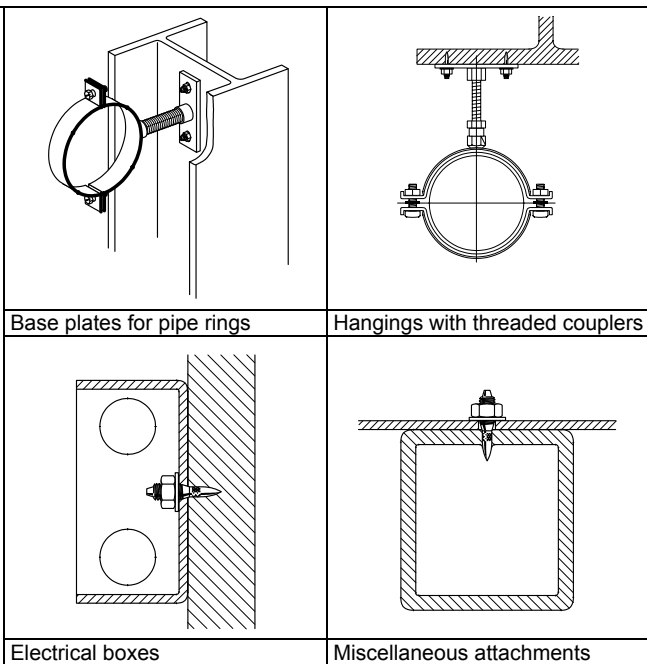
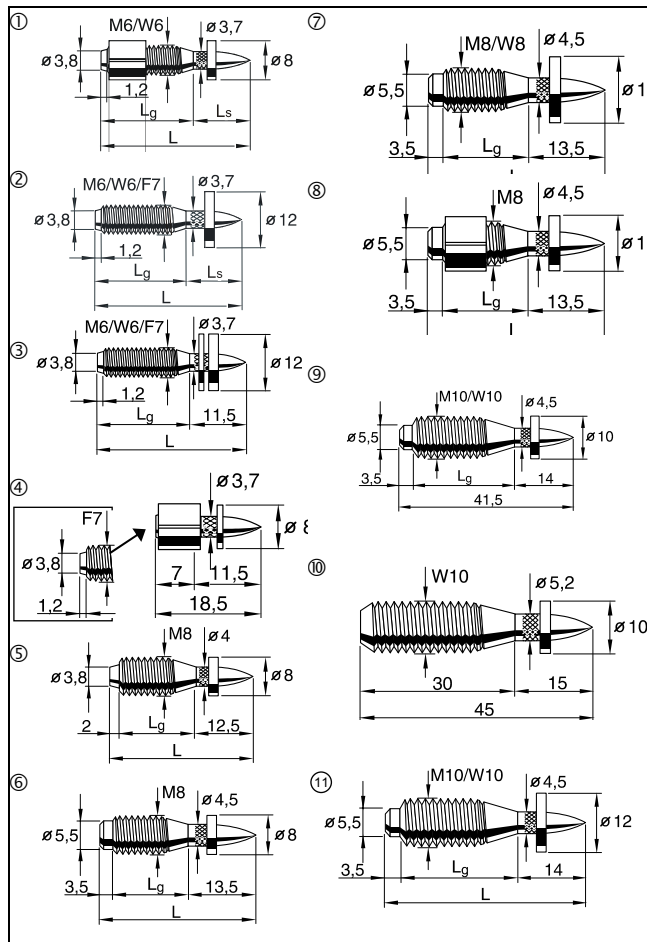


2.30 X-EM6/EW6, EM7/EF7, EM8/EW8, EM10/EW10 Threaded Studs for Steel



Application Approvals and Governing Design Guidelines

ICBO, UL, Lloyd's, ABS

Technical data (design loads, application restrictions, etc.) presented in these approvals and design guidelines reflect specific local conditions and may differ from those published in this handbook. If the project is in a jurisdiction where the fastening is subject to the approval process or where a design guideline must be used, technical data in the approval or design guideline has precedence over data presented here. Approval copies are available from your Hilti technical advisory service.

