

Technical Bulletin #61 Key Epoxy Terrazzo Re-anchoring a Disbonded Floor

The terrazzo industry has successfully used the following epoxy re-anchoring method to repair the delamination of a terrazzo topping bonded directly to the substrate. When this procedure is considered, it is best to evaluate the percentage of areas to be re-anchored. If the areas are large, re-anchoring may not be the best choice due to the costs involved. This method is designed for smaller, isolated areas of delamination.

EXECUTION

Drill a series $\frac{1}{4}$ - $\frac{3}{8}$ inch diameter holes spaced about 8 inches apart over the distressed area. The depth of the hole should penetrate the substrate slab approximately $\frac{1}{2}$ to 1 inch. Once the hole has been drilled, it is essential to clean all debris from these holes with air pressure and vacuum. Low viscosity epoxy (e.g. Key #502) or other approved epoxy designed for this purpose is used to achieve the necessary penetration.

Fill all voids where the separation has occurred, using up to 10 lbs. of injection pressure. There are several types of suitable materials/techniques/equipment. For example, one method is to pour mixed Key #502 into a bulk caulking gun, insert the tip into the pre-drilled holes and hand pump the Key #502 into the holes. Pack something around the caulking gun tip to prevent the Key #502 resin from pushing back up out of the hole. While injecting the epoxy into the holes, it is necessary to check the surrounding holes to make sure they are filling up with the epoxy resin. In the event that no epoxy appears in a given hole, change the location of the injection to an adjacent hole. Fill all holes to within $\frac{1}{4}$ inch from the top of the terrazzo surface, leaving this space for the insertion of a marble chip to disguise the repair.

Place weights on the terrazzo surface to effectively compress the disbonded terrazzo topping onto the injected epoxy resin and leave in place for adequate cure time of the injected epoxy, following manufacturer's instructions. The use of Tapcon concrete anchors (or similar) are also useful to help "clamp" down the loose terrazzo until the epoxy bonding resin has cured adequately. Anchors should be countersunk, then pour epoxy terrazzo binder resin over the top to hide the anchor.

After cure of the epoxy bonding resin, remove the weights and place the marble chip in the holes using an epoxy matrix that closely matches the original floor color. The chips should be slightly above the adjacent terrazzo surface to allow for some sanding or grinding to smooth the repair areas. If this work is done neatly and leaves a clean surface while the epoxy is fluid, it will reduce the effort when the patch is sanded.

When the re-anchoring process is completed according to instructions, the floor system will give the facility owner the expected longevity of terrazzo but will still sound hollow when it is tapped with a solid tool. The degree of the hollow sound will depend on the flow and penetration of the epoxy resin liquid as it seeks any openings that exist at the junction of where the loss of bond occurred.

Contact Key Resin Technical Service for further recommendations.

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