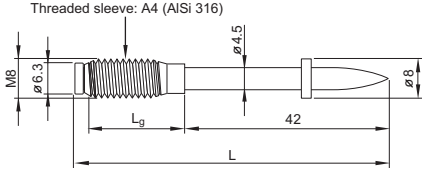
X-CR M Stainless Steel Threaded Studs for Concrete and Steel

Product data

Dimensions

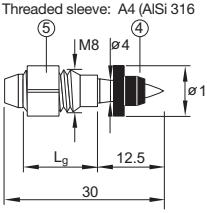
X-CR M8-__-42 P8 (DX-Kwik)

Threaded sleeve: A4 (AISi 316)



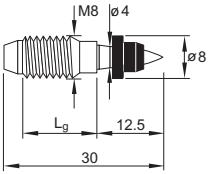
X-CR M8-__-12 FP10

Threaded sleeve: A4 (AISi 316



X-CR M8-__-12 P8

Threaded sleeve: A4 (AISi 316



General information

Material specifications

Shank:	CrNiMo alloy $f_u \geq 1800$ N/mm² (49 HRC)
Threaded sleeve:	A4 (AISI 316)
Zinc coating to facilitate anchoring in concrete (X-CR M8-__-42):	5–13 µm
Washers/ guidance sleeve:	polyethylene

Recommended fastening tools

DX 460, DX 36, DX 76, DX 76 PTR

See **X-CR M fastener program** in the next pages and **Tools and equipment** chapter for more details.

Approvals

DIBt (Germany):	**X-CR M8-__-42 P8** (DX-Kwik)
ICC ESR-2347:	**X-CR M8-9-12, X-CR M8-15-12**
ABS, LR:	all types

Note: technical data presented in these approvals and design guidelines reflect specific local conditions and may differ from those published in this handbook.

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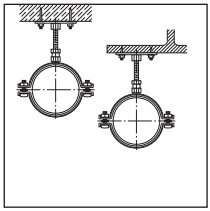
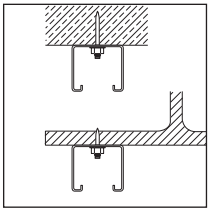
Applications

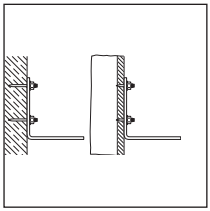
Examples



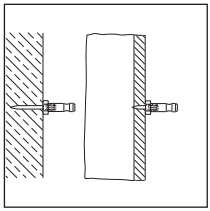
Base plates for pipe rings



Installation rails



Facade brackets



Special purpose connections

Load data

Recommended loads

Fastening to steel

	N_{rec} [kN]	V_{rec} [kN]	M_{rec} [Nm]
X-CR M8	1.8	1.8	5.5

Conditions:

- For safety-relevant fastenings sufficient redundancy of the entire system is required.

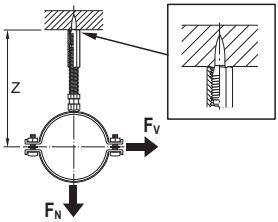
Fastening to concrete – DX-Kwik method (pre-drilling)

	$N_{rec,1}$ [kN]	$N_{rec,2}$ [kN]	V_{rec} [kN]	M_{rec} [Nm]
X-CR M8-__-42 P8	3.0	0.9	3.0	5.5

Conditions:

- $N_{rec,1}$: concrete in compressive zone
- $N_{rec,2}$: concrete in tension zone
- $f_{cc} \geq 20$ N/mm²
- A sufficient redundancy has to be ensured, that the failure of a single fastening will not lead to collapse of the entire system.
- Observance of all pre-drilling requirements

Arrangements to reduce or prevent moment on shank:



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Application requirements

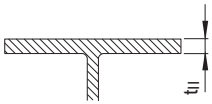
Thickness of base material

Concrete – DX-Kwik

h_{min} = 100 mm

Steel

$t_{II} \geq 6$ mm



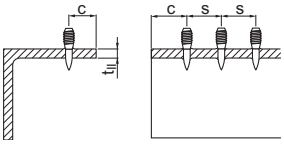
Thickness of fastened material

X-CR M8

$t_I \leq L_g - t_{washer} - t_{nut} \cong$ up to 13.0 mm

Spacing and edge distances (mm)

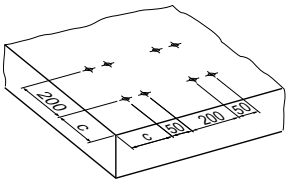
Fastening to steel



c, s ≥ 15 mm

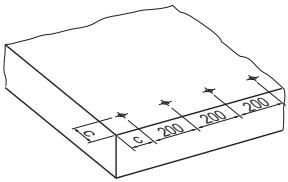
Fastening to concrete

Pairs



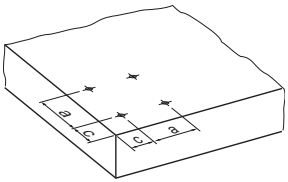
	Reinforced *	Non-reinforced
c	100	150

Row along edge



	Reinforced *	Non-reinforced
c	80	150

General (e.g. group of fasteners



	Reinforced *	Non-reinforced
c	80	150
a	80	100

* Minimum ∅ 6 reinforcing steel continuous along all edges and around all corners. Edge bars must be enclosed by stirrups

Corrosion information

For fastenings exposed to weather or other corrosive conditions. Not for use in highly corrosive surroundings like swimming pools or highway tunnels.

