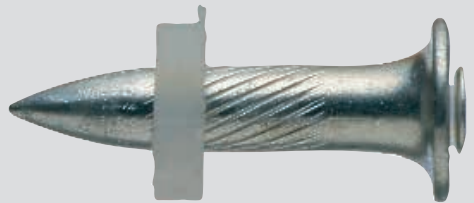




EDS DATA SHEET

Nail for fastening to steel

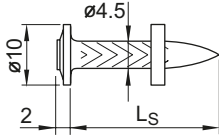


EDS Nail for fastening to steel

Product data

Dimensions

EDS_P10



General information

Material specifications

Carbon steel shank:
 EDS 19/22 HRC 55.0
 Zinc coating: 10–25 μm

Recommended fastening tools

DX 76, DX 76 PTR
 See **EDS fastener program** in the next pages and **Tools and equipment** chapter for more details.

Approvals

ICC (USA)
 ABS, LR, DNV-GL

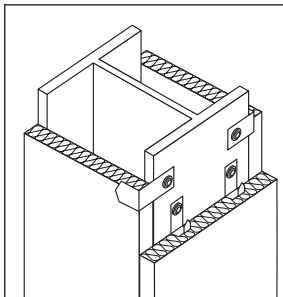


Note:

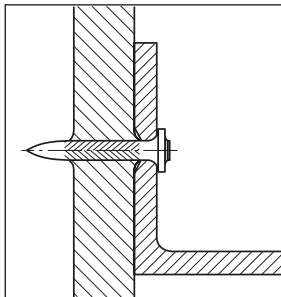
Technical data presented in these approvals and design guidelines reflect specific local conditions and may differ from those published in this handbook.

Applications

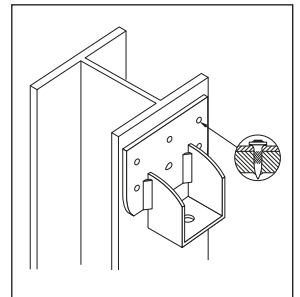
Example



Metal clips



Angle bracket



Mounting bracket

Load data

Recommended loads (predominantly static)

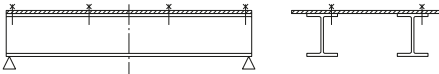
Steel sheet fastening

t_f [mm]	EDS_P10	
	N_{rec} [kN]	V_{rec} [kN]
0.75	1.1	1.5
1.00	1.3	2.3
1.25	1.7	3.2
≥ 2.00	2.4	4.0

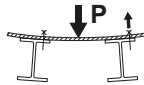
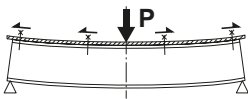
- Recommended loads valid for steel sheet with minimum tensile strength ≥ 360 N/mm².
- For intermediate sheet thicknesses, use recommended load for next smaller thickness.
- N_{rec} and V_{rec} include an overall safety factor of 3.0 applied to the characteristic test data.
Static test: $N_{rec} = N_{test,k} / 3.0$, $V_{rec} = V_{test,k} / 3.0$

Forces of constraint

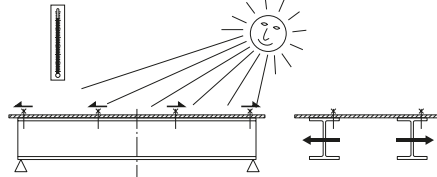
When fastening large pieces of steel, the possibility of shear loadings from forces of constraint should be considered. Avoid exceeding V_{rec} for the fastener shank!



Deflection due to primary loading

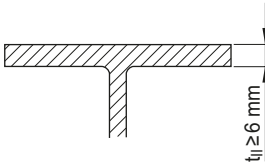


Temperature effect



Application requirements

Thickness of base material



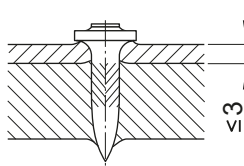
	t_{II} (mm)
EDS	≥ 6

Thickness of fastened material

$t_f \leq 3$ mm

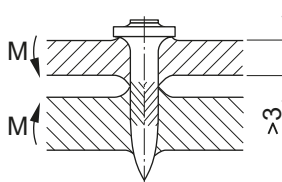
Steel fastened material ≤ 3 mm thick, usually deforms with the displaced base material to allow a tight fit between fastened steel and base material without pre-drilling.

Because conditions may vary, trial fastenings are recommended

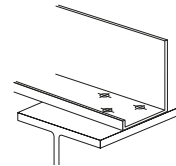


$t_f > 3$ mm

Without pre-drilling: steel fastened material > 3 mm thick is too stiff to deform entirely with the displaced base material. The gap, which increases with increasing t_f , can result in bending moments being applied to the nail shank.

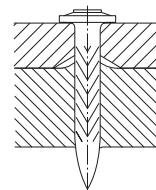
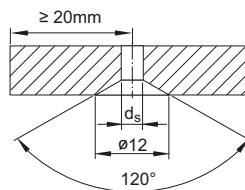


To prevent imposition of a moment on the shank of fastener, use three fasteners in a group.



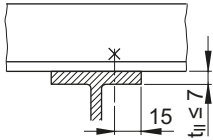
With pre-drilling:

If a gap between the fastened part and the base material is unacceptable, the fastened part can be prepared with drilled holes.

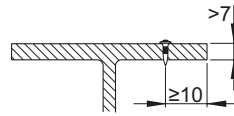
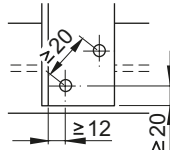


Spacing and edge distances (mm)

Base material



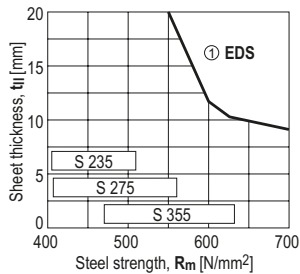
Fastened material



Corrosion information

The intended use only comprises fastenings which are not directly exposed to external weather conditions or moist atmospheres. For further detailed information on corrosion see relevant chapter in **Direct Fastening Principles and Technique** section.

Application limits



① EDS with DX76 and DX 76 PTR

- Limit line valid for steel, $t_1 \leq 3$ mm
- For steel $t_1 > 3$ mm and without pre-drilling, either make trial fastenings or adjust t_{II} to $t_{II} + t_1$ before using the chart.

Fastener program

Base material thickness	Fixed material thickness t_f [mm]									Fastener	Item no.	L_s [mm]	h_{ET} [mm]	DX tools
	≤1	2	3	5	6	7	8	9	13					
$t_{f,min} \geq 6$ mm	■	■	■	■						EDS 19 P10	46554	19	12-17	DX 76,
				■	■	■	■			EDS 22 P10	46556	22	12-17	DX76PTR

■ recommended thickness

$$L_s = h_{ET} + t_f$$

Cartridge recommendation

Tool energy adjustment by setting tests on site

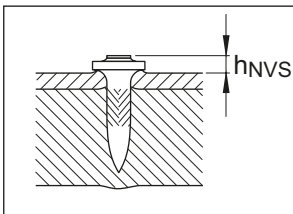
Fastener Cartridge selection and tool energy setting

EDS Cartridge recommendation: **6.8/18M red or black**

Fastening quality assurance

Fastening inspection

EDS __ P10



$h_{NVS} = 3.0-4.0$ mm