

## COLD-TEMPERATURE APPLICATION RECOMMENDATIONS

### **SURFACE PREPARATIONS AND DIRECTIONS OF USE:**

Please refer to the Technical Data Sheet, Safety Data Sheet, and other product information for more specific information regarding the application or use of the product. These cold-temperature application recommendations are general recommendations and may not be applicable to all products, circumstances, or applications. Contact Manus's Technical Service Department with specific questions.

All surfaces must be clean, dry, and free from damage, loose contaminants, dirt, dust, oil, grease, mist, frost, and mildew. The optimal application temperature to apply Manus-Bond hybrid sealants and adhesives is between 40°F (4°C) and 80°F (27°C). Variances in humidity and temperature may alter the skin and cure times. At temperatures below 32°F (0°C), the cure rate of the sealants is decreased (that is, length of cure time will be increased) and the presence of ice and frost on bonding surfaces becomes more likely. Temperature and ice/frost can affect the cure, adhesion, and performance of the sealants.

While it is not recommended to apply sealants and adhesives in low temperatures, risks of poor sealant performance may be lessened during application at temperatures between 0°F (-18°C) and 40°F (4°C) using the following techniques:

- Warm the sealant to room temperature for 24 hours before use to assist with adequate flow of the sealant during application.
- Clean any dew, frost, ice, or other contaminants from the substrates with an approved solvent such as MEK (methyl ethyl ketone), toluene, or xylene. These solvents may be more effective in lower temperatures than IPA (isopropyl alcohol). Whenever using solvents or primers, follow the manufacturer's instructions for use, safety, and disposal. Before applying any solvent, the user should test the compatibility of the solvent or primer with the substrate.
- If a primer is required, the primer should be warmed to room temperature. At temperatures lower than 32°F, the primer may take longer to dry than at warmer temperatures. Care should be taken to ensure

the primer and substrate are clean and dry before sealant application.

In addition to temperature, other environmental conditions can affect the cure rate of the sealants in general, such as the humidity level, dew point, condensation on the substrates, and the wind chill.

### **PRECAUTIONS:**

Use with adequate ventilation. Inhalation of vapor during application and cure may cause eye or throat irritation. In case of contact with eyes, lips, or mouth, flush thoroughly with water. If irritation persists, consult a physician. Avoid repeated, prolonged contact with skin. See SDS for additional information. **KEEP OUT OF REACH FROM CHILDREN.**

### **USER EVALUATION:**

TESTING FOR SUBSTRATE COMPATIBILITY AND ADHESION ON THE SURFACE MUST BE PERFORMED BY THE USER. THE USER SHALL DETERMINE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE. PRODUCT MAY NOT BE COMPATIBLE WITH ALL SUBSTRATES, SURFACES, USES, OR APPLICATIONS.

### **LIMITED WARRANTY:**

Any goods proven defective will be replaced or the purchase price refunded. The limited warranty described herein is in lieu of any other warranty, expressed or implied, including any implied warranty of merchantability or fitness for a particular use. The user shall determine suitability of the product for its intended use. Liability for any incidental or consequential damage or loss is excluded. The user assumes all risks of the product's use, handling, and storage.

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