



PRODUCT SPECIFICATION DATA SHEET

Stevens-OlyBond 500 Insulation Adhesive

General Description

Stevens-OlyBond 500 is a dual component polyurethane adhesive that is applied using the specially designed PaceCart Dispenser. The blowing agent is water (no HCFC). Stevens-OlyBond 500 is available in 5-gallon sets of diisocyanate (Part A) and resin (Part B). Stevens-OlyBond 500 is used to adhere a variety of board stocks to numerous roof substrates in both new and re-roof applications. It can also be used to adhere insulation board to insulation board. Stevens-OlyBond 500 is dispensed in a semi-liquid bead, 12-in. (30 cm) on center, which spreads to several inches before rising ¾-in. to 1-in. (19-25 mm) above the substrate. The board stock is placed into the adhesive and walked into place. The chemical cure takes place in approximately 4 to 8 minutes after application, depending on temperature and weather conditions.

All projects requiring a Stevens warranty must have a RFW submitted and approved prior to the commencement of work.

Technical

Compatible Roof Decks and Substrates

- Lightweight structural concrete
- Poured in place structural concrete
- Existing sprayed in place polyurethane foam
- Treated plywood (5/8 in. min. (16 mm) thickness)
- Steel 22 gauge or heavier w/approved cross section
- Various BUR Smooth and with Gravel
- Pre-cast concrete
- Cementitious wood fiber plank
- Base Sheets
- Insulating concrete
- Gypsum
- Existing sprayed in place polyurethane foam

Compatible Roof Insulations

- Expanded polystyrene (EPS)
- Polyisocyanurate
- Extruded polystyrene (XPS)
- HD Wood Fiber
- Dens-Deck®

Typical Physical Properties

Density ASTM D-1622:

Compressive Strength ASTM D-1621:

Tensile Strength ASTM D-1623:

Water Absorption ASTM D-2843:

Closed Cell Content ASTM D-2856:

R-Value

Weight/Gallon (Liquid components):

Viscosity (Liquid components):

Free Rise: 3.2 lb/ft³

Parallel: 15 psi @ 6% deflection

35 psi

5.1%

90% min.

3.8 new

"Part A" Component = 10.3 lbs (4.7 kg)

"Part B" Component = 8.5 lbs (3.9 kg)

"Part A" Component = 225 cPs

"Part B" Component = 275 cPs

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Surface Preparation

Lightweight Concrete, Structural Concrete, and Plywood—Surfaces must be free of any debris, dirt, oil, grease, and moisture before applying Stevens-OlyBond 500.

Built Ups (BUR) and Modified Bitumen—Surfaces must be free of any debris, dirt, oil, grease and moisture.

Steel—The upper flange of the steel deck (bonding surface) must be free of debris, dirt, grease, oil, and moisture. On new steel, the shop coating must be removed. The bonding surface must be free of any cleaner before applying Stevens-OlyBond 500.

Insulation—Review the roofing insulation plan. Polyisocyanurate insulation boards to be attached can be no larger than 4 ft. x 4 ft. (1.2 m x 1.2 m). Multiple layers of boards should use the staggered joint method of application.

Existing Polyurethane Foam—The surface of the polyurethane roof, including the coating, should be removed with a scarifier (minimum 1/2-in. [12 mm]). The bonding surface should be blown clean before applying Stevens-OlyBond 500.

Metal—Stevens-OlyBond 500 has excellent adhesion to clean metal. It is recommended that all non-ferrous metals (aluminum, copper, stainless, etc.) be primed to further increase adhesion. Accepted primers include epoxy, chlorinated rubber, and wash primer.

Installation

Application—The Part B (resin) component should be shaken for at least one minute. The Part A and Part B components should then be poured into their respective hoppers on the PaceCart dispenser. The flow valve on the dispenser is moved to the open position allowing material to be pumped at a 1:1 ratio through the static mixing tip and on to the substrate in a semi-liquid state. The fluid mixture is applied in rows spaced 12-in. (.31 m) on center that spread to several inches wide before rising 3/4-in. to 1-in. (19 mm to 25 mm). The insulation board is then laid into place and walked in to assure complete adhesion. Curing takes place in 4 to 8 minutes.

Coverage Rates—Typical coverage rates are between 0.75 and 1.25 gallons (2.8 and 4.7 l) per 100 square feet (9.3 m²). This will result in the board achieving 60 to 75% adhesion. The application rate must be increased for rougher surfaces and will vary depending on degree of roughness.

Reaction Time—Stevens-OlyBond Classic is designed to react much more slowly than spray polyurethane foam. It is important to vary the speed of the reaction in relation to the temperature (substrate and ambient) at time of application to ensure a complete reaction. Note the chart below for correct 'Part B' component selection:

Important Installation Consideration—When applying OlyBond 500, board stock must be placed into the adhesive while it is still wet and tacky (before it reaches its tack free state). Insulation boards may be placed into the adhesive shortly after it has reached its maximum rise. This typically occurs within 2 minutes.

**Typical Handling Characteristics
(Tack Free and set Up Time in Minutes)**

Temperature Range	Part B Formula	Tack Free Time	Set Up Time
45 - 60°F (7-16°C)	W	8	12
60 - 80 °F (16-27°C)	R	7	12
+80°F (27°C)	S	7	12



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Precautions

Substrate compatibility caution—Coal tar pitch BUR, gravel surface BUR and any other substrates not listed under **Compatible Roof decks and Substrates** above **MUST** be reviewed and approved by Stevens Technical Department prior to shipment and installation

Stevens-OlyBond 500 is NOT recommended for application or use as follows:

- With polyisocyanurate board stock larger than 4 ft. x 4 ft. (1.2 m x 1.2 m).
- When ambient or substrate temperatures are below 45° F (7°C) or above 120° F (49°C).
- During inclement weather.
- On wet surfaces.
- On any roof deck that shows signs of deterioration or loss of structural integrity.
- On excessively dirty or grease laden surfaces.
- After the expiration date. Contact Stevens at 800-621-7663 for options and instructions.

Handling and Storage

Stevens-OlyBond 500 should be stored between 45° F and 95° F (7°C and 35°C). At these temperatures, the shelf life is 12 months from the date of manufacture. Keep containers closed and store in a well-ventilated, cool dry place. For long-term storage, partially empty containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture. Contamination by moisture or basic compounds can cause dangerous pressure buildup in a closed container. Protect from freezing. **The minimum product temperature before entering the PaceCart dispenser should be 72°F (22°C).** The minimum ambient and surface temperatures should be 45°F (7°C).

Note:

The Material Safety Data Sheet (MSDS) for this product is on line at www.stevensroofing.com