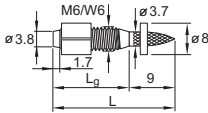


X-EM 6H, X-EW 6H, X-EF 7H, X-EM 8H, X-EM 10H, X-EW 10H Threaded Studs for Steel

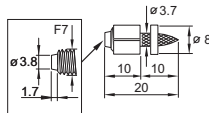
Product data

Dimensions

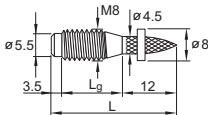
X-EM6H/EW6H-__9 FP8



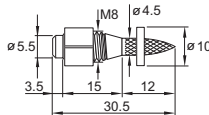
X-EF7H-7-9 FP8



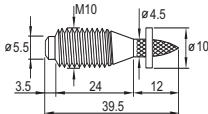
X-EM8H-__12 P8



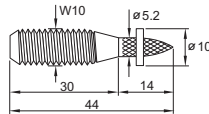
X-EM8H-15-12 FP10



X-EM10H-24-12 P10



X-EW10H-30-14 P10



For dimension details see chapter fastener selection

General information

Material specifications

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 tools

DX 460, DX 76, DX 76 PTR, DX 600 N

See **X-EM/ X-EW fastener program** in the next pages and **Tools and equipment chapter** for more details.

Approvals

ICC-ES ESR-2347 (USA):

X-EW6H, X-EW10H, X-EM8H

FM 3026695:

X-EW6H, X-EW10H

UL: EX2258:

X-EW6H, X-EW10H

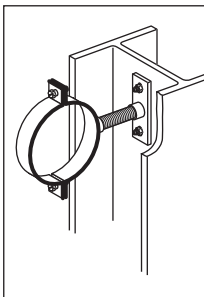
ABS, LR:

all types

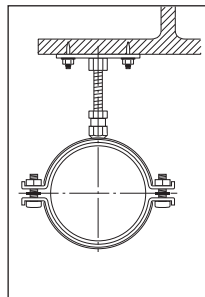


Applications

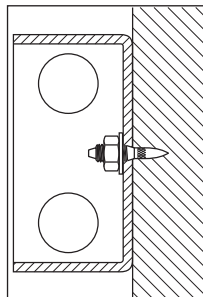
Examples



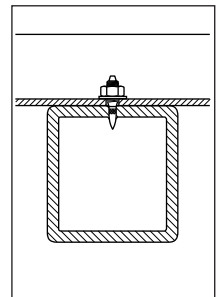
Base plates for pipe rings



Hanging with threaded couplers



Electrical boxes



Miscellaneous attachments

Load data

Recommended loads

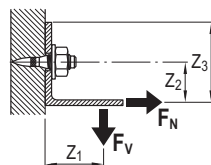
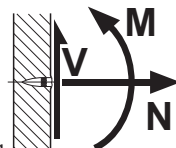
Fastener designation	Shank $d_s \times L_s$ [mm]	N_{rec} [kN]	V_{rec} [kN]	M_{rec} [Nm]
X-EM6H, X-EW6H, X-EF7H	3.7 x 8.5	1.6	1.6	5.0
X-EM8H, X-EM10H	4.5 x 12.0	2.4	2.4	9.0
X-EW10H-30-14	5.2 x 15.0	3.0	3.0	14.0

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.

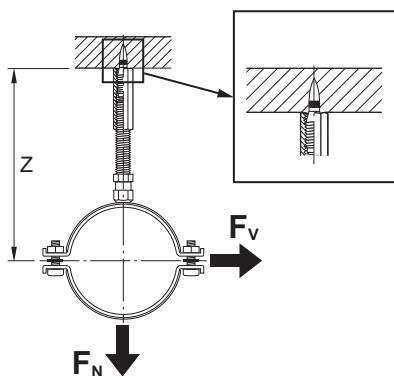
Note: If relevant, prying forces need to be considered in design, see example.

