

TECHNICAL INFORMATION SHEET

I.S.O. Twin Pack™ Adhesive

TIS # 812

ITEM NUMBER: W56RACINTA

Description:

I.S.O. Twin Pack Insulation Adhesive is a two-component low-rise polyurethane adhesive designed for anchoring acceptable roof insulation to acceptable substrates, and to adhere multiple layers of insulation. I.S.O. Twin Pack is a solvent free and VOC free insulation adhesive that contains no harmful HCFC or CFCs.

I.S.O. Twin Pack Insulation Adhesive is suitable for cold weather applications when stored properly. I.S.O. Twin Pack Insulation Adhesive is dispensed using I.S.O. Twin Pack Hand Dispenser (Firestone Item No.: W56RACINTG); I.S.O. Twin Pack Four Bead Dispenser (Firestone Item No.: W56RACINT4); Multi-Bead Plus Dispenser; Battery Powered Single Bead Applicator or a Pneumatic Single Bead Applicator. The dispensers extrude I.S.O. Twin Pack Part A and B simultaneously to the static mixer, which results in a mixed adhesive in bead form.



Firestone Building Products standard warranties are available up to 30-year warranty period. Please refer to the Firestone Technical Database at www.firestonebpco.com for specific warranty requirements.

Method of Application:

1. I.S.O. Twin Pack Insulation Adhesive can be installed at temperatures as low as 20⁰ F (-7⁰ C) and rising when the material is stored between 60⁰ F and 80⁰ F.
2. The substrate must be clean, smooth, dry, free of sharp edges, loose and foreign materials, oil, grease, and other contaminants.
3. To mix and dispense I.S.O. Twin Pack Insulation Adhesive from kits, remove plugs and apply the static mixer over plug end of kit by hand tightening static mixer to kit with plug end facing up. Keep plug end facing up until you are ready to dispense I.S.O. Twin Pack Insulation Adhesive to the deck substrate.
4. Properly mixed I.S.O. Twin Pack will be amber, with no marbling. Part A and B will be extruded simultaneously through dispensing equipment.
5. To stop dispensing I.S.O. Twin Pack Insulation Adhesive, stop the dispenser plunger from advancing and point the mixing end up to stop Part A and Part B from entering static mixer. This stopped position of the kit can only be maintained for several minutes, as Part A and Part B already in the static mixer will continue to react, set up, and block the static mixer. If the static mixer becomes blocked during stopped period, replace static mixer in order to mix and dispense the remaining Part A and Part B in kit.
6. Apply I.S.O. Twin Pack Insulation Adhesive in a bead 1/2" (12.7 mm) wide to deck substrate in spacing as specified for the project. The adhesive will rise to a bead of 3/4" – 1" (19.0 mm – 25.4 mm) within minutes after placement. Rise time will depend on the ambient conditions: warmer=faster; cooler=slower.
7. To ensure that the insulation makes continuous contact with the adhesive during the critical set-up period, set the insulation board *4' x 4' (1.22 m x 1.22 m) maximum+, immediately in fresh I.S.O. Twin Pack insulation adhesive before a skim coat develops. Immediately after setting each insulation board, weight each board using full pails of Bonding Adhesive or other available source of weight that will not damage the roof insulation.

Storage:

- Store in original containers at temperatures between 60 °F - 80 °F (16 °C - 27 °C).
- Store cartons with kits on their side.
- DO NOT store kits with plunger or plugged end down to avoid the possibility of leakage.
- When I.S.O. Twin Pack is stored in original unopened container indoors away from direct sunlight between 60 °F - 80 °F (16 °C - 27 °C), shelf life is twelve months.
- For optimum results, rotate your stock to ensure stored material has not exceeded the shelf life of one year.

Precautions:

- Review applicable Material Safety Data Sheets prior to use.
- Personnel who are sensitive/allergic to isocyanate or polyurethane should not work with I.S.O. Twin Pack Insulation Adhesive.
- At the start of each workday, perform a trial anchoring with a sample piece of insulation with I.S.O. Twin Pack Insulation Adhesive to verify applicability for that day. Verify that proper mixing, set-up and overall adhesion of insulation to substrate is being achieved before proceeding. Use only when conditions allow, and daily trials indicate successful adhesion.
- Install only as much roof insulation anchored with I.S.O. Twin Pack Insulation Adhesive as can be covered and made watertight during that working day. Performance of I.S.O. Twin Pack should be periodically monitored during the workday to verify that sufficient rise, adhesion, and mating of the insulation using I.S.O. Twin Pack is occurring.
- Review dispensing equipment prior to use. Ensure dispensing equipment is in good working order.

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- It is the responsibility of the Roofing Contractor to maintain dispensing equipment in good working order to deliver and thoroughly mix, meter, and dispense this adhesive in ratio of 1:1 (Part A:Part B).
- Avoid contact with eyes. Wear safety glasses with side shields.
- Avoid breathing of vapors. A Self-Contained Breathing Apparatus (SCBA) or Respirator should be used in areas of limited ventilation.
- Avoid contact with skin. Wear gloves when dispensing. Wash hands thoroughly after handling.
- Do not allow I.S.O. Twin Pack to freeze. Store between 60 °F - 80 °F (16 °C - 27 °C).
- DO NOT store in direct sunlight.
- Store kits on their sides. DO NOT store with plunger or plug end down to avoid leakage.
- Keep plugs on kits tightly closed during storage. DO NOT expose to moisture.
- Set insulation boards immediately into wet I.S.O Twin Pack Insulation Adhesive. Insulation boards shall not exceed 4' x 4' (1.2 m x 1.2 m).
- It is imperative that freshly installed insulation is continuously weighted until I.S.O. Twin Pack Insulation Adhesive sets up and the board is held in place by the adhesive.
- Use caution when removing plugs from kits
- Do not burn empty kit containers. Dispose in accordance with local, federal, and state regulations.

