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Guide to Colored Grout Uniformity

Colored grout when properly installed will enhance the beauty of any tile installation. However, colored grouts are often used improperly and remain as one of the largest issues facing the tile contractor industry. Grouting is usually the last and final step in tile installation and is often left to those on the job with the least amount of experience. The tile contractors can assist in reducing the number of callbacks for grouting issues by placing as much emphasis on proper grouting procedures as they do for floor layout and tile installation.

Colors shown are representative of colors manufactured as accurately as can be produced using the finest methods of printing and reproduction. The final color of the installed joint may vary from the printed sample.

Inconsistent Grout Color

Colored grouts, like concrete are a combination of Portland cement and an inert aggregate. It is not uncommon for grout, concrete driveways, or sidewalks to show discoloration, inconsistent or lighter/darker color then samples. This is mainly due to the uneven drying of the cement and is beyond the control of the manufacturer, distributor and installer.

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. Inconsistent grout color is not considered a manufacturing defect due to the inconsistent nature of Portland cement.

Inconsistent grout color is common after repairs are made to existing grout and is not considered an installation or product defect. There are jobsite conditions and factors which create the conditions for uneven drying and improper cement hydration. Portland cement is a natural product, mined from the ground, and has inherent properties which can only be controlled to a point.

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

Following are some common issues associated with colored grouts including causes, preventions and corrections:





Causes:

- 1. Grout mixed too wet.
- 2. Grout not cured properly or consistently.
- 3. Inconsistent joint sizes.
- 4. Cleaning acid concentration too strong, used too early, used on dry joints, or inadequate rinsing after acid wash.
- 5. Too much water used in grout cleaning procedure. Grout not sufficiently mixed or improperly mixed by hand with trowel or hoe; mixing too fast with high speed drill; or mixing in dirty or contaminated containers.
- 6. Inconsistent absorption of highly absorbent tiles. Glaze on some edges of tile. Scored tile.
- 7. Grouting done by different grouters and under different environmental conditions.
- 8. Setting material inconsistent in the upper 2/3 of grout joint.
- 9. Spacers left in tile joints.
- 10. Cleaning with water prior to initial set of grout.
- 11. Damp curing with polyethylene.
- 12. Sealed with sealer not specifically made for the purpose; or sealer applied too early.
- 13. Gypsum dust from drywall or plaster, or dirt and dust from construction conditions.
- 14. Residue from materials used in initial cleaning and maintenance procedures.
- 15. Insufficient curing time allowed for the setting material or substrate before grouting.

Prevention:

- 1. A stiff, consistent water ratio grout mix, properly slaked.
- 2. Damp cure consistently with 40 lb. kraft paper for 72 hours to ensure slow, even curing.
- 3. Maintain uniform grout joint depth and width.
- 4. Do not use muriatic acid. Avoid cleaning too early with acid type cleaners. Wet grout joints before cleaning and thoroughly rinse afterwards.
- 5. Reduce water during cleanup. Dry blend grout when uniformity is not a manufacturer-assured, quality control factor. Dry blend entire bag. Machine mix grout materials at 300 RPM or less. Mix in clean containers.
- 6. Use latex additive specifically designed for grouting. High absorption tile should be uniformly wet prior to grouting with commercial Portland cement grout.
- 7. When possible, use same craftsmen throughout an area and maintain consistent environmental conditions. Avoid concentration of direct sunlight, heat or air flow such as space heaters, air conditioners, and draft areas during installation and curing.
- 8. Rake our high ridges of setting material from the joints prior to grouting to insure uniform grout thickness.
- 9. Remove spacers.

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- 10. Allow grout to acquire initial set before cleaning with water.
- 11. Damp cure consistently with 40 lb. kraft paper for 72 hours to ensure slow, even curing.
- 12. After damp curing and proper hydration, apply sealers according to manufacturers' recommendations.
- 13. Protect the finished grout from construction debris.
- 14. During initial cleaning, remove, the residue of grout from both the tile surface and the surface of the grout joint. Furnish maintenance personnel with proper maintenance instructions.
- 15. Follow the setting material manufacturer's instructions for curing time required before grouting.



Correction:

- 1. Consult manufacturer prior to applying any corrective material. Many treatments suggested here may inhibit correction measures that may be recommended by the manufacturer.
- 2. Dampen and continue damp curing with 40 lb. Kraft paper.
- 3. On dark grout only lightly brush with wire brush.
- 4. Pre-wet and try recleaning with sulfamic acid or other manufactured cleaners with controlled acid effect. Thoroughly rinse with clean water.
- 5. Permanently stain grout joint with grout stain manufactured for this purpose.
- 6. Darken grout joint by brushing joints with mixture of 50% boiled linseed oil and 50% mineral spirits.
- 7. Reclean with a neutral detergent such as Super Shine All®.
- 8. Apply a flax-soap such as Fresh-N-Klean® or Murphy's Oil Soap®.

White Tile Grout Yellowing:

- 1. Sand used in the mortar bed may contain iron, iron oxide or clay.
- 2. Uncured organic adhesive used over Cementitious Backer Board (CBU).
- 3. Trace amounts of sulfur compounds from temporary heating systems such as salamanders.
- 4. Use prepackaged floor mud. Use cleaned and dried bagged sand from a reputable supplier.
- 5. Install the CBU as illustrated in TCA B-416. Use a dry set mortar as illustrated in TCA B-415.
- 6. Discontinue use of the heating system or use another type. Provide adequate ventilation.
- 7. Apply a pumice of Oxalic Acid or Naval Jelly only as a temporary correction.
- 8. Apply household bleach followed by a penetrating sealer.

Other possible causes of inconsistent grout color:

- Different grouting material batch numbers.
- Grout not properly slaked.
- Use of partial bags of grout where ingredients have separated.
- Use of contaminated water or water with a high mineral or salt content.
- Variations for raw materials supplied to the manufacturer may result in slightly inconsistent grout color from batch to batch.



