

Technical Sheet

**FRUL
SIDER**

**SIMPSON
StrongTie**

FM-MP3 evo A4

Heavy Duty Three Segments Through Anchor

The FM-MP3 evo A4 is an anchor made of A4 stainless steel, which is placed into a drilled hole and anchored by torque-controlled expansion.

Applications

Applications

- Safety barriers
- Fencing
- Railings

Suitable for

- Multiple use for non-structural applications on cracked and non-cracked concrete



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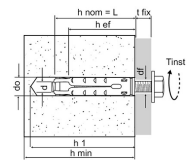
Datos técnicos

Material

- Steel
- White zinc plated

Benefits

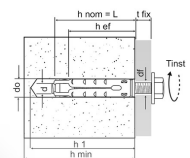
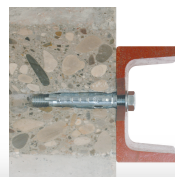
- Universal metallic anchor even for hollow base materials
- Single shell body with exclusive cone containing system
- Accessories for all types of fixing requirements
- Fire resistance R120



Product Dimensions - Anchor Only

Referencia	Dimensiones de las fijaciones metálicas							Datos de instalación			
	Dimensiones y Valores Característicos[mm]		Referencia	Otro				Datos de instalación			Separaciones y distancias al borde
	Ø anclaje x Longitud[mm]	For screw		Ø agujero [do] [mm]	Profundidad de anclaje mínima [hef].[mm]	Ø agujero pieza a fijar [df] [mm]	Ctd. por caja[stk]	Ctd por embalaje	Profundidad mínima de perforación [h1][mm]	Profundidad de anclaje nominal [hnom] [mm]	Par de montaje[Nm]
* Certified product when coupled with stainless steel A4-70 hex head screw DIN933 and stainless steel A4 washer DIN125-1 or ISO 7089.											

Product Dimensions - Hex Head Screw



Product Dimensions - Hex Head Screw

See full table online [→](#)



Referencia	Datos de instalación									
	Ø anclaje x Longitud[mm]	Hex head screw	de rosca [Lv]	de la pieza a fijar con prof. de anclaje	agujero [do]	de anclaje mínima	pieza a fijar	Ctd. por caja[stk]	Ctd por embalaje	Profundidad mínima de perforación

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Heavy Duty Three Segments Through Anchor

Recommended loads / for single anchors / with no edge distances or spacings - ETA-09/0067

Referencia	Dimensiones de las fijaciones metálicas	Metallic fixings loads								
	Referencia	Recommended loads - Non-cracked concrete								
		Bending moment M _{rec} [Nm]	Tracción - N _{rec} [kN]				Cizallamiento - V _{rec} [kN]			
			C20/25[kN]	C30/37[kN]	C40/50[kN]	C50/60[kN]	C20/25[kN]	C30/37[kN]	C40/50[kN]	C50/60[kN]

- The recommended loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s) and with a partial safety factor for actions of $\gamma_F=1.4$. The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing $s \geq 15$ cm (any diameter) or with a rebar spacing $s \geq 10$ cm, if the rebar diameter is 10 mm or smaller.
- The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges ($c \leq \max [10 \text{ hef}; 60d]$) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
- Concrete is considered non-cracked when the tensile stress within the concrete is $\sigma_L + \sigma_R \leq 0$. In the absence of detailed verification $\sigma_R = 3 \text{ N/mm}^2$ can be assumed (σ_L equals the tensile stress within the concrete induced by external loads, anchors loads included).

Design capacities - single anchor - no edge distances

Referencia	Dimensiones de las fijaciones metálicas	Metallic fixings loads								
	Referencia	Capacidad de cálculo - hormigón no fisurado (3)[kN]								
		Momento de flexión - M _{rd} [Nm]	Tracción - NRd (1)				Cizallamiento - VRd (1-2)[kN]			
			C20/25[kN]	C30/37[kN]	C40/50[kN]	C50/60[kN]	C20/25[kN]	C30/37[kN]	C40/50[kN]	C50/60[kN]
7330101205000	FM-MP3 evo A4	24	6.7	-	-	-	7.7	-	-	-
7330101506000	FM-MP3 evo A4	48	8.9	-	-	-	9.7	-	-	-
7330101808000	FM-MP3 evo A4	84	13.9	-	-	-	18.6	-	-	-

- The design loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s). The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing $s \geq 15$ cm (any diameter) or with a rebar spacing $s \geq 10$ cm, if the rebar diameter is 10mm or smaller.
- The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges ($c \leq \max [10 \text{ hef}; 60d]$) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
- Concrete is considered non-cracked when the tensile stress within the concrete is $\sigma_L + \sigma_R \leq 0$. In the absence of detailed verification $\sigma_R = 3 \text{ N/mm}^2$ can be assumed (σ_L equals the tensile stress within the concrete induced by external loads, anchors loads included).

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Heavy Duty Three Segments Through Anchor

Recommended loads / for single anchors / with no edge distances or spacings - ETA-10/0074

Referencia	Dimensiones de las fijaciones metálicas	Metallic fixings loads
	Referencia	Recommended loads for single anchor with no edge distances or spacings - ETA-10/0074
		Design capacity - cracked and Non-cracked concrete
		Tension and Shear - F_{reC} [kN] - C20/25-C50/60

1. The recommended loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s) and with a partial safety factor for actions of $\gamma_F=1.4$. The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing $s \geq 15$ cm (any diameter) or with a rebar spacing $s \geq 10$ cm, if the rebar diameter is 10 mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges ($c \leq \max [10 \text{ hef}; 60d]$) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is $\sigma_L + \sigma_R \leq 0$. In the absence of detailed verification $\sigma_R = 3 \text{ N/mm}^2$ can be assumed (σ_L equals the tensile stress within the concrete induced by external loads, anchors loads included).

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Instalación

Installation data

Referencia	Dimensiones de las fijaciones metálicas	Datos de instalación					
	Referencia	Datos de instalación					Separaciones y distancias al borde
		Ø agujero de perforación[mm]	Profundidad mínima de perforación[mm]	Ø soporte de perforación[mm]	Par de montaje[Nm]	Profundidad de incrustación[mm]	Espesor mín. [tmini] piezas a fijar[mm]
7330101205000	FM-MP3 evo A4	12	70	10	15	43	100
7330101506000	FM-MP3 evo A4	15	80	12	30	50	100
7330101808000	FM-MP3 evo A4	18	100	14	50	69	140
** Not covered by CE certification							

Spacings and edge distances - ETA-09/0067

Referencia	Dimensiones de las fijaciones metálicas	Datos de instalación			
	Referencia	Spacings and edge distances - Mutiple support			
		Distancia mínima al borde[mm]	Min. spacing[mm]	Distancia característica al borde[mm]	Separación característica (5) - Scr,N[mm]

Spacings and edge distances - ETA-10/0074

Referencia	Dimensiones de las fijaciones metálicas	Datos de instalación			
	Referencia	Spacings and edge distances - Mutiple support			
		Separación característica (5) - Scr,N[mm]	Distancia característica al borde[mm]	Distancia mínima al borde[mm]	Min. spacing[mm]