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

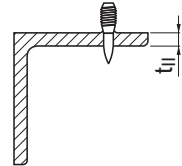


Application requirements

Thickness of base material

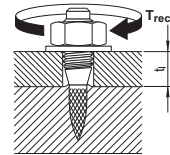
Minimum steel thickness:

	t_{II}
X-EM6H/EW6H, X-EF7H	≥ 4 mm
X-EM8H/EW8H, X-EM10H/EW10H	≥ 6 mm



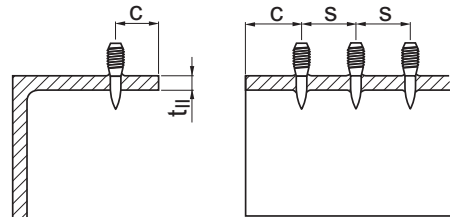
Thickness of fastened material

$$t_I \leq L_g - t_{\text{washer}} - t_{\text{nut}} \approx 1.5\text{--}33.0 \text{ mm}$$



Spacing and edge distances

Edge distance and spacing: $c = s \geq 15$ mm

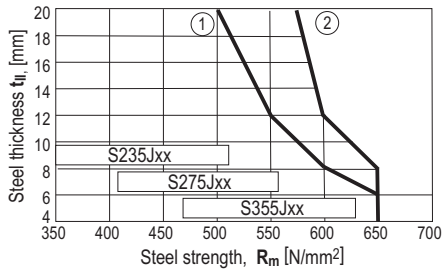


Corrosion information

The intended use only comprises fastenings which are not directly exposed to external weather conditions or moist atmospheres. For further detailed information on corrosion see relevant chapter in **Direct Fastening Principles and Technique** section.

Application limits

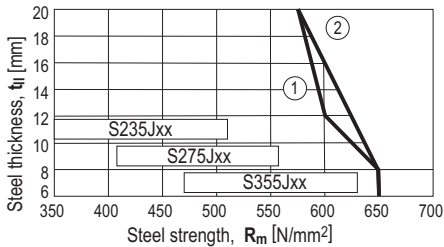
X-EM6H, X-EW6H, X-EF7H



DX 460 tool:

- ① X-EF7H-__-9
- ② X-EM6H-__-9,
X-EW6H-__-9

X-EM8H



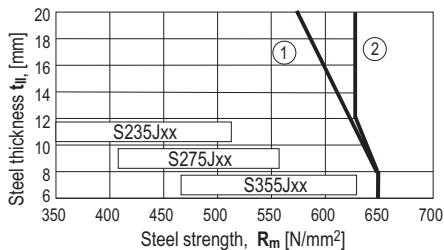
DX 460 tool:

- ① X-EM8H-__-12

**DX 76 / DX 76 PTR tool
with X-76-F10-PTR fastener guide:**

- ② X-EM8H-15-12

X-EM10H / EW10H



DX 76 / DX 76 PTR tool:

- ① X-EM10H-24-12

DX 600 N tool:

- ② X-EW10H-30-14 P10

Fastener selection and system recommendation

Fastener program

Base material thickness $t_{l,min}$ [mm]	Fastened thickness $t_{l,max}$ [mm]	Fastener Designation ¹⁾	Item no.	Threading length L_g [mm]	Shank lengths L_s [mm]	DX tools
4.0	1.5	X-EM6H-8-9 FP8	271965	8	8.5	DX 460
	4.5	X-EM6H-11-9 FP8	271963	11	8.5	DX 460
	13.5	X-EM6H-20-9 FP8	271961	20	8.5	DX 460
	4.5	X-EW6H-11-9 FP8	271973	11	8.5	DX 460
	13.5	X-EW6H-20-9 FP8	271971	20	8.5	DX 460
	21.5	X-EW6H-28-9 FP8	271969	28	8.5	DX 460
	31.5	X-EW6H-38-9 FP8	271967	38	8.5	DX 460
	0.5	X-EF7H-7-9 FS8	271975	7	10	DX 460
6.0	2.0	X-EM8H-11-12 P8	271983	11	12	DX 460
	6.0	X-EM8H-15-12 P8	271981	15	12	DX 460
	6.0	X-EM8H-15-12 FP10	271982	15	12	DX 76 PTR, DX 460
	14.0	X-EM10H-24-12 P10	271984	24	12	DX 76 PTR, DX 460
	20.0	X-EW10H-30-14 P10	271985	30	14	DX 600 N

