



**CERAMIC TILE INSTITUTE OF AMERICA, INC.**  
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## **CTIOA REPORT 64-1-1 (R-96)**

### **SUBJECT: PLASTIC CEMENT IN BOND COATS OR MORTARS**

Although cement manufacturers have produced plastic portland cement for some time, there has never been an ASTM or UBC Standard to define the product. Consequently the American National Standard Specifications for the Installation of Ceramic Tile, edition 1992, has no provision for the use of plastic cement in its material's specifications.

Problems deriving from the use of plastic cement in tile work were originally noted when the plastic cement was substituted for common cement in the bond coat paste used to adhere tiles to a still workable mortar bed. Reasons for use of a plastic cement in these applications were probably due to the extended workability of the product versus that of a cement paste made with common cements. Unfortunately, the very plasticizer that extended the working time of these bond coats also contributed to yellowing of the grout that in times past was usually white. The phenomenon of grout staining could still occur if the bond coat was common cement but the leveling coat had plastic cement in it, as the plasticizer was still able to yellow the grout as the leveling bed cured. Certain light colored stones can also be affected by plastic cement. This would manifest as a yellowing or browning within the body of the stone that cannot be removed.

Today plastic cement is still used but is typically found in basecoat plaster where its contribution to plasticity of the mix makes it easier to apply, especially by machine. These plaster mixes can sometimes be applied as backings for tile, as large projects may have a plastering subcontractor do a brown coat for tile. Although some associate efflorescence with the use of plastic cement, there are no studies to confirm this. In the case of possible plastic cement use in a base coat that is to receive a tile facing, checking with a qualified organization to confirm suitability would be best. In all other instances follow the ANSI requirements for Type I or Type II portland cement conforming to ASTM C-150.