

FM-MP3 evo

## Vrouwelijke metalen plug voor zware belasting optie 7

*De metalen plug FM-MP3 EVO met schroefexpansiehuls in 3 segmenten is geschikt voor het bevestigen van elementen voor het overbrengen van zware belastingen in een groot aantal ondergronden: gescheurd of ongescheurd beton, volle of holle ondergronden.*

### Kenmerken

#### Materiaal

- Elektrolytisch verzinkt staal.

#### Voordelen

- Universele metalen plug, ook geschikt voor hol metselwerk,
- Body uit één stuk, met een exclusief kegelhechtingssysteem,
- Brandwerendheid R120.

### Toepassingen

#### Toepassingsgebieden

- Borstweringen,
- Veiligheidsbarrières,
- Uitrustingen, diverse niet-structurele toepassingen.

#### Ondergrond

- Gescheurd beton,
- Ongescheurd beton,
- Vol metselwerk,
- Steen,
- Alveolaire baksteen (compatibiliteit te controleren).

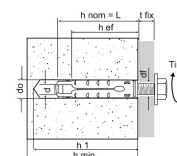


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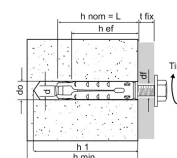
## Technische gegevens

Afmetingen



Referentie	Product Reference	Plug [Ø x L]	For screw	Hole diameter [d <sub>Ø</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]	Torque [T <sub>inst</sub> ] [Nm]	Qty per box	Qty per outer box
73300B1004500	FM-MP3 evo	10x45*	M6	10	60	45	36	8	100	8	50	500
73300B1205000		12x50*	M8	12	70	50	43	10	100	15	50	500
73300B1506000		15x60*	M10	15	80	60	50	12	100	30	25	250
73300B1808000		18x80*	M12	18	100	80	69	14	140	50	20	200

\* 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 grade 8.8

Referentie	Product Reference	Plug [Ø x L]	Hex head screw [Ø x L]	Max. fixture thickness [t <sub>fix</sub> ] [mm]	Hole diameter [d <sub>Ø</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]	Thread length [L <sub>v</sub> ] [mm]
73301B1004500	FM-MP3 evo	10x45	M6x50	5	10	60	45	36	8	100	50
73301B1205000		12x50	M8x60	10	12	70	50	43	10	100	60
73301B1506000		15x60	M10x80	20	15	80	60	50	12	100	80

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Design capacities - single anchor - no edge distances

Referentie	Product Reference	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	5	-	-	-	5.1	-	-	-	9.6
73300B1205000	FM-MP3 evo	8	-	-	-	9.3	-	-	-	24
73300B1506000	FM-MP3 evo	1.6	-	-	-	11.6	-	-	-	48
73300B1808000	FM-MP3 evo	16.7	-	-	-	27	-	-	-	84
73301B1004500	FM-MP3 evo	5	-	-	-	5.1	-	-	-	9.6
73301B1205000	FM-MP3 evo	8	-	-	-	9.3	-	-	-	24
73301B1506000	FM-MP3 evo	11.6	-	-	-	11.6	-	-	-	48

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.

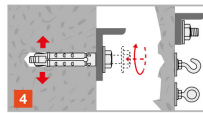
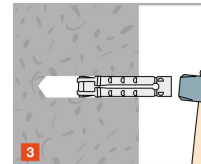
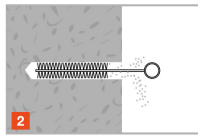
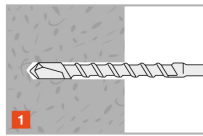
3. Concrete is considered non-cracked when the tensile stress within the concrete is  $\sigma_L + \sigma_R \leq 0$ . In the absence of detailed verification  $\sigma_R = 3 \text{ N/mm}^2$  can be assumed ( $\sigma_L$  equals the tensile stress within the concrete induced by external loads, anchors loads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

\*\* Not covered by CE certification

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## Plaatsing



## Installation data

Referentie	Product Reference	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	10	60	8	8	36	100
73300B1205000	FM-MP3 evo	12	70	10	15	43	100
73300B1506000	FM-MP3 evo	15	80	12	30	50	100
73300B1808000	FM-MP3 evo	18	100	14	50	69	140
73301B1004500	FM-MP3 evo	10	60	8	8	36	100
73301B1205000	FM-MP3 evo	12	70	10	15	43	100
73301B1506000	FM-MP3 evo	15	80	12	30	50	100

\*\* Not covered by CE certification

## Spacings and edge distances - ETA-09/0067

Referentie	Product Reference	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	35	35	54	108
73300B1205000	FM-MP3 evo	45	45	65	130
73300B1506000	FM-MP3 evo	50	50	75	150
73300B1808000	FM-MP3 evo	75	75	104	208

\* The above table values also apply to: evo S

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## Vrouwelijke metalen plug voor zware belasting optie 7

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