

# OlyBond500™

ADHESIVE FASTENER

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## Product Data Specification

### TYPICAL PHYSICAL PROPERTIES

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#### Density ASTM D-1622

Free Rise 3.2 lb/cf

#### Compressive Strength ASTM D-1621

Parallel 38 psi @ 6% deflection

Tensile Strength ASTM D-1623 35 psi

Water Absorption ASTM D-2843 5.1%

Closed Cell Content ASTM D-2856 90% min.

R-Value 3.8 new

Weight/Gallon (Liquid components) "Part 1" Component = 10.32 lbs.

"Part 2" Component = 8.54 lbs.

Viscosity (Liquid components) "Part 1" Component = 225 cps

"Part 2" Component = 275 cps

## PRODUCT DESCRIPTION

OlyBond500 is a dual component polyurethane adhesive that is applied using the specially designed PaceCart Dispenser.

**Basic Use:** OlyBond500 is used to adhere a variety of board stocks to a variety of roof substrates in both new and re-roof applications. It can also be used to adhere insulation board to insulation board. OlyBond500 is dispensed in a semi liquid bead that spreads to several inches before rising 3/4"-1" above the substrate. The board stock is placed into the adhesive and walked into place. A chemical cure takes place in approximately 4 to 8 minutes after application, depending on temperature and weather conditions.

## Compatible Roof Decks and Substrates:

- Lightweight structural concrete
- Poured in place structural concrete
- Pre-cast concrete
- Plywood (5/8" minimum thickness)
- Smooth Surfaced Built-up Roofing
- Steel-22 gauge or lower (with approved cross section)
- Existing sprayed in place polyurethane foam
- Cementitious wood fiber plank
- Base Sheets
- Insulating concrete
- Gypsum

### **Compatible Roof Insulations:**

- Expanded Polystyrene
- Polyisocyanurate
- HD Wood Fiber
- Dens-Deck
- Perlite
- Certain Extruded Polystyrene

### **Potentially Non-compatible substrates:**

(These and any other substrates not listed above must be reviewed and approved by OMG.)

- Coal tar pitch BUR
- Gravel surfaced BUR

### **Application Features:**

- No thermal shorts caused by fasteners
- Chemical cure results in faster set up time
- No pre-drilling into concrete
- Rapid application
- Strengthens system
- Reduces re-roof and construction noise

### **Post-application features:**

- Board stock is securely adhered to substrate
- Lowers potential for building contamination
- Wind uplift resistance is maximized

### **Composition and Materials:**

OlyBond500 is a dual component, reaction cure polyurethane adhesive. The blowing agent is water (no HCFC). OlyBond is available in 5 gallon sets of diisocyanate (Part 1) and resin (Part 2).

### **Limitations:**

- OlyBond500 is not recommended for use with isocyanurate board stock larger than 4' x 4'.
- OlyBond500 is not recommended for application when ambient or substrate temperatures are below 45° F or above 120° F.
- OlyBond500 is not recommended for use during inclement weather.
- OlyBond500 is not recommended for use on wet surfaces.
- OlyBond500 is not recommended for use on any roof deck that shows signs of deterioration or loss of structural integrity.
- OlyBond500 is not recommended for use on excessively dirty or grease laden surfaces.

- OlyBond500 is not recommended for use after the expiration date. Contact OMG at 800-633-3800 for options and instructions.

### **TECHNICAL DATA**

OlyBond500 is packaged in 5 gallon pail sets consisting of Part 1 (diisocyanate) and Part 2 (resin) containers that should be stored between 45° F and 95° F. At these temperatures, the shelf life is 12 months from the date of manufacture. The minimum product temperature before entering the OlyBond500 dispenser should be 72° F. The minimum ambient and surface temperatures should be 45° F. Surface Preparation: Lightweight Concrete, Structural Concrete, and Plywood; these surfaces must be free of any debris, dirt, oil, grease, and standing water before applying OlyBond500. Built Ups (BUR) and Modifieds, surfaces must be free of any debris, dirt, oil, grease and standing water. Contact OMG for details. Steel-The upper flange of the steel deck (bonding surface) must be free of debris, dirt, grease, oil, and standing water. On new steel, the shop coating must be removed. The bonding surface must be free of any cleaner before applying OlyBond500. OlyBond500 is approved by most systems manufacturers and is Factory Mutual, Florida Building Code and Miami Dade approved.

### **Insulation:**

Review the roofing insulation plan. Isocyanurate insulation boards to be attached can be no larger than 4' x 4'. 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"). The bonding surface should be blown clean before applying OlyBond500.

### **Metal:**

OlyBond500 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.

## Product Installation:

The Part 2 (resin) component of OlyBond500 should be shaken for at least one minute. The Part 1 and Part 2 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" on center that spread to several inches wide before rising  $\frac{3}{4}$  to 1 inch. The insulation board is then laid into place and walked in to assure complete adhesion. Curing takes place in 4 to 8 minutes.

### Typical Application Rates

| APPLICATION               | COVERAGE SQUARES/GALLON |
|---------------------------|-------------------------|
| Insulation to Concrete    | 1.7 to 2                |
| Insulation to Insulation  | 1.7 to 2                |
| Insulation to Smooth BUR  | 1.5 to 1.7              |
| Insulation to Mod Bit     | 1.5 to 1.7              |
| Insulation to Gypsum      | 1 to 1.2                |
| Insulation to Lightweight | 1 to 1.2                |
| Insulation to Wood        | 1.7 to 2                |
| Insulation to Tectum      | 1 to 1.2                |
| Insulation to Steel       | 1 to 1.2                |

### Reaction Time:

OlyBond500 is designed to react at a slower rate 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 2' component selection:

### Typical Handling Characteristics

(Tack Free and Set Up Time, minutes)

| TEMPERATURE | COMPONENT B FORMULA | TACK FREE | SET UP |
|-------------|---------------------|-----------|--------|
| 45°-60°F    | W                   | 8         | 12     |
| 60°-80°F    | R                   | 7         | 12     |
| 80°+ F      | S                   | 7         | 12     |

**Important:** When applying OlyBond500, 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.

### AVAILABILITY AND COST

OlyBond500 is available throughout the USA by contacting your OMG technical sales representatives. Deliveries directly to job sites and to specific locations are available.

### Cost:

OlyBond500 pricing information can be obtained through OMG at 800-633-3800.

### Warranty:

OMG issues a 10 year limited material warranty on all OlyBond 500 purchases. A full adhesion warranty is available by contacting OMG prior to starting the project and submitting a completed request for warranty form.

### HANDLING & STORAGE

Keep containers closed and store in a well ventilated cool dry place. Contamination by moisture or basic compounds can cause dangerous pressure buildup in a closed container. Store between 45° F and 95° F. Protect from freezing.

### CAUTION!!!!

**FIRST AID:** In case of contact with eyes, immediately flush eyes with running water for at least 15 minutes. Call a physician immediately. In case of contact with skin, wash affected area with soap and water. Remove all contaminated clothing and shoes. Wash clothing before re-use. Discard contaminated shoes. If swallowed, give large amounts of water to dilute. If vomiting occurs, give more water. Call a physician immediately.

**ENVIRONMENTAL HAZARD:** PMDI in Part 1 Component may cause pollution. Do not discharge into lakes, streams, ponds or public waters. For guidance, contact your regional office of the EPA.

**DISPOSAL:** Spilled material, unused contents and empty containers should be neutralized and disposed of in accordance with local, state and federal regulations.



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