Technical Bulletin # 111

RE: Inconsistent Grout Color

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Inconsistent Grout Color - Causes

Inconsistent grout color is a phenomenon 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, and has inherent properties which can only be controlled to a point.

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 will be the primary controlling factors that will 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 check list that one should follow 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.

! Use ColorCure 945 Admixture for adverse grout installation conditions, i.e. high humidity, low temperatures, and wind.

! 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 tilework 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 grout into to the liquid.

! Mix grout to a stiff, creamy paste consistency.

! Slake grout for 15 minutes, then remix.

! Discard grout when it becomes too stiff to work.

! Use the same procedure to grout all areas.

! Use a rubber 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 minimal water amounts during clean-up.

! Change bucket wash water often.

! Buff the tile surface and grout with a cheese cloth or clean, dry towel within one (1) to two (2) hours to remove all water and grout residue from the surface of the grout.

! Damp cure consistently and cover with kraft paper for 72 hours to ensure slow, even curing.

Color Correction

Minor shade variation 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 installation with C-Clean, a mild sulfamic acid cleaner. Special Note: Do not acid clean the following MP Sanded colors: #35 Catalina Jade and #86 Ocean Blue. For specific cleaning procedures on these colors contact C-Cure's Technical Service Department.

Color correction may be achieved by the use of Grout Stain 997 which is available in all C-Cure grout colors. Grout Stain 997 will effectively stain and seal grout to a uniform color 7 days after grout installation.

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

Reference Documents:

ANSI	A108.10 – 1999
NTCA	Reference Manual A-21
MMSA	Bulletin No. 9

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