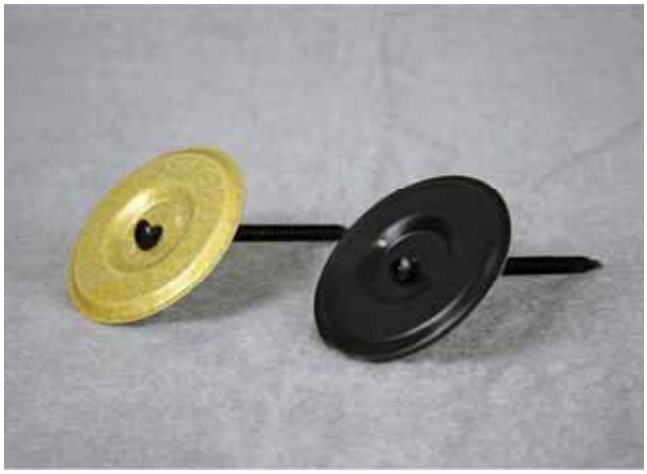
HP-X Fasteners™ and RhinoBond® Plates



Overview

Carlisle HP-X Fasteners are used with Carlisle's TPO or PVC RhinoBond Fastening Plates to secure Sure-Weld® TPO and Sure-Flex™ PVC roofing membranes. The HP-X Fastener is used on 20-gauge (0.91 mm) or 22-gauge (0.76 mm) steel or wood decks (minimum 15⁄32" [12 mm] CDX plywood). The HP-X Fastener is designed to offer an optimum combination of driving performance, back-out and corrosion resistance with excellent pullout values. The RhinoBond TPO or PVC Fastening Plate is designed to attach the roofing membrane from the underside using the RhinoBond induction-welding tool.

Features and Benefits

- Reduces the number of fasteners and plates compared with conventional mechanically attached applications
- No perimeter sheets required
- Faster dry-in time
- Non-penetrating system
- Symmetrical load distribution

Installation

No pre-drilling is necessary for wood and steel decks. Simply insert the HP-X Fastener through the Carlisle RhinoBond 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 of a steel deck. Follow RhinoBond System installation instructions to attach the membrane to the installed plate using the RhinoBond portable induction tool.

Keep insulation substrate and membrane clean: Any debris on the top of the insulation substrate and/or the membrane should be removed prior to initiating the bonding process. Use a leaf blower or broom to eliminate any debris from the membrane surface.

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 side of the magnet.

Precautions

1. Eye protection is recommended during installation.
2. Use care to avoid over-torquing the fastener.
3. Do not expose plates to UV for extended periods.

HP-X Fasteners and RhinoBond Plates

Typical Properties and Characteristics*

Size Inch (mm)	Weight/Ctn (Kg)	Thread Length Inch (mm)	Packaging Fasteners/Ctn.
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)	1,000
6 (150)	56 lbs (25.4)	4 (100)	1,000
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)	36 lbs (16.0)	—	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	¾ (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.

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