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# **Plaster Council Color Guidelines**

This guideline covers the limitations, causes of color variation, and recommended procedures to ensure that the cementitious stucco finished color is as expected.

### **Color Limitations**

Cementitious stucco is colored using iron oxide pigments in the finish coat. These pigments can achieve a wide range of natural colors, from white to brown and from yellow to pink. There are some colors they cannot achieve, however, and some color variation is inherent to cementitious color coat stucco.

Cementitious stucco finish color can be darkened or lightened by increasing or decreasing the amount of pigments. However, colors cannot be darkened past a certain point, where the pigments make up such a large proportion of the portland cement stucco that (1) consistency of color is very difficult to achieve; and (2) structural integrity of the stucco finish may be compromised. The manufacturer may not be able to produce patching materials, such as fogcoat, to match dark stucco colors. Therefore, for best results, the Plaster Council recommends. that customers select colors with less than 4 pounds of pigment per 90-pound sack of stucco finish. The standard colors shown on most manufacturers' color charts do not exceed this limit.

If your stucco manufacturer cannot achieve the color you wish to use, then the Plaster Council recommends the use of acrylic plaster or painting the stucco. Acrylic plaster and paints can carry higher pigment loads and thus permit darker colors. If painting, the Plaster Council recommends using integrally colored stucco in the same color (or as close as possible) underneath the paint. This will conceal any chipped or peeled paint over the lifetime of the building. Of course, with painting comes the potential for delamination and added maintenance costs.

## **Causes of Color Variation**

Applied properly, cementitious stucco can produce a beautiful, long-lasting color finish. Some natural-appearing color variation is inherent to cementitious color coat stucco (refer to ASTM C 926). Neither the stucco manufacturer nor the plastering contractor has the ability to completely control color variation. Among the many factors that influence color in stucco applications are:

• Base coat composition: The same color coat applied to different base coats (e.g., pre-existing stucco, accelerated mixes, and new brown coat) may vary due to different absorption characteristics.

• Color coat hydration (i.e., weather): The color coat uses available moisture to cure. The same stucco material may take on a different color in a humid environment than in a dry area or in shady versus sunny areas.

• Application technique: The applicator can influence the final color of the stucco finish through application method, choice of tools, etc. For instance, an applicator can burnish a smooth finish using a steel trowel to create an "old world" look.

• Mixing procedures: The mixing of stucco, water, and color packs needs to be according to manufacturers' guidelines to ensure consistent finished product. For instance, mixing time and stucco-to-water ratio can affect stucco color. Also, to ensure good workability and color consistency, break the set of the material after 10 minutes' set time in order to extend working time and aid hydration. Any additives should be approved by the stucco finish manufacturer. • Stucco texture: The same stucco takes on a different appearance when used in a smooth finish, a sand finish, and a lace finish, for instance. This is because of the shadows created and the influence of the aggregate color in the product.

# Recommended Color Quality Assurance Procedures

A small amount of preparation before application of the stucco color coat can help ensure that the stucco finish meets expectations. It is recommended that a mock-up be made on the job site to closely simulate actual application results before going into production. This is because small lab samples will not fully represent the appearance of the final product. A jobsite mock-up will give all interested parties an idea of how the finished product will look, taking into account as many of the abovementioned color factors as possible (such as weather, substrate, and application technique). In this way, any surprises can be limited in scope, and adjustments can be made before they become too costly. Keep in mind that, over time, mock-ups may change color. For best color consistency, factory blended stucco finishes are recommended.

When matching new stucco to an existing building or stucco sample, it is recommended that a physical sample of the material being matched be examined by the stucco manufacturer's lab. Due to changing natural raw materials, it is advisable to check the existing material against current colors, and make any necessary adjustments before doing the job.

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