

HP-X Fasteners™ and isoweld® Fastening Plates



Overview

Carlisle's HP-X Fasteners are used in conjunction with TPO, PVC, and KEE HP isoweld Fastening Plates to secure Sure-Weld® TPO, Sure-Flex™ PVC, and Sure-Flex KEE HP roofing membrane to 20-gauge (0.91 mm) or 22-gauge (0.76 mm) steel or wood decks (minimum 15/32" [12 mm] CDX plywood). HP-X Fasteners provide excellent driving performance, back-out and corrosion resistance, and pull-out values. The isoweld Fastening Plate is designed to attach TPO, PVC, or KEE HP roofing membrane from the underside using the isoweld induction welding tool.

Features and Benefits

- » Fewer fasteners and plates needed than in conventional mechanically fastened systems
- » No perimeter sheets required
- » Faster dry-in time
- » Non-penetrating system
- » Symmetrical load distribution

Installation

1. No pre-drilling is necessary for wood and steel decks; simply insert the HP-X Fastener through the isoweld plate and install with a standard clutch drive electric screw gun (0–2500 rpm). Optimum fastener performance is achieved when the fastener is installed perpendicular to the deck and into the top flutes. Follow isoweld system installation instructions to attach the membrane to the installed plate using the isoweld tool.

2. Keep insulation substrate and membrane clean. Any debris on top of the insulation substrate and/or membrane should be removed prior to initiating the bonding process. Use a leaf blower or broom to remove any debris from the membrane surface.
3. Keep magnets clean. If a metal shard or other debris from the roof sticks to the magnet, it can cause damage to the membrane surface in the weld area. Periodically ensure there are no contaminants on the bottom of the magnet.

Review Carlisle specifications and details for complete installation information.

Precautions

- » Eye protection is recommended during installation.
- » Use care to avoid over-torquing the fastener.
- » Do not expose plates to sunlight for extended periods.

Typical Properties and Characteristics

Size – Inches (mm)	Weight (kg)	Thread Length – Inches (mm)	Packaging Fasteners/Carton
2 (50)	20 lbs (9.1)	Full	1,000
3 (80)	29 lbs (13.1)	3 (75)	1,000
4 (110)	38 lbs (17.2)	4 (100)	1,000
5 (130)	47 lbs (21.3)	4 (100)	500
6 (150)	56 lbs (25.4)	4 (100)	500
7 (175)	33 lbs (15.0)	4 (100)	500
8 (200)	38 lbs (17.2)	4 (100)	500
10 (250)	46 lbs (20.9)	4 (100)	500
12 (300)	55 lbs (24.9)	4 (100)	500
14 (355)	65 lbs (29.5)	4 (100)	500
Plates			
3 1/8 (80)	34 lbs (15.4)	—	500

	Steel Deck 22-Gauge or 20-Gauge	Wood Deck Min. 15/32"
Typical Pull-out Value	710 lbf (3158 N) 22-gauge	375 lbf (1668 N)
Minimum Penetration	3/4" (19 mm)	1" (25 mm)
Maximum Penetration	4" (100 mm)	4" (100 mm)
Typical Static Back-out	15.1 in lbs (1.7 N-m)	N/A
Typical Drill Times	1.5 seconds – 20-gauge	N/A

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.