



Tile & Stone Installation Systems

Flooring issues after flooding

What should be considered after a floor is flooded?

The various installation components in a tile or stone flooring system can react differently when subjected to water damage from such events as hurricanes, floods and plumbing failures. Knowing the type of substrate and/or subfloor (wood or concrete) will help to determine what type of cleanup is required and to what extent the flooring system could be damaged.

MAPEI product systems are designed based on the building use (residential, commercial or industrial) as well as the environment (hot or cold, and interior or exterior). These factors help in the selection of the products initially installed. Any change in the environment (such as unanticipated water) could greatly impact the flooring system and the performance of the products selected.

What could happen to the flooring components?

MAPEI products that could be affected by submersion include cement-based mortars; mastic adhesives; sound-reduction and crack-isolation membranes; self-leveling underlayment; and cement-, acrylic- and epoxy-based grouts. Some issues that can arise are:

- Installation components – including concrete and wood substrates, ceramic or porcelain tile and stone – can experience expansion, warpage and shrinkage.
 - ▶ The expansion can be as much as 0.25 inch (6 mm) for every 20 feet (6,10 m) of tile/stone flooring, putting tremendous stress on the bond interface between the tile/stone and the subfloor. These situations can be exacerbated by the improper placement or lack of expansion joints.
 - ▶ Warpage and shrinkage of tile require evaluation immediately and again throughout the drying process after a flooding incident.
- Flooding of Portland-based cements (used in various mortars and grouts) can also cause a process known as “efflorescence.” Efflorescence occurs



when the salts in Portland cements are so saturated with moisture that they rise to the surface and crystallize.

- ▶ The continued presence of excess moisture can result in ongoing problems with efflorescence.
- Flooding of acrylic-based grouts may cause changes in physical and performance characteristics.
- Prolonged submersion may result in the failure of self-leveling underlayments under the tile installation.
- The entire floor system should be inspected by an engineer or architect to determine the extent of subfloor damage and whether the damage can be repaired.

Jobsite conditions vary and may present circumstances not covered in this document. For the most current product information, visit www.mapei.com or contact MAPEI's Technical Services Product Support Team.

