

Technical data sheet

SIMPSON

Strong-Tie

FM-MP3 evo

Heavy Duty Three Segments Through Anchor

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

Features

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

Applications

Applications

- Safety barriers
- Fencing
- Railings

Suitable for

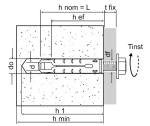
- Multiple use for non-structural applications on cracked and non-cracked concrete



FM-MP3 evo Heavy Duty Three Segments Through Anchor

Technical Data

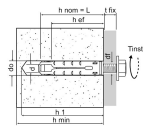
Product Dimensions Anchor Only



References	Product Reference	Dimensions [ØxL] [mm]	Max. fixture thickness [t _{fix}] [mm]	Hole diameter [d _o] [mm]	Min. hole depth [h ₁] [mm]	Nominal embedment depth [h _{nom}] [mm]	Min. setting depth [h _{ef}] [mm]	Hole diameter in fixing element [d _f] [mm]	Min. fixture thickness [h _{min}] [mm]	Torque [T _{inst}] [Nm]	Qty per box
73300B1004500	FM-MP3 evo	M6x45*	-	10	60	45	36	8	100	8	50
73300B1205000		M8x50*	-	12	70	50	43	10	100	15	50
73300B1506000		M10x60*	-	15	80	60	50	12	100	30	25
73300B1808000		M12x80*	-	18	100	80	69	14	140	50	20

*Certified product when coupled with hex head screw DIN933 grade 8.8 and washer DIN125-1 (t_{fix} = L_v - h_{nom})

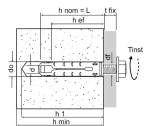
Product Dimensions Hex Head Screw



References	Product Reference	Dimensions [ØxL] [mm]	Max. fixture thickness [t _{fix}] [mm]	Hole diameter [d _o] [mm]	Min. hole depth [h ₁] [mm]	Nominal embedment depth [h _{nom}] [mm]	Min. setting depth [h _{ef}] [mm]	Hole diameter in fixing element [d _f] [mm]	Min. fixture thickness [h _{min}] [mm]	Thread length [L _v] [mm]	Torque [T _{inst}] [Nm]
73301B1004500	FM-MP3 evo	M6x45	5	10	60	45	36	8	100	50	
73301B1205000		M8x50	10	12	70	50	43	10	100	60	
73301B1506000		M10x60	20	15	80	60	50	12	100	80	
73301B1808000		M12x80	20	18	100	80	69	14	140	100	

** Not covered by CE certification

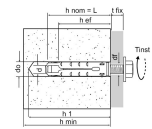
Product Dimensions Hex Head Screw Large Washer



References	Product Reference	Dimensions [ØxL] [mm]	Max. fixture thickness [t _{fix}] [mm]	Hole diameter [d _o] [mm]	Min. hole depth [h ₁] [mm]	Nominal embedment depth [h _{nom}] [mm]	Min. setting depth [h _{ef}] [mm]	Hole diameter in fixing element [d _f] [mm]	Min. fixture thickness [h _{min}] [mm]	Thread length [L _v] [mm]	Torque [T _{inst}] [Nm]
73307B1004500	FM-MP3 evo	M6x45**	5	10	60	45	36	8	100	50	
73307B1205000		M8x50**	10	12	70	50	43	10	100	60	
73307B1506000		M10x60**	20	15	80	60	50	12	100	80	
73307B1808000		M12x80**	20	18	100	80	69	14	140	100	

**Not covered by CE certification

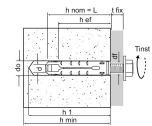
FM-MP3 evo Heavy Duty Three Segments Through Anchor



Product Dimensions Threaded Bar

References	Product Reference	Dimensions [ØxL] [mm]	Max. fixture thickness [t _{fix}] [mm]	Hole diameter [d _o] [mm]	Min. hole depth [h ₁] [mm]	Nominal embedment depth [h _{nom}] [mm]	Min. setting depth [h _{ef}] [mm]	Hole diameter in fixing element [d _f] [mm]	Min. fixture thickness [h _{min}] [mm]	Thread length [L _v] [mm]	Int Ø [mm]
73302B1004500	FM-MP3 evo	M6x45**	15	10	60	45	36	8	100	65	6
73302B1205000		M8x50**	15	12	70	50	43	10	100	75	8
73302B1506000		M10x60**	25	15	80	60	50	12	100	95	10
73302B1808000		M12x80**	25	18	100	80	69	14	140	115	12

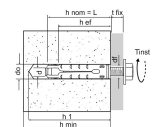
**Not covered by CE certification



Product Dimensions Forged Cup Hook

References	Product Reference	Dimensions [ØxL] [mm]	Max. fixture thickness [t _{fix}] [mm]	Hole diameter [d _o] [mm]	Min. hole depth [h ₁] [mm]	Nominal embedment depth [h _{nom}] [mm]	Min. setting depth [h _{ef}] [mm]	Hole diameter in fixing element [d _f] [mm]	Min. fixture thickness [h _{min}] [mm]	Thread length [L _v] [mm]	Int Ø [mm]
73303B1004500	FM-MP3 evo	M6x45**	-	10	60	45	36	-	100	50	6
73303B1205000		M8x50**	-	12	70	50	43	-	100	60	8
73303B1506000		M10x60**	-	15	80	60	50	-	100	73	10
73303B1808000		M12x80**	-	18	100	80	69	-	140	90	12

