

# Multifunction frame plug MFR



## Advantages



SB TX, zinc plated / A4 / HD



SB SSKS, zinc plated / A4 / HD



FB SSKS, zinc plated / A4



- The multifunction frame plug MFR enables universal mounting of facade substructures as well as wood and metal parts in all common base materials
- The long expansion area and early expansion achieved by lateral bars ensure reliable and secure hold
- Approved by company Hörmann for fire protection doors in solid base materials
- MFR 8: setting depth 50 mm; MFR 10: setting depth 50 mm and 70 mm; MFR 14: setting depth 70 mm
- The flat rim version prevents contact corrosion
- Almost all lengths are pre-assembled
- Also suitable for precast pre-stressed concrete hollow core slabs
- Suitable for windows and door frames installations

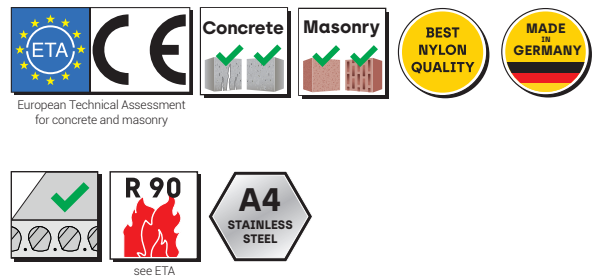
## Suitable building materials

### Very suitable

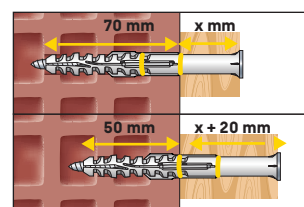
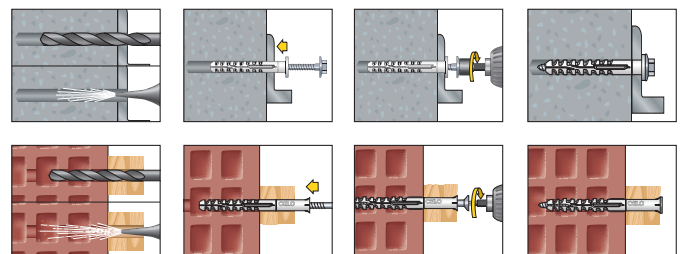


- Concrete
- Solid brick
- Solid sand-lime brick
- Precast pre-stressed hollow core slabs
- Aerated concrete
- Hollow brick
- Hollow sand-lime brick
- Lightweight hollow concrete blocks
- Natural stone
- Lightweight solid concrete blocks