Compliance:

Post Consumer Recycled Content: 0%
 Pre Consumer Recycled Content: 0%
 Manufacturing Location: Chargin Falls, OH



Packaging:

<i>Kit Contents:</i>	I.S.O. Twin Pack Insulation Adhesive is packaged as a kit consisting of one 750 ml Part A cartridge fastened together with one 750 ml Part B cartridge.
<i>Each Case Contains:</i>	4 Part A – Part B Kits, 6 Static Mixers, Instruction Sheet
<i>Weight of Case:</i>	≈20 lbs (9 kg)
<i>Number per pallet:</i>	48

Coverage rates of each I.S.O. Twin Pack kit, when properly mixed, dispenses 150 ft (45.7 m) of mixed adhesive in a bead 1/2" (12.7 mm) wide. This bead will rise to 3/4" - 1" (19.0 mm - 25.4 mm). This equates to 600 ft² (55.74 m²) per carton when installed in beads 12" (304.8 mm) on center (typical spacing). *Note: Coverage rate may be reduced due to irregularities in substrates.*

Beads Dispensed at:		Coverage per Carton:	
4" o.c.	102 mm	200 ft ²	27.87 m ²
6" o.c.	152 mm	300 ft ²	18.58 m ²

Typical Set Up Times:

At 60°F (15.6°C) to 90°F (32.2°C): ≈ 5-8 minutes
 At 20°F (-7°C) to 60°F (15.6°C): ≈ 8-15 minutes

Physical Properties:

Physical Properties:	Minimum Performance
<i>Color, Part A: Color,</i>	Amber
<i>Part B:</i>	Off-White
<i>Composition, Part A</i>	Isocyanate pre-polymer
<i>Composition, Part B</i>	Polyol
<i>Mix Ratio of A:B</i>	1:1 by volume
<i>Specific Gravity, Part A:</i>	1.18 + 0.06
<i>Specific Gravity, Part B:</i>	1.02 + 0.05
<i>Viscosity Part A/Part B:</i>	3,000-24,000 cps, #52 spindle at 5 RPM, 77°F
<i>V.O.C. Content</i>	0 g/L (0 lb/gal)

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Acceptable Substrates:	Notes:
<p>Structural Concrete (New) Structural Concrete (Existing) Steel Gypsum Decks Cementitious Woodfiber Modified Bitumen Roofs Plywood and OSB SBS Base Sheets V-Force Membrane Lightweight Concrete</p> <p>Existing Asphalt and Modified Bitumen Roofs (Mineral or Smooth Surfaced) Coal Tar Pitch <u>Insulation</u> ISO95+ GL™, ISOgard™ HD, RESISTA™, FiberTop Woodfiber, Dens-Deck® Product, Expanded Polystyrene, Extruded Polystyrene</p>	<p>New poured decks must have a minimum 28 day cure time. Positive adhesion test required. New steel decks may require cleaning to remove processing oils. Positive adhesion test required.</p> <p>Positive adhesion test required. Acceptable Lightweight concrete substrates include cellular or air-entrained concrete. Lightweight concrete substrates with aggregate (such as Perlite or vermiculite) are not acceptable. Existing substrates containing residual asphalt must be cleaned and scraped smooth as possible. Positive adhesion test required. Primer may be required.</p> <p>Non-Firestone brand insulations require a positive adhesion test.</p>
<p>NOT ACCEPTABLE:</p> <p>Notes:</p>	<p>Single Ply membrane, Fiberglass insulation, Perlite insulation.</p> <p><i>Dens-Deck is a registered Trademark of Georgia-Pacific.</i></p>

Necessary Equipment:

The following equipment is necessary to dispense I.S.O. Twin Pack Insulation Adhesive:

- Static Mixer:** Supplied with I.S.O. Twin Packs. Static mixer tubes are bolted onto the plugged end of kit after plugs removed. As Part A and B are simultaneously extruded through the tube, the static mixer properly and thoroughly mixes Part A and Part B. The tip at the end of the static mixer (opposite bolt end) dispenses mixed I.S.O. Twin Pack Insulation Adhesive in a 1/2" (12.7 mm) wide bead.
- I.S.O. Twin Pack 4 Bead (Firestone Item No. W56RACINT4) and 13 Bead MBA+ Multi Bead Dispenser (sold separately):**
Cart and wheel mounted, hand maneuverable, with battery driven plungers, these dispensers mix and dispense multiple beads of I.S.O. Twin Pack Insulation Adhesive simultaneously from 12" (304.8 mm) on center all the way up to full coverage on open, unobstructed roof areas. Pre-marked cartridge slots provide consistent application for desired bead spacing of the I.S.O. Twin Pack.
- I.S.O. Twin Pack Single Bead Hand Dispenser (Firestone Item No. W56RACINTG); Battery Powered Single Bead Applicator and Pneumatic Single Bead Applicator (sold separately):**
Mixes and dispenses one bead of I.S.O. Twin Pack Insulation Adhesive and are necessary for dispensing I.S.O. Twin Pack Insulation Adhesive on roof areas where Multi Bead Dispensers cannot be maneuvered.

Please Contact your Firestone Technical Coordinator at 1-800-428-4511 for further information.

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