



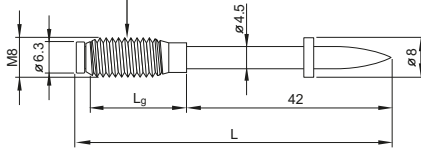
# X-CR M Stainless steel threaded stud for fastening to concrete and steel

## Product data

### Dimensions

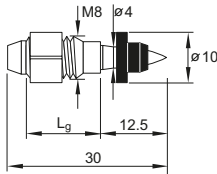
X-CR M8-\_\_-42 P8 (DX-Kwik)

Threaded sleeve: A4 (AISI 316)

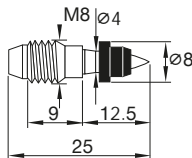


X-CR M8-15-12 FP10

Threaded sleeve: A4 (AISI 316)



X-CRM8-9-12 P8



### Material specifications

Shank: CrNiMo alloy  
 $f_u \geq 1800 \text{ N/mm}^2$   
 (49 HRC)

Threaded sleeve: A4 (AISI 316)

Zinc coating to improve anchoring in concrete

(X-CR M8-\_\_-42): 5–13  $\mu\text{m}$

Washers/  
 guidance sleeve: polyethylene

### Recommended fastening tools

DX 6, DX 5, DX 460, DX 36, DX 2, DX 76,  
 DX 76 PTR

- See fastener program in the next pages.

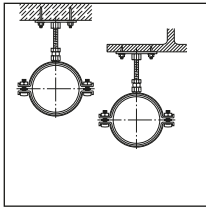
### Approvals

DIBt (Germany): X-CR M8-\_\_-42 P8  
 (DX-Kwik)  
 ICC ESR-2347: X-CR M8-9-12,  
 ABS, LR: X-CR M8-15-12

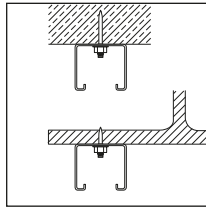
- Not all information presented in this product data sheet might be subject to approval/certificate content. Please refer to approval/certificate for further information.

## Applications

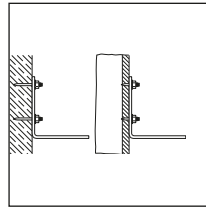
### Examples



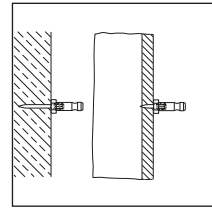
Base plates for pipe rings



Installation rails



Facade brackets



Special purpose connections

## Performance data

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

#### Fastening to steel

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

#### Conditions

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

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

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

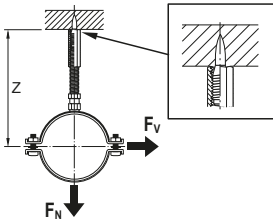
#### Conditions

- $N_{rec,1}$ : concrete in compressive zone
- $N_{rec,2}$ : concrete in tension zone
- $f_{cc} \geq 20 \text{ N/mm}^2$
- 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



- For more details in relation to base material properties, please refer to the chapter **Fastener selection guide** in the Direct Fastening Manual (DFTM).

### Arrangements to reduce or prevent moment on shank



### Application recommendation

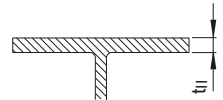
#### Base material thickness

Concrete – DX-Kwik

$h_{min} = 100 \text{ mm}$

Steel

$t_{II} \geq 6 \text{ mm}$

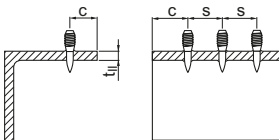


#### Fastened material thickness

X-CR M8

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

### Fastener positioning in base material for fastening to steel



Edge distance:

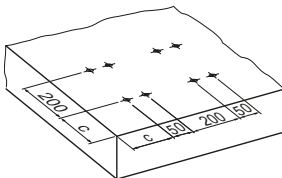
$c \geq 15 \text{ mm}$

Spacing:

