

isoweld® Field Fastening System

The isoweld system is an alternative attachment method for Carlisle's Sure-Weld® TPO, Sure-Flex™ PVC, and Sure-Flex KEE HP single-ply membranes. This non-penetrating system uses the same fastener and plate to secure the membrane and insulation to the deck, creating an FM-approved system with no point of entry for moisture. Carlisle's isoweld system also provides superior wind uplift performance compared to traditional mechanically fastened TPO, PVC or KEE HP assemblies.

IMPROVED PRODUCTIVITY

By eliminating mechanical fastening in the seam, Carlisle's isoweld system decreases the number of screws and plates required for some assemblies by as much as 50%. This reduction results in minimized labor and material costs. Spacing the isoweld plates in a grid-type pattern more evenly distributes the wind load and allows the use of full-width sheets across the entire roof area, eliminating the need for narrow perimeter sheets and reducing the number of seam welds. The Carlisle isoweld system results in faster dry-in time and allows the roofing applicator to tackle more square feet each day without the added concern of disrupting activities inside the building due to potential inclement weather.

IMPROVED PERFORMANCE

The evenly distributed securement provided by the isoweld system reduces wind flutter and noise as well as membrane fatigue compared to traditional mechanically attached assemblies. The plates are adhered to the underside of the membrane, creating a non-penetrating assembly.

The isoweld tool features a plate locating system to ensure that the welding node is placed directly over the plate. This improves the accuracy of the welds.

SYSTEM FEATURES AND BENEFITS INCLUDE:

- » Reduces fasteners, plates, and labor
- » No perimeter sheets required
- » Faster dry-in time
- » Non-penetrating system
- » Symmetrical wind load distribution



FASTENERS AND PLATES

Carlisle's isoweld system uses HP-X Fasteners and specially coated isoweld Fastening Plates to secure the TPO, PVC or KEE HP membrane and approved insulation to 20-gauge (0.91 mm) or 22-gauge (0.76 mm) steel or wood decks (minimum $\frac{15}{32}$ " [12 mm] CDX plywood).

INDUCTION WELDING TOOL

The isoweld 3000 induction tool is user-friendly, featuring a height-adjustable handle and membrane-compatible wheels for easy maneuverability. There is an inductor dummy for stabilization and a built-in temperature sensor that allows automatic adjustment of the welding parameters relative to the external site temperature. The induction tool also provides built-in compensation for variation of power supply.



HOW IT WORKS

- 1** The isoweld plates are positioned in a grid-type or in-line pattern on the substrate and secured with HP-X fasteners to the deck.
- 2** Sure-Weld TPO, Sure-Flex PVC or Sure-Flex KEE HP membrane is laid into position and the seams are hot-air welded. No fasteners are required in the seams.
- 3** The isoweld induction welding tool is placed on the membrane surface directly above each of the plates. The tool then activates a special coating on the plate, resulting in a high-strength bond between the plate and the membrane.
- 4** Weighted magnets are then placed over the plates to dissipate the heat and create a solid contact between the bottom surface of the membrane and the hot-melt adhesive on the plates.