**Not covered by CE certification



Product Dimensions Forged Eye

References	Product Reference	Dimensions [ØxL] [mm]	Max. fixture thickness [t _{fix}] [mm]	Hole diameter [d _o] [mm]	Min. hole depth [h ₁] [mm]	Nominal embedment depth [h _{nom}] [mm]	Min. setting depth [h _{ef}] [mm]	Hole diameter in fixing element [d _f] [mm]	Min. fixture thickness [h _{min}] [mm]	Thread length [L _v] [mm]	Int Ø [mm]
73304B1004500	FM-MP3 evo	M6x45**	-	10	60	45	36	-	100	50	6
73304B1205000		M8x50**	-	12	70	50	43	-	100	60	8
73304B1506000		M10x60**	-	15	80	60	50	-	100	73	10
73304B1808000		M12x80**	-	18	100	80	69	-	140	90	12

**Not covered by CE certification

FM-MP3 evo
Heavy Duty Three Segments Through Anchor

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

References	Product Reference	Dimensions [ØxL] [mm]	Design capacity - Non-cracked concrete (3)								Bending moment MRd [Nm]
			Tension - N _{rec} (1)				Shear - V _{rec} (1-2)				
			C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
73300B1004500	FM-MP3 evo	M6x45*	3.6	4.4	5.1	5.6	3.7	3.7	3.7	3.7	7
73300B1205000	FM-MP3 evo	M8x50*	5.7	7	8	8.8	6.8	8.2	8.2	8.2	17
73300B1506000	FM-MP3 evo	M10x60*	8.3	10.4	12	13.2	8.5	10.3	12	13.2	34
73300B1808000	FM-MP3 evo	M12x80*	11.9	14.5	16.8	18.4	19.3	19.3	19.3	19.3	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).

* The above load values also apply to: evo S

FM-MP3 evo Heavy Duty Three Segments Through Anchor

Design capacities - single anchor - no edge distances

References	Product Reference	Dimensions [ØxL] [mm]	Design capacity - Non-cracked concrete (3)								Bending moment MRd [Nm]
			Tension - NRd (1)				Shear - VRd (1-2)				
			C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
73300B1004500	FM-MP3 evo	M6x45*	5	-	-	-	5.1	-	-	-	9.6
73300B1205000	FM-MP3 evo	M8x50*	8	-	-	-	9.3	-	-	-	24
73300B1506000	FM-MP3 evo	M10x60*	1.6	-	-	-	11.6	-	-	-	48
73300B1808000	FM-MP3 evo	M12x80*	16.7	-	-	-	27	-	-	-	84
73301B1004500	FM-MP3 evo	M6x45	5	-	-	-	5.1	-	-	-	9.6
73301B1205000	FM-MP3 evo	M8x50	8	-	-	-	9.3	-	-	-	24
73301B1506000	FM-MP3 evo	M10x60	11.6	-	-	-	11.6	-	-	-	48
73301B1808000	FM-MP3 evo	M12x80	16.7	-	-	-	27	-	-	-	84
73307B1004500	FM-MP3 evo	M6x45**	5	-	-	-	5.1	-	-	-	9.6
73307B1205000	FM-MP3 evo	M8x50**	8	-	-	-	9.3	-	-	-	24
73307B1506000	FM-MP3 evo	M10x60**	11.6	-	-	-	11.6	-	-	-	48
73307B1808000	FM-MP3 evo	M12x80**	16.7	-	-	-	27	-	-	-	84
73302B1004500	FM-MP3 evo	M6x45**	5	-	-	-	5.1	-	-	-	9.6
73302B1205000	FM-MP3 evo	M8x50**	8	-	-	-	9.3	-	-	-	24
73302B1506000	FM-MP3 evo	M10x60**	11.6	-	-	-	11.6	-	-	-	48
73302B1808000	FM-MP3 evo	M12x80**	16.7	-	-	-	27	-	-	-	84
73303B1004500	FM-MP3 evo	M6x45**	5	-	-	-	5.1	-	-	-	9.6
73303B1205000	FM-MP3 evo	M8x50**	8	-	-	-	9.3	-	-	-	24
73303B1506000	FM-MP3 evo	M10x60**	11.6	-	-	-	11.6	-	-	-	48
73303B1808000	FM-MP3 evo	M12x80**	16.7	-	-	-	27	-	-	-	84
73304B1004500	FM-MP3 evo	M6x45**	5	-	-	-	5.1	-	-	-	9.6
73304B1205000	FM-MP3 evo	M8x50**	8	-	-	-	9.3	-	-	-	24
73304B1506000	FM-MP3 evo	M10x60**	11.6	-	-	-	11.6	-	-	-	48
73304B1808000	FM-MP3 evo	M12x80**	16.7	-	-	-	27	-	-	-	84

1. 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.
 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).
- ** Not covered by CE certification

FM-MP3 evo
Heavy Duty Three Segments Through Anchor

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

References	Product Reference	Dimensions [ØxL] [mm]	Design capacity - cracked and Non-cracked concrete
			Tension and Shear - F_{rec} [kN] - C20/25-C50/60
73300B1004500	FM-MP3 evo	M6x45*	2.9
73300B1205000	FM-MP3 evo	M8x50*	5.7
73300B1506000	FM-MP3 evo	M10x60*	7.6
73300B1808000	FM-MP3 evo	M12x80*	9.5

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.