Standard Program, dimensions in mm unless otherwise shown

	Designation ¹⁾	L _g (mm)	L _s (mm)	L (mm)	DX-tools	Hardness, HRC	Zinc coating (µm)
①	X-EM6-XX-12 FP8	8, 11, 20	11.5	L _g + 11.5	DX 460 DX-A 40/41, DX 36M	55.5 ± 1	5 - 13
	X-EM6-XX-9 FP8	11, 20	9	L _g + 9			
	X-EW6-XX-12 FP8	11, 20, 28, 38	11.5	L _g + 11.5			
	X-EW6H-XX-12 FP8	11, 20, 30, 38	11.5	L _g + 11.5			
	X-EW6H-XX-9 FP8	11, 20	9	L _g + 9			
②	EM6-XX-12 P12	8, 11, 20	11.5	L _g + 11.5	DX 450, DX451, DX 600N		
	EM6-XX-9 P12	11, 20	9	L _g + 9			
	EM6H-XX-12 P12	11, 20	12	L _g + 11.5			
	EW6-XX-12 P12	11, 20, 28, 38	12	L _g + 11.5			
	EW6-11-9 P12	11	9	22.5			
	EW6H-XX-12 P12	11, 20, 32, 38	12	L _g + 11.5			
	EW6H-XX-9 P12	11, 20	9	L _g + 9			
③	EM6-XX-12 D12	11, 20	11.5	L _g + 11.5			
	EW6-XX-12 D12	11, 20, 28	11.5	L _g + 11.5			
②	EM7-11-12 P12	11	11.5				
③	EF7-7-12 D12	7	11.5				
④	X-EF7-7-12 FS8	7	11.5		DX 460		
⑤	X-EM8-XX-12 P8	11, 15	12.5	L _g + 16	DX-A 40/41, DX 36M		2 - 5
⑥	X-EM8-XX-14 P8	11, 15, 25	13.5	L _g + 17	DX 460, DX-A 40/41, DX 600N		5 - 13
⑦	EM8-XX-14 P12	11, 15, 25, 35	13.5		DX 450, DX451		
	EW8-20-14 P12	20	13.5				
⑧	EM8-15-14 FP10	15	13.5		DX750, DX 750 I, DX 600N, DX 460		
⑨	X-EM10-24-14 P10	24	14	L _g + 17.5			
	X-EW10-27-14 P10	26.5	14				
⑩	EW10-30-15 P10	30	15	45	DX750, DX 750 I, DX 600N		
⑪	X-EM10-24-14 P12	24	14	L _g + 17.5	DX 450, DX451		
	X-EW10-27-14 P12	26.5	14				

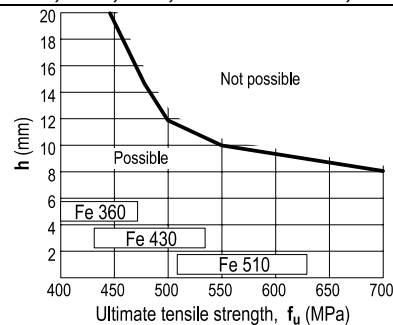
1) Type of threading : M = metric ; W6, W8, W10 = Whitworth 1/4" ; 5/16" ; 3/8" ; F7 = French 7 mm

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

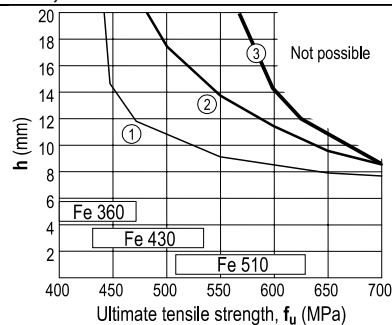
2.30 X-EM6/EW6, EM7/EF7, EM8/EW8, EM10/EW10 Threaded Studs for Steel

Application Limits

EM6, EW6, EM7, EF7 with DX 460, DX-A

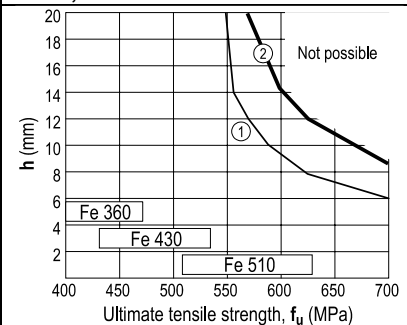


EM8, EW8



- ① EM8-__-14 / DX 460, DX-A tools
 ② EM8-__-12 / DX 460, DX-A tools
 ③ EM8-__-14 / DX 750 I tool

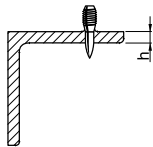
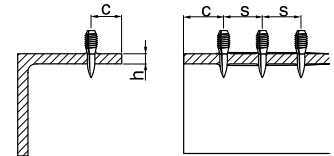
EM10, EW10



