



Application Guidelines for Hot Asphalt Mopping of Modified Bitumen Roll Roofing

The use of open flame and heated asphalt presents extreme hazard to personnel and property. Products applied by torching or mopping with hot asphalt should only be carried out by skilled mechanics trained in their installation and proper safety procedures. Failure to follow the procedures as outlined below or take the necessary precautions may result in serious injury and loss of property.

INTRODUCTION

Modified Bitumen Roofing Membranes have been used successfully on numerous roofing projects throughout Canada. The quality of their installation depends on the selection of the appropriate materials and their correct application.

The application of modified bitumens membranes, particularly during cold weather, may require special techniques to prevent the stiffening of materials, inadequate adhesion, and to ensure that the proper bitumen temperature at the point of application. By following proper procedures and exercising the recommended precautions, application can progress more efficiently and a higher quality of installation will be obtained.

USE THE RIGHT MATERIALS

It is crucial that the contractor understands the characteristics and limitations of the materials he or she installs. Modified Bitumen Membranes are available with a variety of thicknesses, under coatings, reinforcements, modifiers and surfacings. Typically APP membranes are torch applied whereas SBS membranes can be mopped or torched. It is important to distinguish between mopping and torching grades. Membranes that are to be mop applied are generally sanded, while torch-on membranes are surfaced, on one or both sides with thermofusible film. Materials with thermofusible film are not suitable for mopping. Different grades are also available for either summer or winter use. Only the appropriate grade for the conditions under which they are to be applied should be used.

STORAGE AND HANDLING RECOMMENDATION

As with all roofing materials, care should be taken to ensure that the materials arrive at the job site in a dry and undamaged condition. Precautions must be taken to protect the materials from the elements during storage. By scheduling delivery of materials to the job-site just prior to their installation the risk of moisture contamination or damage can be minimized.

Store roll materials on end, placed on pallets raised above the ground or roof deck. Cover all exposed materials with breathable waterproof coverings that have been properly secured. Avoid stockpiling materials in one location and take care not to overload the roof. Handle materials in such a manner so as to prevent damage. Extra care should be taken at lower temperatures as bituminous materials may become less flexible and brittle.

Wet or damp roofing materials should never be used in the construction of a roof assembly. All surfaces to which the roofing will be applied must be dry, firm, smooth, and free of contaminants, dirt or debris. Materials should only be applied in weather suitable for roofing. Acceptable conditions depend not only on ambient temperatures, but on the total combination of nature's elements, including wind, humidity, cloud cover and solar exposure.

COLD WEATHER PRECAUTIONS

During cold weather, and where practical, store rolls in a dry and heated area. Storing the membrane in a heated area prior to use will preserve their flexibility. Bring rolls to the point of application only as they are needed. Where no heated storage area is available heat conditioning of the rolls with a torch at the point of application will improve their flexibility. When using hot asphalt for the application of the base and cap sheets, adhesion is much enhanced by applying heat simultaneously to the underside of the sheet and to the asphalt while unrolling, using a torch with a rapid sweeping motion. With lower temperatures, this may be the only practical solution other than full torching of the sheet.

Ideally, application should be scheduled so that there are no partially completed portions of the roof left exposed to the weather. If this is not practical, or application is interrupted by inclement weather, at least ensure that all base sheet laps, including perimeters, are properly sealed. Base flashing must be in place if there is any possibility of extended exposure. During this period while the base sheet is left exposed, ensure that all equipment traffic is prohibited.

By following these application procedures the adhesion of the sheet will be enhanced, minimizing the occurrence of wrinkles and blisters.

HOT ASPHALT APPLIED MEMBRANE

At the point of application of the modified bitumen, the mopping asphalt should be applied at its equiviscous temperature (EVT) or a minimum of 400°F, whichever is higher. High asphalt temperatures are essential for adequate adhesion in the application of SBS modified membranes. In the winter the asphalt should be as hot as safely possible to compensate for the more rapid rate of cooling. Failure to do so will result in poor membrane adhesion. In no case should the maximum temperature limit exceed the bitumen's flash point.

Proper insulation of all bitumen handling equipment is required to keep bitumen hot in cold weather. Insulation of the equipment is equally vital for fuel conservation and will result in savings in make-ready time. The use of insulated tank trucks and rooftop equipment for transporting bitumen such as hot luggers and mop buckets is recommended. Bitumen lines from the kettle to the roof should also be insulated. This is especially important when bitumen is being transported over long distances.

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