



Warm Weather Installation Guidelines

We are writing to clarify our recommendations for the installation of ARDEX and W.W. Henry materials (to include patching, leveling, tiling and ARDEX Engineered Concrete Repair Systems materials) during periods of warmer weather.

In accordance with the Portland Cement Association, "...if the temperature... will exceed 77°F, a plan should be developed to negate the effects of high temperature." There are four temperatures that need to be checked: air, substrate, material and water. Knowing these temperatures and employing the installation guidelines described below will help ensure the desired results are achieved.

1. Substrate temperature is most important. A surface thermometer should be used to plan installation procedures. Tenting or shading the installation area can help control substrate temperature.
2. Materials should be stored in a cool, dry place. Material stored on-site underneath a tarp can get very warm.
3. Materials should be installed early in the day. In general, air and substrate temperatures will be at their lowest in the early morning.
4. For exterior applications, temporary wind breaks can be erected to prevent rapid evaporation due to air movement over the surface.
5. Work should be done more quickly and in smaller areas. It is critical to use the right tools, including proper, heavy-duty drills for mixing, to maximize efficiency. Providing sufficient labor will minimize the amount of time required to place and finish the materials.
6. Mix water should be chilled and, where possible, aggregate should be stored in a cool, dry place. Blocks or bags of ice in a 55-gallon drum of water will chill the water to increase working time. In the case of a pump installation of a self-leveling material, sections of copper tubing or coiled garden hose packed in a drum of ice will chill the water on its way to the pump and allow for a longer working time.
7. The mixing bucket or barrel must be cleaned before mixing a fresh batch of material. Leftover material on the sides of the mixing bucket or barrel can accelerate the set times of the materials.
8. If the patching, leveling or ECRS material starts to set before it can be smoothed properly, attempts should not be made to touch up or re-smooth the material. The material should be allowed to dry normally before being evaluated. Repairs can be made using an appropriate ARDEX material. Where more extensive repairs are required, a second lift may be installed in accordance with the technical data sheet and in consideration of the conditions herein described.
9. Regarding tile, the installation must proceed before the mortar skins over. Where the mortar does skin over, it must be completely, mechanically removed down to a clean, sound and solid substrate. When grouting, the higher water range indicated in the technical data sheet should be used BUT NEVER EXCEEDED. Consideration may be given to pre-moistening the tilework with a damp sponge or towel before spreading the grout. Open times may be reduced during warm weather.

ARDEX ECRS Structural Repair Mortars require additional considerations; specifically:

1. Higher temperatures and/or low humidity can increase the difficulty of achieving the saturated, surface dry (SSD) condition required for some concrete repair applications. It must be ensured that the pores of the concrete are completely saturated to prevent disbonding of the concrete repair material. As an alternative to an SSD application, the prepared concrete could be primed with ARDEX EP 2000 that has been sand broadcasted to refusal.
2. The mix consistency must allow for rapid placement and consolidation. The use of up to an additional 8 oz. of water (NOT TO BE EXCEEDED) in accordance with the selected ARDEX ECRS product technical data sheet will allow for this rapid placement. The recommended curing procedure should proceed immediately.
3. Fogging the area above the repair can slow drying by raising the relative humidity of the ambient air. This will aid in the curing process.

Where possible, work should be halted until the temperature is more conducive to a successful installation. For additional information and considerations, please refer to the following documents:

1. ACI 305R-10 Guide to Hot Weather Concreting and NTCA Reference Manual (Chapter 5: Specific Installation Instructions)
2. Portland Cement Associations recommendations for warm-weather concreting (www.cement.org)
3. Concrete in Practice (CIP) #12 Hot Weather Concreting (www.NRMCA.com)



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