



Roof Coatings and Cold Weather

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The approach of colder weather prompts a change in specification considerations for all types of roof coatings. The viscosity of bitumen is temperature sensitive — thinner and more fluid when hot, thicker and more viscous when cold.

Manufacturers of cold-applied asphalt roof coatings, which are liquid at room temperature, formulate their products to be usable at ambient temperatures between 40 degrees and 120 degrees. Water-based coatings and coal-tar coatings usually are applied at 50 degrees or higher.

To cover such a wide temperature range, some manufacturers offer “all temperature” products. Others offer winter-grade, summer-grade, or intermediate-grade products.

Managers specifying roof coatings need to check with the supplier or manufacturer to determine which route to follow to enable a proper product selection.

If a manufacturer offers various viscosity grades, find out how to distinguish one grade from the other. Also, note how the containers are marked and identified.

Application guidelines

Whatever the weather, successful product applications need to adhere to important guidelines:

Storage. Keep the product as close to room temperature as possible. If kept outside, store the containers as close together as possible under a tarp, which will slow the product’s internal temperature drop, keeping the viscosity and application properties closer to standard for longer.

This step is also important when using asphalt-saturated roofing felts in cold weather. These felts can become brittle when cold and crack at temperatures lower than 40 degrees. Unsaturated membranes, such as polyester, are not affected by cold temperatures but must be kept dry.

Heating. With proper storage, heating should not be necessary. On a job site, applicators might use heated storage cabinets or units for heavier-bodied coatings, or warming devices that use circulating oil to heat liquid roofing materials for easier spray application. Consult the equipment manufacturer for information on safety requirements pertaining to the heating equipment used.

Surface preparation. Never apply a product to a frost- or ice-covered surface. Once an area is free of frost, ice and snow, follow the manufacturer’s standard application directions. Besides removing frost, ice and snow, the surface must be dry for solvent-based coating products, unless using specially formulated wet-surface products. Slightly damp conditions might be acceptable for emulsions.

Energy Seal Coatings

Acrylic Coatings for Roof and Wall Applications



Application. If possible, wait until the afternoon on a sunny day. This will enable the roof to warm up as much as possible. The surface of a black roof will absorb heat, making the roof temperature warmer than the air temperature and improving the overall cure rate. Certain coatings, such as emulsified-asphalt aluminums, might require special care. Workers should follow specific instructions from the manufacturer.

Cure time. While modern technology permits the application at low temperatures, expect the cure time to be longer than on a warm summer day. A product that might cure overnight at a temperature of 70-75 degrees might take several days to cure at 40 degrees. Emulsion-type coatings require temperature conditions that permit thorough water evaporation before being subjected to rainfall, or freezing or standing water. One also can consider using a polymer-modified emulsion in cooler temperatures, as these products tend to have shorter set and cure times.

Select one of the many roof coating products formulated for use during cold weather. When in doubt concerning a product or particular weather conditions, call the manufacturer or supplier to discuss the particular situation and product selection so that cold-weather applications or repairs will yield the desired results.