



CeramycGuard™ Ceramic Surface Treatment

Product Handling and Application Considerations for Warm, Humid Weather

In warmer weather and higher relative humidity conditions, it is important to plan mixing, application, and team dynamics in such a way that product is applied as efficiently and quickly as possible, while also having a plan in place to mitigate adverse ambient conditions. Best practice strategies listed below can assist with obtaining optimum coating results.

This water-based coating technology is temperature and humidity cured. So, as temperatures and relative humidity increase, pot life will decrease, and material will harden more quickly once applied. This means there will be less time to put material down and less time to work it to the desired finish once applied.

APPLICATION CONDITIONS - CeramycGuard

Temperature: 55°F minimum, 85°F maximum (air, surface, or material)

At least 5°F above dew point

Relative humidity (RH): 30% minimum, 85% maximum

Potlife: >1 hour @ 70°F and 30%-50% RH

- *Increased temperature or humidity will **decrease** pot life.*
- *Cooling the CeramycGuard, during storage and application, will give applicators **increased** potlife.*

BEST PRACTICES for warm weather MATERIAL HANDLING and other adaptation options:

Prior to project, there should be a WRITTEN WORK PLAN laid out by the contractor or project manager that describes expected weather conditions and MATERIAL HANDLING adaptations that will be used to ensure the maximum potlife, including one or more items from the list below:

1. Use ice water to chill the surface to get the concrete substrate temperature down as much as possible and provide the necessary saturated surface dry (SSD) condition. Here, again, having a chilled container may assist in chilling larger volumes of water if the project is remote.
3. Ideally, in warmer weather you can cool the CeramycGuard coating in a chilled container or air-conditioned space to between 40°F and 50°F (10°C), or as close as possible, to generate longer potlife in hot weather.
4. Perform work at the coolest time of early AM, or late night, to ensure concrete surfaces are cooler, and the atmosphere is less humid.
5. Provide tenting or other surface cover for concrete to avoid direct solar exposure **before and during** coating application (*after area is coated, direct sun is fine during curing*).
6. Pails of unmixed material can be stacked in pails or other containers of ice to help keep the mixed material cool.
7. Pails of unmixed material should be covered and kept out of direct sunlight. A tented, or otherwise covered, mixing station is recommended.
8. If project area is indoors, then air conditioning is ideal between 65°F (18°C) and 75°F (24°C).



BEST PRACTICES for project management:

- 1. Prior to project, there should be a WRITTEN WORK PLAN laid out by the contractor or project manager that describes weather conditions and best practice adaptations.**
2. Ensure there is sufficient labor and training such that getting product onto the surface and back rolling takes as little time as possible.
3. Always measure surface temperature prior to application. Surfaces exposed to direct sunlight can greatly exceed ambient temperatures after only a few minutes of direct sunlight.
4. Regardless of weather forecast, use a temperature and humidity meter to verify and record onsite conditions prior to project. This is a good daily practice.
5. Concrete substrate can be cooled using cold water if surface temperatures are excessive, but other conditions are within specification. Ensure substrate has dried to at least a saturated surface dry prior to any application, and verify that temperature is within specification using temperature gun (ideally 60°F +/-10°F).
6. While mixing in larger quantities is generally more efficient to maintain pace, mixing smaller quantities at first may be prudent until it is understood how quickly a given quantity of product can be applied. This will avoid material waste due to shortened pot life.
7. Keep product stored out of direct sunlight and in a cool or refrigerated area. Keeping product cool will help extend the pot life once mixed. Often, a refrigerated truck may be best practice for hot, humid climates.
8. Best practices for cooling means CeramycGuard is kept in a refrigerated area for 24-48 hours, ensuring it is fully cooled down prior to field application on larger projects. (Powder and liquid elements are dense and will hold heat, unless cooled over a sufficient time period).
9. Do not mix any product until immediately prior to application. Once mixed, product should be used as quickly as possible.
10. Application using squeegee and back-roll method in open areas is strongly recommended, as this usually allows for a quick and relatively even initial coating. Immediately back-rolling after spreading with a squeegee will quickly even out the distribution of material. Additionally, if material is not back rolled quickly once spread with a squeegee, it may begin to setup and may not remain workable.
11. As material begins setting up in the mixing container or paint tray, it will thicken and more easily leave stippling from the roller covers as well as roller marks. If this begins to happen, take a temperature and humidity reading, and consider adjusting practice to avoid premature setting of material. It is possible that activities may need to be paused, until conditions are more suitable for application. Product may need to be discarded if no longer suitably workable for desired results.
12. **DO NOT DILUTE MATERIAL WITH WATER OR SOLVENT IF THICKENED.** In all cases, dilution with water will ruin the coating.

If uncertain of whether conditions are appropriate for application of CeramycGuard, consult with your technical representative or Zirconia team member prior to mixing or applying any material. Zirconia's office number is 206-219-9236.



WARNINGS

Warning 1: Concrete is highly absorbing of solar energy. Contractor must avoid conditions where direct sunlight will hit surface on warm days, as surface temperatures can spike upward over 100°F in just several minutes. Halt work if surface temperatures go above 85°F, or material begins to flash cure on surface contact. Use cold water and other methods listed above to get surface and materials back to a lower, in range application temperature.

Warning 2: Avoid conditions where the surface temperature, air temperature and humidity are near their maximum if possible. Sometimes, for projects where finish results are less important, it may be desired to push forward regardless. In this case, using fast application techniques with sufficient labor to execute rapid material lay-down and back roll will be necessary, especially for vertical or overhead surfaces will be helpful, along with following best practices above for cooling concrete surfaces and materials.

Warning 3: Do not store CeramycGuard outdoors in warm weather, this will shorten the potlife. The ceramic and liquid components of the CeramycGuard are quite dense, and will take time to cool down. Material should ALWAYS be kept in an air conditioned or refrigerated areas for at least 24 hours to allow for proper cooling of material and successful application, including desired surface penetration, and curing.