COLD WEATHER HANDLING PROCEDURES

I. GENERAL GUIDELINES

BITEC Standard Specifications call for materials to be properly protected from weather using breathable tarps and/or a climate-controlled location. During storage, ensure that materials remain isolated from freezing temperatures, or other conditions that fall outside of published requirements. During colder weather, consider switching self-adhesive, cold adhesive or hot asphalt applications to a torch-applied or mechanically attached system if possible.

BITEC recommends postponing installation in weather considerations that are below freezing or require extensive measures to mitigate cold weather conditions. While temperature ranges are offered as a guideline, the arbiter in determining the limits of cold weather application is the end result of the installed material. All rolled roofing products must lay flat and/or fully adhered without buckling or wrinkling. Liquid products must be able to be applied evenly and to cure when temperatures are above freezing.

II. SINGLE PLY/THERMOPLASTIC ROOFING MATERIALS

SPECIFIC GUIDELINES

For thermoplastic roofing systems installed during colder months, consider mechanically attached or induction-welded systems as an alternative to adhesive-applied systems. Continuously check hot air welding equipment for proper calibration and perform test welds more frequently than in warmer months to ensure that a consistent and acceptable seam weld of 1.5 inches is achieved. Roll membranes out to warm in the sun for a minimum of 30 minutes before application.

COLD ADHESIVE APPLICATIONS

Follow the published storage and ambient temperature guidelines published in this document and on the corresponding product Technical Data Sheets. Maintaining the adhesive at within the recommended temperature range improves application and adhesion characteristics. Under no circumstances should BITEC adhesives be heated using an open flame. Additionally, adhesive temperatures must remain below the applicable flash point identified in the product Safety Data Sheet (SDS). Discontinue adhesive installation whenever material temperatures or environmental conditions prevent the adhesive from being distributed uniformly at the specified application rates.

III. ASPHALTIC ROOFING MATERIALS

SPECIFIC GUIDELINES

Rolls that have been stored properly in a warm location may be cut into halves or thirds to allow for easier handling and minimize the opportunity for buckling. Membrane should be rolled out and exposed to the sun for a minimum of 30 minutes prior to installation. Granule-surfaced sheets should be turned with the smooth, bituminous (i.e. black) side facing upward to maximize the opportunity for solar heating.

III. ASPHALTIC ROOFING MATERIALS (continued...)

Precut roofing membrane sheets should be "flown" into place (i.e. not rolled into the cold adhesive, hot asphalt or primed substrate) by having at least two technicians grab both corners at each end of the sheet and set it into place, allowing the middle portion of the bottom surface of the sheet to make contact with the adhesive, asphalt or primer and gently letting it lay into place until the corners are released last. (This installation technique is also suitable for both warm-weather applications.) Additional shielding from wind at the point of application may also be necessary in order to allow the torch flame to spread properly across the roll and substrate to achieve proper adhesion.

COLD ADHESIVE APPLICATIONS

The minimum required ambient application temperature for BITEC PMA-186 Adhesive is 50°F (10°C) and its storage temperature range is between 60°F (15.6°C) and 80°F (26.7°C). Maintaining the adhesive within the recommended temperature range improves flow characteristics and promotes consistent application. Acceptable warming methods include bulk material warmers, inline heating systems, and warming blankets. Never leave heating equipment unattended. Under no circumstances should BITEC adhesives be heated using an open flame. Additionally, adhesive temperatures must remain below the applicable flash point identified in the product Safety Data Sheet (SDS). Discontinue adhesive installation whenever material temperatures or environmental conditions prevent the adhesive from being distributed uniformly at the specified application rates.

SELF-ADHESIVE APPLICATIONS

Imperflex USA, SA2 and MSA self-adhesive membranes should be installed when the minimum ambient temperature is at least 50°F (10°C) and rising. Side laps must be rolled with additional attention to detail. Consider heat welding of self-adhesive side laps and/or torch application of the cap to help promote adhesion of the base ply.

HOT ASPHALT APPLICATIONS

It is not acceptable to overheat asphalt to counteract the effects of colder ambient temperatures. At the point of ply application, hot asphalt must be a minimum temperature of 400°F (204°C). To help work around this constraint, keep all vessels containing hot asphalt less than half full to minimize the opportunity for cooling of the remaining material awaiting application. Insulated mop carts, luggers and supply lines running form the kettle should be used. Apply the hot asphalt in shorter mopping leads (maximum of 6 feet ahead of the roll), which may be facilitated by smaller mops for winter applications.

IV. COATINGS, PRIMERS, ADHESIVES AND SEALANTS

SPECIFIC GUIDELINES

Keep primers, adhesives, sealants and other accessories that are placed on the rooftop for immediate use in a warmed location sheltered from the elements. Do not use primer if heavy rain or dew is expected or if temperatures are expected to drop below 50°F (10°C) within 6 hours of application. Temperature ranges are listed below with corresponding products.

