

Cold Weather Installation Guidelines

Information for Use with GE *SilShield** and *Optic** Silicone Coatings

Coating Rheology

GE SilShield and Optic coatings will maintain their uncured flow characteristics at temperatures down to 0°F (-18°C) without freezing or significant change in viscosity. This fundamental attribute can allow application in all seasons. In cold weather conditions, the coatings do not require heating or mixing of additives and low temperatures do not affect the silicones' ability to bond¹ and cure (¹assuming they are applied to clean and dry substrates).

Frost & Latent Moisture

Moisture can be difficult at times to see on some substrates and frost is likely to develop when temperatures drop to 40°F (4°C) and below. Since both frost and moisture will interfere with proper adhesion, it is important to confirm that substrates are dry prior to application of the coating. Dry surfaces are critical for successful adhesion. SilShield and Optic coatings should not be applied during inclement weather (snow, rain, sleet, etc.).

Installation Temperature

Installation can proceed under cold weather conditions with the recognition and understanding that it is important to ensure that surfaces to be coated are dry and clean.

The minimum installation temperatures are as follows:

- SilShield* 2400 & 3100 → 20°F (-7°C)
- Optic* 2401 & 3101 → 20°F (-7°C)

Cure Behavior

The curing rate of SilShield and Optic coatings are temperature and moisture (humidity) dependent. Cooler temperatures and lower humidity conditions slow down the rate and warmer temperatures and higher humidity conditions increase the rate. Under standard conditions of 72°F (22°C) @ 50%RH, these coatings typically attain a tack free surface in 1-2 hours and complete cure in 24-48 hours. Under severe winter conditions it could take two or three days for these coatings to become tack-free (depending on humidity and temperature); thus, it is therefore prudent to monitor and consider extended weather forecasts during the application and curing period to be prepared for and aware of possible windy or gusty conditions. Any dust or debris kicked up under such conditions will tend to adhere to the curing coating potentially causing altered and undesirable aesthetics.

Adhesion & Mockup Testing

Adhesion testing in cold climates may be prolonged and will not be indicative of bond strength, until sufficient cure has taken place. Multiple adhesion samples may be helpful at project mockup to allow for multiple specimens which can be tested over time (if adhesion development is extended due to cold weather conditions). Once adhesion has been established, coating may proceed.