

## GROUT SHADING

Grout shading occurs when colored grout dries to its expected color in some areas, a darker color in other areas, and varying shades in between. This is most commonly caused by uneven drying and improper hydration of the Portland cement in the grout. Concrete is also made with Portland cement; it is not uncommon for concrete driveways, slabs, etc. to exhibit some discoloration and shading and this can be true of grout. This is an accepted fact with concrete, but since grout is primarily used for decorative purposes, shading provides an unwanted look to the installation.

There are several factors which create the conditions for uneven drying or improper hydration to occur:

- ▶ Inconsistent mixing ratio of water-to-powder between mixes
- ▶ Ambient temperatures; grouting the same day that tiles were installed
- ▶ Uneven porosity of the tile and/or substrate over-glazed tile edges
- ▶ Grouting over spacers
- ▶ Excess bonding mortar in the grout joints
- ▶ Grouted areas in shaded vs. direct sunlight

These factors will all produce color variation in the grout.

Other factors can create uneven drying conditions that will also cause grout shading:

- ▶ Excessive amounts of water used to mix with the grout and during clean-up
- ▶ Use of oil-based materials for polishing the finished installation
- ▶ Not allowing for the proper slake time, and failure to remix powder which may have settled during transport.

**Grout shading can be minimized to acceptable levels by practicing proper grouting techniques.**

### GROUTING TECHNIQUES

- ▶ Use a polymer-modified grout to retain moisture and promote proper drying conditions.
- ▶ Tile must be securely bonded and allowed a minimum of 24 hours' curing time before grouting. Be sure to remove all spacers.
- ▶ Grout joints should be uniform in depth and width; excess mortar should be removed.
- ▶ Dry-mix grout powder before mixing with water. Mix with proper amount of cool, clean water. Do not add too much water. Keep the water-to-powder ratio consistent between batches.

- ▶ Keep it cool. Use cool water to mix grout powder; never use hot or warm water. Keep ice on hand to cool down the water if necessary. Keep the grout bags and mixing container cool.
- ▶ Allow grout mixture to rest or slake for 10 minutes after mixing, remix and use. Do not add additional water or admixes once the grout is mixed.
- ▶ Thoroughly dampen joints of absorptive, highly porous tile with clean, cool water, but do not leave any standing water in the joints.
- ▶ Allow grout to become firm in the joints. Remove excess grout and smooth joints using a lightly dampened sponge with small, tight pores. Do not use a "wet" sponge, a sponge with large pores, or cheesecloth. Use as little water as possible.
- ▶ Avoid midday grouting in extreme heat. Grout in the early morning or late afternoon when temperatures are cooler.
- ▶ Cover the installation with a breathable, non-asphaltic, non-staining Kraft paper for 72 hours. Periodically lift the paper and lightly mist the grout with clean, cool water. If cover curing is impractical, the next best option is to periodically mist the installation for 72 hours.
- ▶ Do not use oil-based materials to polish the finished tile installation.

### IF SHADE VARIATION OCCURS

- ▶ Minor shade variation tends to disappear over time.
- ▶ Success has been achieved by using some oil-based, below-surface sealers. These will have a tendency to darken the grout.
- ▶ Grout stains or colorants can also be an effective solution. They are available in a variety of colors.
- ▶ In most cases, shading occurs mainly on the surface of the grout and can be removed with a mild acid solution. Check with the grout manufacturer for recommendations on types of acids, usage and procedures.

### RELATED PRODUCTS

Prism® SureColor® Grout

Aqua Mix® Grout Colorant

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