

TECHNICAL INFORMATION SHEET

I.S.O.Stick™ Insulation Adhesive

Item Description

Part 1: 5-gallon (19 L) bag-in-box
Part 2: 5-gallon (19 L) bag-in-box

Part 1: 15-gallon (57 L) drum
Part 2: 15-gallon (57 L) drum

Part 1: 55-gallon (208.2 L) drum
Part 2: 55-gallon (208.2 L) drum

Item Numbers

W56RACIA5B1
W56RACIA5B2

W56RACIA15D1
W56RACIA15D2

W56RACIA5D1
W56RACIA5D2



Product Information

Description:

I.S.O.Stick is a two-component, low-rise polyurethane insulation adhesive applied in beads for adhesive attachment of Firestone-approved roof insulations to acceptable substrates as allowed by Firestone specifications. I.S.O.Stick is specifically designed to be dispensed using the PaceCart™ (or similar low pressure dispensing system), which simultaneously pumps I.S.O.Stick Parts 1 and 2 to a static mixer, allowing a properly mixed bead of adhesive to be applied to the receiving substrate. Firestone Building Products standard warranties are available up to a 30-year warranty period. Please refer to the Firestone website at www.firestonebpco.com for specific warranty requirements.

NOTE: PaceCart is a registered trademark of OMG, Inc.

*PaceCart must be equipped with a 15-gallon drum conversion kit to dispense 15-gallon drums.

Method of Application:

1. Install only as much roof insulation as can be covered and made watertight during that working day.
2. The substrate must be clean, smooth, dry, free of sharp edges, loose and foreign materials, oil, grease, and other contaminants.
3. The PaceCart (or similar low pressure dispensing system) must be used to install I.S.O.Stick Insulation Adhesive. PaceCart must be equipped with a 15-gallon drum conversion kit to dispense 15-gallon drums.
4. Install I.S.O.Stick only when ambient conditions, bonding substrates and insulations exceed 40 °F (4 °C) and rising.
5. To mix and dispense I.S.O.Stick with the PaceCart, properly install the I.S.O.Stick Parts 1 and 2 onto the PaceCart per manufacturer's instructions. To install the adhesive, open both valves located on the PaceCart applicator gun to start application of the adhesive to the substrate. The adhesive should be properly mixed in a 1:1 ratio through the attached static mix tip. When properly mixed, there should be no marbling in the adhesive.
NOTE: If an alternative dispensing system is used, follow manufacturer's operating instructions.
6. Apply the adhesive on the substrate in beads spaced a maximum of 12" (300 mm) on center, as specified to meet wind uplift requirements. Allow adhesive to rise ¾" - 1" (19.0 mm – 25.4 mm) and then lay the suitable insulation into position.
7. To ensure that the insulation makes adequate contact with the I.S.O.Stick adhesive during the critical set-up period, set the insulation board 4' x 4' (1.22 m x 1.22 m) maximum] in fresh I.S.O.Stick before a skim coat develops.
8. Thoroughly walk on each insulation board immediately after setting it to ensure the substrate and insulation is in complete contact while the I.S.O.Stick sets. Continue to place pressure using weighty objects such as adhesive pails on the insulation until the adhesive sets (typically 4 - 8 minutes) to ensure proper adhesion.
9. To store previously opened I.S.O.Stick containers, close the valves located on the gun and turn off the pump on the PaceCart. Remove and discard the static mixing tip. Relieve pressure in the adhesive lines by opening and closing the valves on the adhesive gun. Keep Part 1 and Part 2 containers of I.S.O.Stick connected to the PaceCart.

TECHNICAL INFORMATION SHEET

I.S.O.Stick™ Insulation Adhesive

Storage:

- Store in original unopened containers between 60 °F (16 °C) and 80 °F (27 °C) until ready for use.
- Do not store in direct sunlight.
- Do not allow I.S.O.Stick to freeze.
- Ship and store product with handle side up and keep caps of nozzle closed tightly.
- Do not expose to moisture.
- The shelf life is 18 months when stored according to these recommendations.

Precautions:

- Review applicable Safety Data Sheet prior to use.
- Personnel who are sensitive/allergic to isocyanate or polyurethane should not work with I.S.O.Stick.
- At the start and throughout each workday, test samples made with I.S.O.Stick should be created to verify that proper mixing, set-up and overall adhesion of insulation to substrate is being achieved before proceeding.
- Avoid contact with eyes. Wear safety glasses with side shields.
- Avoid breathing vapors. A Self-Contained Breathing Apparatus or Respirator should be used for limited ventilation.
- Avoid contact with skin. Wear gloves when dispensing. Wash hands thoroughly after handling.
- Use caution when removing caps from cartons.
- Do not burn empty kit containers. Dispose in accordance with local, federal, and state regulations.
- Insulation boards shall not exceed 4' x 4' (1.2 m x 1.2 m).

LEED® Information:

Post-Consumer Recycled Content: 0%

Post Industrial Recycled Content: 0%

Manufacturing Location: Rockford, MN

*NOTE: LEED® is a registered trademark of the U.S. Green Building Council.



