



## Stucco Manufacturers Association

# Color Guidelines

*Consider our guidelines on limitations, causes of color variation, and recommended procedures that will help ensure that the color of your three-coat cementitious stucco is as expected.*

### Color limitations:

Traditional three-coat cementitious stucco is colored using iron oxide pigments. These pigments can achieve a wide range of natural colors, from white to brown and from yellow to pink. However, since the oxides are natural materials, there are some colors they cannot achieve.

Any stucco color can be lightened or darkened by adjusting the amount of pigments down or up. However, colors cannot be darkened past the point where the pigments make up such a large proportion of the portland cement stucco that the strength of the cement surface is affected. This limit occurs at approximately 3 to 4 pounds of pigments per 90-pound sack of stucco. Beyond this limit, the strength of the stucco and the consistency of the color may be compromised.

Furthermore, the manufacturer may not be able to produce patching materials, such as fogcoat, to match stucco with such a high proportion of pigments. Therefore, for best results, the Stucco Manufacturers Association recommends that customers select colors with less than 3 pounds of pigment per 90 pounds of stucco.

### Causes of color variation:

Applied properly, three-coat cementitious stucco can produce a beautiful, long-lasting color finish. Different degrees of color variation can be achieved by employing certain application and substrate preparation techniques. Among the many factors that influence color in three-coat stucco applications are these:

- Substrate density: if the substrate density varies, the color coat finish will vary in intensity.
- Substrate hydration: if the substrate has hydrated to different degrees, the color coat finish will vary.
- Substrate composition: the same color coat applied to different substrates (e.g., pre-existing stucco and new brown coat) will vary.
- Color coat hydration (i.e., weather): the color coat uses available moisture to cure. The same stucco may take on a different color in a very humid environment than in a dry area.
- Application technique: the applicator can influence the final color of the stucco system 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—water ratio can affect stucco color. Also, to ensure good workability and color consistency, the re-tempering of the material after 10 minutes' set time is recommended
- **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 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. The Stucco Manufacturers Association recommends that a mock-up be made on the job site to closely simulate actual application results before going into production. This will give the applicator an idea of how the finished product will look, taking into account as many of the above-mentioned 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.

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

