



X-EM6H, X-EW6H, X-EF7H, X-EM8H, X-EM10H, X-EW10H

**Threaded stud for fastening
to steel**

Data Sheet

01 Apr 2026



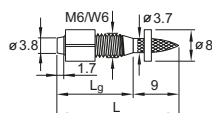
X-EM6H, X-EW6H, X-EF7H, X-EM8H, X-EM10H, X-EW10H Threaded stud for fastening to steel

Product data

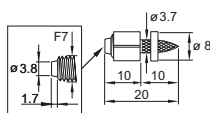
Dimension

X-EM6H/

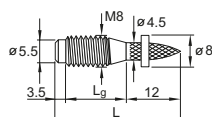
EW6H-__-9 FP8



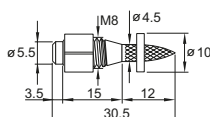
X-EF7H-7-9 FP8



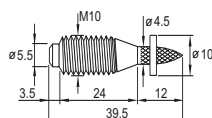
X-EM8H-__-12 P8



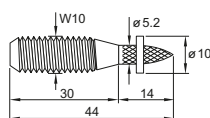
X-EM8H-15-12 FP10



X-EM10H-24-12 P10



X-EW10H-30-14 P10



Material specification

Carbon steel shank: HRC 56.5

Zinc coating: ¹⁾ 5-13 µm

¹⁾ Zinc coating (electroplating for corrosion protection during construction and service in protected environment)

Recommended fastening tool

DX 6 F8, DX 5 F8, DX 460 F8,

DX 8 F10, DX 76, DX 76 PTR, DX 600 N

Approval

ICC-ES ESR-2347 X-EW6H, X-EW10H, (USA):

FM 3026695: X-EW6H, X-EW10H

UL: EX2258: X-EW6H, X-EW10H

ABS, LR: all types



- For dimension details see fastener program
- Not all information presented in this product data sheet might be subject to approval / certificate content. Please refer to approval / certificate for further information.

Environmental condition

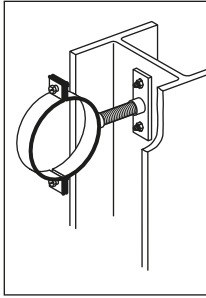
Environmental condition	Fastener X-EM6H, EW6H, X-EF7H X-EM8H, X-EW8H, X-EM10H, X-EW10H
 Dry indoor non-corrosive environment	



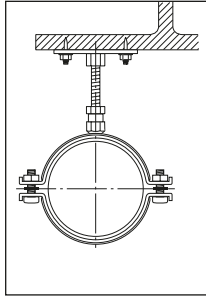
- For more details, please refer to following technical document: Hilti Corrosion Handbook.

Application

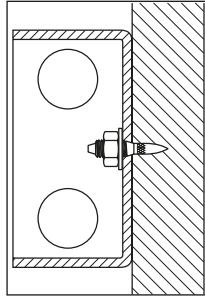
Example:



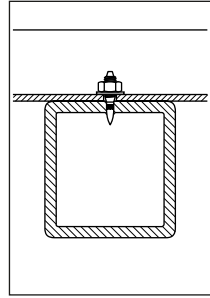
Base plates for pipe rings



Hanging with threaded couplers



Electrical boxes

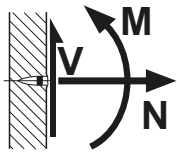


Miscellaneous attachments

Performance data

Recommended resistance under tension load, shear load and under bending moment

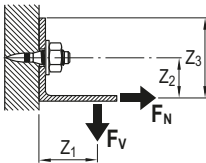
Designation	Shank $d_s \times L_s$	Tension load N_{rec}	Shear load V_{rec}	Bending moment M_{rec}
X-EM6H, X-EW6H, X-EF7H	3.7 x 8.5 mm	1.6 kN	1.6 kN	5.0 Nm
X-EM8H, X-EM10H	4.5 x 12.0 mm	2.4 kN	2.4 kN	9.0 Nm
X-EW10H-30-14	5.2 x 15.0 mm	3.0 kN	3.0 kN	14.0 Nm



Conditions:

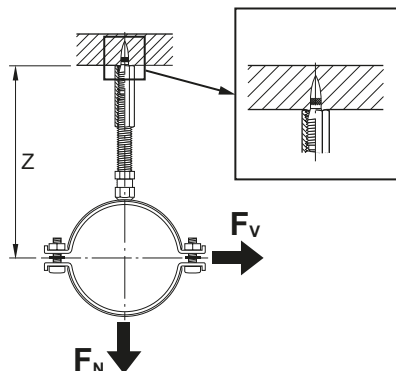
- Redundancy (multiple fastening) must be provided.
- Global factor of safety for static pull-out > 3 (based on 5% fractile value).
- Predominantly static loading.
- Strength of fastened material must be considered.
- Observance of all application limitations and recommendations.
- The recommended loads in the table refer to the resistance of the individual fastening and may not be the same as the loads F_N and F_V acting on the fastened part.

Note: If relevant, prying forces need to be considered in design, see example. Moment acting on fastener shank only in case of a gap between base and fastened material.



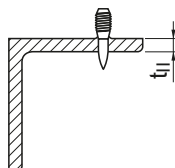
Arrangement to prevent moment on shank

Coupler tight against steel



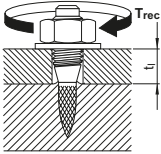
Application recommendation

Base material thickness



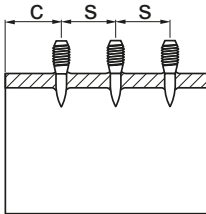
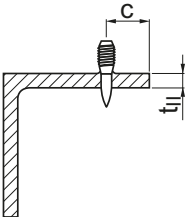
Designation	Base material thickness $t_{l,min}$
X-EM6H-8-9 FP8	4.0 mm
X-EM6H-11-9 FP8	
X-EM6H-20-9 FP8	
X-EW6H-11-9 FP8	
X-EW6H-20-9 FP8	
X-EW6H-28-9 FP8	
X-EW6H-38-9 FP8	
X-EF7H-7-9 FS8	6.0 mm
X-EM8H-11-12 P8	
X-EM8H-15-12 P8	
X-EM8H-15-12 FP10	
X-EM10H-24-12 P10	
X-EW10H-30-14 P10	

Fastened material thickness



Designation	Fastened material thickness $t_{f,max}$
X-EM6H-8-9 FP8	1.5 mm
X-EM6H-11-9 FP8	4.5 mm
X-EM6H-20-9 FP8	13.5 mm
X-EW6H-11-9 FP8	4.5 mm
X-EW6H-20-9 FP8	13.5 mm
X-EW6H-28-9 FP8	21.5 mm
X-EW6H-38-9 FP8	31.5 mm
X-EF7H-7-9 FS8	0.5 mm
X-EM8H-11-12 P8	2.0 mm
X-EM8H-15-12 P8	6.0 mm
X-EM8H-15-12 FP10	6.0 mm
X-EM10H-24-12 P10	14.0 mm
X-EW10H-30-14 P10	20.0 mm

Fastener positioning and base material

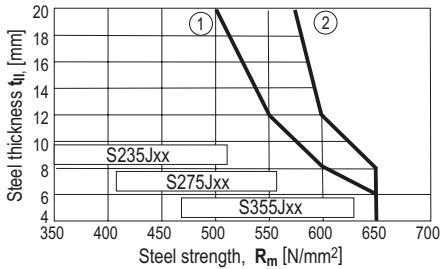


Edge distance: $c \geq 15 \text{ mm}$

Spacing: $s \geq 15 \text{ mm}$

Application recommendation

X-EM6H, X-EW6H, X-EF7H

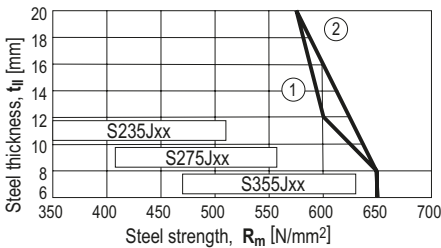


- ① Fastener:
X-EF7H-7-9 FP8
Setting tool:
DX 6 F8, DX 5 F8, DX 460 F8

- ② Fastener:
X-EM6H-8-9 FP8, X-EM6H-11-9 FP8,
X-EM6H-20-9 FP8,
X-EW6H-11-9 FP8, X-EW6H-20-9 FP8,
X-EW6H-28-9 FP8, X-EW6H-38-9 FP8

