
COLD WEATHER APPLICATION

December 5, 2008 - T-0803

During periods of cooler weather, it is important that installation and storage techniques be modified to ensure proper application of Siplast products. The following recommendations, developed over many winter seasons, are designed to improve the quality of cold weather applications. They are intended as guidelines only - the quality of the finished application will determine whether the temperature is too cold for roofing operations. Remember, wind and cloud cover can have as significant an effect as ambient temperature on roofing operations. Be sure to take them into consideration.

General Guidelines. To facilitate application at ambient temperatures below 50°F (10°C), adhesive, roll goods, Parapro and Terapro Resins, catalyst, and Pro Fleece should be stored in a warm place such as a heated trailer or other insulated, heated storage area prior to use.

Both hot asphalt and PA-311 Adhesive applications can be completed more effectively by cutting warmed rolls into halves or thirds. Cut sheets should be allowed to lay flat with the back surface of the sheet facing up for at least 15 minutes.

Asphalt Applications. Special precautions must be taken to ensure that Type IV asphalt maintains a minimum acceptable 400°F (204°C) temperature at the point of sheet application. Asphalt must not be overheated to compensate for cold weather conditions. The use of insulated handling equipment is strongly recommended. Hot luggers, mop carts, and kettle-to-roof supply lines should be insulated. Hand mops used in cool weather should be smaller than those used in the summer season to facilitate short mopping leads. Luggers and mop carts should never be more than half filled at all times.

During application, asphalt should never be applied more than 5 feet ahead of the roll, which should be unrolled continuously at a steady pace. The moppings should always be "squared off" between mopping intervals, and the roll should be rolled through the mopped areas and then be backrolled, exposing 2 to 3 inches of asphalt. This procedure eliminates excess asphalt build-up at roll "stops." Pressure should be kept on the roll throughout installation to ensure proper embedment. Air pockets beneath the system or between plies are unacceptable. Any such pockets should be broomed in immediately while the asphalt is still hot. Use of a weighted roller on the laps is recommended.

PA-311 and SFT Adhesive Applications: The recommended application temperature range for Siplast PA-311 and SFT Adhesives is 70° - 100°F (21° - 38°C) at the point of application. At the higher end of this range, Siplast adhesives tend to flow more easily, making application easier and reducing wear and tear on pumping equipment. Therefore, heating the adhesive is suggested for most application conditions. Bulk warmers, inline heaters, or other pre-heating equipment should be used to maintain the proper viscosity of the PA-311 Adhesive when using mechanical application equipment. While band heaters are not as efficient as bulk warmers or inline heaters, they may be used to maintain adhesive temperature, and should be positioned on the lower and mid-portions of the container being heated. When heating materials, always exercise caution and never leave them unattended. Siplast adhesives should not be exposed to open flame for heating purposes. Application should be suspended in situations where the adhesive cannot be applied at temperatures allowing for even distribution.

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"Fly" the pre-cut roofing sheets in by placing them into the adhesive rather than rolling them into position. "Flying in" sheets is an effective, efficient technique that is equally appropriate in warmer weather. Membrane materials should be rolled or broomed with a follow tool to ensure complete contact of all membrane surfaces with the adhesive. Pressure should be applied over all end laps using a clean roller or trowel. Under certain job conditions, such as areas prone to ponding, it may be preferable to torch or heat weld the laps of newly applied material.

Note: Refer to the PA-311 and SFT Adhesive product information sheets for application usage rates and monitor application to prevent over-application of adhesive.

Self-Adhered Membrane Applications: The Paradiene 20 SA products should be installed when the outside temperature is above 60° F (16° C) with sunny conditions. The laps of the Paradiene 20 SA or TS SA should be top heated to ensure they are sealed. The torch applied cap sheet should be installed on the same day. When using "P" products with the Syntan Acrylic Coating, the Parapro Roof Membrane System should be installed the same day as the Paradiene 20 SA P or TS SA P sheet.

Parapro and Terapro Applications: Parapro and Terapro Resins are available in summer and winter grades. Summer grade resins may be applied when the ambient temperature is between 59°F (15°C) and 104°F (40°) and the substrate temperature is between 59°F (15°C) and 122°F (50°C). Winter grade resin may be applied when the ambient temperature is between 23°F (-5°C) and 68°F (20°) and the substrate temperature is between 23°F (-5°C) and 77°F (25°C).

Recommended ambient application temperatures for summer and winter grade material overlaps from 59°F to 68°F. At ambient temperatures below 59°F, winter grade resin should always be used. Pro Primer R, Pro Primer W, Pro Primer T, Pro Matrix Flashing Resin, Pro Color, Pro Clear, and Pro Paste Resins are not produced in winter and summer grades. Please refer to the Parapro and Terapro Installer's Guides for specific detail regarding application temperatures and catalyzation.

While application is in progress, ongoing assessments should be made to determine whether conditions are suitable for roofing operations. In all applications, the determining factor as to the acceptability of temperature and conditions is the contractor's ability to install the products properly. The membrane should always lay flat, without buckles, air pockets or voids, and must be fully bonded. If this cannot be accomplished, application should be discontinued until more favorable temperatures and weather conditions prevail.

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