## Approvals and certificates

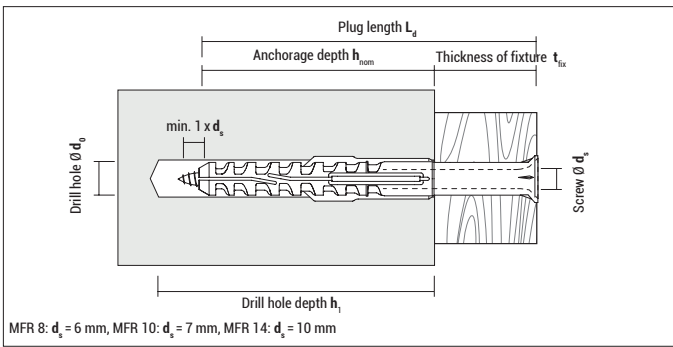


## Mounting



**MFR 10:**  
Now with two  
setting depths

### Multifunction frame plug MFR



#### MFR SB TX, zinc plated countersunk plug with countersunk screw

Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess	ETA	€ / 100 pcs	[pcs]	[pcs]
8-60	9860MFRST	8	60	50	60	10	TX 30	●		100	800
8-80	9880MFRST	8	60	50	80	30	TX 30	●		100	800
8-100	98100MFRST	8	60	50	100	50	TX 30	●		50	400
8-120	98120MFRST	8	60	50	120	70	TX 30	●		50	400
10-60 <sup>1)</sup>	91060MFRST	10	60	50	60	10	TX 40	●		50	400
10-80	91080MFRST	10	60 / 80	50 / 70	80	30 / 10	TX 40	●		50	400
10-100	910100MFRST	10	60 / 80	50 / 70	100	50 / 30	TX 40	●		50	400
10-115	910115MFRST	10	60 / 80	50 / 70	115	65 / 45	TX 40	●		50	400
10-135	910135MFRST	10	60 / 80	50 / 70	135	85 / 65	TX 40	●		50	400
10-160	910160MFRST	10	60 / 80	50 / 70	160	110 / 90	TX 40	●		50	400
10-200	910200MFRST50	10	60 / 80	50 / 70	200	150 / 130	TX 40	●		50	-
10-240	910240MFRST50	10	60 / 80	50 / 70	240	190 / 170	TX 40	●		50	-
10-280	910280MFRST50	10	60 / 80	50 / 70	280	230 / 210	TX 40	●		50	-
10-320	910320MFRST50	10	60 / 80	50 / 70	320	270 / 250	TX 40	●		50	-
14-80	91480MFRST	14	85	70	80	10	TX 50	●		25	200
14-110	914110MFRST	14	85	70	110	40	TX 50	●		25	200
14-140	914140MFRST	14	85	70	140	70	TX 50	●		25	200
14-170*	914170MFRST	14	85	70	170	100	TX 50	●		25	200
14-200*	914200MFRST	14	85	70	200	130	TX 50	●		25	200
14-230*	914230MFRST	14	85	70	230	160	TX 50	●		25	200
14-270*	914270MFRST	14	85	70	270	200	TX 50	●		25	-

\* not pre-assembled

<sup>1)</sup> expected to be available in October 2020



#### MFR SB TX, stainless steel A4 countersunk plug with countersunk screw



Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess	ETA	€ / 100 pcs	[pcs]	[pcs]
8-80 A4	9X880MFRST	8	60	50	80	30	TX 30	●		100	800
8-100 A4	9X8100MFRST	8	60	50	100	50	TX 30	●		50	400
10-80 A4	9X1080MFRST	10	60 / 80	50 / 70	80	30 / 10	TX 40	●		50	400
10-100 A4	9X10100MFRST	10	60 / 80	50 / 70	100	50 / 30	TX 40	●		50	400
10-115 A4	9X10115MFRST	10	60 / 80	50 / 70	115	65 / 45	TX 40	●		50	400
10-135 A4	9X10135MFRST	10	60 / 80	50 / 70	135	85 / 65	TX 40	●		50	400
10-160 A4	9X10160MFRST	10	60 / 80	50 / 70	160	110 / 90	TX 40	●		50	400
10-200 A4	9X10200MFRST	10	60 / 80	50 / 70	200	150 / 130	TX 40	●		50	-

## Multifunction frame plug MFR



**MFR SB TX, hot-dip galvanized** countersunk plug with countersunk screw

Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess	€ / 100 pcs	[pcs]	[pcs]
10-100 HD	9HD10100MFRST	10	60 / 80	50 / 70	100	50 / 30	TX 40		50	400
10-135 HD	9HD10135MFRST	10	60 / 80	50 / 70	135	85 / 65	TX 40		50	400
10-160 HD	9HD10160MFRST	10	60 / 80	50 / 70	160	110 / 90	TX 40		50	400

