



# X-PGR-RU DATA SHEET

**Grating fastening system  
(pre-drilled)**

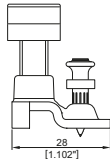
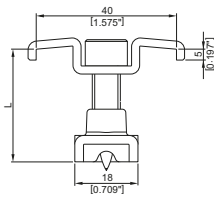


## X-PGR-RU Grating fastening system (pre-drilled)

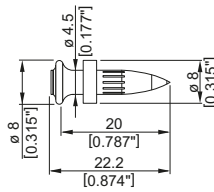
### Product data

#### Dimensions

X-PGR-RU



X-CR 20-4.5R P8



#### Material specifications

Screw:

Carbon steel

Zinc coating: Duplex\* coated

Nail:

Stainless steel: CrNiMo Alloy

Upper part:

Carbon steel: DD11

Zinc coating: Duplex\* coated

Bottom part:

Carbon steel: S315MC

Zinc coating: Duplex\* coated

\*) 480 h salt spray test per DIN 50021 and 10 cycles  
Kesternich test per DIN 50018/2.0 (comparable to 45 µm HDG steel)

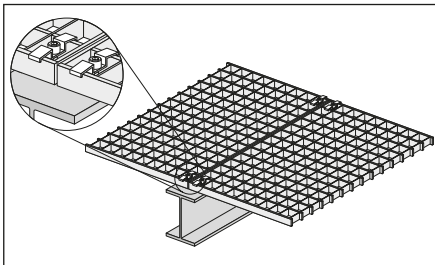
#### Recommended fastening tools

DX 6 GR, DX 5 GR and DX 460 GR



• See fastener program in the next pages.

### Application



Fastening of grating

For fastenings exposed to weather and mildly corrosive conditions.

Not for use in marine atmospheres (upstream)!

### Performance data

Recommended resistance under tension load

$$N_{rec} = 0.8 \text{ kN (180 lb)}$$

- Tensile loading is limited by plastic deformation of the saddle clip.
- X-PGR-RU resists shear by friction and is not suitable for explicit shear load designs.

### Application recommendation

Base material thickness

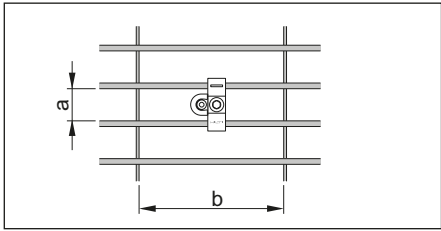
$$t_{II} \geq 6 \text{ mm (0.24")}$$

Fastened material thickness

$$\text{Grating height: } H_G = 25\text{--}40 \text{ mm (0.98"–1.57")}$$

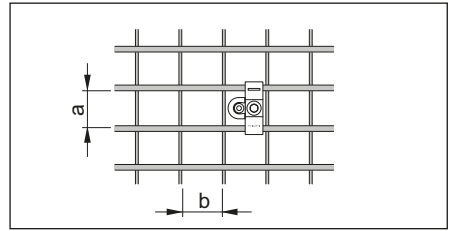
Grating opening types

Bearing bar spacing (a)



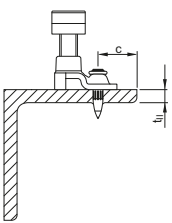
a from 25 to 32 mm (1" to 1 1/4")

Cross bar spacing (b)



b ≥ 30 mm (1.18")

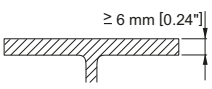
Fastener positioning in base material



Edge distance:  $c \geq 15 \text{ mm (0.59")}$

### Application limits

X-PGR-RU with DX 460 GR, DX 5 GR, DX 6 GR



- pre-drilled
- base material thickness:  $t_{II} \geq 6 \text{ mm [0.24"]}$
- steel strength:  $350 \text{ N/mm}^2 \leq R_m \leq 630 \text{ N/mm}^2$

**Corrosion information**

- For fastenings exposed to weather and mildly corrosive conditions.
- Not for use in marine atmospheres (upstream) or in heavily polluted environments.
- 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).

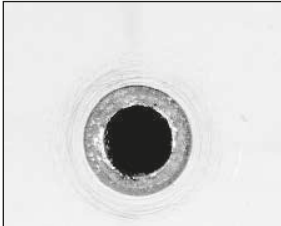
**Fastener program**

Fastener	Item no.	L mm (inch)	Grating height mm (inch)
X-PGR-RU 25/30	2061313	32 (1.26")	25–30 (0.98"–1.18")
X-PGR-RU 1 1/4"	2061314	34 (1.34")	27–32 (1.06"–1.26")
X-PGR-RU 35/40	2061315	42 (1.65")	35–40 (1.38"–1.57")

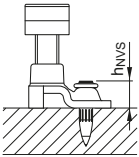
**Cartridge recommendation**

Base material		Cartridge color (tool power level)	
		Tool type: DX 6 GR	Tool type: DX 5 GR, DX 460 GR
		Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
S235, S275, S355	$6 \leq t_{\parallel} \leq 20 \text{ mm}$	titanium ■ (4-6)	red ■ (1-2)

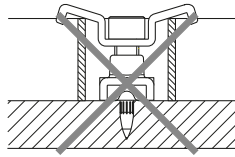
- Tool power level adjustment by setting tests on site.
- Start tool energy selection with lowest recommended tool power level.
- Correct according requirement from chapter quality assurance.

**Quality assurance**
**Pre-drill**


Pre-drill with TX-PGR-RU-4/10-93 step shank drill bit (Item no. 2061802), until shoulder grinds a shiny ring (to ensure proper drilling depth).

**Fastening inspection**


$h_{NVS} = 8-10 \text{ mm (0.31"-0.39")}$



The saddle of the fastener should not be bent, see installation instruction above.

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

**Installation recommendation**
**Tightening torque**

Element: X-PGR-RU	Fastener: Pre-mounted X-CR 20 3-5 Nm
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**Tightening tool recommendation for tightening with cordless screwdriver**

Cordless screwdriver	Clutch type (stop detection)	Gear	Clutch
SF 2-A12	TRC	1	15
SF 2H-A12	TRC	1	15
SF 4-A22	TRC	1	4
SF 6-A22	ESC (SJ)	1	5
SF 6H-A22	ESC (SJ)	1	5
SFC 14-A	TRC	1	4-7
SF 18-A	TRC	1	3-5
SFC 18-A	TRC	1	3-5
SFC 22-A	TRC	1	3-5
SBT 4-A22	TRC	1	3-5



• Tool power level adjustment:

Gear:



Clutch:



- The setting of the torque via the Hilti screwdriver with torque release coupling (TRC) can change as the clutch wears over time. The specified torque setting is only a rough guide value and applies to a new Hilti screwdriver. To ensure recommended torque is applied, Hilti recommends the use of a calibrated torque wrench or the Hilti torque tool.
- The specified torque setting for the Hilti screw drivers with electronic slip clutch (ESC) is only a rough guide value as the ESC has 2 stop detections; Soft Joint (SJ) detection and Hard Joint (HJ) detection. The hard joint detection is activated due to drop in speed (fast stop) and can lead to a torque spike. The installation torque may vary depending on the user and the application. To ensure recommended torque is applied, Hilti recommends the use of a calibrated torque wrench or the Hilti torque tool.

**Tightening tool recommendation for tightening with Hilti torque tool**

Hilti torque tool

Torque tool S-BT 1/4" – 5 Nm