

Hot Weather Placement of Rapid Set® TRU® Self Leveling Overlayments

When using hydraulic cement based overlayments in hot weather conditions, extra care must be taken in mixing, placing, finishing, and curing procedures to achieve satisfactory results. ACI 305R – Guide for Hot Weather Concreting defines hot weather conditions as one or more of the following: high ambient air temperatures, high material temperatures, low relative humidity, high winds, and solar radiation. These conditions lead to faster set times and increased evaporation that may cause adverse effects such as rapid flow loss, inability to properly reheat, decreased strength, excessive pinholes, and increased drying shrinkage resulting in cracks and other imperfections.

Do not place Rapid Set® TRU® Self-Leveling overlayments if the surface or ambient temperature exceeds 85°F or if the bagged material exceeds 80°F prior to mixing and placement. The following is a list of best practices to help minimize the negative effects of hot weather installations.

- Store materials in a dry, cool place and away from direct sunlight.
- Pre-chill mix water in a large container by using block ice or poking holes in ice bags. Take necessary precautions to ensure that ice is not incorporated into the mixed material.
- Cover any windows that allow direct sunlight onto the substrate to prevent hot spots.
- Plan the placement for times of day or night when weather conditions are favorable.
- Minimize transport times from mixing to placement.
- If placement involves pumping, keep hoses and equipment out of direct sunlight or off of hot surfaces.
- Never increase water beyond the maximum recommended dosage.

Best results are achieved by chilling the mix water and cooling the bagged material. When these steps are insufficient, Rapid Set® Set Control® may be used to extend the working time. Place small test sections in the desired conditions to determine the appropriate dosage of Set Control. Begin with one (1) packet (25 grams) per four-bag mix. Increase as necessary up to two (2) packets per four-bag mix until sufficient working time is achieved and the material has gained enough strength to walk on in 2-3 hours. Dissolve the desired dosage of Set Control into the mixing water and then add bagged material. Do not change the Set Control dosage within the same area because setting time differences can affect the final appearance.

Water curing is recommended in hot weather applications. Apply a fine water mist to the newly hardened surface. Keep exposed surfaces wet with no standing water for a minimum of 90 minutes. The objective of water curing is to maintain a continuously wet surface until the product has fully hardened.

Although appropriate precautions may be taken, the effects of hot weather may never be completely mitigated.

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