

Terragrés

CERAMIC & PORCELAIN TILES SPECIFICATIONS

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.

WATER ABSORPTION – ASTM C373

It measures how much water a tile body absorbs. Lower absorption generally means a denser, less porous tile.

- Non-Vitreous tile has water absorption of more than 7%. Indoor use.
- Semi-Vitreous tile has water absorption of more than 3% but less than 7%. Indoor use.
- Vitreous tile has water absorption of more than 0.5% but less than 3%. Indoor use.
- Impervious tile has water absorption of less than 0.5%. Indoor or outdoor use. PORCELAIN TILES meet this threshold.

SLIP RESISTANCE / DCOF - ANSI A326.3

Dynamic Coefficient of Friction (DCOF) measures friction while a surface is in motion and is used to help determine the appropriate use of hard surface flooring. A wet DCOF of 0.42 or greater is the benchmark for level interior areas expected to be walked on when wet, but it does not make a floor “slip-proof.” Traffic, contaminants, slope, drainage, footwear, maintenance, and wear also affect slip risk.

Less than 0.42 wet DCOF – Interior Dry Use

Equal or greater than 0.42 wet DCOF – Interior Wet Use

SHADE VARIATION - ANSI A137.1

This describes the expected visual differences in color, pattern, and/or texture from tile to tile. A higher V rating means more variation, not better or worse quality.

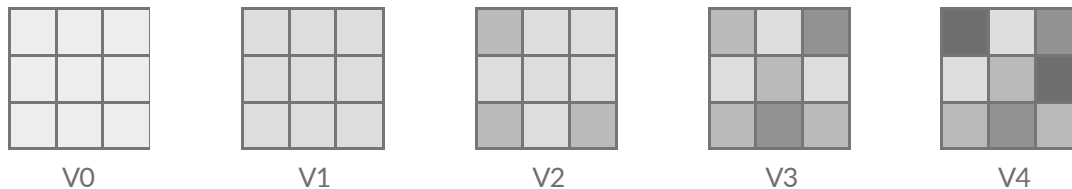
V0 = VERY UNIFORM APPEARANCE. Very little visible difference from piece to piece.

V1 = UNIFORM APPEARANCE. Minimal differences among pieces.

V2 = SLIGHT VARIATION. Clearly distinguishable differences in texture and/or pattern with similar colors.

V3 = MODERATE VARIATION. While the colors and/or texture present on a single piece of tile will be indicative of the colors and/or texture to be expected on the other tiles, the amount of colors and/or texture on each piece may vary significantly. It is recommended that the range be viewed before selection.

V4 = SUBSTANTIAL VARIATION. Random color and/or texture differences from tile to tile, so that one tile may have totally different color and/or texture from that on other tiles. Thus, the final installation will be unique. It is recommended that the range be viewed before selection.



ABRASION RESISTANCE – ASTM C1027

This test measures how well the surface of glazed tile resists visible wear. This is often referred as PEI or abrasion rating. Higher classes indicate greater resistance to visible abrasion.

- Class 0: is suitable for walls and residential use only (PEI 0)
- Class I: is suitable for light-duty residential floors, bathrooms and bedrooms without direct access from outside; no scratching dirt can be present (PEI I)
- Class II: is suitable for light-duty residential floors, most areas of the home, except kitchens and entrances, where occasional dirt may be present (soft-sole shoes or normal footwear only) (PEI II)
- Class III is suitable for medium-duty residential floors including kitchens, halls, corridors, balconies, terraces and areas used more often with normal footwear and small amounts of dirt (PEI III)
- Class IV has high resistance to abrasion and is suitable for heavy-duty residential and commercial floor installations such as entrances, commercial kitchens, hotels, exhibition and sales rooms with some dirt conditions (PEI IV)
- Class V is suitable for both residential and high-traffic commercial use including extra heavy-duty floors and areas subject to severe pedestrian traffic over sustained periods with some dirt such as shopping centers, airport concourses, public walkways and industrial applications (PEI V)

CHEMICAL RESISTANCE – ASTM C650

This test evaluates how a tile surface reacts after prolonged exposure to specified household chemicals, cleaning agents, pool chemicals, acids, and alkalis. Results go from Class A through Class E based on the number of affected samples.

Class A - Highest resistance in this classification

Class B - Very good resistance

Class C - Moderate resistance

Class D - Lower resistance

Class E - Lowest resistance in this classification

Example: Class A indicates that after specified chemicals exposure 0 samples were affected.

STAIN RESISTANCE – ASTM C1378

This test evaluates whether staining agents leave a visible stain after the tile is exposed and then cleaned using the test procedure. Results go from Class A through Class E.

Class A - Highest stain resistance in this classification

Class B - Very good resistance

Class C - Moderate resistance

Class D - Lower resistance

Class E - Lowest resistance in this classification

Example: Class A indicates that none of the test staining agents remained after the prescribed cleaning procedure.

BREAKING STRENGTH - ASTM C648

It measures the force required to break an unsupported tile specimen in a laboratory test. Results are reported in pounds-force (lbf).

≥ 125 lbf - Minimum for standard-grade ceramic wall tile

≥ 250 lbf - Minimum for standard-grade floor/porcelain tile

Note: Breaking strength is a laboratory comparison value; it is not the amount of weight an installed floor can support. Substrate, mortar coverage, installation quality, tile size, and loading conditions all affect installed performance.

FROST RESISTANCE -ASTM C1026

This test evaluates whether tile shows damage after repeated freeze/thaw cycling. It is especially relevant for exterior installations in climates where freezing temperatures occur.

Resistant - No visible failure under the specified test conditions

Not Resistant Visible damage or failure occurs - Not recommended for freeze/thaw exposure.