Setting tool:
DX 6 F8, DX 5 F8, DX 460 F8

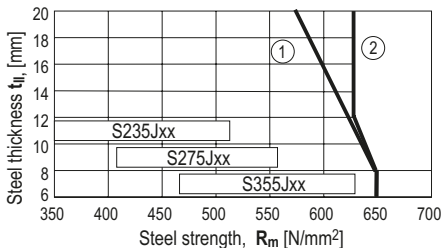
X-EM8H



- ① Fastener:
X-EM8H-11-12 P8, X-EM8H-15-12 P8
Setting tool:
DX 6 F8, DX 5 F8, DX 460 F8

- ② Fastener:
X-EM8H-15-12 FP10
Setting tool:
DX 8 F10, DX 76, DX 76 PTR

X-EM10H, X-EW10H



- ① Fastener:
X-EM10H-24-12 P10
Setting tool:
DX 8 F10, DX 76, DX 76 PTR

- ② Fastener:
X-EW10H-30-14 P10
Setting tool:
DX 600 N

System recommendation



- For more details, please refer to the chapter **Accessories and consumables compatibility** in the Direct Fastening Technology Manual (DFTM).

Cartridge recommendation for X-EM6H, X-EW6H

Base material		Cartridge color (tool power level)	
		Tool type: DX 6 F8	Tool type: DX 5 F8, DX 460 F8
		Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
S235	$4 \leq t_{II} \leq 10 \text{ mm}$	titanium ■ (1-3)	green ■
	$10 < t_{II} \leq 20 \text{ mm}$	titanium ■ (2-5)	yellow ■
S275	$4 \leq t_{II} \leq 6 \text{ mm}$	titanium ■ (1-3)	green ■
	$6 < t_{II} \leq 20 \text{ mm}$	titanium ■ (2-5)	yellow ■
S355	$4 \leq t_{II} \leq 20 \text{ mm}$	titanium ■ (2-5)	yellow ■

Cartridge recommendation for X-EF7H

Base material		Cartridge color (tool power level)	
		Tool type: DX 6 F8	Tool type: DX 5 F8, DX 460 F8
		Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
S235	$4 \leq t_{II} \leq 8 \text{ mm}$	titanium ■ (1-3)	green ■
	$8 < t_{II} \leq 20 \text{ mm}$	titanium ■ (2-5)	yellow ■
S275	$4 \leq t_{II} \leq 6 \text{ mm}$	titanium ■ (1-3)	green ■
	$6 < t_{II} \leq 20 \text{ mm}$	titanium ■ (2-5)	yellow ■
S355	$4 \leq t_{II} \leq 20 \text{ mm}$	titanium ■ (2-5)	yellow ■

Cartridge recommendation for X-EM8H

Base material		Cartridge color (tool power level)	
		Tool type: DX 6 F8	Tool type: DX 5 F8, DX 460 F8
		Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
S235, S275	$6 \leq t_{II} \leq 8 \text{ mm}$	titanium ■ (5-8), black ■ (6-8)	red ■, black ■
S235, S275	$8 \leq t_{II} \leq 20 \text{ mm}$	titanium ■ (7-8), black ■ (6-8)	black ■
S355	$6 \leq t_{II} \leq 20 \text{ mm}$	titanium ■ (7-8), black ■ (6-8)	black ■

Cartridge recommendation for X-EM8H

Base material		Cartridge color (tool power level)
		Tool type: DX 76 PTR
		Cartridge type: 6.8/18 M
S235	$4 \leq t_{ } \leq 8 \text{ mm}$	blue ■
	$8 < t_{ } \leq 20 \text{ mm}$	red ■
S275	$6 \leq t_{ } \leq 7 \text{ mm}$	blue ■
	$7 < t_{ } \leq 8 \text{ mm}$	red ■
	$8 < t_{ } \leq 20 \text{ mm}$	black ■
S355	$6 \leq t_{ } \leq 8 \text{ mm}$	red ■
	$8 < t_{ } \leq 20 \text{ mm}$	black ■

