



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

CTIOA REPORT 73-5-1 (R-90)

SUBJECT: HOW TO SELECT CERAMIC TILE FOR FLOORS

INTRODUCTION

1. "Ceramic Tile". This broad term applies to all of the kinds of ceramic tile available for floor use. The Field Report 73-5-1 is to specifically discuss tile for use in high pedestrian traffic areas of buildings and living units.
2. There are certain basic details that should be given consideration on the selection of these tiles. This is true for the large glazed floor tile, quarry tile, special purpose tile and other floor tile.
3. When Architects, Designers and Decorators specify or select ceramic tile floors, for pedestrian traffic areas, the Ceramic Tile Institute believes several questions should be answered before the final decision is made on what tile to use. If these questions are considered, correct answers found, and the results used as a guide in selecting the tile to be used, the consumer will have a floor he will be very satisfied with.

A. QUESTIONS — THEIR ANSWERS — DISCUSSION

1. Is It Safe? The concern here is whether or not the tile is skid resistant. Occasionally CTI receives a call telling us that the tiles have been installed and people have slipped and fallen. We then find out that skid resistance tests had not been made on the tile.
It is recommended that ASTM C1028, "Evaluating The Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull Meter Method," be conducted on tile before they are selected.
This test uses Neolite for the heel assembly and tests both wet and dry. Ceramic Tile Institute recommends 0.60 as the static coefficient of friction for heavy pedestrian traffic. There are several other materials used on shoe soles, making it almost impossible to test every type sole and of course bare feet must also be considered. Information from the manufacturer of the tile should also be sought to see if he has the skid tests on his tile.
2. Will It Wear? Unglazed tile do not present a wear problem unless they are very soft. Glazed tile do present a problem and two concerns should be answered. First, if wear from grit and friction is going to show and make the tile look different in the walking areas; second, if the glaze and bisque can withstand the traffic and the impact so that the glaze does not scuff off

Unglazed tile should be tested for Water Absorption, Breaking Strength, and Abrasive Wear. Glazed tile should be tested for all of these plus a test for Thermal Shock. CTI has all of the test procedures included in its Test CTI 69-5.

3. Is It Stain Resistant? Light colored quarry tile, other unglazed tile and some glazed tile are prone to spot staining from greases and oils.
Some of these tiles, installed on floors, have had to be removed and replaced because of the stains and the fact that the stains could not be removed.
The staining can be prevented if the tiles are treated prior to being installed or kept clean and treated after they are installed. CTI has issued a five page Field Report on this titled "Quarry Tile - Stain Prevention".

4. Is It Installed Right? There are several items that should be considered so the floor tile will be properly installed.
The tile itself must be capable of being bonded and rarely do we find any that is not, but we do have a bond test to prove it. This is in several tile industry standards, one of which is CTI 69-5 Test Procedure.
Tile industry ANSI Standards provide specifications for installing the floor tile most of which is found in ANSI A108.1 and A108.5.
The Tile Council of America Handbook contains information to guide the user to the correct installation, depending on the surface to be tiled.
Frank E. Bennett, formerly of Tile Council of America, wrote an excellent article, "How To Choose The Right Ceramic Tile Floor Installation Method". This appeared in the March 1972 issue of Construction Specifier, CTI has copies of this article.

5. Has everything been determined to provide a floor that is ready to be turned over to the owner for easy maintenance with regular clean-procedures? The Architect, Designer and Decorator should determine this and the tile contractor should not consider the ceramic tile floor installation finished until it is in the proper condition to maintain with ordinary cleaning procedures.
CTI has issued an owners brochure titled, "Care of Ceramic Tile".

B. CONCLUSION

1. There are some basic and necessary requirements, that tile for pedestrian traffic areas must have, and then the consumer will have a satisfactory floor.
2. Be sure it is non-slip.
3. Be sure it will withstand the wear.
4. Be sure it will not stain.
5. Be sure it is correctly installed.
6. Be sure it is in proper condition to turn over to the owner.