Best Practices in Decorative Concrete

Surface Tears in Textured Stamped Concrete

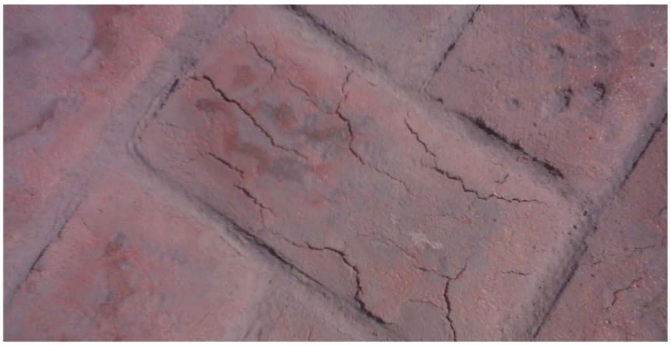
Textured stamped concrete is created by indenting fresh concrete with rubber mats. To form crisp, clean impressions, the concrete must have stiffened enough to walk on yet still be workable enough to allow the ridges on the mat to be pressed into the concrete.

If the surface is crusted, however, the ridges will act like blunt knives as they're pushed into the concrete, causing the surface between ridges to stretch and tear. While the tears can be unsightly, they are not structural. Projects with surface tears have been monitored for nearly 10 years. Even in environments with cycles of freezing and thawing, unrepaired surface tears have not grown in size or caused degradation of the concrete surface.

Still, they should be minimized, and this can best be achieved by reducing the probability of surface crusting before the surface is stamped. Surface crusting can occur when the surface temperature is higher than the slab base or when the surface is exposed to low relative humidity and a slight wind.

The best practices for minimizing crusting and surface tears are:

- *Use a concrete mixture specifically developed and recommended by your concrete producer for stamped concrete*. Such a mixture will have ample paste (cementitious material and water). Avoid concrete mixtures developed for highway or industrial floor applications, as they tend to have large coarse aggregates (greater than 1 in. [25 mm] maximum size), and they typically do not have sufficient paste for stamping.
- *Reduce the setting time*. Use a non-chloride accelerator in the mixture to speed concrete setting, especially if the base is cold. This reduces the retarding effect of the cold base and promotes faster setting of the concrete surface so that it is less affected by the sun or wind.
- *Keep the surface moist*. Spray an evaporation reducer on the surface to keep the surface moist and soft. Evaporation reducers do not affect surface color or color hardeners, and they can be used up to the time that release agents are applied. Do not spray water on the surface, as it may lighten the color. Also, do not spray the concrete with a surface retarder (typically used to create exposed aggregate finishes), as these materials are not evaporation reducers.



Decorative concrete contractors that use these practices can minimize, but not always eliminate, surface tears in stamped concrete. If surface tears occur, they can be repaired. If the concrete is still workable, use a small, 2 to 3 in. (51 to 76 mm) diameter foam roller covered in release agent to close the tears. If tears are discovered after the release agent has been removed, work a slurry of water, polymer, and color hardener (sifted to remove larger particles) into the tears. After the slurry has dried, use a damp sponge to clean the surrounding area to minimize the amount of slurry mixture that will remain visible after the slab has been sealed.

Members of the Decorative Concrete Council (DCC) of the American Society of Concrete Contractors (ASCC) will work with owners and architects to develop specifications to meet appearance requirements for their decorative concrete projects. For more information, visit **www.ascconline.org** or call the ASCC Decorative Concrete Hotline at (888) 483-5288.

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