

TEMPERATURE EFFECTS ON RESINOUS PRODUCT STABILITY

OVERVIEW

Temperature fluctuations impact resin viscosity, pot life, cure speed, and shelf life. Understanding and controlling temperature ensures consistent application quality and long-term performance of coatings.

Temperature Impacts

- Low Temperature (<60°F / 16°C):
 - Increases viscosity → difficult mixing/pouring.
 - Slower cure → extended tack time.
 - Can trap moisture, increasing blush and blush-related failures.
- High Temperature (>85°F / 29°C):
 - Accelerates chemical reaction → reduces working time.
 - Increases exotherm → risk of gassing or blistering.
 - Potential for premature gelation.

Mitigation Strategies

- Pre-condition materials in temperature-controlled environment.
- Use cool storage for hot climates; warm storage for cold climates.
- Mix and apply materials at recommended temperature range.
- Avoid exposure to direct sunlight on the jobsite.