

# INSTALLATION CHALLENGES AND SOLUTIONS: COLD WEATHER TIPS FOR ADHESIVES AND SURFACE PREP

**Note:** The recommendations within this document are common industry standards and Custom Building Products' requirements. Additional limitations or specific recommendations may be listed within the Technical Data Sheets of products used in an installation assembly. When those instructions conflict with this document, the most stringent requirements and limitations shall apply\*.



Fall and winter months bring much lower temperatures that can severely affect a floor covering installation as surface preparation materials and adhesive products react much differently in these conditions. So, when scheduling and planning your projects during these colder times of the year, there are several considerations that can make your installations easier and more successful.

When adhesive and surface preparation products are formulated and tested in a laboratory, the work is conducted in a controlled environment with temperatures around 70° F/21° C and the RH/relative humidity ~50%. These parameters are required by ASTM test methods and ANSI standards to eliminate outside variables that could skew the testing results and discredit comparative evaluations of the products.

As most adhesives and surface prep materials are not installed in these ideal conditions, CUSTOM anticipates less-than-ideal conditions by field testing our products under a variety of weather parameters. From these evaluations, we recommend installation of our adhesives and surface preparations products when the substrate and ambient temperatures are between 50° F/10° C and 95° F/35° C.

Make sure you consider the ambient temperature and the substrate temps that you plan to install over as both will affect all the materials included.

## **Temperature Evaluation for Planning**

Use app-based data for ambient temperatures in your project's region and a Laser Temperature Gun Infrared Thermometer for substrate temperature evaluations during your job inspection walk before installations are scheduled to start if you have concerns regarding environmental conditions.



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### **Dew Point**

Do not apply these materials when condensation exists and/or conditions are within 5 degrees of dew point as cement and latex-based products depend on moisture evaporation to cure or dry. When the air is heavy with moisture, cure times can delay considerably, leaving patches and levelers soft on the surface.

### **Storage**

Always store materials inside controlled areas out of the elements and protect from freezing. Requirements which include jobsite conditions are 50° F/10° C to 100° F/38° C.

### **Acclimation**

Acclimate materials indoor overnight for best adhesive performances temperatures to 73 ° F/23° C or above.

### **Climatize the Jobsite**

Heating solutions should not introduce toxins or safety hazards into the workspace. On larger projects the General Contractor can supply and manage heating solutions as needed. To warm substrates properly, use heat solutions on levels below to effectively and evenly distribute heat to acclimate substrates properly before surface preparation and/or adhesive installations begin.

### **Water Temps**

Avoid use of cold water for mixing patching compounds and self-leveling underlayments. Bleed colder water out of lines or pre-stage buckets/barrels of water the day before to acclimate.

### **Adhesive Selections/Compatibility**

Always follow the flooring material manufactures instructions. CUSTOM always suggests using ASTM F3311 Standard Practice for Mat Bond Evaluation of Performance and Compatibility for Resilient Flooring System Components Prior to Installation.

### **Curing/Drying**

All materials will take longer to dry/cure during colder temps. Plan extended times into your production schedules and avoid use of excessive heating and/or fans to accelerate drying as these methods can negatively affect the drying mechanisms and performance of these engineered products.

### **Heating up Adhesives**

Options include the use of Electric Insulated Bucket heaters, warm water soaking the adhesive bucket in water with temps at 110° F/43°C to 115° F /46°C for approximately 1 hour and even something as simple as placing the adhesive bucket in the sun or cab of the truck can dramatically improve workability of thicker/colder adhesives.



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## Heating up Surface Preparation Materials

Use of an OSHA approved heating system “surrounding” surface prep materials to temperatures of 50° F/10° C to 100° F/38° C overnight on projects with cold weather conditions.



## Mix Adhesives

Drill mixing adhesives before use can assist in lowering the viscosity and loosening up the materials making it easier to spread; avoid multiple or over-mixing of adhesives as this can shorten working times.

*\* Consult individual product Technical Data Sheets for specific recommendations and limitations regarding project conditions. Assembly mockups can determine suitability for these conditions on specific projects. Contact CUSTOM Technical Services for questions and product information: [CONTACT CUSTOM](#) or (800) 282-8786. Instructional videos, technical bulletins, case studies, FAQs and white papers: [custombuildingproducts.com/reference-library.aspx](http://custombuildingproducts.com/reference-library.aspx)*

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## Resources

Weather Apps: <https://www.popularmechanics.com/technology/apps/g25804798/best-weather-apps/>

Laser Temperature Gun Infrared 10:1 Thermometer: <https://www.homedepot.com/p/Milwaukee-Laser-Temperature-Gun-Infrared-10-1-Thermometer-2267-20/206260202>

Electric Insulated Bucket heaters: <https://www.homedepot.com/p/Powerblanket-Insulated-5-Gal-Band-Style-Bucket-Heater-Pail-Heater-Fixed-Temp-145-F-Freeze-Protection-Process-Heating-PBL05/305262676#overlay>

Weather Reports: <https://weather.com/forecast/national/news/2020-01-28-above-average-temperatures-winter-lower-48-frigid-temperatures>

Cold Weather Equipment: <https://www.equipmentworld.com/workforce/safety/article/14962451/cold-weather-makes-you-dumb-and-thats-a-serious-safety-concern-for-people-who-work-in-construction>



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