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# Use of Cold Applied Adhesives in Modified Bitumen Roofing Systems

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## Introduction

Cold adhesives have been used as a method of attachment for modified bitumen membranes for over 20 years. Traditional cold adhesives used are typically composed of asphalt-based cutbacks with mineral fillers and/or stabilizers. The solvents in the cutback flash off as the adhesive “cures.”

There are currently low VOC-containing adhesives available on the market. New research in adhesive formulation includes the development of alternative solvent free compounds to replace asphalt cutbacks containing petroleum-based solvents.

Cold adhesives offer a practical alternative to traditional methods of installing modified bitumens.

## Features and Benefits

The use of cold adhesives offers the following advantages:

- Ease of set-up (less equipment required)
- Suitability for projects not conducive to hot asphalt or torching
- Ease/versatility of application
- Emergency repairs easily accommodated
- Low VOC and/or solvent free adhesives may be applied with fewer regulatory restrictions or hazards

## Method of Installation

Cold adhesives are applied with a notched squeegee, roller or brush, notched trowel, or spray application equipment. Specified application rates should be closely followed.

Variations in set time due to ambient weather conditions can be expected; in addition, different adhesives will have variations in set times depending on formulation.

Consideration should be given to the expected conditions up to 48 hours following the installation of a membrane in cold adhesive. Because of set time variations, some manufacturers may recommend minimum slope requirements or special precautions be taken such as hot air welding of laps. Consult the membrane manufacturer for specific application recommendations.

As with all methods of installation, good roofing practices dictate that cold adhesives should not be installed during inclement weather.

Preceding and during installation in cold weather, cold adhesives should be stored in a heated storage facility or enclosure to maintain the proper viscosity necessary to facilitate the specified application rate and to prevent the adhesive from freezing.

Cold adhesives should be covered and tightly sealed when not in use.

Membranes should lay flat prior to installation.

## Codes and Testing

Cold adhesive systems have been tested by many manufacturers and are approved as an alternative to hot asphalt or torching in their fire and wind uplift classifications. Refer to specific manufacturer’s listings or consult the latest edition of the desired testing agency’s approval guide.

## Safety Issues

Application of cold adhesive may require the installer to wear solvent resistant gloves and long sleeves. This protective wear is common to the roofing industry and is also utilized for other methods of installation. The installer should also follow all other safety

## Disclaimer

SPRI has prepared these generic specifications for use only as a guideline. The guide is not intended to be used verbatim as an actual specification. Specific installation instructions and procedures for each particular job must be obtained from the manufacturer supplying the materials. SPRI, its members and employees do not warrant that this standard is proper and applicable under all conditions.

requirements and recommendations as provided by the manufacturer.

Consult the manufacturer/supplier to determine if the cold adhesive requires the use of respiratory equipment. The specific requirements for the use of respiratory equipment should be investigated by the applicator to ensure compliance with local, state, and federal regulatory authorities.

Most solvents currently found in solvent based cold adhesives are flammable. Such products should not be exposed to or stored near an open flame or ignition source. For this reason, the use of hot air equipment is typically the preferred method when heat welding of laps is required for cold applied systems. Manufacturer's recommendations for this practice should be followed.

Measures should be taken to prevent the intake of the solvent vapors into the interior building space through air intake systems.

#### **Performance Summary and Conclusions**

When using properly formulated, cold applied modified bitumen adhesives, lap integrity can be comparable to or better than the other methods of application once the cold adhesive has cured. Modified bitumen membranes applied in cold adhesives have demonstrated excellent watertightness over time. Used successfully for over 20 years, cold adhesives have proven their performance in the field as an acceptable method of installation.