

TECHNICAL SPECIFICATIONS

WATER ABSORPTION

Water absorption is the measurement of density, porosity and specific gravity as a tool for determining the degree of maturation of a tile or for determining structural properties that may be required for a given application.

Tiles are classified according to water absorption percentages as follows:

Impervious tile: < .5%

Vitreous tile: .5% - 3%

Semi-vitreous tile: 3% - 7%

Non-vitreous: > 7%

COEFFICIENT OF FRICTION – COF

COF defines the relative slip resistance of floor surfaces, measuring the maximum force required to initiate motion of a 50 pound weight. The horizontal dynamometer pull meter and heel assemblies are designed to determine the static coefficient of friction of tile and like materials. Because many variables may enter into the evaluation of slip resistance of a particular surface, this test method is designed to evaluate these surfaces under both laboratory and actual site installation conditions.

The static coefficient of friction is determined under both wet and dry conditions with Neolite heel assemblies over both unprepared and prepared (cleaned) test surfaces.

SCRATCH HARDNESS

Scratch hardness is the tile surface resistance to scratching by different minerals, the softest being talc (1) and the hardest diamond (10).

The MOHS scale of hardness is the most common method used to rank gemstones and minerals according to hardness. Because the MOHS scale is a relative scale, the difference between the hardness of a diamond and that of a ruby is much greater than the difference in hardness between calcite and gypsum.

BREAKING STRENGTH

Breaking strength is defined as a force on an unsupported portion of tile until breakage occurs and is expressed in lbf. This test covers the determination of the breaking strength of glazed ceramic wall tile, ceramic mosaic tile, quarry tile, and paver tile. Ceramic tiles used on floors and walls must be able to withstand the expected load bearing capacity of various installations.

CHEMICAL RESISTANCE

Chemical resistance is when tile samples are in continuous contact with a variety of chemicals for 24 hours. The test is intended for tile that will be used for lavatories, food counters or similar residential, commercial or medical installations. A tile sample is placed in continuous contact with a variety of chemicals for 24 hours, rinsing the surface and then examining the surface for visible variation.

ABRASION RESISTANCE

Abrasion resistance test measures the visible surface abrasion of the tile during testing procedure. The test is developed to measure the resistance of the tile's surface to surface abrasion. Below is the classification for this test:

I: Residential, light traffic

II: Residential, medium to light traffic

III: Residential, heavy traffic, Commercial, light traffic

IV: Commercial, considerable traffic

V: Commercial, heavy traffic

SHADE VARIATION

Shade variation is the tile's range from complete inconsistency to a more random appearance. Below is an overview of color and shading of individual tile selections.

V0 - **Monochromatic** - Very uniform, monochromatic color

V1 - **Low** - Consistent color within each tile and from tile to tile

V2 - **Medium** - Color variation within each tile

V3 - **High** - Some variation from tile to tile, and within each tile

V4 - **Random** - Considerable variation from tile to tile



V0 Very uniform appearance



V1 Uniform appearance



V2 Slight variation



V3 Moderate variation



V4 Substantial variation