

ripple **friulsider**

FM-MP3^{evo}

Heavy Duty Anchor-Three Segments

The Universal Metal Anchor for Concrete

The first and only **UNIVERSAL METALLIC** anchor.

Works correctly also on hollow base materials.



NEW ATTAINED CE EUROPEAN CERTIFICATIONS

- CE certification according to ETAG001 part 6: for use on cracked and non-cracked concrete.
- CE certification option 7 for Stainless steel A4: only anchor in its category.
- Certification for loads exposed to fire up to R120 (120 minutes).

SINGLE SHELL BODY

LONG version: the only through anchor composed of a steel monolithic body. Greater shear resistance. Greater stability of fixed piece.



CORRECT INSTALLATION IN CRITICAL CONDITIONS

Reduced edge and spacing distances than those of other anchors in its field

EXCLUSIVE CONE CONTAINING SYSTEM:

No risk of cone detachment even in demanding applications. Guaranteed antirotation also in presence of dust.



friulsider

since 1966

CERTIFICATION OF QUALITY MANAGEMENT SYSTEM

ISO 9001 Cert. n° 1085



CERTIFICATION OF ENVIRONMENTAL MANAGEMENT SYSTEM

ISO 14001 Cert. n° 0050A



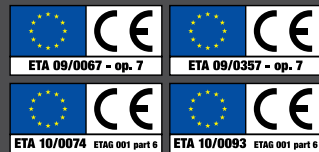
FM-MP3[®] evo

Heavy duty anchor - three segments

Versions Available

- White Zinc Plated FM - MP3 evo Anchor
- Stainless Steel FM - MP3 evo Anchor
- White Zinc Plated FM - MP3 evo LONG Anchor
- White Zinc Plated FM - MP3 evo SAFER Anchor

Heavy duty anchor - three segments



SINGLE SHELL BODY
Long version: the only through anchor composed of a steel monolithic body



EXCLUSIVE CONE CONTAINING SYSTEM:
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CORRECT INSTALLATION IN CRITICAL CONDITIONS
Reduced edge and spacing distances than those of other anchors in its field

Applications

- Hand Rails, Guard Rails
- Facade Brackets & Clamps
- Pipe Supports, Channels
- Warehousing Racks
- Elevators, Escalators
- Columns & Beams Fixing
- Consoles
- Cable Trays, Conduits
- Gates & Grills
- Mechanical Equipments
- Stadium Seat Fastening
- Steel & Wood Constructions

FM-MP3[®] evo



Anchor only



Hex head screw grade 8.8



Threaded bar grade 5.8



Forged cup hook



Forged eye

White zinc plated Code	Stainless steel A4 Code	Plug do x L mm	For screw	tfix mm	df mm	Pkg.	Outer box
73300b10045	73300010045	10x45	M6	Lv - hnom	8	50	500
73300b12050	73300012050	12x50	M8	Lv - hnom	10	50	500
73300b15060	73300015060	15x60	M10	Lv - hnom	12	25	250
73300b18080	73300018080	18x80	M12	Lv - hnom	14	20	200

White zinc plated Code	Stainless steel A4 Code	Plug do x L mm	d x Lv mm	tfix mm	df mm	sw	Pkg.	Outer box
73301b10045	73301010045	10x45	M6x50	5	8	10	50	500
73301b12050	73301012050	12x50	M8x60	10	10	13	50	500
73301b15060	73301015060	15x60	M10x80	20	12	17	25	250
73301b18080	73301018080	18x80	M12x100	20	14	19	20	100

White zinc plated Code	Plug do x L mm	d x Lv mm	tfix mm	df mm	sw	Pkg.	Outer box
73302b10045	10x45	M6x65	15	8	10	50	500
73302b12050	12x50	M8x75	15	10	13	50	500
73302b15060	15x60	M10x95	25	12	17	25	250
73302b18080	18x80	M12x115	25	14	19	20	100

White zinc plated Code	Plug do x L mm	d x Lv mm	0 mm	sw	Pkg.	Outer box
73303b10045	10x45	M6x50	9,5	10	50	500
73303b12050	12x50	M8x60	11	13	50	250
73303b15060	15x60	M10x73	14	17	25	125
73303b18080	18x80	M12x90	16	19	20	80

White zinc plated Code	Plug do x L mm	d x Lv mm	0 mm	sw	Pkg.	Outer box
73304b10045	10x45	M6x50	10	10	50	500
73304b12050	12x50	M8x60	11,5	13	50	250
73304b15060	15x60	M10x73	14,5	17	25	125
73304b18080	18x80	M12x90	17	19	20	80

