

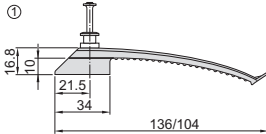
X-EKB, X-ECH Electrical Cable Fasteners

Product data

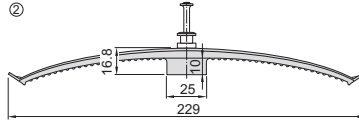
Dimensions

Single Fastener

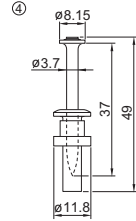
X-EKB 8/4-FR



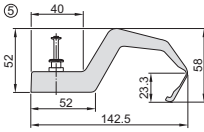
X-EKB 16 (FR)



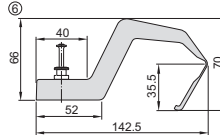
X-U 37 PH



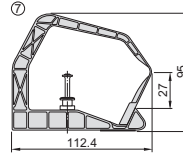
X-ECH-S (FR)



X-ECH-M (FR)

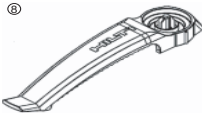


X-ECH-L (FR)

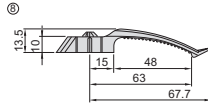


Magazine fastener

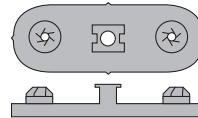
X-EKB 4 / 8 / 16 MX (FR)



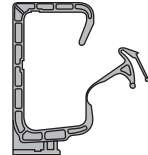
X-EKB 4 MX (FR)



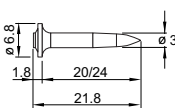
X-ECH-B MX



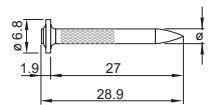
X-ECH-15/30 MX



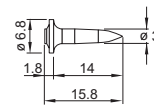
X-GHP 20/24



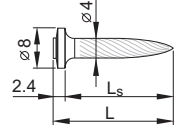
X-GN 27



X-EGN 14



X-U 16/22/27



General information

Material specifications

See Fastener selection

Recommended fastening tools

DX 460-F8, DX 351-F8, GX 120-ME, GX 100-E, DX 460 MX, DX 351 MX

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

Approvals

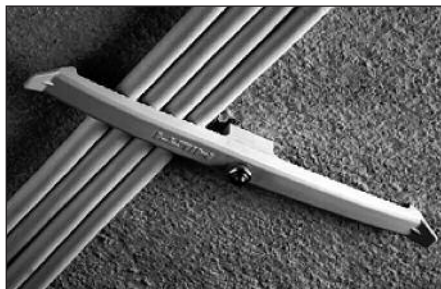
UL (USA): X-EKB MX, X-ECH / FR_U37

CSTB (France): X-EKB_U 37, X-ECH_U37

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

Applications

Examples



X-EKB for fastening cables



X-ECH for fastening bunched cables

Load data

Fastener capacity

X-EKB: Securing electrical cables to concrete ceilings and walls

Max. capacity (number of cables in one **X-EKB**) at spacing of 50–100 cm

Designation	Number of wires/cables and wire sizes	
	NYM 3 x 1.5 mm² (∅ 8 mm)	NYM 5 x 1.5 mm² (∅ 10 mm)
X-EKB 4 __	4	3
X-EKB 8 __	8	5
X-EKB 16 __	16	10

X-ECH: Securing electrical cable to ceilings and walls

Designation	No. of nails	Number of cables
X-ECH-S __ and X-ECH/FR-S __		max. $15 \times \text{NYM } 5 \times 1.5^2$ ($\varnothing 10 \text{ mm}$)
X-ECH-M __ and X-ECH/FR-M __		max. $25 \times \text{NYM } 5 \times 1.5^2$ ($\varnothing 10 \text{ mm}$)
X-ECH-L __ and X-ECH/FR-L __		max. $35 \times \text{NYM } 5 \times 1.5^2$ ($\varnothing 10 \text{ mm}$)
X-ECH-15 MX and X-ECH-B	1 or 2	max. $15 \times \text{NYM } 3 \times 1.5^2$ ($\varnothing 10 \text{ mm}$)
X-ECH-30 MX and X-ECH-B	1 or 2	max. $30 \times \text{NYM } 3 \times 1.5^2$ ($\varnothing 10 \text{ mm}$)

Conditions:

- For concrete C12/15 to C45/55 ($f_{cc} = 15 \text{ to } 55 \text{ N/mm}^2$)
- All visible placing failures have to be replaced
- Damaged X-ECH have to be replaced

Application requirements

Thickness of base material

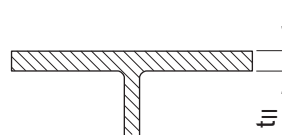
Concrete

X-U: $h_{\min} = 80 \text{ mm}$

X-GHP, X-GN: $h_{\min} = 60 \text{ mm}$

Steel

$t_{II} \geq 4 \text{ mm}$



Thickness of fastened material

Fasteners recommended for cable $\varnothing 8 \text{ mm}$ and 10 mm

Spacing and edge distances

X-EKB: approximately 50–100 cm (Adjust as necessary to control cable sag)

X-ECH: approximately 60– 80 cm (Adjust as necessary to limit sagging)

Corrosion information

These zinc-coated fasteners are not suitable for long-term service outdoors or in otherwise corrosive environments.