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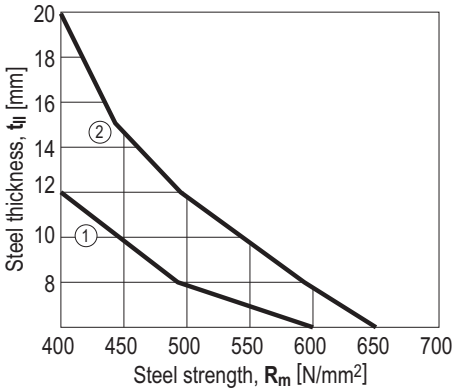
Application limits

Concrete:

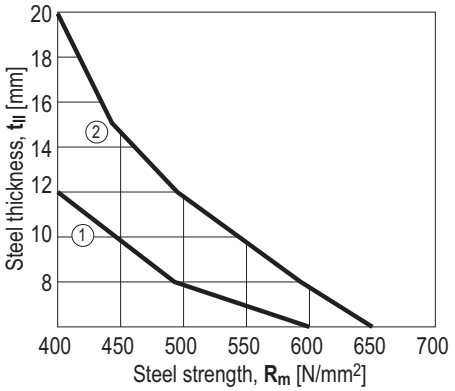
No general restrictions existent. Limitations are dependent on application and user requirements.

Steel: DX 76, DX 76 PTR



① **X-CRM8-15-12 FP10** / DX 76 (impact)
② **X-CRM8-15-12 FP10** / DX 76 (co-acting)

Steel:DX 460



① **X-CRM8-15-12 P8** / DX 460 (impact)
② **X-CRM8-15-12 P8** / DX 460 (co-acting)

Fastener selection and system recommendation

Fastener program

Fastened thickness $t_{fl,max}$ [mm]	Fastener Designation [1])	Item no.	L_g [mm]	L_s [mm]	Tools
	Base material concrete, DX-Kwik method				
5.0	**X-CR M8-14-42 P8**	255911	14	42	**DX 460, DX 36**
13.0	**X-CR M8-22-42 P8**	255910	22	42	**DX 460, DX 36**
	Base material steel				
6.0	**X-CR M8-9-12 P8**	372031	9	12.5	**DX 460**
6.0	**X-CR M8-15-12 P8**	372033	15	12.5	**DX 460**
6.0	**X-CR M8-9-12 FP10**	372032	9	12.5	**DX 460, DX 76, DX 76 PTR**
6.0	**X-CR M8-15-12 FP10**	372 034	15	12.5	**DX 460, DX 76, DX 76 PTR**

[1]) Type threading: M = metric; W6 = Whitworth 1/4”

Cartridge selection and tool energy setting

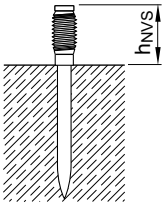
Base material	Designation	Tool
Concrete	**6.8/11M yellow or red cartridge**	**DX 460, DX 36**
Steel	**6.8/11M red cartridge**	**DX 460, DX 76, DX 76 PTR**

Tool energy adjustment by setting tests on site.

Fastening quality assurance

Fastening inspection

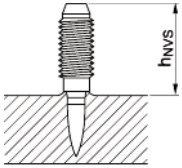
Fastening to concrete



DX-Kwik (pre-drilling)

Fastener	h_{NVS} [mm]
X-CR M8-14-42 P8	12.0 – 16.0
X-CR M8-22-42 P8	20.0 – 24.0

Fastening to steel



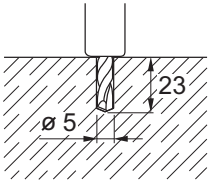
Fastener	h_{NVS} [mm]
X-CR M8-9-12 P8	12.0 – 15.0
X-CR M8-15-12 P8	17.0 – 20.0
X-CR M8-9-12 FP10	12.0 – 15.0
X-CR M8-15-12 FP10	17.0 – 20.0

Installation

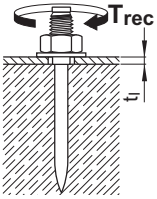
Fastening to concrete

DX-Kwik (pre-drilling)

X-CR M8-__-42 P8

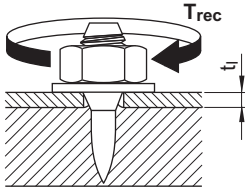


Pre-drill with drill bit TE-C-5/23B (Item-no. 28557) or TE-C-5/23 (Item no. 00061787)



Tightening torque
T_{rec} = 10 Nm

Fastening to steel



Tightening torque
X-CR M8 T_{rec} = 8.5 Nm

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These are abbreviated instructions which may vary by application.
ALWAYS review/follow the instructions accompanying the product.