FM-MP3[®] evo LONG



Hex head screw grade 8.8



Hex socket countersunk head screw grade 8.8



Anti-intrusion screw



Anti-intrusion nut

White zinc plated Code	Plug do x L mm	d x Lv mm	tfix mm	df mm	sw	Pkg.	Outer box
73310b10070	10x70	M6x70	25	12	10	50	500
73310b12075	12x75	M8x80	25	14	13	50	250
73310b15085	15x85	M10x90	25	17	17	25	125
73310b18105	18x105	M12x110	25	20	19	20	100

White zinc plated Code	Plug do x L mm	d x Lv mm	tfix mm	df mm	sw	Pkg.	Outer box
73311b10070	10x70	M6x75	30	12	5	50	500
73311b12075	12x75	M8x80	30	14	6	50	250
73311b15085	15x85	M10x90	30	17	8	25	125
73311b18105	18x105	M12x110	30	20	10	20	100

White zinc plated Code	Plug do x L mm	d x Lv mm	ØA mm	tfix mm	df mm	recess	Pkg.	Outer box
73312b12075	12x75	M8x80	17	25	13	T40	50	250

White zinc plated Code	Plug do x L mm	d x Lv mm	ØA mm	tfix mm	df mm	sw	Pkg.	Outer box
73313b12050	12x50	M8x60	17	5	13	17	50	500
73313b12075	12x75	M8x84	17	30	13	17	50	500

FEATURES

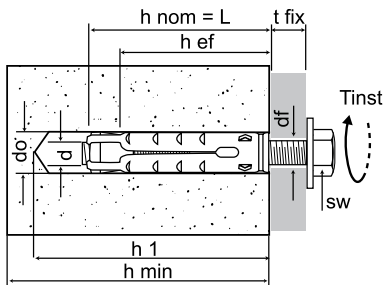
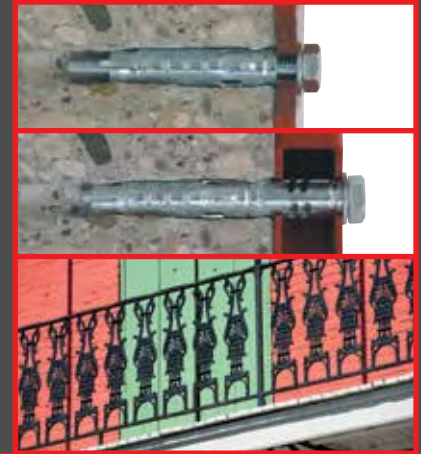
- Steel Monolithic Body
- Unique Cone containing System
- Three Segment Grips
- Correct installation in Critical Conditions
- F120 Certification
- CE Certified

ADVANTAGES

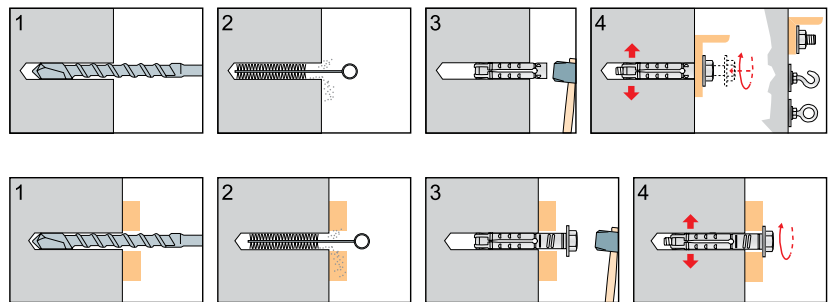
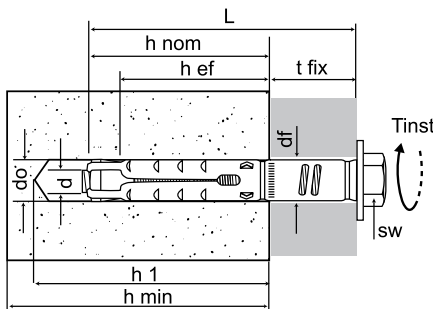
- Greater Shear Resistance
- No Risk of Cone Detachment
- Guaranteed Anti Rotation
- Reduced Edge & Spacing Distance
- Fire Resistant upto 120 minutes
- Guaranteed Safety

Base Materials

- Concrete
- Cell like Clay Brick
- Solid Stone
- Cracked Concrete
- Light Weight Honeycomb Brick
- Hollow Dense Aggregate Brick
- Solid Brick
- Hollow Light Aggregate Brick
- Honeycomb Brick



- d = Screw Diameter
- df = Hole Diameter of Fixing Element
- do = Hole Diameter
- h1 = Minimum Hole Depth
- hef = Minimum Depth of Anchorage
- hmin = Minimum Support Thickness
- hnom = Nominal Embedment Depth
- L = Anchor Length
- Lv = Screw or Accessory Length
- Ø = Internal Ø Hook or Eye
- sw = Wrench
- tfix = Fixture Thickness
- Tinst = Torque
- ØA = Cap Diameter