Typical Properties

	Part 1	Part 2
Base	Polymeric MDI	Polyurethane Component
Color	Dark brown	Red
Viscosity	150 - 350 cP	390 - 530 cP
Density	10.16 lb/gal (1.22 kg/L)	8.50 lb/gal (1.02 kg/L)
Specific Gravity	1.22	1.02
V.O.C. Content	11 grams/Liter	

TECHNICAL INFORMATION SHEET

I.S.O.Stick™ Insulation Adhesive

Packaging Data

Pail/Drum	5-gallon (19 L) or 15-gallon (57 L) or 55-gallon (208 L) each, Part 1 & Part 2		
Reaction Time	Boards must be placed into the I.S.O.Stick before it reaches tack-free state. Boards may be placed into adhesive shortly after it has reached its maximum rise, typically within 2 minutes. <u>Substrate Temperature:</u> • PaceCart Application: 40 °F+ (4 °C+) • High Pressure Heated Spray Application: 35 °F+ (1.6 °C+) • Tack-Free State: 3 – 5 minutes • Set-up: 10 – 12 minutes		
Coverage	These coverage rates are applicable when the I.S.O.Stick is mixed with 1:1 ratio and applied in the proper bead spacing (serpentine pattern) at a bead width of 5/8" - 1" (0.6 - 25.4 mm). Coverage rates will vary if spacing is increased. Coverage rate may be reduced due to irregularities in substrate. The coverage rate for I.S.O.Stick at roof perimeter and corner sections may vary per roof system design requirements.		
	Application Substrate	Coverage (ft ² /gal)	Bead Spacing (field of)
	Insulation, Wood, Concrete	180-250	12" (305 mm) o.c.
	Smooth BUR, Modified Bitumen	150 - 170	12" (305 mm) o.c.
	Metal, Gypsum	100 - 120	12" (152 mm) o.c.

Acceptable Substrates

Substrate:	NOTE:
Structural Concrete (New)	New poured decks must have a minimum 28-day cure time.
Structural Concrete (Existing)	Positive adhesion test required.
Steel	New steel decks may require cleaning to remove processing oils.
Gypsum	Positive adhesion test required.
Cementitious Woodfiber	Positive adhesion test required.
Existing Asphalt and Modified Bitumen Roofs (Mineral or Smooth Surfaced)	Positive adhesion test required.
Lightweight Concrete	Acceptable Lightweight concrete substrates include cellular or air-entrained concrete. Lightweight concrete substrates with aggregate (such as perlite or vermiculite) are not acceptable.
Plywood	5/8" thick min.
Coal Tar Pitch	Positive adhesion test required.
ISO95+ GL, RESISTA, ISOGARD™ HD, FiberTop, Dens-Deck Products, Expanded Polystyrene, Extruded Polystyrene, Polyiso, Woodfiber	Non-Firestone brand insulations require a positive adhesion test.
Existing Single Ply roofs	Not acceptable
Fiberglass insulation	Not acceptable
Perlite insulation	Not acceptable

Existing substrates containing residual asphalt must be cleaned and scraped smooth as possible. The substrate shall be smooth, flat, clean, dry, free of sharp fins, or foreign materials All perimeters, deck seams and all penetrations must be sealed to prevent air infiltration through the deck. Firestone recommends an expanding foam or similar product be used.

TECHNICAL INFORMATION SHEET

I.S.O.Stick™ Insulation Adhesive

Necessary Equipment:

The PaceCart and PaceCart Static mixing tips are required for application of I.S.O. Stick insulation adhesive. They both are available for purchase through local distribution, not from Firestone. PaceCart must be equipped with a 15-gallon drum conversion kit to dispense 15-gallon drums.

NOTE: The Roofing Contractor is responsible for inspecting and maintaining PaceCart.

NOTE: If an alternative dispensing system is used, follow manufacturer's operating instructions.

Alternative Method of Application (15-gallon & 55-gallon drums)

Mix/Meter/Dispense units necessary for dispensing I.S.O Stick 55-gallon drums

1. Use high pressure pump/proportioning units to dispense Firestone I.S.O. Stick adhesive, such as:
 - Graco Predator™ Proportioner
 - Graco E-10 Reactor
 - AST Adhesive System Technology PCHGMP-075
 - AST Adhesive System Technology PCHGMP-500
2. Mix/meter/dispense units shall include heated hoses, and capabilities to dispense mixed I.S.O. Stick adhesive in spray and/or bead application.
3. Dispense Firestone I.S.O. Stick Adhesive with pre-heater and hose temperature set between 90 °F and 120 °F (32 °C – 49 °C).
4. Pump pressure for spray application should be approximately 80 PSI, adjusted as required to maintain full mixing and uniform spray fan.
5. Pump pressure for bead extrusion should be 50 – 60 PSI, adjusted as required to maintain full mixing and uniform continuous bead extrusion.

Please contact Firestone Technical Services Department at 1-800-428-4511 for further information.

This sheet is meant to highlight Firestone products and specifications and is subject to change without notice. Firestone takes responsibility for furnishing quality materials which meet published Firestone product specifications or other technical documents, subject to normal roof manufacturing tolerances. Neither Firestone nor its representatives practice architecture. Firestone offers no opinion on and expressly disclaims any responsibility for the soundness of any structure. Firestone accepts no liability for structural failure or resultant damages. Consult a competent structural engineer prior to installation if the structural soundness or structural ability to properly support a planned installation is in question. No Firestone representative is authorized to vary this disclaimer.