



HMF PLASTIC ANCHOR





Technical Datasheet


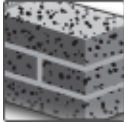
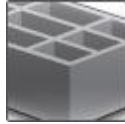
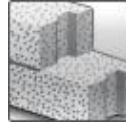

Update: Jan-23



HMF plastic anchor

Economical universal plastic anchor

Anchor version		Benefits
	HMF	- Flat setting - An anchor for every base material
	CS: Countersunk screw	- Suitable for fastening through in-place parts - Resists rotation in hole and premature expansion
	PH: Pan head screw	- High reliability and precise screw guidance, 360° expansion
	HH: Hexagonal head screw	

Base material				
				
Concrete (non-cracked)	Solid brick	Hollow brick	Autoclaved aerated concrete	Drywall

- Basic loading data**
- All data in this section applies to:**
- Correct setting (See setting instruction)
 - Load data are only valid for the specified screw types
 - No edge distance and spacing influence
 - Base material as specified in the table
 - Minimum base material thickness

Anchorage depth							
Anchor size		HMF 5x25	HMF 6x30	HMF 8x40	HMF 10x50	HMF 12x60	HMF 14x70
Nominal embedment depth	h_{nom} [mm]	25	30	40	50	60	70

Recommended loads ^{a)} for all load directions

Anchor size		HMF 5x25	HMF 6x30	HMF 8x40	HMF 10x50	HMF 12x60	HMF 14x70
Screw type ^{b)}		CS F PH 4	CS 4,5 PH 4,5	CS 5 PH 5 HH 5	CS 7 PH 7 HH 7	HH 8	HH 10
Non-cracked concrete \geq C16/20	F_{Rec} [kN]	0,25	0,30	0,40	1,00	1,40	1,40
Solid clay brick size: 230x110x60 strength: $f_{c,test} \geq 20$ [N/mm ²] density: 2000 [kg/m ³]	F_{Rec} [kN]	0,15	0,15	0,20	0,80	0,80	0,80
Autoclaved aerated concrete AAC2 size: 600x175x200 strength: 2 [N/mm ²] density: 390[kg/m ³]	F_{Rec} [kN]	0,02	0,04	0,05	0,10	0,15	0,15
Autoclaved aerated concrete AAC4 size: 625x250x250 strength: 4,0 [N/mm ²] density: 600 [kg/m ³]	F_{Rec} [kN]	0,04	0,06	0,10	0,18	0,18	0,22
Hollow clay brick type: Tramezza "Tavella" manufacturer: Fornace Tempora size: 200x250x30 strength: 25 [N/mm ²] density: 2000 [kg/m ³]	 F_{Rec} [kN]	0,10	0,10	0,20	0,20	N/A ^{c)}	0,35
Hollow clay brick type: "Doppio Uni" manufacturer: Fornace S. Antonio size: 120x120x240 strength: 20 [N/mm ²] density: 2000 [kg/m ³]	 F_{Rec} [kN]	0,10	0,10	0,15	0,25	0,45	0,45
Hollow clay brick type: Poroton "Blocchi portanti" manufacturer: Fornace S. Antonio size: 300x200x200 strength: 10 [N/mm ²] density: 2000 [kg/m ³]	 F_{Rec} [kN]	0,10	0,10	0,10	0,20	0,20	0,20
Hollow clay brick type: Pignata "Blocchi intermedi" manufacturer: Fornace S. Antonio size: 120x120x240 strength: 25 [N/mm ²] density: 2000 [kg/m ³]	 F_{Rec} [kN]	0,10	0,10	0,10	0,25	N/A ^{c)}	N/A ^{c)}
Drywall manufacturer: Knauf size: thickness 12,5 [mm] density: 680 [kg/m ³]	F_{Rec} [kN]	0,02 ^{d)}	0,04	0,04	0,04	N/A ^{c)}	N/A ^{c)}
Drywall with fibers manufacturer: Knauf size: thickness 12,5 [mm] density: 1200 [kg/m ³]	F_{Rec} [kN]	0,03	0,20	0,20	0,20	0,35	0,35

a) Performance assessment based on statistical evaluation of the ultimate loads, including the effect of drill bit wear, conditioning and different installation and in-service temperatures, load-displacement behaviour and scatter of the results. Based on that assessment a partial safety concept is used with $\gamma_{M,concrete} = 1,8$; $\gamma_{M,AAC} = 2,1$; $\gamma_{M,masonry} = 2,5$ additional load safety factor of $\gamma_{G,Q} = 1,4$.

