

## EVALUATING COLORED MASONRY MORTARS

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The TCC Materials® Technical Note “Use of Colored Masonry Mortars” described the process of constructing a sample panel and the key factors in achieving a uniform appearance using colored masonry mortars. As stated in that Technical Note, maintaining a consistent water to cement ratio is a major factor in maintaining a consistent color.

In this TCC Materials® Technical Note “Evaluating Colored Masonry Mortars”, tips on how to evaluate the finish and appearance will be addressed.

ASTM C 90, *Standard Specification for Load Bearing Concrete Masonry Units* and ASTM C 216, *Standard Specification for Facing Brick* have established guidelines for evaluating the finish and appearance of both of these materials.

ASTM C 90-, *Standard Specification for Load Bearing Concrete Masonry Units - Section 7* states, “Minor cracks, incidental to the usual method of manufacture or minor chipping resulting from customary methods of handling in shipment and delivery, are not grounds for rejection. Where units are to be used in exposed wall construction, the face or faces that are to be exposed shall not show chips or cracks, not otherwise permitted, or other imperfections when viewed from a distance of not less than 20 feet under diffused lighting.”

ASTM C 216 , *Standard Specification for Facing Brick - Section 8* states, “Other than chips, the face or faces shall be free of cracks or other impactions detracting from the appearance of the designated sample when viewed from a distance of 15 feet for Type FBX and a distance of 20 feet for Types FBS and FBA.”

The intent of both ASTM documents is that the evaluation of a Masonry Block or Brick wall should be observed from at least 15 –20 feet under diffused lighting conditions. Another key factor in making the observation is the length of time the mortar has cured and whether or not the mortar is in a dry state. Both of these factors can lead to erroneous conclusions by the observer if the mortar has not

completely cured, at least 30 days, and is not in a dry state.

Another factor to consider when evaluating color is the impact rain or water can have on the appearance especially during the first 72 hours of curing. On natural or gray colored mortars the biggest concern is normally efflorescence. But on colored mortars early exposure to water can also lead to inconsistent or blotchy color in addition to efflorescence.

Color variations relative to a sample chip or sample panel can occur with any cement based product. As discussed in this Technical Note and in the TCC Materials® Technical Note “Use of Colored Masonry Mortars”, color variations can occur due to many factors (consistency of mason practices, time of joint tooling, type of joint tool used, covering wall cavities during construction, weather conditions, mixing water addition, etc.).

TCC Materials® Spec Mix® colored masonry mortars are produced using a computer assisted blending process to minimize any variations in the manufacturing operation. Because the final color and appearance is dependent on many factors beyond the dry mortar supplied from the manufacturing facility, the final color is beyond our control.