¹⁾ Type of threading: **M** = metric; **W6**, **W10** = Whitworth 1/4"; 3/8"; **F7** = French 7 mm

Cartridge recommendation

Tool energy adjustment by installation tests on site

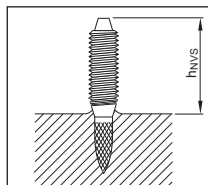
Fastener	Tool	Base material	Base material thickness (mm)	Cartridge selection
X-EM6H, X-EW6H	DX 460	S235	4–10	6.8/11M green
			10–20	6.8/11M yellow
		S275	4–6	6.8/11M green
			6–20	6.8/11M yellow
X-EF7H	DX 460	S235	4–8	6.8/11M green
			8–20	6.8/11M yellow
		S275	4–6	6.8/11M green
			6–20	6.8/11M yellow
X-EM8H	DX 460	S235, S275	6–8	6.8/11M red
			8–20	6.8/11M black
		S355	6–20	6.8/11M black

Fastener	Tool	Base material	Base material thickness (mm)	Cartridge selection
X-EM8H	DX 76 PTR	S235	6– 8 8–20	6.8/18M blue 6.8/18M red
		S275	6– 7 7–12 12–20	6.8/18M blue 6.8/18M red 6.8/18M black
		S355	6–10 10–20	6.8/18M red 6.8/18M black
X-EM10H	DX 76 PTR	S235	6–20	6.8/18M yellow
		S275	6– 7 7– 8 8–20	6.8/18M yellow 6.8/18M blue 6.8/18M red
		S355	6– 8 8–20	6.8/18M red 6.8/18M black
X-EW10H	DX 600 N	S235	6– 8 8–15 15–20	6.8/18 blue 6.8/18 red 6.8/18 black
		S275	6– 8 8–12 12–20	6.8/18 blue 6.8/18 red 6.8/18 black
		S355	6– 7 7–20	6.8/18 red 6.8/18 black

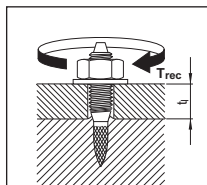
Fastening inspection

X-EM6H, X-EW6H, X-EF7H

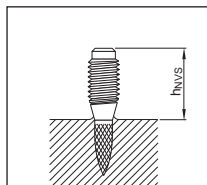
X-EM8H, X-EM10H, X-EW10H



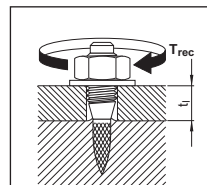
Nail standoff



Tightening torque



Nail standoff



Tightening torque

Fastener	h_{NVS} [mm]	T_{rec} [Nm]
X-EM6H-8-9	8.0–11.0	≤ 4
X-EM6H- / X-EW6H-11-9	9.5–12.5	≤ 4
X-EM6H- / X-EW6H-20-9	18.5–21.5	≤ 4
X-EW6H-28-9	26.5–29.5	≤ 4
X-EW6H-38-9	36.5–39.5	≤ 4
X-EF7H-7-9	9.0–12.0	≤ 4

Fastener	h_{NVS} [mm]	T_{rec} [Nm]
X-EM8H-11-12	11.5–15.5	≤10.5
X-EM8H-15-12	15.5–19.5	≤10.5
X-EM10H-24-12	26.5–29.5	≤10.5
X-EW10H-30-14	28.0–31.0	≤15.0