# HELMIBOND 890

## WATERBORNE POSTFORMING & PINCH ROLLING ADHESIVE

### Product Description

A versatile vinyl acetate adhesive with excellent bonds to a wide range of materials in addition to wood. Designed primarily for use with automated and manual postforming machinery, HELMIBOND 890 can be sprayed or roll coated for use in hot bonding, hot pressing, hot roll laminating, cold pressing and "pinch roll & stack" flat laminating applications. HELMIBOND 890 also makes an excellent "melamine" glue.

### Benefits

- ✓ Postformable
- ✓ High initial tack & very fast setting for "Pinch roll & Stack" applications
- ✓ Very High Solids; Reduces warping vs. low solids products and boosts coverage per gallon
- ✓ Versatile, bonds to: melamine and prefinished plywood surfaces, many metals, many plastics

### Suggested Uses

- Countertop deck bonding on automated, high-speed postformed countertop manufacturing lines. (The postforming operation is performed separately with HELMIBOND 898GR.)
- Flat lamination of HPL to particle, MDF or plywood cores by hot bonding, hot roll laminating, hot/cold press, "pinch roll & stack" or dead stack methods.
- Flat lamination of decorative overlays (metals, acrylic, mirror, etc.) to particle, MDF or plywood cores.
- "Melamine" glue.

### Meet or Exceeds

- **LEED Indoor Environmental Quality Credit 4.1; Low Emitting Materials: Adhesives and Sealants**
  - VOC content less than limits imposed by the State of California's South Coast Air Quality Management District (SCAQMD) Rule 1168 (80g/L, less water and exempt solvents)
- **LEED Indoor Environmental Quality Credit 4.4; Low Emitting Materials: Composite Wood and Laminate Adhesives**
  - No added urea-formaldehyde
- **OTC Rules for Adhesives & Sealants – Contact Bond Adhesive**

### Physical Properties

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|---|---|
| **Base:** | PVA |
| **Solids Content:** | 56 - 60 |
| **Viscosity:** | 2,000 - 2,800 cP |
| **Specific Gravity:** | 1.08 |
| **Weight/Gal:** | 9.0 lb |
| **Coverage/Gal:** | 265 ft² @ 6 wet mils |
| **Open Time:** | 5 minutes |
| **Clamp Time:** | 1 - 60 minutes (varies by application) |
| **pH:** | 4 - 6 |
| **Color:** | White (890)<br>Green (890GR) |
| **VHAP:** | 0lb/lb of solids |
| **VOC:** | 0 lb/gal (0 g/L); less water and exempt solvents |

### Handling & Storage

- 12 month shelf life from date of manufacture.
- Rotate stock to use the oldest material first.
- **Not Freeze/Thaw Stable. Protect from Freezing.** Product cannot be used after being frozen.
- Store between 10°C/50°F and 32°C/90°F.
- Keep containers tightly closed and store off the floor when not in use.
- If the container has been sitting for a period of time and has settled, stir thoroughly before using.
- Avoid exposure of containers to direct sunlight.
- **Do Not** apply or make bonds at temperatures below 18°C/65°F.
- Use at room temperature, 18°C/65°F, or warmer. For best results use above 21°C/72°F.

### Packaging

- 275 US gallon totes, 53 US gallon drums, 5 US gallon pails

### Clean-Up

- Use warm water when the adhesive is in the wet state
- Cured adhesive will require scraping/sanding

**HELMITIN ADHESIVES**
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*SEE SDS FOR REGULATORY INFORMATION

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## APPLICATION GUIDELINES

### Conditioning of Materials

1. Allow the core and overlay materials to acclimate together at the same temperature and humidity for at least 48 hours before bonding. Optimum conditions are approximately 22°C/72°F and relative humidity of 45% - 55%. Provisions should be made for the circulation of air around the components.
2. Moisture content of wood should be 6 - 8%.

### Postforming

1. Ensure that the spray system oil and water traps are functioning, drained regularly and are at least 25 ft from the air compressor.
2. The adhesive should be applied at a coating weight of 4.5 dry gram/ft² or 3 mils on both the core and the HPL by spray application or roll coating to achieve 100% coverage on the postform radius and edges. The approximate atomization pressure at the gun should be 40 - 60 psi and the approximate fluid pressure should be 25 - 30 psi.
3. The HPL and core are to be dried by processing through a drying oven. The adhesive should appear to be approximately 50% clear and 50% opaque when exiting the drying oven. The postform radius and edges should be completely dry or clear.
4. The HPL and core should be indexed and pinch rolled with a temperature of each between 43°C/110°F - 49°C/120°F. Failure to pinch roll at the recommended temperatures may result in spotty or no bond.
5. The edges of the core to be postformed should not have any wet spots.
6. The top can now be postformed through any commercially available flow through postformer.

### Panel Assembly by Roll Coating

1. Substrates to be bonded must be clean, dry and free from dust, dirt, grease, oils, solvents or any other contaminants.
2. Adhesive film thickness should be set to a depth of 6 - 8 wet mils. With this application, the adhesive may be applied to one substrate.
3. Index the HPL to the particleboard or plywood core as the substrates exit the roll coater.
4. At this point, the panel can be:
    i. Dead stacked. (Set time will depend on substrate porosity, number of pieces in the stack and amount of weight applied to the stack.)
    ii. Pinch rolled and stacked for 30 minutes before processing.
    iii. Processed through pinch roll/hot laminating system, allowing immediate processing after the panel has cooled.
    iv. Hot pressed for a period of 1 - 2 minutes at approximately 82°C/180°F - 93°C/200°F, allowing immediate processing after the panel has cooled.

### Melamine Glue

1. Substrates to be bonded must be clean, dry and free from dust, dirt, grease, oils, solvents or any other contaminants.
2. One surface must be porous. (i.e. end grain particle core to a melamine panel surface.)
3. Apply a bead of HELMIBOND 890 to the porous surface.
4. Join the parts and clamp or staple. Allow 20 minutes if clamping.

### Note

- Spray equipment must have stainless steel fittings, passages, fluid tips and needles. Fluid lines can be nylon lined or PVC. This material can be pumped with a double diaphragm pump or a piston pump.
- Be careful to avoid contamination by iron (rust) from any source, such as containers, tools or application equipment, as such contamination will lead to dark glue lines.
- This product may not be compatible with fire retardant board. Consult with HELMITIN technical support prior to use with these types of substrates.

### Warranty

*Because Seller has no control over methods of product application or conditions of use, its product is warranted only to be made of standard commercial grade materials and in conformance with Seller's published specifications, if any. Any recommendations for the use of the product are based on tests or experience believed to be reliable and are furnished without compensation, and Seller does not guarantee the applicability or the accuracy of this information or the suitability of its product in any given situation. Buyer must make its own tests to determine the suitability of Seller's product for Buyer's particular use and Buyer assumes all risk and liability of use of Seller's product.*

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