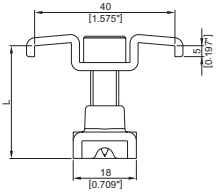
X-GR Grating Fastening System

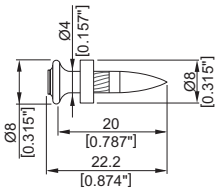
Product data

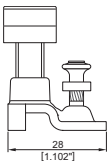
Dimensions

X-GR



X-R 20-4.0 Zn P8





General information

Material specifications

Screw:	
Carbon steel	
Zinc coating:	Duplex* coated
Nail:	
Stainless steel:	CrMnMo Alloy and zinc coated
Upper part:	
Carbon steel:	DD11 or DC01
Zinc coating:	Duplex* coated
Bottom part:	
Carbon steel:	S315MC or DC04
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)

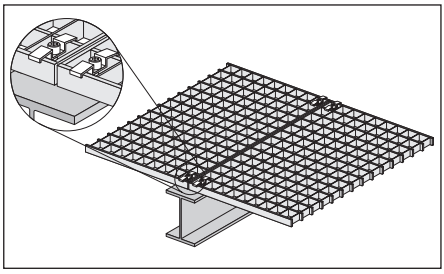
Recommended fastening tools

DX 460 GR and **DX 5 GR** with

X-5-460-F8GR fastener guide

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

Application



Fastening of grating

For fastenings exposed to weather and mildly corrosive conditions.

Not for use in marine atmospheres (upstream)!

Load data

Recommended tensile loads N_{rec} [kN]

N_{rec} = 0.8 kN (180 lb)

Notes/Conditions:

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

Application requirements

Thickness of base material

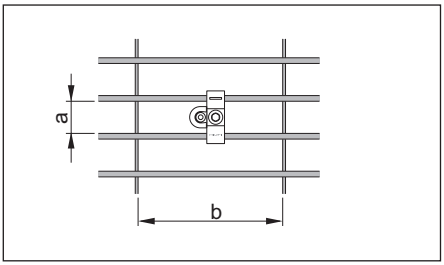
$t_{II} \geq 4$ mm (0.157‘‘)

Thickness of fastened material

Grating height: H_G = 25–40 mm (0.98‘‘–1.57‘‘)

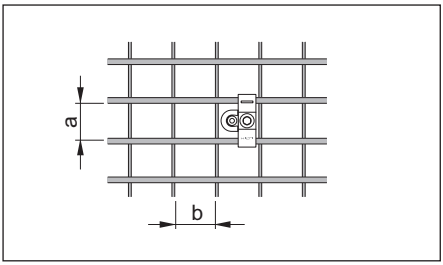
Grating opening types

Bearing bar spacing (a)



a from **25 to 32 mm (1” to 1 1/4”)**

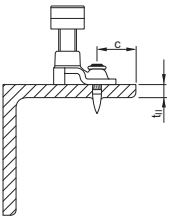
Cross bar spacing (b)



b ≥ 30 mm (1.18”)

Edge distances

c ≥ 15 mm (0.59‘‘)

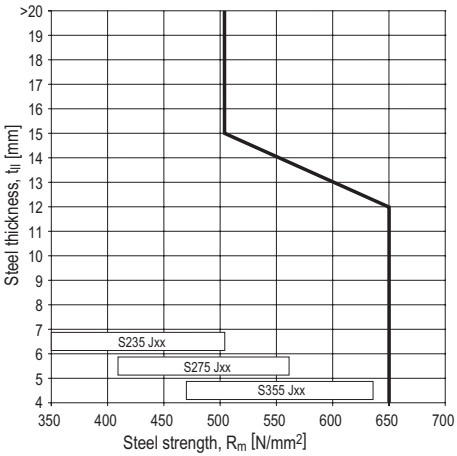


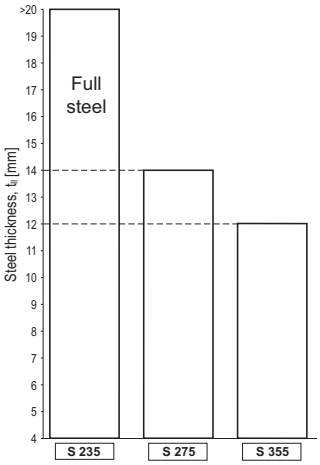
Corrosion information

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

Application limits

X-GR with DX 460, DX 5



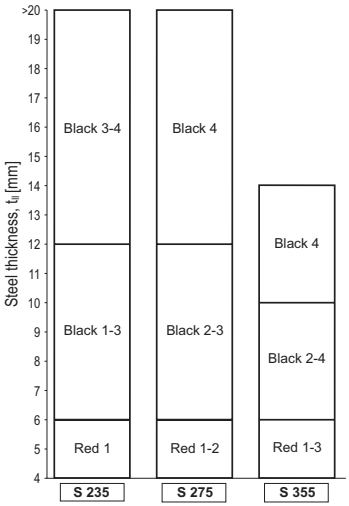


- S235: No application limit
- S275: Full coverage of grade up to 14mm base material thickness
- S355: Full coverage of grade up to 12mm base material thickness

Fastener selection

Fastener	Item no.	L mm (inch)	Grating height mm (inch)
X-GR 25/30	2106415 or 2154241	32 (1.26“)	25–30 (0.98“–1.18“)
X-GR 1 1/4”	2106416 or 2154243	34 (1.34“)	27–32 (1.06“–1.26“)
X-GR 35/40	2106417 or 2154242	42 (1.65“)	35–40 (1.38“–1.57“)

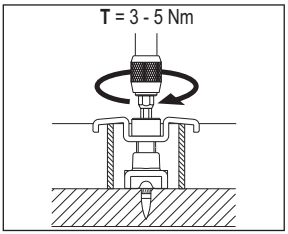
Cartridge selection and tool energy setting



DX 460, DX 5 with 6.8/11M cartridges

Fastening quality assurance

Tighten the screw



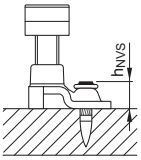
T_{rec} = 3–5 Nm (2.2–3.7 ft-lb)

Tightening tool:

- Screwdriver with torque release coupling (TRC)
- 6 mm Allen-type bit

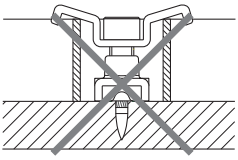
Hilti screwdriver	Torque setting
SF 121-A	4–6
SF 150-A	3–5
SF 14	3–5
SFC 14-A	4–6
SF 18-A	3–5
SFC 18-A	3–5
SFC 22-A	3–5
SBT 4-A22	3–4

Fastening inspection



h_{NVS} = 7 – 10.5 mm (0.28v‘‘–0.41‘‘)

Observing the cartridge selection and tool energy setting typically leads to a stand-off between 9 and 10 mm.



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