



CERAMIC TILE INSTITUTE OF AMERICA, INC.
12061 Jefferson Blvd., Culver City, CA 90230-6219

CTI FIELD REPORT 72-2-2 (R-86)

SUBJECT: TREATMENT AND CLEANING OF GLAZED AND UNGLAZED TILE

A. INTRODUCTION

1. In 1972 Ceramic Tile Institute issued Field Report CTI, "Quarry Tile--Stain Prevention". The title was changed to "Unglazed Tile - Stain Prevention" because we have found the procedures workable on almost all unglazed tile. Little has developed for CTI to do other than continue using this field report. Therefore, it is referenced to be considered part of the paper- work for this subject.
2. Ceramic Tile Institute has not previously issued a field report regarding stain prevention of glazed tile. With use of colored grouts many glazed tile have presented a real challenge for the tile contractor. Therefore, the content of this field report will be more on glazed ceramic tile and on the use of colored grout with the glazed tile.

B. DISCUSSION

1. Ceramic Tile Institute has not previously issued a field report regarding stain prevention of glazed tile. With use of colored grouts many glazed tile have presented a real challenge for the tile contractor. Therefore, the content of this field report will be more on glazed ceramic tile and on the use of colored grout with the glazed tile.
2. The tile industry has adopted the colored grout and we expect to perform miracles with it. One of the miracles we expect is to grout an installation and have the colored grout turn out to be exactly the same shade throughout.
3. There are many variables that have an effect on the finished shade of colored grout. The best results are obtained by treating all of the grout over the entire installation the same. This means:
 - a. Waiting 48 hours before grouting a thin-set installation and waiting 72 hours before grouting a mortar bed installation, the waiting period is to allow the wetter areas of the installation to dry out and have them uniform so that the grout will react the same in all joints. For maximum color uniformity when dry porous bodied tile is used, all installations, especially a mortar method, should be allowed to dry thoroughly before grouting. The smaller the joint the more critical this is, as the smaller volumes of cement grouts are more inclined to show the results of uneven initial drying, i.e.: splotchy or mottled appearance.
 - b. Keeping the width and depth of all of the joints the same prior to grouting.
 - c. Mixing all of the grout used with the same amount, and a minimum amount of water, and mix it all the same way.
 - d. Planning your day's work so the next day's grouting does not join in the center of conspicuous areas. Stop and start evenly in a corner. Different temperatures from one day to the next and difference in humidity from day to day can change the shade of the grout.
 - e. Using water to cure the grout to maximum hardness. It does not take long, when working

to make it hard and strong. The necessity to wet cure, is true of all portland cement products. Curing our comparatively thin lines of grout is even more critical than curing concrete. Common sense should therefore tell us that you cannot take a dry surface, bond dry tile to it having sixteen percent or more absorption, grout it, and then walk away and leave it uncovered. What little moisture was present evaporates, leaving a chalky and discolored grout. There are procedures that must be followed to prevent this:

..Saturate the joints and wet the surface prior to placing the grout on the tile.. The - grouting of a wet surface is easier, and the finished tile will be much cleaner, compared to placing the grout on a dry surface. The water in joints will start and help maintain, the hydration of the portland cement grout.

..Use ad-mixes recommended by the manufacturer of the grout being used. Many contractors use Anti-Hydro in their grout. First an Anti-Hydro water is made, one part Anti- Hydro to five parts of water. The Anti-Hydro water is then used to wet the grout. IMPORTANT--Get the permission of the grout manufacturer before using the Anti-Hydro, the manufacturer may recommend a different ad-mix.

..ANSI A108.5 requires, "Cure both portland cement and Dry-Set grouts by keeping damp for at least 72 hours. Add dampness as needed. Covering with paper facilitates curing of grout".

- f. Grout all areas of the installation with the exact same procedure. The most consistent color can be obtained by using a firm rubber float to effectively fill and compact the grout joint. Remove the bulk of excess material from the surface of the tile with a rubber float not a sponge.. As soon as grout firms up enough to be worked without being pulled from the joint, use a pad of cheese cloth dampened with clean cool water to clean tile surfaces and bring grout to finish contour and texture. Use a minimum amount of water. 'Keep water clean and cool. When haze appears, polish installation with dry cheese cloth. A sponge is not recommended for grouting.
4. Another miracle expected is to grout dark tile with light grout or light tile with dark grout and not have it stain any of the current tile manufactured.
 - a. If contrasting colors are to be used in grouting the only foolproof way to prevent staining is to paraffin wax the tile.
 - b. Grout releases have not been consistent in preventing the tile from being stained.

C. CONCLUSION

1. The better understanding we have of the materials we use the better job we will be able to do with them.
2. Most unglazed tile will stain under use unless treated to prevent the staining. Ste Field Report, "Unglazed Tile - Stain Prevention"li, CTI 72-2-2 (R-85).
3. Many glazed tile are prone to be stained by the grouting and some adequate method must be used to prevent it.
4. Additional field reports recommended on this subject are:
 - a. "Grout Joints-Color-Width-Texture-Strength-For Ceramic Tile Floors", CTI 73-7-2.
 - b. "Portland Cement-Aggregates-Plasticisers and Water", CTI 73-2-7 (R-85).
 - c. "Graded Extra Fine Sand Aggregate", CTI 73-1-3