$s \geq 15 \text{ mm}$

### Fastener positioning in base material for fastening to concrete

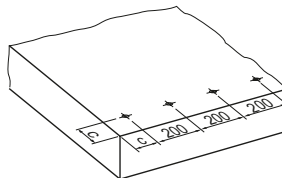
#### Pairs



Reinforced \* Non-reinforced

c 100 mm 150 mm

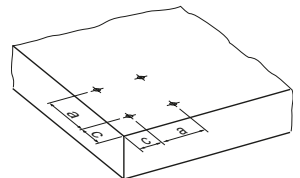
#### Row along edge



Reinforced \* Non-reinforced

c 80 mm 150 mm

#### General (e.g. group of fasteners)



Reinforced \* Non-reinforced

c 80 mm 150 mm

a 80 mm 100 mm

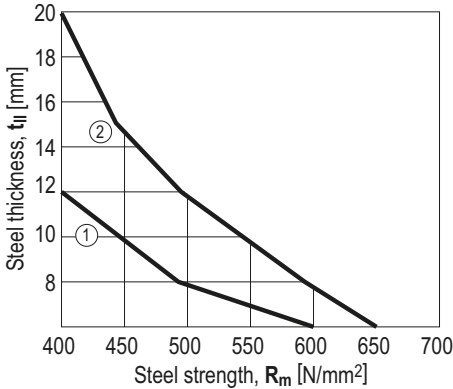
\* Minimum  $\phi 6$  reinforcing steel continuous along all edges and around all corners. Edge bars must be enclosed by stirrups

### Application limits for fastening to concrete

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

### Application limits for fastening to steel

Tool type: DX 76, DX 76 PTR



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

### Corrosion information

- For fastenings exposed to weather or other corrosive conditions.
- Not for use in highly corrosive surroundings like swimming pools or highway tunnels.
- For more details, please refer to following technical document: Hilti Corrosion Handbook.

### System recommendation

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

### Cartridge recommendation

Base material	Cartridge color (tool power level)	
	Tool type: DX 6 F8	Tool type: DX 5 F8, DX 460 F8, DX 351 F8, DX 2
	Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
Soft/medium concrete	titanium ■ (2-6)	yellow ■, red ■
Tough concrete	titanium ■ (4-8)	yellow ■, red ■

### Cartridge recommendation

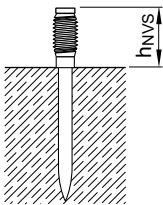
Base material		Cartridge color (tool power level)		
		Tool type: DX 6 F8	Tool type: DX 5 F8, DX 460 F8	Tool type: DX 76 PTR
		Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M	Cartridge type: 6.8/18 M
S235, S275, S355	$6 \leq t_{II} \leq 20 \text{ mm}$	titanium ■ (4-8)	red ■	yellow ■ , red ■

- 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

#### Fastening inspection

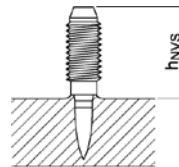
##### Fastening to concrete



##### 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

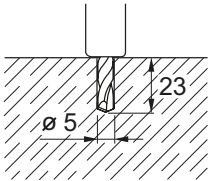


Fastener	$h_{NVS}$ [mm]
X-CR M8-9-12 FP10	12.0 – 15.0
X-CR M8-15-12 FP10	17.0 – 20.0

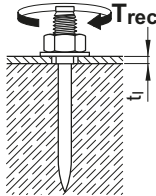
## Installation

### Fastening to concrete

DX-Kwik (pre-drilling)  
X-CR M8-\_\_-42 P8

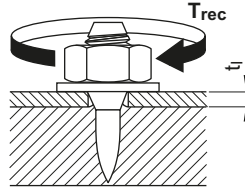


Pre-drill with drill bit  
TE-C-5/23B (Item-no.  
28557) or TE-C-5/23  
(Item no. 00061787)



Tightening torque  
 $T_{rec} = 10 \text{ Nm}$

### Fastening to steel



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

These are abbreviated instructions which may vary by application.

**ALWAYS** review/follow the instructions accompanying the product.

## Fastener program

For base material concrete, DX-Kwik method

Fastened thickness $t_{l,max}$	Fastener Designation <sup>1)</sup>	Item no.	$L_g$	$L_s$	Tools
5.0 mm	X-CR M8-14-42 P8	255911	14 mm	42 mm	DX 6 F8, DX 5 F8, DX 460 F8, DX 36, DX 2
13.0 mm	X-CR M8-22-42 P8	255910	22 mm	42 mm	

For base material steel

Fastened thickness $t_{l,max}$	Fastener Designation <sup>1)</sup>	Item no.	$L_g$	$L_s$	Tools
6.0 mm	X-CR M8-9-12 FP10	372032	9 mm	12.5 mm	DX 6 F10, DX 5 F10, DX 460 F10, DX 76, DX 76 PTR
6.0 mm	X-CR M8-15-12 FP10	372 034	15 mm	12.5 mm	

<sup>1)</sup> Type threading: M = metric