DESIGN⁽¹⁾ AND RECOMMENDED⁽²⁾ LOADS

Single anchor with large anchor spacing and edge distances in non-cracked concrete C20/25

Anchor		M6	M8	M10	M12	
Minimum support thickness	h_{min} mm	100	100	100	140	
Minimum hole depth	h_1 mm	60	70	80	100	
Nominal embedment depth	h_{nom} mm	45	50	60	80	
Minimum depth of anchorage	h_{ef} mm	36	43	50	69	
Hole diameter	d_0 mm	10	12	15	18	
Spacing	$S_{cr,N}$ mm	108	130	150	208	
Edge distance	$C_{cr,N}$ mm	54	65	75	104	
FM-MP3 [®] CE certified white zinc plated ETA 09/0067	Tensile non-cracked concrete	N_{rd} kN	5,0	8,0	11,9	16,7
	Shear $C \geq 10x_{ef}$	N kN	3,6	5,7	8,5	11,9
		V_{rd} kN	5,2	11,5	18,6	27,0
FM-MP3 [®] CE certified stainless steel A4 ETA 09/0357	Tensile non-cracked concrete	N_{rd} kN	3,3	6,7	8,9	13,9
	Shear $C \geq 10x_{ef}$	N kN	2,4	4,8	6,4	9,9
		V_{rd} kN	4,5	8,3	13,0	19,0
Minimum spacing	S_{min} mm	35	45	50	75	
Minimum edge distance	C_{min} mm	35	45	50	75	
Shear $C = C_{min}$	$V_{rd,cmin}$ kN	1,3	2,1	2,7	5,6	
	V_{cmin} kN	0,9	1,5	1,9	4,0	
	T_{inst} Nm	8	15	30	50	
EYE HOOK not certified ⁽³⁾	Tensile non-cracked concrete ⁽³⁾	N_{rd} kN	2,5	4,2	6,7	9,8
		N kN	1,8	3,0	4,8	7,0
		N_{rd} kN	0,6	1,1	1,7	2,7
CUP HOOK not certified ⁽³⁾	Tensile non-cracked concrete ⁽³⁾	N_{rd} kN	0,6	1,1	1,7	2,7
		N kN	0,4	0,8	1,2	1,9
		T_{inst} Nm	5	10	20	30

⁽¹⁾ The design loads N_{rd} and V_{rd} derive from the characteristic loads on the ETA certification and are inclusive of the partial safety factors γ_m proportional to each diameter (see ETA).

⁽²⁾ The recommended loads N and V derive from the characteristic loads on the ETA certification and are inclusive of the partial safety factors $\gamma_t=1.4$ and γ_m proportional to each diameter (see ETA).


























































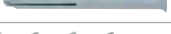


⁽³⁾ The recommended loads N derive from the mean ultimate loads and are inclusive of the total safety factor $\gamma=4$.

NOTE: ETA certifications available for multiple use ETAG001 part 6.

In the absence of CE markings, the recommended loads derive from tests carried out in the Friulsider laboratory in accordance with the appropriate standards.

The load values are only valid if the installation has been carried out correctly. The design engineer is responsible for the designing and calculation of the fixing.

Our Range of Products

ATS-evo		ETAG 001	ETA 10/0423 op.1		
FM-753® CRACK		ETAG 001	ETA 09/0056 op.1 ETA 10/0293 op.1		
FM-753®		ETAG 001	ETA 01/0014 op.7 ETA 01/0009 op.7 ETA 13/0367 op.7		
FM-744®		ETAG 001	ETA 05/0169 op.7		
FM-MP3®evo LONG		ETAG 001 ETAG 001 part 6	ETA 09/0067 op.7 ETA 10/0074		
KEM-UP EPOXY		ETAG 001 ETAG 001 TR 023	ETA 09/0061 op.1 ETA 12/0602 op.7 "Diamond" ETA 12/0542		
KEM-UP VINYLESTER		ETAG 001 ETAG 029 TR 023	ETA 08/0383 op.1 ETA 12/0543 ETA 12/0553		
KEM-UP POLYESTER		ETAG 001 ETAG 029	ETA 12/0608 op.7 ETA 12/0534		
FRP		ETAG 001	ETA 11/0155		
VF			EN 14592		
FM-X5®		ETAG 020	ETA 10/0425		
FM-TXT		ETAG 020	ETA 12/0388		
TSS / TBB / TPP		ETAG 014	ETA 10/0190		
DRILLNOX TH 6			ETA 10/0181		
DRILLNOX TH 12			ETA 10/0181		
ISODRILL TH DF		ETAG 006	ETA 08/0239		
ISODRILL TT		ETAG 006	ETA 08/0239		
APL / AFL			EN 14592		
SOLAR-V			EN 14592:2009		
TAP					
TUPP					
X1					

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