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Hilti Fixings for Light Gauge Steel Framing Systems

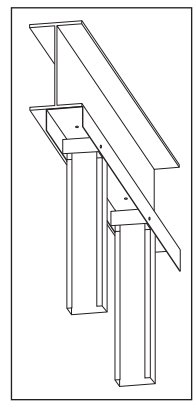
Application Guide 1

Fixing Steel Framing to Hot Rolled Structural Steel using Hilti X-U Fasteners

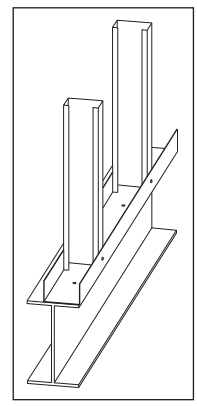
Hilti together with the main light gauge steel framing system manufacturers are constantly working on providing guidance and updates on how to install steel framing both efficiently and effectively on construction projects.

This document is designed to cover the main fastening applications to steel base materials with guidance information for contractors and installers.

This guide is intended to be an Installation Guide only. Customers must carry out a detailed method statement and risk assessment before use.



Head Track



Base Track

Light gauge steel framing systems are structural load bearing systems.

Always refer to the relevant System Manufacturer for project specific fixing guidelines.

This technical data sheet has been produced in conjunction with the following leaders in the light gauge steel framing market:

Hadley Group, Structural Sections Limited
123, West Bromwich Street, Oldbury
West Midlands B69 3AZ
Tel: 0121 555 1342
Fax: 0121 555 1341
sales.ssl@hadleygroup.co.uk
www.hadleygroup.co.uk

Metsec PLC, Framing Division,
Broadwell Road
Oldbury, West Midlands B69 4HF
Tel: 0121 601 6000
Fax: 0121 601 6021
www.metsec.com
metsecframing@metsec.com

Kingspan Off-Site Profiles & Sections
Fort Dunlop Units 316-317,
Fort Parkway
Birmingham B24 9FD
Tel: 01922 724789
sales@kingspanoffsite.com
www.kingspan.com

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Product Selection

Use a DX460 Magazine or Single Shot Tool

Insert X-U 16mm Nails. P8 for single shot tool or MX version for magazine fastener guide

Use Red cartridges for steel. Black cartridges for harder or high strength steel

The Hilti X-U, with its new, advanced knurled point, is the premium nail that delivers peak performance in countless demanding applications.

- Fully-knurled point for higher application limits on steel
- “Screw” effect for a secure hold and high loading capacity on steel
- Ballistic point for optimum driving
- Thanks to its extreme rigidity the nail penetrates the hardest materials without bending
- Magazine for rapid fastening, providing greater convenience and increased efficiency

Product details

Ordering Designation	Description	Item No.
Fasteners		
X-U 16 MX	16mm Magazine Nail for fixing to steel	237344
X-U 16 P8	16mm Single Shot Nail for fixing to steel	237330
Cartridges, 6.8/11M Calibre		
6.8/11M Yellow	Yellow Cartridge Strip (Medium), 100 Pack	50352
6.8/11M Red	Red Cartridge Strip (Heavy), 100 Pack	50353
6.8/11M Black	Black Cartridge Strip (Extra Heavy), 100 Pack	50354
Fastening Tools and Accessories		
DX460 MX72	Powder Actuated Tool with Magazine MX72	371675
X-460-F8	Single Shot F8 Fastener Guide	304529
X-460-P8	DX460 Piston	373297
X-460-B	Buffer or Stop Ring	373330

For a product or sales enquiry, or any onsite support from a Technical Account Manager, please contact Hilti Customer Services on 0800 886 100.
More Product Details can be found at **www.hilti.co.uk**

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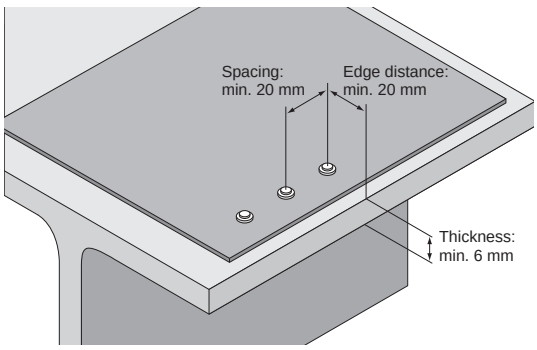
Fixing Guidelines

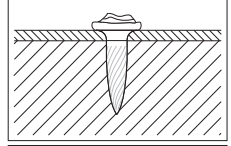
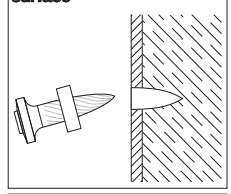
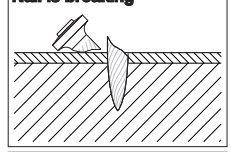
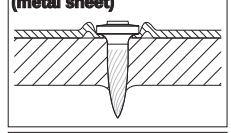
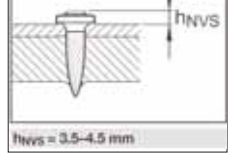
Installation

Always refer to the relevant System Manufacturer for project specific fixing guidelines.