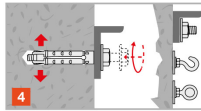
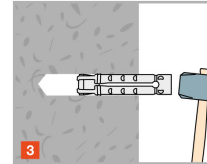
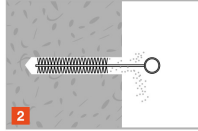
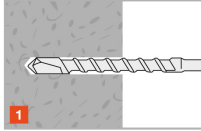
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges ($c \leq \max [10 \text{ hef}; 60d]$) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.

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).

* The above load values also apply to: evo S

FM-MP3 evo
Heavy Duty Three Segments Through Anchor

Installation



FM-MP3 evo Heavy Duty Three Segments Through Anchor

Installation data

References	Product Reference	Dimensions [ØxL] [mm]	Ø drilling hole [d0] [mm]	Min. drill depth [h1] [mm]	Ø drilling fixture [df] [mm]	Installation torque [Tinst] [Nm]	Embedment depth [hef] [mm]	Min. support thickness [hmin] [mm]
73300B1004500	FM-MP3 evo	M6x45*	10	60	8	8	36	100
73300B1205000	FM-MP3 evo	M8x50*	12	70	10	15	43	100
73300B1506000	FM-MP3 evo	M10x60*	15	80	12	30	50	100
73300B1808000	FM-MP3 evo	M12x80*	18	100	14	50	69	140
73301B1004500	FM-MP3 evo	M6x45	10	60	8	8	36	100
73301B1205000	FM-MP3 evo	M8x50	12	70	10	15	43	100
73301B1506000	FM-MP3 evo	M10x60	15	80	12	30	50	100
73301B1808000	FM-MP3 evo	M12x80	18	100	14	50	69	140
73307B1004500	FM-MP3 evo	M6x45**	10	60	8	8	36	100
73307B1205000	FM-MP3 evo	M8x50**	12	70	10	15	43	100
73307B1506000	FM-MP3 evo	M10x60**	15	80	12	30	50	100
73307B1808000	FM-MP3 evo	M12x80**	18	100	14	50	69	140
73302B1004500	FM-MP3 evo	M6x45**	10	60	8	8	36	100
73302B1205000	FM-MP3 evo	M8x50**	12	70	10	15	43	100
73302B1506000	FM-MP3 evo	M10x60**	15	80	12	30	50	100
73302B1808000	FM-MP3 evo	M12x80**	18	100	14	50	69	140
73303B1004500	FM-MP3 evo	M6x45**	10	60	-	5	36	100
73303B1205000	FM-MP3 evo	M8x50**	12	70	-	10	43	100
73303B1506000	FM-MP3 evo	M10x60**	15	80	-	20	50	100
73303B1808000	FM-MP3 evo	M12x80**	18	100	-	30	69	140
73304B1004500	FM-MP3 evo	M6x45**	10	60	-	5	36	100
73304B1205000	FM-MP3 evo	M8x50**	12	70	-	10	43	100
73304B1506000	FM-MP3 evo	M10x60**	15	80	-	20	50	100
73304B1808000	FM-MP3 evo	M12x80**	18	100	-	30	69	140

** Not covered by CE certification

FM-MP3 evo Heavy Duty Three Segments Through Anchor

Spacings and edge distances - ETA-09/0067

References	Product Reference	Dimensions [ØxL] [mm]	Min. edge distance [cmin] [mm]	Min. spacing [smin] [mm]	Characteristic edge distance [ccr,N] [mm]	Characteristic spacing(5) - Scr,N [scr,N] [mm]
73300B1004500	FM-MP3 evo	M6x45*	35	35	54	108
73300B1205000	FM-MP3 evo	M8x50*	45	45	65	130
73300B1506000	FM-MP3 evo	M10x60*	50	50	75	150
73300B1808000	FM-MP3 evo	M12x80*	75	75	104	208

* The above table values also apply to: evo S

Spacings and edge distances - ETA-10/0074

References	Product Reference	Dimensions [ØxL] [mm]	Characteristic spacing(5) - Scr,N [scr,N] [mm]	Characteristic edge distance [ccr,N] [mm]	Min. edge distance [cmin] [mm]	Min. spacing [smin] [mm]
73300B1004500	FM-MP3 evo	M6x45*	35	35	200	100
73300B1205000	FM-MP3 evo	M8x50*	45	45	200	130
73300B1506000	FM-MP3 evo	M10x60*	50	50	200	150
73300B1808000	FM-MP3 evo	M12x80*	75	75	200	210

* The above table values also apply to: evo S

