms}		1,25	1,25	1,25
Bending moment	M ⁰ _{Rk,s}	Nm	23	47	82
Safety coefficient	Y _{Ms}		1,25	1,25	1,25
Tension (class C1)	N _{Rk,s, C1}	kN	16	27	40
Tension (class C2)	N _{Rk,s, C2}	kN	16	27	40
Safety coefficient	Y _{Ms, seis}		1,53	1,53	1,5
Shear (class C1)	V _{Rk, seis, C1}	kN	9,3	20	27
Shear (class C2)	V _{Rk, seis, C2}	kN	6,7	14	16,2
Safety coefficient	Y _{Ms, seis}		1,25	1,25	1,25
Pull-out breaking point					
Non-cracked C20/25 concrete characteristic resistance	N _{Rk,p,ucr}	kN	12	16	25
Cracked C20/25 concrete characteristic resistance	N _{Rk,p,cr}	kN	5	9	16
Characteristic resistance in seismic performance category C1	N _{Rk,seis,C1}	kN	5	9	16
Characteristic resistance in seismic performance category C2	N _{Rk,seis,C2}	kN	2,3	3,6	10,2
Breaking point by concrete cone and cracking					
Anchoring depth	h _{ef}	[mm]	46	60	70
	S _{cr,sp}	[mm]	138	180	210
	C _{cr,sp}	[mm]	69	90	105



**FIRE RESISTANCE BY STANDARD INSERTING DEPTH ON CRACKED AND NON-CRACKED CONCRETE
- FROM CLASS C20/25 UP TO CLASS C50/60**

				M8	M10	M12
Tension						
	R30	$N_{Rk,s,fi}$	kN	1,4	2,2	3,2
	R60	$N_{Rk,s,fi}$	kN	1,1	1,8	2,8
	R90	$N_{Rk,s,fi}$	kN	0,8	1,4	2,4
	R120	$N_{Rk,s,fi}$	kN	0,7	1,2	2,2
Shear						
	R30	$V_{Rk,s,fi}$	kN	1,6	2,6	3,8
	R60	$V_{Rk,s,fi}$	kN	1,5	2,5	3,6
	R90	$V_{Rk,s,fi}$	kN	1,2	2,1	3,5
	R120	$V_{Rk,s,fi}$	kN	1,0	2,0	3,4
Bending moment						
	R30	$M^0_{Rk,s,fi}$	Nm	1,7	3,3	5,9
	R60	$M^0_{Rk,s,fi}$	Nm	1,6	3,2	5,6
	R90	$M^0_{Rk,s,fi}$	Nm	1,2	2,7	5,4
	R120	$M^0_{Rk,s,fi}$	Nm	1,1	2,5	5,3

RECOMMENDATIONS FOR INSTALLATION

- > Choose an anchor with the right size, depending on the object that must be fixed.
- > Check payload values to guarantee grip performance.
- > Follow installation data.
- > Make sure the hole is properly clean before installing the item.
- > Whether the hole has been made in the wrong way: the new hole must be placed at the right distance from the discarded hole. Indeed, it should be placed far at least twice as much the depth of the previous hole. It can be placed closer as well, but only if the discarded hole has been filled with mortar, and whether no oblique tensile or shear loads act on the fixing.
- > After installation the anchor cannot be spinned or turned anymore.

INSTALLATION

The anchor passes through the object that must be fixed.

PACKAGING

In cardboard box

RELATED ITEMS

- > Anti-seismic fixing product range
- > G-Strut - Industrial fixing product range



**DATA 09-2020 REV. 00**

The current technical data sheet substitutes and cancels the previous ones. Information correspond with our current knowledge of the product. It cannot lead us to any sort of responsibility or compensation. Gia S.p.A. reserves the right of changing technical features and molds without notice.

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