X-FS
DATA SHEET

Form stop

April 2021

X-FS Form stop

Product data

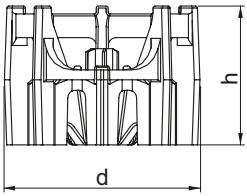
Product description

X-FS MX

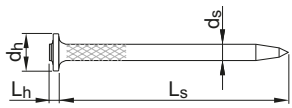
X-FS C 52

- Facilitates quick and easy positioning of formwork panels on concrete
- Designed for extremely high productivity – up to five times faster than traditional methods
- Easy to install even on rough concrete surfaces
- Stronger bond with the concrete due to large openings
- Formwork spacers remain hardly visible or fully hidden in concrete after removing formwork

Dimensions for plastic elements

Technical drawing	Designation	Diameter d	Height h
	X-FS MX	50 mm	35.2 mm
	X-FS C 52	50 mm	35.2 mm

Dimensions for nails

Technical drawing	Designation	Shank length L_s	Head length L_h	Shank diameter d_s	Head diameter d_h
	X-C 52	52 mm	2 mm	3.5 mm	8 mm

Material specification and material properties for plastic elements

Designation	Elements	Material	Color	Others
X-FS MX	Form stop	HDPE	Light grey, RAL 7035	
X-FS C 52	Form stop	HDPE	Light grey, RAL 7035	

Material specification and material properties for steel elements

Designation	Elements	Material	Coating	Minimum coating thickness	Hardness
X-C 52	Nail	Carbon steel	Zinc	5 µm	56.5 HRC

- Info for single nails are part of the corresponding Product Data Sheets.

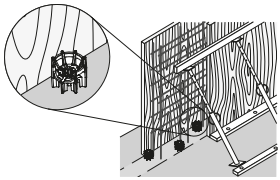
Approvals and certificates

Authority	Approval / certificate no.	Date of issue	Country of issue
ITB	AT-15-7696/2016	12/2016	Poland
Rom. Ministry, ICECON	AT 016-01_420-2020	03/2020	Romania

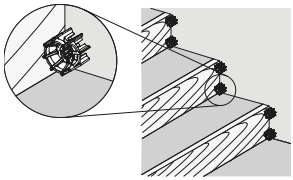
Not all information presented in this product data sheet might be subject to approval / certificate content. Please refer to approval / certificate for further information.

Applications

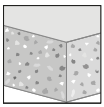
Formwork to concrete

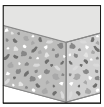


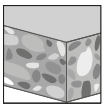
Minor formwork to concrete



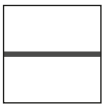
Base materials


Soft concrete


Medium concrete


Tough concrete

Load conditions


Static / quasi static

Environmental conditions


Dry indoor

- The intended use comprises fastening in dry conditions or temporary outdoor conditions.
- For more details, please refer to following technical document: Hilti Corrosion Handbook.

Fastener program

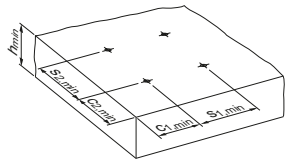
Item no. and description

Designation	Item no.	Description
X-FS MX	408022	Form stop
X-FS C 52	407346	Form stop with pre-mounted nail

X-FS Form stop – Fastening formwork

Application recommendation

Fastened material properties and fastener positioning in fastened material



Base material	Concrete
Base material thickness h_{min}	80 mm
Edge distance $c_{1,min}$, $c_{2,mi}$	70 mm
Fastener spacing $s_{1,min}$, $s_{2,min}$	100 mm

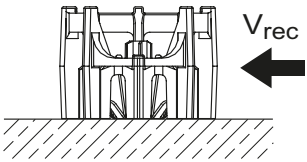
Base material properties

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

Performance data

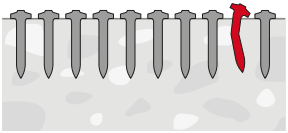
Recommended resistance under shear load

Designation	Shear load V_{rec}	
	Soft/medium concrete	Tough concrete
X-FS MX + X-X 52 MX	0.50 kN	0.50 kN
X-FS MX + X-C 52 MX	0.40 kN	–
X-FS MX + X-X 52 P8	0.50 kN	0.50 kN (DX 2: 0.20 kN)
X-FS C 52 pre-mounted	0.40 kN	–



- Redundancy of fastening points is required.
- Minimum number of fastening points for safety relevant fastenings: ≥ 5.

Stick rate estimation



Designation	Soft/medium concrete	Tough concrete
X-FS MX + X-X 52 MX	90–95 %	85–95 %
X-FS MX + X-C 52 MX	–	–
X-FS MX + X-X 52 P8	90–95 %	85–95 %
X-FS C 52	–	–

- The stick rate indicates the percentage of nails that were driven correctly to carry a load.
- Stick rate can vary from the above values depending on job site conditions.

System recommendation

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

System recommendation for fastening collated nails with powder-actuated tool

Designation	Powder-actuated tool				Base material			
	DX 6 MX	DX 5 MX	DX 460 MX		Soft concrete	Medium concrete	Tough concrete	
X-FS MX + X-X 52 MX	■	■	□		■	■	■	
X-FS MX + X-C 52 MX	■	■	□		■	■		

■ = recommended □ = feasible

System recommendation for fastening single nails with powder-actuated tools

Designation	Powder-actuated tool				Base material			
	DX 6 F8	DX 5 F8	DX 460 F8	DX 2	Soft concrete	Medium concrete	Tough concrete	
X-FS MX + X-X 52 P8	■	■	□		■	■	■	
X-FS MX + X-X 52 P8				■	■	■	□	
X-FS C 52	■	■	□	■	■	■		

■ = recommended □ = feasible

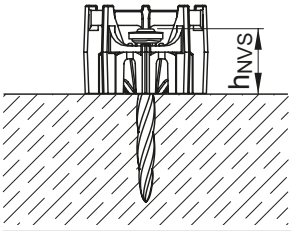
Cartridge recommendation

Base material	Cartridge color (tool power level)	
	Tool type: DX 6 MX DX 6 F8	Tool type: DX 5 MX, DX 460 MX DX 5 F8, DX 460 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 ■ (6-8)	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

Setting depth control



Fastener stand-off h_{NVS}	22–32 mm

- Visible setting failures must be replaced with a new fastener, not in the same hole.
- These are abbreviated instructions which may vary by application.
- Always review/follow the instructions accompanying the product.