Hot-dip galvanized is not part of the ETA assessment



washer-Ø MFR 8: 17 mm; MFR 10: 19 mm; MFR 14: 22 mm

**MFR SB SSKS, zinc plated** countersunk plug, hex-head screw with integral washer

Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess		€ / 100 pcs	[pcs]	[pcs]
8-60	9860MFRSB	8	60	50	60	10	SW10/TX 30	●		100	800
8-80	9880MFRSB	8	60	50	80	30	SW10/TX 30	●		100	800
8-100	98100MFRSB	8	60	50	100	50	SW10/TX 30	●		50	400
8-120	98120MFRSB	8	60	50	120	70	SW10/TX 30	●		50	400
10-60 <sup>1)</sup>	91060MFRSB	10	60	50	60	10	SW13/TX 40	●		50	400
10-80	91080MFRSB	10	60 / 80	50 / 70	80	30 / 10	SW13/TX 40	●		50	400
10-100	910100MFRSB	10	60 / 80	50 / 70	100	50 / 30	SW13/TX 40	●		50	400
10-115	910115MFRSB	10	60 / 80	50 / 70	115	65 / 45	SW13/TX 40	●		50	400
10-135	910135MFRSB	10	60 / 80	50 / 70	135	85 / 65	SW13/TX 40	●		50	400
10-160	910160MFRSB	10	60 / 80	50 / 70	160	110 / 90	SW13/TX 40	●		50	400
10-200	910200MFRSB50	10	60 / 80	50 / 70	200	150 / 130	SW13/TX 40	●		50	-
10-240	910240MFRSB50	10	60 / 80	50 / 70	240	190 / 170	SW13/TX 40	●		50	-
14-80	91480MFRSB	14	85	70	80	10	SW17/TX 50	●		25	200
14-110	914110MFRSB	14	85	70	110	40	SW17/TX 50	●		25	200
14-140	914140MFRSB	14	85	70	140	70	SW17/TX 50	●		25	200
14-170*	914170MFRSB	14	85	70	170	100	SW17/TX 50	●		25	200
14-200*	914200MFRSB	14	85	70	200	130	SW17/TX 50	●		25	200
14-230*	914230MFRSB	14	85	70	230	160	SW17/TX 50	●		25	-
14-270*	914270MFRSB	14	85	70	270	200	SW17/TX 50	●		25	-

\* not pre-assembled

<sup>1)</sup> expected to be available in October 2020



washer-Ø MFR 10: 19 mm

**MFR SB SSKS, stainless steel A4** countersunk plug, hex-head screw with integral washer



Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess		€ / 100 pcs	[pcs]	[pcs]
10-80 A4	9X1080MFRSB	10	60 / 80	50 / 70	80	30 / 10	SW13/TX 40	●		50	400
10-100 A4	9X10100MFRSB	10	60 / 80	50 / 70	100	50 / 30	SW13/TX 40	●		50	400
10-115 A4	9X10115MFRSB	10	60 / 80	50 / 70	115	65 / 45	SW13/TX 40	●		50	400
10-135 A4	9X10135MFRSB	10	60 / 80	50 / 70	135	85 / 65	SW13/TX 40	●		50	400
10-160 A4	9X10160MFRSB	10	60 / 80	50 / 70	160	110 / 90	SW13/TX 40	●		50	400
10-200 A4	9X10200MFRSB	10	60 / 80	50 / 70	200	150 / 130	SW13/TX 40	●		50	-

**Multifunction frame plug MFR**



washer-Ø MFR 10: 19 mm

**MFR SB SSKS, hot-dip galvanized** countersunk plug, hex-head screw with integral washer

Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess	€ / 100 pcs	[pcs]	[pcs]
10-100 HD	9HD10100MFRSB	10	60 / 80	50 / 70	100	50 / 30	SW13/TX 40		50	400
10-135 HD	9HD10135MFRSB	10	60 / 80	50 / 70	135	85 / 65	SW13/TX 40		50	400
10-160 HD	9HD10160MFRSB	10	60 / 80	50 / 70	160	110 / 90	SW13/TX 40		50	400