SEALANTS	
Elastopav Sealants	Store between 60°F (15.6°C) and 80°F (26.7°C); Apply at 40°F (4.4°C) and rising.
LOW-RISE FOAM ADHESIVES	
StrongHold Pump Grade Adhesive	Store between 45°F (7°C) to 95°F (35°C); Apply at 25°F (-4°C) and rising.
StrongHold Pump Grade Adhesive ECO	Store between 60°F (16°C) to 90°F (32°C); Apply at 40°F (4°C) and rising.
StrongHold Foamable Adhesive	Store between 65°F (18°C) and 85°F (29°C); Apply at 40°F (4°C) and rising.
THERMOPLASTIC SYSTEMS	
StrongHold LVOC Single Ply Bonding Adhesive	Store between 60°F (15.6°C) and 80°F (26.7°C); Apply at 40°F (4.4°C) and rising.
StrongHold LVOC Single Ply Primer	Store between 40°F (4°C) and 90°F (32°C); Apply between 0°F (-18°C) and rising, up to 110°F (43°C).
StrongHold Single Ply Bonding Adhesive	Store between 60°F (15.6°C) and 80°F (26.7°C); Apply between 40°F (4.4°C) and 90°F (32°C).
StrongHold Single Ply Primer	Store between 40°F (4°C) and 90°F (32°C); Apply between 0°F (-18°C) and rising, up to 110°F (43°C).
StrongHold Single Sided Bonding Adhesive	Store between 40°F (4°C) and 80°F (26.7°C); Apply between 25°F (-3.8°C) and rising, up to 100°F (37.8°C).
	Store between 70°F (21.1°C) and 100°F (37.8°C); Apply at
StrongHold Pump Grade Adhesive	TPO / EPDM Spray Adhesive
BITUMINOUS SYSTEMS	
D41 Primer	Store between 60°F (15.6°C) and 80°F (26.7°C); Apply at 32°F (4.4°C) and rising.
IM-Prime	Store between 60°F (15.6°C) and 80°F (26.7°C); Do not use if heavy rain or dew is expected or if temperatures are expected to drop below 50°F (10°C) within 6 hours of application. Apply between 50°F (10°C) and 95°F (35°C).
PMA-186 Adhesive	Store between 60°F (15.6°C) and 80°F (26.7°C); Apply at 50°F (10°C) and rising.
PMA-2000 Flashing Adhesive	Store between 60°F (15.6°C) and 80°F (26.7°C); Apply at 50°F (10°C) and rising.

IV. COATINGS, PRIMERS, ADHESIVES AND SEALANTS (Continued...)

RESTORATION COATINGS	
Storm Breaker Acrylic Flashing Compound	Store between 45°F (7°C) to 90°F (32°C); Apply at 50°F (10°C) and rising.
Storm Breaker Acrylic CG Coating	Store between 45°F (7°C) to 90°F (32°C); Apply at 50°F (10°C) and rising.
Storm Breaker Acrylic PG Coating	Store between 45°F (7°C) to 90°F (32°C); Apply at 50°F (10°C) and rising.
Storm Breaker HB Silicone Coating	Store between 40°F (4°C) to 90°F (32°C); Apply between 50°F (10°C) and 90°F (32°C).
Storm Breaker Silicone Flashing Compound	Store between 40°F (4°C) to 90°F (32°C); Apply between 50°F (10°C) and 120°F (48.9°C).
Storm Breaker Silicone Skylight Coating	Store between 40°F (4°C) to 90°F (32°C); Apply between 50°F (10°C) and 90°F (32°C).
Storm Breaker Silicone Surface Filler	Store between 40°F (4°C) to 80°F (26.7°C); Apply at 50°F (10°C) and rising.
Storm Breaker Silicone Walkway Coating	Store between 40°F (4°C) to 90°F (32°C); Apply between 50°F (10°C) and 90°F (32°C).
Storm Breaker SEBS Rubberized Flashing Compound	Store between 45°F (7.2°C) to 95°F (35°C); Apply between 50°F (10°C) and 130°F (54.4°C).
Storm Breaker SEBS Rubberized Coating	Store between 45°F (7.2°C) to 95°F (35°C); Apply between 50°F (10°C) and 130°F (54.4°C).
Storm Breaker SEBS Rubberized Flashing Compound	Store between 45°F (7.2°C) to 95°F (35°C); Apply between 50°F (10°C) and 130°F (54.4°C).
Storm Breaker SEBS Rubberized Skylight Coating	Store between 45°F (7.2°C) to 95°F (35°C); Apply between 50°F (10°C) and 130°F (54.4°C).
Storm Breaker Urethane 2-part Flashing Compound	Store between 65°F (18.3°C) and 80°F (26.7°C) Apply at surface temperature of 6 F degrees (3.3 C degrees) above the dew point, and 50°F (10°C) and rising to 95°F (35°C).
Storm Breaker Urethane Coating	Store between 60°F (15.6°C) and 80°F (26.7°C) Apply at surface temperature of 6 F degrees (3.3 C degrees) above the dew point, and 50°F (10°C) and rising to 95°F (35°C).