

Ask Jon Eakes

Weather Restrictions: Concrete Surface Patching

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Connect to your favourite weather forecaster and look for the following conditions:

Category: Concrete Product: Surface Patching

Temperature Limitations: Above +5 C (+40 F) and below +30 C (+85 F)

Rain Limitations: Protect from rain until concrete is set, 2 to 6 hours (so rain won't wash it away).

Wind Limitations: Do not allow wind to dry the surface for a minimum of 3 and ideally 28 days.

Humidity Limitations: Must keep concrete moist. In dry hot weather cover and mist spray.

Continuous Conditions: Minimum 3 days, good 7 days, ideal 28 days. No freeze for 7 days

Comments: Concrete is a particularly hardy outdoor material, but is quite vulnerable to weather conditions before it is completely cured. Concrete patching materials are subject to harsher conditions on horizontal surfaces than on vertical surfaces. Hence application details are more critical for good performance. All loose or weak material must be removed from the substrate. The substrate should be moist, without any standing water, or a bonding agent might be used before the application. See specific bonding agent instructions. Concrete gains its adhesion and strength through chemical action and requires the constant presence of water to do that, hence the need for keeping the material moist, without washing it away, throughout the curing process. Concrete patching materials will become hard, what is called 'set' somewhere between 1.5 and 6 hours after mixing, depending on the temperature, the shorter time at +30 C (+85 F) and the longer at +5 C (+40 F). Once it is set, you must keep it moist and above freezing. Most people do that for only 3 days, they should do it for 7 days and you would reach maximum strength if you could do that for 28 days. Click on the details button for more general information and for detailed information if you must work outside of these climatic limitations.

Weather limitations on most renovation products can be located on the WEATHER tab above.

APPLICATION / INSTALLATION DETAILS

Concrete patching materials follow many of the same rules as concrete itself.

The most important to understand are that you should use as little water as possible to get a good mix as excess water makes it flow great but leads to weakness and shrinkage cracks and that concrete must be kept wet throughout its curing, it does not set by drying but by a chemical reaction that requires water.

Surface patching of outdoor concrete in a cold climate requires that we give it the best conditions possible because not only will freeze/thaw cycles tend to crack it but we also get de-icers soaking into the concrete which can help to pop off a patch.

We want to work on a concrete surface that is what they call SSD or Saturated Surface Dry -- translated: the surface must be wet (or saturated) with no standing water on it.

We should use a primer for best adhesion between the old and the new and we want to keep the job saturated for at least 3 days -- longer if possible.

Here are some tips for REPAIRING CONCRETE STEPS, which could also help out with that patio or balcony repair.

And it is always a good idea to review the information about OUTDOOR CONCRETE IN A COLD CLIMATE.

Keywords:

Steps, Porch, Shrinkage, Decks, Outdoors, Paving, Renovation, Curb, Concrete, Products, Stairs, Repair, Freezing, Water, Frost, Cracks, Weather

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