

# K A U F M A N

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## Recommended Field Procedures For SureHard

SureHard is most commonly used as a liquid-chemical hardener and densifying agent on existing concrete and masonry. In addition, SureHard may also be used as a curing and sealing aid for new concrete.

SureHard works to penetrate into the surface of the concrete and reacts with the calcium hydroxide to produce calcium silicate hydrate (C-S-H). This is the same chemical process that occurs when portland cement and water are mixed together, that results in much of the compressive strength. The C-S-H, which forms a hard, insoluble gel within the pores, effectively closes the pores of the concrete, significantly increasing the concrete's resistance to abrasion and chemical exposure.

### Instructions for Existing Concrete:

The concrete surface must be free of any foreign matter that would prevent proper penetration of SureHard. This includes, but is not limited to, the following items: dust, dirt, grease, gypsum, latex patches, oils, greases, curing and/or sealing compounds, asphalt, coal tar, paints, coatings, mastics, lightweight insulating concrete and flaking concrete. Some cleaning methods require the use of chemicals. In these cases special attention should be paid to neutralizing the concrete prior to any application of SureHard.

- A. Make certain that the concrete is dry, otherwise it will be difficult for the SureHard to penetrate properly.
- B. Using a squeegee, natural bristle brush, roller or low-pressure sprayer. Saturate the concrete surface with SureHard. Keep the surface wet with SureHard for 30-40 minutes.
- C. If after these 30-40 minutes, the penetration of SureHard is all but complete, except in the low areas, then continue to move the excess liquid material to the high spots so that all remaining SureHard is entirely absorbed into the concrete or entirely removed from the surface.
- D. If after these same 30 minutes, the majority of the SureHard remains wet on the concrete surface, then wait until SureHard becomes slippery. Once this occurs, flush the entire surface with potable water and squeegee to remove all SureHard residues.
- E. If after these 30-40 minutes, the SureHard becomes slippery, then follow the

"Instructions for Newly Placed Concrete." If additional coatings or adhesives will be applied, flush the surface with potable water and squeegee to remove all excess SureHard.

For any additional information or technical assistance, please do not hesitate to contact us to discuss your particular jobsite conditions.

### Instructions for Newly Placed Concrete:

- A. No surface preparation is necessary when dealing with newly placed concrete. SureHard may be placed immediately after the finishing operations are completed as an effective curing aid. However, if the concrete forming is removed and a residue of form oil remains, then this residue must be removed prior to the application of SureHard in these areas. Otherwise, in these areas, SureHard will be limited in its effectiveness because of poor penetration into the pores of the concrete.
- B. Once the finishing is complete, and the concrete is ready to be walked on, saturate the slab with SureHard, at the recommended coverage rate, producing a flood coat, using a soft-bristled broom, squeegee or low-pressure sprayer. **THE SURFACE MUST BE COMPLETELY SATURATED WITH SureHard.** Work SureHard into the concrete with soft bristle brooms throughout the process to assist the material in entering the pores of the concrete. The concrete must remain wet with SureHard for a full 30-40 minutes, at which time SureHard will become slippery, with the texture of a jelly. If the SureHard becomes like this prior to reaching the 30-40 minute plateau, then more SureHard must be placed on the concrete surface to allow SureHard to penetrate effectively. Keeping the concrete surface wet with SureHard for the full 30-40 minutes is imperative in achieving a successful end result.
- C. After the concrete is saturated for the full 30-40 minutes, and the SureHard is slippery and "jelly-like," begin to wet the surface lightly with a mist of potable water. A low-pressure sprayer or a garden hose with appropriate nozzle will work well. The addition of a mist of water will re-wet and thin the SureHard on the surface, making it less slippery and easier to penetrate the concrete surface. Continue to broom the material into the concrete slab, until it becomes slippery a second time.
- D. Once the SureHard becomes slippery for the second time, flush the concrete surface with potable water. Use brooms to help thoroughly clean the surface and remove all residues from the SureHard application. Use squeegees to push all remaining material off of the slab. If slippery spots are found this indicates excess SureHard left on the slippery, and this area must be flushed and squeegeed a second time.
- E. Additional applications of SureHard may be

done in select situations where broom-finished, rough-textured or extremely porous concrete warrants this action. Wait 2-4 hours before application of the second coat of SureHard.

polished through the use of a sequence of diamond polishing discs of 1800-3500 grit.

### **Precautions:**

A. Failure to thoroughly wash and remove all excess material from floor surfaces may result in unsightly white stains. If white crystals develop after any application, stop. This signifies that the surface has become saturated and has reached its maximum effectiveness. Flush with clean hot water, and broom with a stiff bristle brush to remove before it dries. If other areas remain to be treated, dilute SureHard to avoid further problems.

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B. Protect metal, glass, wood, paint, aluminum and brick from contact with SureHard. If accidentally applied to these surfaces, wash with clean water immediately. Always test the adhesion of any tile or carpet adhesives to SureHard. SureHard should be dry for 7 days before attempting to apply adhesives over it. Read MSD before using.

C. Prevent SureHard from freezing in the original containers. If used over colored concrete, it should be two months old and a test area should be used to be certain the results are satisfactory.

D. For fast track projects reduce the wet cure time, and allow the concrete to dry for a minimum of 24 hours prior to application of SureHard. Otherwise, allow the concrete to cure for a minimum of 7 days. Insufficient drying of the concrete will prevent full penetration of SureHard, thereby reducing the effectiveness of the material.

E. Use only low-pressure sprayers during application; avoiding atomizing SureHard into the air.

### **Diamond-Polishing:**

The use of SureHard prior to diamond polishing the concrete floor will greatly enhance the natural sheen. This is due to the fact the densified concrete is better able to reflect light. There are no published and standardized specifications for polished concrete, however, it is generally agreed that the concrete must be

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