Hot-dip galvanized is not part of the ETA assessment



washer-Ø MFR 8: 17 mm; MFR 10: 19 mm; MFR 14: 22 mm

**MFR FB SSKS, zinc plated** flat rim plug, hex-head screw with integral washer

Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess		€ / 100 pcs	[pcs]	[pcs]
8-60	9860MFRFB	8	60	50	60	10	SW10/TX 30	●		100	800
8-80	9880MFRFB	8	60	50	80	30	SW10/TX 30	●		100	800
10-60 <sup>1)</sup>	91060MFRFB	10	60	50	60	10	SW13/TX 40	●		50	400
10-80	91080MFRFB	10	60 / 80	50 / 70	80	30 / 10	SW13/TX 40	●		50	400
10-100	910100MFRFB	10	60 / 80	50 / 70	100	50 / 30	SW13/TX 40	●		50	400
14-80	91480MFRFB	14	85	70	80	10	SW17/TX 50	●		25	200
14-110	914110MFRFB	14	85	70	110	40	SW17/TX 50	●		25	200
14-140	914140MFRFB	14	85	70	140	70	SW17/TX 50	●		25	200

<sup>1)</sup> expected to be available in October 2020



washer-Ø MFR 10: 19 mm



**MFR FB SSKS, stainless steel A4** flat rim plug, hex-head screw with integral washer

Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess		€ / 100 pcs	[pcs]	[pcs]
10-80 A4	9X1080MFRFB	10	60 / 80	50 / 70	80	30 / 10	SW13/TX 40	●		50	400
10-100 A4	9X10100MFRFB	10	60 / 80	50 / 70	100	50 / 30	SW13/TX 40	●		50	400



**Single label, MFR SB TX, zinc plated**

countersunk plug with countersunk screw

Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess		€ / pc	[pcs]
10-80	11080MFRST	10	60 / 80	50 / 70	80	30 / 10	TX 40	●		50
10-100	110100MFRST	10	60 / 80	50 / 70	100	50 / 30	TX 40	●		50
10-115	110115MFRST	10	60 / 80	50 / 70	115	65 / 45	TX 40	●		50
10-135	110135MFRST	10	60 / 80	50 / 70	135	85 / 65	TX 40	●		50
10-160	110160MFRST	10	60 / 80	50 / 70	160	110 / 90	TX 40	●		50
10-200	110200MFRST	10	60 / 80	50 / 70	200	150 / 130	TX 40	●		50

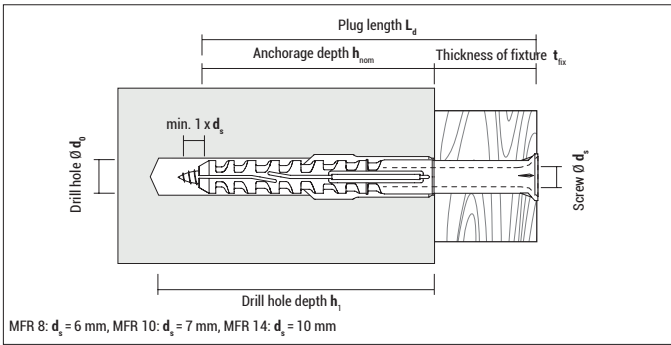


**Single label, MFR FB SSKS, zinc plated**

flat rim plug, hex-head screw with integral washer (washer-Ø MFR 10: 19 mm)

Type	Art-No	d <sub>0</sub> [mm]	h <sub>1</sub> ≥ [mm]	h <sub>nom</sub> ≥ [mm]	L <sub>d</sub> [mm]	t <sub>fix</sub> ≤ [mm]	Recess		€ / pc	[pcs]
10-80	11080MFRFB	10	60 / 80	50 / 70	80	30 / 10	SW13/TX40	●		50
10-100	110100MFRFB	10	60 / 80	50 / 70	100	50 / 30	SW13/TX40	●		50