Cartridge recommendation for X-EM10H

Base material		Cartridge color (tool power level)
		Tool type: DX 76 PTR
		Cartridge type: 6.8/18 M
S235	$6 \leq t_{ } \leq 20 \text{ mm}$	yellow ■
S275	$6 \leq t_{ } \leq 7 \text{ mm}$	yellow ■
	$7 < t_{ } \leq 8 \text{ mm}$	blue ■
	$8 < t_{ } \leq 20 \text{ mm}$	red ■
S355	$6 \leq t_{ } \leq 8 \text{ mm}$	red ■
	$8 < t_{ } \leq 20 \text{ mm}$	black ■

Cartridge recommendation for X-EW10H

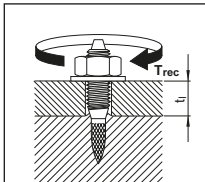
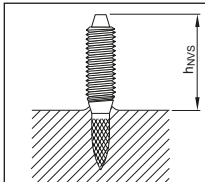
Base material		Cartridge color (tool power level)
		Tool type: DX 600 N
		Cartridge type: 6.8/18 M
S235	$6 \leq t_{II} \leq 20 \text{ mm}$	blue ■
	$8 \leq t_{II} \leq 15 \text{ mm}$	red ■
	$15 < t_{II} \leq 20 \text{ mm}$	black ■
S275	$6 \leq t_{II} \leq 8 \text{ mm}$	blue ■
	$8 < t_{II} \leq 12 \text{ mm}$	red ■
	$12 < t_{II} \leq 20 \text{ mm}$	black ■
S355	$6 \leq t_{II} \leq 7 \text{ mm}$	red ■
	$7 < t_{II} \leq 20 \text{ mm}$	black ■



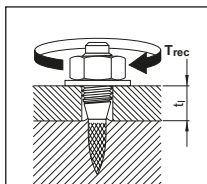
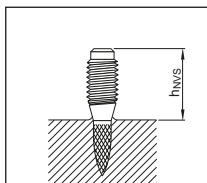
- Tool power level adjustment by setting tests on site.
- Start tool energy selection with lowest recommended tool power level.
- Correct according requirement from chapter quality assurance.

Quality assurance

X-EM6H, X-EW6H, X-EF7H



Designation	Nail standoff h_{NVS}	Tightening torque T_{rec}
X-EM6H-8-9	8.0–11.0 mm	$\leq 4 \text{ Nm}$
X-EM6H-/X-EW6H-11-9	9.5–12.5 mm	
X-EM6H-/X-EW6H-20-9	18.5–21.5 mm	
X-EW6H-28-9	26.5–29.5 mm	
X-EW6H-38-9	36.5–39.5 mm	
X-EF7H-7-9	9.0–12.0 mm	

X-EM8H, X-EM10H, X-EW10H


Designation	Nail standoff h_{NVS}	Tightening torque T_{rec}
X-EM8H-11-12	11.5–15.5 mm	$\leq 10.5 \text{ Nm}$
X-EM8H-15-12	15.5–19.5 mm	
X-EM10H-24-12	26.5–29.5 mm	
X-EW10H-30-14	28.0–31.0 mm	$\leq 15.0 \text{ Nm}$

Fastener program

Designation	Item no.	Threading length L_g	Shank length L_s
X-EM6H-8-9 FP8	271965	8 mm	8.5 mm
X-EM6H-11-9 FP8	271963	11 mm	8.5 mm
X-EM6H-20-9 FP8	271961	20 mm	8.5 mm
X-EW6H-11-9 FP8	271973	11 mm	8.5 mm
X-EW6H-20-9 FP8	271971	20 mm	8.5 mm
X-EW6H-28-9 FP8	271969	28 mm	8.5 mm
X-EW6H-38-9 FP8	271967	38 mm	8.5 mm
X-EF7H-7-9 FS8	271975	7 mm	10 mm
X-EM8H-11-12 P8	271983	11 mm	12 mm
X-EM8H-15-12 P8	271981	15 mm	12 mm
X-EM8H-15-12 FP10	271982	15 mm	12 mm
X-EM10H-24-12 P10	271984	24 mm	12 mm
X-EW10H-30-14 P10	271985	30 mm	14 mm



• Fastener designation – Type of threading:

M = metric; W6, W10 = Whitworth $\frac{1}{4}$ " , $\frac{3}{8}$ " ; F7 = French 7 mm