For further detailed information on corrosion see relevant chapter in **Direct Fastening Principles and Technique** section.

Fastener program

Fastener with pre-mounted DX-nail: Technical information

Fastener Designation	Shank Ø d _S [mm]	Shank length L _S [mm]	Tools
① X-EKB8 U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
② X-EKB16 U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
⑤ X-ECH-S U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
⑥ X-ECH-M U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
⑦ X-ECH-L U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
① X-EKB4-FR U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
① X-EKB8-FR U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
② X-EKB16-FR U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
⑤ X-ECH/FR-S U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
⑥ X-ECH/FR-M U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36
⑦ X-ECH/FR-L U 37	4.0	37	DX 460-F8, DX 351-F8, DX 36

- ③, ④ All nail shanks: carbon steel, HRC 58, galvanized 2–20 µm
Sleeve/thimble: carbon steel, not hardened, galvanized 5–13 µm

①–⑦ See Product data in previous pages

Fastener with pre-mounted DX-nail: Order information

Designation	Item no.	Plastic material
X-EKB 4-FR U37	361581	Polyamide ²⁾
X-EKB 8 U37	386231	Polyamide ¹⁾
X-EKB 8-FR U37	386233	Polyamide ²⁾
X-EKB 16 U37	386232	Polyamide ¹⁾
X-EKB 16-FR U37	386234	Polyamide ²⁾
X-ECH-S U37	386235	Polyamide ¹⁾
X-ECH-M U37	386236	Polyamide ¹⁾
X-ECH-L U37	386237	Polyamide ¹⁾
X-ECH/FR-S U37	386238	Polyamide ²⁾
X-ECH/FR-M U37	386239	Polyamide ²⁾
X-ECH/FR-L U37	386240	Polyamide ²⁾

¹⁾ halogen and silicon free, light grey RAL 7035

²⁾ halogen and silicon free, flame retardant, stone grey RAL 7030

Fastener without pre-mounted nail: Technical information

Base material	Cable holder		Nail			
	Designation	Technology	Designation	Shank Ø d _s [mm]	Shank length L _s [mm]	L [mm]
Concrete		GX	X-GN 27 MX	3.0	27	28.9
Concrete	X-EKB (FR) 4 MX	GX	X-GHP 20 MX	3.0	20	21.8
Concrete	X-EKB (FR) 8 MX	GX	X-GHP 24 MX	3.0	24	25.8
Concrete	X-EKB (FR) 16 MX	DX	X-U 22 MX	4.0	22	24.4
Concrete	X-ECH-15 MX*	DX	X-U 27 MX	4.0	27	29.4
Steel	X-ECH-30 MX*	GX	X-EGN 14 MX	3.0	14	15.8
Steel		DX	X-U 16 MX	4.0	16	18.4

* To be used with GX Technology ONLY

Fastener without pre-mounted nail: Order information

Fastener	Plastic material	Designation	Item no.
Electrical Cable Holder	Polyamide ¹⁾	X-EKB 4 MX	285712
	Polyamide ¹⁾	X-EKB 8 MX	285713
	Polyamide ¹⁾	X-EKB 16 MX	285714
	Polyamide ²⁾	X-EKB FR 4 MX	285715
	Polyamide ²⁾	X-EKB FR 8 MX	285716
	Polyamide ²⁾	X-EKB FR 16 MX	285717
	Polyamide ¹⁾	X-ECH-15 MX	2018247
	Polyamide ¹⁾	X-ECH-30 MX	2018248
	Polyamide ¹⁾	X-ECH-15/B MX	2018729 (kit)
	Polyamide ¹⁾	X-ECH-30/B MX	2018891 (kit)
GX Nails		X-EGN 14 MX	338872
		X-GHP 20 MX	285890
		X-GHP 24 MX	438945
		X-GN 27 MX	340229
DX Nails		X-U 16 MX	237344
		X-U 22 MX	237346
		X-U 27 MX	237347

¹⁾ halogen and silicon free, light grey RAL 7035

²⁾ halogen and silicon free, flame retardant, stone grey RAL 7030



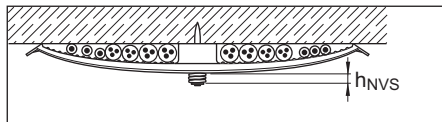
System recommendation

DX tools:	Steel:	6.8/11M red cartridge
	Concrete:	6.8/11M yellow cartridge on green/fresh and standard concrete 6.8/11M red cartridge on precast, old and hard concrete
	Masonry:	6.8/11M yellow or green cartridge, green for MX Fastener

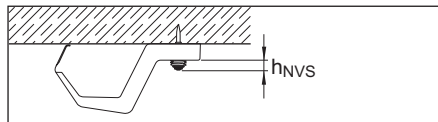
GX 120-ME tool: **Gas can GC 20, GC21 and GC22**

GX 100-E tool: **Gas can GC 11 (GC 12 in USA)**

Tool energy adjustment by setting tests on site.

Fastening quality assurance**X-EKB fastening quality**

$h_{NVS} = 7 \pm 2 \text{ mm}$

X-ECH fastening quality

$h_{NVS} = 7 \pm 2 \text{ mm}$