

## MINIMIZING GROUT SHADING

### CAUSES

Inconsistent grout color is a condition where colored grout dries to its expected color in some areas, a darker color in some areas and varying shades in-between. The main cause for this variation in color is uneven drying of the Portland cement in the grout. There are jobsite conditions and factors which create the conditions for uneven drying and improper cement hydration. Inconsistent grout color is not considered a manufacturing defect due to the inconsistent nature of Portland cement. Portland cement is a natural product, mined from the ground, with inherent properties which cannot be completely controlled.

Colored grouts, like concrete, are a combination of Portland cement and an inert aggregate. It is not uncommon for concrete driveways, or sidewalks to show discoloration and inconsistent color. Like colored grout, this is mainly due to the uneven drying of the cement. Unlike grout, this is an understood and accepted fact. Because of grout's decorative aspect, inconsistent color creates an unacceptable look to the installation.

### PREVENTATIVE CONTROL FACTORS

Evaluation of the job conditions and the materials to be used are the primary controlling factors that determine the outcome of the job and help minimize inconsistent grout color.

As in all cases, if proper precautions are taken before a job is started, many problems that are within the realm of your control may be prevented, assuring a satisfactory job. The following is a suggested checklist to produce the best possible results when grouting a ceramic tile installation:

- Use the same person to mix the grout and maintain the same mixing technique throughout the job.
- Dry mix the entire grout bag if only one bag is used. Dry mix bags of grout together if more than one is used.
- Wait at least 24 hours before grouting a dry-set installation, 48 hours for organic (mastic), 72 hours for conventional mortar bed.
- Maintain uniform width and depth of the grout joints.
- Remove all tile spacers and debris.
- Leave 2/3 of the joint open for grout.

- Plan grouting to not join in conspicuous areas.
- Shade tile work in hot or windy conditions to prevent rapid drying.
- Mix grout thoroughly by hand or with a low RPM (300 rpm) power mixer.
- Always mix the grout powder into the liquid.
- Mix grout to a stiff, creamy, paste-like consistency.
- Allow grout to rest (slake) once mixed, then remix.
- Discard grout when it becomes too stiff to work.
- Use the same procedure to grout all areas.
- Use a rubber grout float to remove grout from tile during installation.
- Allow grout to firm in the joint before any further cleaning is to be done. Porcelain tile will require more time. Grout is firm when it can only slightly be indented when pressed hard with your fingernail.
- Use as little water as possible for clean-up. Use a small pore hydro grout sponge or cheesecloth.
- Change bucket wash water often.
- Buff the tile surface and grout with a cheesecloth or clean, dry towel within one (1) to two (2) hours to remove all water and grout residue from the surface of the grout.
- Lightly mist with clean, cool water for 72 hours to ensure slow, even curing.

If minor shade variation occur, they will disappear over time. In most cases, shading occurs mainly on the surface of the grout and can be removed 7 to 10 days after grout is installed with TileLab® Sulfamic Acid Cleaner. For specific cleaning procedures contact Technical Services.

Colored grout is a natural and beautiful companion to any tile installation. The result of proper application and techniques will produce a grout installation that is stronger, harder, smoother, denser and more uniform in color.

### REFERENCE DOCUMENTS

ANSI A108.10  
NTCA Reference Manual A-21  
MMSA Bulletin No. 9

