QuicTile™ by daltile®

LOCKING PORCELAIN TILE SPECIFICATIONS

PORCELAIN/CERAMIC TEST RESULTS

Daltile has always been proud to support solutions that better our industry. That's why we're among the first to join the Tile Council of North America in testing our products with DCOF AcuTest℠, the current industry standard used to measure dynamic coefficient of friction (DCOF). DCOF AcuTest℠ assesses a product's suitability for the commercial environment and the specific usability needs of the application.

A Measure of Friction

Friction is the force that resists the sliding motion of one surface against another. Contaminants, such as liquids, can alter the measurement of friction. There are two types of friction: static (SCOF) and dynamic (DCOF). SCOF is the ratio of forces necessary to start two surfaces sliding. This is what the former American Society for Testing and Materials (ASTM) C1028 static test measured. DCOF is the ratio of forces necessary to keep two surfaces sliding.

Continually Pushing the Envelope

Daltile, in partnership with the Tile Council of North America (TCNA), is proud to endorse the DCOF AcuTest℠ because it's the most accurate method for determining whether or not a product is suitable for a commercial environment.

- Similar to measuring the speed of a car in both mph and kph, friction can also be measured on two scales (DCOF and SCOF). The newer 0.42 wet (DCOF) has replaced the old reference of 0.60 SCOF wet, which has long been the benchmark for friction in commercial applications.
- The newer, more stringent DCOF AcuTest℠ uses a portable robot that, unlike ASTM C1028, gives realistic values on very smooth surfaces.

While the industry standard has changed, the quality you can count on from us remains the same.

Water Absorption, ASTM C373

Water absorption is measured using ASTM C373. Individual tiles are weighed, saturated with water, then weighed again. The percent difference between the two weights is referred to as the water absorption value. Tiles are classified according to water absorption percentages as follows:

Impervious	Tiles exhibiting 0.5% or less.
Vitreous	Tiles exhibiting more than 0.5%, but not more than 3.0%.
Semi-Vitreous	Tiles exhibiting more than 3.0%, but not more than 7.0%.
Non-Vitreous	Tiles exhibiting between 7.0%, but not more than 20%.

Scratch Hardness – MOHS Scale Ratings

Relative hardness is an important characteristic that should be considered when selecting a tile. The test is performed by scratching the surface of the tile using metal picks rated for hardness according to the MOHS Mineral Scale. The softest mineral in the scale is talc with a value rating of "1"; the hardest is a diamond with a value of "10". Other minerals of varying hardness provide the MOHS Scale Hardness classification ratings. A value of 5 or more are suitable for most residential floor applications. A value of 7 or greater is normally recommended for commercial applications.

Breaking Strength Ceramic Tile, ASTM C648

Ceramic tiles used on floors and walls must be able to withstand the expected load-bearing capacity of various installations. The tile industry uses ASTM C648 to determine the strength and durability of the tile. A force is applied

to an unsupported portion of the tile specimen until breakage occurs. The ultimate breaking strength is then recorded in pounds. Final selection of the tile should be based upon the breaking strength and the appropriate installation method. Tile integrity is critically dependent upon proper installation. Daltile recommends strict adherence to industry installation guidelines set forth in ANSI A108, A118 and A136.

Chemical Resistance, ASTM C650

Chemical resistance is measured using ASTM C650. A tile sample is placed in continuous contact with a variety of chemicals for 24 hours, the surface is rinsed, and then the surface is reexamined for visible variation.

Shade Variations

Tiles range from complete consistency to a more random appearance. Here's an overview of color and shading of individual tile selections:

Shade variation V0	**Monochromatic appearance**	Pieces of the same shade value are very uniform and smooth in texture.
Shade variation V1	**Low variation**	Differences among pieces from the same production run are minimal.
Shade variation V2	**Medium variation**	Clearly distinguishable differences in texture and/or pattern within similar colors.
Shade variation V3	**High variation**	While the colors and/or texture present on a single piece of tile will be indicative of the color and/or texture to be expected on the other tiles, the amount of color and/or texture on each piece may vary significantly. It is recommended that the entire range be viewed before selection.
Shade variation V4	**Random variation**	Random color and/or texture differences from tile to tile, so that one tile may have totally different colors and/or textures from that on other tiles. Thus, the final installation will be unique. It is recommended that the entire range be viewed before selection.

Surface Wear Classification

The durability of glazed tile is measured by visually rating the condition of tile after exposure to controlled levels of abrasive wear. Daltile evaluates glazed tile recommended for floor applications based on the following Surface Wear Classification system as defined in ANSI standard A137.1:

CLASS ONE
Tile in this class may withstand soft-soled foot traffic, provided that dirt and/or other abrasives are not present on the wear surface. Class I tile should not be used in areas with direct access to the outside or large amounts of foot traffic. See Frost Resistance for installation-specific details.

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CLASS TWO
Tile in this class may withstand soft-soled and some normal foot traffic provided the dirt and/or other abrasives are kept to a minimum. Class II tile should not be used in areas with direct access to the outside, large amounts of foot traffic, or areas exposed to abnormal footwear. See Coefficient of Friction for installation-specific details.
CLASS THREE
Tile in this class may withstand normal footwear and regular traffic, with some dirt and/or other abrasives present in limited quantities. Tile in this class may be used in light commercial installations with limited foot traffic and with no direct access to the outside including residential kitchens and hallways, with limited traffic from the outside. See Coefficient of Friction for installation-specific details.
CLASS FOUR
Tile in this class may withstand heavier amounts of traffic with greater amounts of dirt and/or other abrasives present including commercial kitchens and areas with regular traffic from the outside. See Coefficient of Friction for installation-specific details.
CLASS FIVE
Tile in this class may withstand constant foot traffic with larger amounts of dirt and/or other abrasives including airports, malls, and other commercial walkways subject to high volumes of foot traffic and constant traffic from the outside. See Coefficient of Friction for installation-specific details.

Coefficient of Friction, DCOF Wet Areas (Minimum 0.42)

Water, oil, grease or other fluids create slippery conditions. When installing floors in areas with exposure to these conditions, a minimum DCOF value of 0.42 is required. Additionally, extra caution is required with regards to product selection and proper maintenance. Visit www.tcnatile.com for complete information regarding the DCOF Acutest℠ test method and values.

Industry Standards

The American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are nationally recognized organizations, which identify and develop industry test methods and technical standards. Neither ASTM nor ANSI establish an industry standard identifying a minimum COF value whereby ceramic tile may be labeled "slip resistant". All Standard Grade ceramic tile products manufactured by or for Daltile meet or exceed the requirements of ANSI A137.1. See product pages for series-specific technical data.