- ① EW10-30-15 / DX 750 I tool
 ② EM10/EW10-__-14 / DX 750 I tool

Design Details

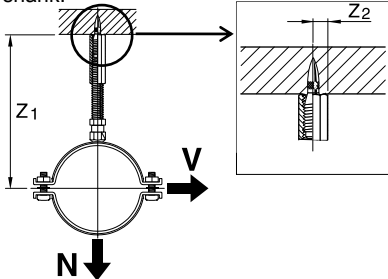
Minimum steel thickness:

EM6, EW6, EM7, EF7 $h \geq 4$ mmEM8/EW8, M10/EW10 $h \geq 6$ mmEdge distance /
Spacing ≥ 15 mm

Recommended Loads

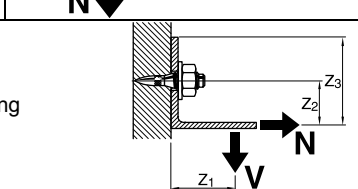
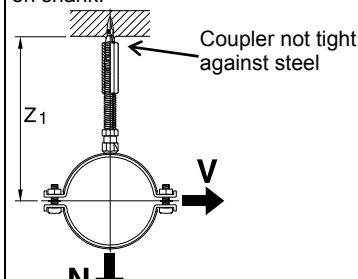
Fastener designation	Shank $d_s \times L_s$ (mm)	N_{rec} (kN)	V_{rec} (kN)	M_{rec} (Nm)
EM6, EW6, EM7, EF7	3.7 x 9.0	1.0	1.0	3.0
EM6, EW6, EM7, EF7	3.7 x 11.5	1.6	1.6	4.9
X-EM8-__-12 P8	4.0 x 12.0	2.0	2.0	6.2
EM8, EW8, EM/EW10-__-14	4.5 x 13.5/14	2.4	2.4	8.8
EW10-30-15	5.2 x 15.0	3.0	3.0	13.6

Arrangements to reduce or prevent moment on shank:



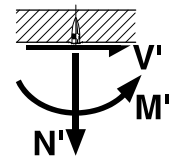
- Non-symmetric arrangement
- Moment on fastened part
- Prying effect must be considered in determining loads acting on fastener.

Arrangement causing moment to act on shank:



Conditions:

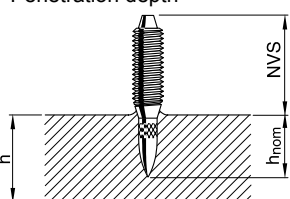
- Predominantly static loading.
- Single point fastening design allowed
- Strength of fastened material must be considered
- Observance of all application limitations and recommendations.
- The recommended loads in the table refer to the resistance of the shank cross-section. The loads acting on the cross-section (N' and V') are influenced by the characteristics and arrangement of the part or material fastened and may not be the same as the loads acting on the fastened part or material (N and V).
- The existence and/or magnitude of moment acting on the fastener shank (M') is influenced by the characteristics and arrangement of the fastened part or material.



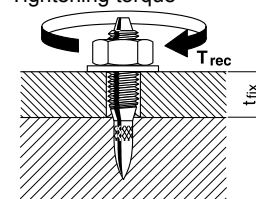
Installation Conditions

EM6, EW6, EM7, EF7

Penetration depth



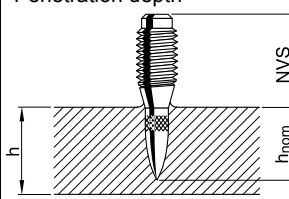
Tightening torque



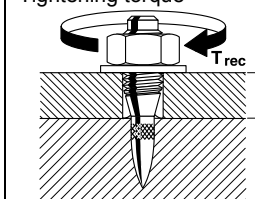
	h_{nom} (mm)	NVS	T_{rec} (Nm)
EM6, EW6-__-9	8 - 11	L - h_{nom}	≤ 4
EM6, EW6-__-12	10 - 14	"	≤ 5
EM7, EF7-__-12	10 - 14	"	≤ 6

EM8, EW8, EM10, EW10

Penetration depth



Tightening torque



	h_{nom} (mm)	NVS	T_{rec} (Nm)
X-EM8-__-12 P8	11 - 15	L - h_{nom}	≤ 10.5
EM8, EW8, EM/EW10-__-14	13 - 16	"	≤ 10.5
EW10-30-15	14 - 17	"	≤ 15