

# Technical data sheet

**FRUL  
SIDER**

**SIMPSON  
StrongTie**

FM-MP3 evo LONG

**Long heavy-duty three segments through anchor**

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

## Features

### Material

**White zinc plated**

### Applications

### Benefits

- Non-cracked concrete
- Multiple use for non-structural applications on cracked and non-cracked concrete
- Fire resistance R120

### Applications

- Safety barriers
- Fencing
- Railings



**NEW**

**CE**

**EZ**



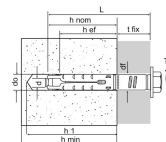
**FIX  
CALC**

FM-MP3 evo LONG  
**Long heavy-duty three segments through anchor**

## Technical Data

Product Dimension - Hex head screw grade 8.8

References	Product Reference	Plug [Ø x L]	Hex head screw [Ø x L]	Max. fixture thickness [t <sub>fix</sub> ] [mm]	Hole diameter [d <sub>o</sub> ] [mm]	Min. hole depth [h <sub>1</sub> ] [mm]	Nominal embedment depth [h <sub>nom</sub> ] [mm]	Min. setting depth [h <sub>ef</sub> ] [mm]	Hole diameter in fixing element [d <sub>f</sub> ] [mm]	Min. fixture thickness [h <sub>min</sub> ] [mm]	Threa length [mm]
73310B1007000	FM-MP3 evo LONG	10x70	M6x70	25	10	60	45	36	12	100	70
73310B1207500		12x75	M8x80	25	12	70	50	43	14	100	80
73310B1508500		15x85	M10x90	25	15	80	60	50	17	100	90
73310B1810500		18x105	M12x110	25	18	100	80	69	20	140	110



Product Dimension - Hex socket countersunk head screw grade 8.8

References	Product Reference	Plug [Ø x L]	Screw [Ø x L]	Max. fixture thickness [t <sub>fix</sub> ] [mm]	Hole diameter [d <sub>o</sub> ] [mm]	Min. hole depth [h <sub>1</sub> ] [mm]	Nominal embedment depth [h <sub>nom</sub> ] [mm]	Min. setting depth [h <sub>ef</sub> ] [mm]	Hole diameter in fixing element [d <sub>f</sub> ] [mm]	Min. fixture thickness [h <sub>min</sub> ] [mm]	Threa length [mm]
73311B1007000	FM-MP3 evo LONG	10x70	M6x75	30	10	60	45	36	12	100	75*
73311B1207500		12x75	M8x80	30	12	70	50	43	14	100	80*
73311B1508500		15x85	M10x90	30	15	80	60	50	17	100	90*
73311B1810500		18x105	M12x110	30	18	100	80	69	20	140	110*

\* Total screw length including the countersunk head.

## FM-MP3 evo LONG Long heavy-duty three segments through anchor

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

References	Product Reference	ETA-09/0067: Recommended load - Non-cracked concrete - single anchor - no edge or spacings								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]	
73310B1007000	FM-MP3 evo LONG	3.6	4.4	5.1	5.6	3.7	3.7	3.7	3.7	7
73310B1207500	FM-MP3 evo LONG	5.7	7	8	8.8	6.8	8.2	8.2	8.2	17
73310B1508500	FM-MP3 evo LONG	8.5	10.4	12	13.2	8.5	10.3	12	13.2	34
73310B1810500	FM-MP3 evo LONG	11.9	14.5	16.8	18.4	19.3	19.3	19.3	19.3	60
73311B1007000	FM-MP3 evo LONG	3.6	4.4	5.1	5.6	3.7	3.7	3.7	3.7	7
73311B1207500	FM-MP3 evo LONG	5.7	7	8	8.8	6.8	8.2	8.2	8.2	17
73311B1508500	FM-MP3 evo LONG	8.5	10.4	12	13.2	8.5	10.3	12	13.2	34
73311B1810500	FM-MP3 evo LONG	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 ( $\sigma_L$  equals the tensile stress within the concrete induced by external loads, anchors loads included).

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

References	Product Reference	ETA-10/074: Recommended load - Cracked and Non-cracked concrete - single anchor, no edge or spacings
		Tension / Shear $F_{zul}$ [kN] C20/25 - C50/60
73310B1007000	FM-MP3 evo LONG	2.9
73310B1207500	FM-MP3 evo LONG	5.7
73310B1508500	FM-MP3 evo LONG	7.6
73310B1810500	FM-MP3 evo LONG	9.5
73311B1007000	FM-MP3 evo LONG	2.9
73311B1207500	FM-MP3 evo LONG	5.7
73311B1508500	FM-MP3 evo LONG	7.6
73311B1810500	FM-MP3 evo LONG	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.

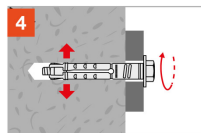
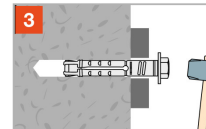
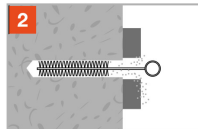
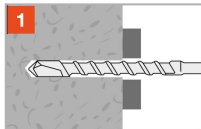
3. Concrete is considered non-cracked when the tensile stress within the concrete is  $\sigma_L + \sigma_R \leq 0$ . In the absence of detailed verification  $\sigma_R = 3 \text{ N/mm}^2$  can be assumed ( $\sigma_L$  equals the tensile stress within the concrete induced by external loads, anchors loads included).

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## Installation

Suitable for

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



Spacings and edge distances - ETA-09/0067

References	Product Reference	Characteristic spacing [scr,N] [mm]	Characteristic edge distance [ccr,N] [mm]	Min. edge distance [cmin] [mm]	Min. spacing [smin] [mm]
73310B1007000	FM-MP3 evo LONG	108	54	35	35
73310B1207500	FM-MP3 evo LONG	130	65	45	45
73310B1508500	FM-MP3 evo LONG	150	75	50	50
73310B1810500	FM-MP3 evo LONG	208	104	75	75
73311B1007000	FM-MP3 evo LONG	108	54	35	35
73311B1207500	FM-MP3 evo LONG	130	65	45	45
73311B1508500	FM-MP3 evo LONG	150	75	50	50
73311B1810500	FM-MP3 evo LONG	208	104	75	75

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spacings and edge distances - ETA-10/0074

References	Product Reference	Characteristic spacing [scr,N] [mm]	Characteristic edge distance [ccr,N] [mm]	Min. edge distance [cmin] [mm]	Min. spacing [smin] [mm]
73310B1007000	FM-MP3 evo LONG	35	35	200	100
73310B1207500	FM-MP3 evo LONG	45	45	200	130
73310B1508500	FM-MP3 evo LONG	50	50	200	150
73310B1810500	FM-MP3 evo LONG	75	75	280	210
73311B1007000	FM-MP3 evo LONG	35	35	200	100
73311B1207500	FM-MP3 evo LONG	45	45	200	130
73311B1508500	FM-MP3 evo LONG	50	50	200	150
73311B1810500	FM-MP3 evo LONG	75	75	280	210

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