b) CS: Countersunk, PH: Pan head, HH hexagonal head; screws are specified by Hilti and can be ordered with the plastic body.

c) Not applicable

d) Shear load only



Materials

Material quality

Part	Material
Plastic sleeve	Polyamide 6
Screw	Carbon steel, galvanized $\geq 5 \mu\text{m}$

Setting information

Installation temperature

-10°C to +40°C

In service temperature range

Hilti HMF universal plastic anchor may be applied in the temperature range given below.

Temperature in base material

Temperature range	Base material temperature	Max. long term base material temperature	Max. short term base material temperature
Temperature range I	-40 °C to +80 °C	+50 °C	+80 °C

Max short term base material temperature

Short-term elevated base material temperatures are those that occur over brief intervals, e.g. as a result of diurnal cycling.

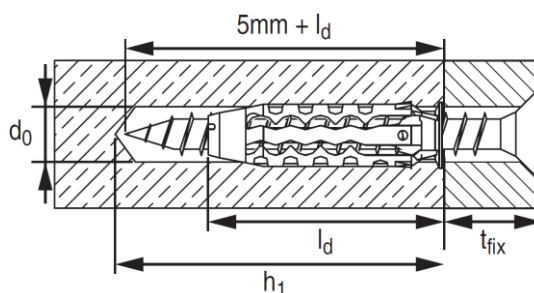
Max long term base material temperature

Long-term elevated base material temperatures are roughly constant over significant periods of time.

Setting details

Anchor size	HMF 5x25		HMF 6x30		HMF 8x40		HMF 10x50		HMF 12x60		HMF 14x70	
	Screw type ^{b)}		CS 4 PH 4	CS 4,5 PH 4,5	CS 5 PH 5 HH 5	CS 7 PH 7 HH 7	HH 8	HH 10				
Nominal diameter of drill bit	d_o	[mm]	5	6	8	10	12	14				
Cutting diameter of drill bit	d_{cut}	[mm]	5,35	6,4	8,45	10,45	12,5	14,5				
Depth of drill hole	$h_1 \geq$	[mm]	35	40	50	70	80	90				
Nominal embedment depth	h_{nom}	[mm]	25	30	40	50	60	70				
Anchor length	l_d	[mm]	25	30	40	50	60	70				
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	5,5	6,5	8,5	11	13	15				
Length of the screw		[mm]	35	40	50	60	70	80				
Drive configuration			Pz2	Pz2	Pz2/T30	T30	T30	T30				
Hexhead diameter		[mm]	-	-	8	10	10	13				
Max fixture thickness	t_{fix}	[mm]	5	5	5	5	5	5				
Min. edge distance in concrete	c_{min}	[mm]	50	50	50	50	50	50				

b) CS: Countersunk, PH: Pan head, HH hexagonal head; screws are specified by Hilti and can be ordered with the plastic body.



Installation equipment

Anchor size	HMF	5x25	6x30	8x40	10x50	12x60	14x70
Rotary hammer		TE 2- TE16					
Other tools		Screwdriver					

Setting instruction

*For detailed information on installation see instruction for use given with the package of the product.

Setting instruction	
<p>1. Drill hole with drill bit</p>	<p>2. Insert the anchor</p>
<p>3. Drive screw into anchor</p>	<p>4a. Drive screw into anchor in concrete</p>
<p>4b. Drive screw into anchor in drywall</p>	<p>4c. Drive screw into anchor in solid brick</p>
<p>4d. Drive screw into anchor in hollow brick</p>	