Always follow fixing guidelines, for edge distance, fastener spacing and minimum material thickness.

Trouble Shooting

Damaged nail head 	■ Too much driving power ■ Wrong piston used ■ Worn-out piston	■ Reduce power setting ■ Use lighter cartridge ■ Check nail-piston-combination ■ Change piston
Nail does not penetrate surface 	■ Too little driving power ■ Application limit exceeded (very hard surface) ■ Unsuitable system	■ Try higher power setting or heavier cartridge ■ Use co-acting principle/fastener guide ■ Switch to heavy system like DX 76
Nail is breaking 	■ Too little driving power ■ Application limit exceeded (very hard surface)	■ Try higher power setting or heavier cartridge ■ Use shorter nail ■ Use X-ENP19
Nail head penetrates through material fastened (metal sheet) 	■ Too much driving power	■ Reduce power setting ■ Use lighter cartridge ■ Use nail with washer e.g. X-U...S12
Damaged nail head 	■ Fastening Inspection ■ Ensure Nail head stand off is between 3.5 – 4.5mm	■ Increase Power if stand off is greater than 4.5mm ■ Decrease Power if stand off is less than 3.5mm

- Comply with site PPE requirements
- When using a Powder Actuated Tool always wear eye protection to EN 166 Grade B along with ear protection
- Never depress a loaded or unloaded tool against yourself or another
- Ensure you have been trained and certified to use the tool

  Contact Hilti Customer Services on 0800 886 100
- Never leave the tool loaded and unattended
- Store the tool in a safe, dry and locked location
- Follow suggested site guidelines for disposal of spent and non spent cartridges

Additional Information

Search the Hilti Technical Library online, for data sheets on;
COSHH • Health and Safety • Guidelines on Risk Assessments • Method Statements • Noise • Recoil • HAVS • Operating Instructions

www.hilti.co.uk

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Case Study

Total Installed Cost Comparison

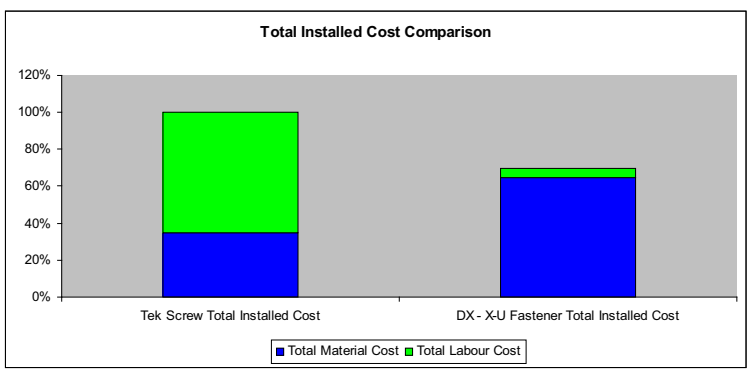
Project Details Shopping Complex, Retail Unit, West Midlands, 800sqm project size, 200 linear metres (approx) of Head Track to be installed.

Application Fixing Head Track, 200mm width, to hot rolled structural steel, approx 10mm thick.

Traditional Method Tek Screw with Drill Point
Time taken to install 8 fixings = 4 minutes 30 seconds.

Innovative Method X-U 16 MX fastener, DX460MX, Red Cartridge
Time taken to install 8 fixings = 19 seconds.

This study shows a total installed cost saving of 30% and a labour saving of 93% when using Direct Fastening compared with traditional TEK Screwing.



Installation Cost	Traditional	Innovative
Labour	65%	5%
Materials	35%	65%
Total	**100%**	**70%**

The Benefits of using Direct Fastening

- Simplified and innovative installation technique
- Extremely fast and productive
- Installation labour times and costs reduced by up to 65% per fixing over traditional methods dependant on application
- Total installed cost reduction when comparing material and labour costs versus the traditional
- Health and Safety risk reduced by:

  No drilling – lower vibration, less dust, no constant noise, no trailing leads, weather independent

Training and Certification available anywhere in the UK and Ireland

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