### Multifunction frame plug MFR



### Loads MFR $F_{per}$

Type	Anchorage depth $h_{nom}$ [mm]	Concrete		Solid brick		Solid sand-lime brick		Hollow brick HLz 12 $F_{per}$ [kN]	Hollow sand-lime brick KSL 12 $F_{per}$ [kN]	Hollow concrete block Hbn 25 $F_{per}$ [kN]	Aerated concrete			Precast pre-stressed hollow core slabs C45/55 $N_{per}$ [kN]	Permissible bending moment for zinc plated screws $M_{per}$ [Nm]
		$\geq C16/20$ $N_{per}$ [kN]	$V_{per}$ [kN]	Mz 10 $F_{per}$ [kN]	Mz 20 $F_{per}$ [kN]	KS 10 $F_{per}$ [kN]	KS 20 $F_{per}$ [kN]				AAC2 $F_{per}$ [kN]	AAC4 $F_{per}$ [kN]	AAC6 $F_{per}$ [kN]		
MFR 8	50	0,99	3,31	0,26	0,43	0,57	0,86	0,14	0,21	0,34	–	–	–	1,39	5,03
MFR 10	50	0,99	4,86	0,71	1,00	0,71	1,14	0,34	0,43	0,71	–	–	–	–	8,74
MFR 10	70	1,59	4,86	0,57	0,86	0,57	0,86	0,21	0,26	0,21	0,14	0,43	0,71	0,48	8,74
MFR 14	70	1,79	8,69	0,86	1,29	0,86	1,29	0,21	0,34	–	0,11	0,43	0,71	–	20,97

Permissible load in all directions,  $N_{per}$  = permissible tension load,  $V_{per}$  = permissible shear load according to ETA assessment for zinc plated screws (For MFR with hot-dip galvanized screw: These values can be used as recommended loads)

Values apply to an average temperature range in the wall of max. + 24° C (temporarily + 40° C).

If the sustained average temperature is +50° C (temporarily +80° C) load capacities are reduced. In this case, refer to the assessment.

For further information regarding masonry (brick types and sizes) please refer to the assessment.

### Spacing and edge distance

Type	Anchorage depth $h_{nom}$ [mm]	Distances	Concrete $\geq C16/20$ [mm]	Solid brick Mz/ Solid brick KS		Hollow brick HLz/ Hollow sand-lime brick KSL		Aerated concrete					
				single plug [mm]	group of plugs [mm]	single plug [mm]	group of plugs [mm]	AAC2		AAC4		AAC6	
								single plug [mm]	group of plugs [mm]	single plug [mm]	group of plugs [mm]	single plug [mm]	group of plugs [mm]
MFR 8	50	Spacing $a / s_{2,min}$ parallel to edge	50	250	400	250	400	–	–	–	–	–	–
MFR 10	50		50	250	400	250	200	–	–	–	–	–	–
MFR 10	70		50	250	400	250	400	250	200	250	300	250	400
MFR 14	70		100	250	400	250	480*/400	250	200	250	300	250	400
MFR 8	50	Spacing $a / s_{1,min}$ perpendicular to edge	50	250	200	250	200	–	–	–	–	–	–
MFR 10	50		50	250	200	250	200	–	–	–	–	–	–
MFR 10	70		50	250	200	250	200	250	100	250	150	250	200
MFR 14	70		100	250	200	250	240*/200	250	100	250	150	250	200
MFR 8	50	Min. edge distance $C_{min}$	60	100	100	100	100	–	–	–	–	–	–
MFR 10	50		50	65	100	100	100	–	–	–	–	–	–
MFR 10	70		60	100	100	100	100	50	50	75	75	100	100
MFR 14	70		100	100	100	120*/100	120*/100	50	50	75	75	100	100
MFR 8	50	Min. thickness of structural part $h_{min}$	100					–	–	–	–	–	–
MFR 10	50		100	depending on brick format	depending on brick format			–	–	–	–	–	–
MFR 10	70		110					100	100	100	100	100	100
MFR 14	70		120					100	100	100	100	100	100

\* Value applies to HLz