

PEI WEAR RATINGS

PEI is the wear rating for glazed tile. It measures how well the glazed surface stands up to foot traffic. The scale runs from PEI 1, for walls, to PEI 5, for airport floors. The rating sits on every tile's technical sheet, and this guide shows you how to read it.

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THE FIVE RATINGS

PEI 1	PEI 2	PEI 3	PEI 4	PEI 5	UNGLAZED
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FOR HOMES

PEI 1 – walls only

PEI 5 – airport floors

PEI 1

A wall tile. It keeps its finish where feet never touch it. Use it on bathroom walls, backsplashes and shower surrounds. Keep it off floors.

HOW THE TEST WORKS

The rating comes from the abrasion test in the standard ISO 10545-7. A machine rubs the glazed face with steel balls and abrasive grit while the tile holder turns. The machine stops at set counts of turns and an inspector looks for visible wear. The rating is the highest count the glaze survives with its finish intact.

WHICH RATING EACH ROOM NEEDS

MINIMUM PEI RATING BY ROOM

ROOM	RATING
Bathroom walls, backsplashes	PEI 1 or higher
Bathroom floors	PEI 2 or higher
Bedrooms	PEI 2 or higher
Kitchens	PEI 3 or higher
Hallways and living rooms	PEI 3 or higher
Entries and mudrooms	PEI 4
Shops and restaurants	PEI 4
Airports, malls, factories	PEI 5

Grit wears glaze faster than feet do. Rooms that catch sand and street dirt need the higher rating, and a doormat cuts the grit that reaches the tile.



WHAT THE OTHER RATINGS COVER

PEI covers surface wear from traffic. Tile carries separate ratings for everything else.

Slip. Grip is rated by the DIN 51130 ramp test for shoes and by DIN 51097 for bare feet.	Stains. Stain resistance is rated Class 1 to Class 5 under ISO 10545-14.
Water. Water absorption under ISO 10545-3 separates porcelain from ceramic.	Strength. Breaking strength under ISO 10545-4 measures the load the tile body carries.

VINYL AND LAMINATE USE DIFFERENT SCALES

Vinyl flooring has no PEI rating. Its wear number is the MIL thickness of the clear layer on top, and one MIL is one thousandth of an inch. A 12 MIL layer is the thickest made for homes. Laminate uses AC classes from AC1 to AC6.

QUESTIONS, ANSWERED

What PEI rating do I need for a kitchen floor?

PEI 3 or higher. A kitchen floor takes constant traffic and dropped objects. Most porcelain floor tile carries PEI 4, which covers a kitchen easily.

Is a higher PEI rating always better?

For a home, PEI 4 is already more than enough. PEI 5 exists for airports, malls and factories. Buy the rating your rooms need.

What does PEI stand for?

Porcelain Enamel Institute. The American institute created the abrasion test and its five classes. The test is now part of the international standard ISO 10545-7.

Why does some porcelain have no PEI rating?

PEI rates the glaze, so it only applies to glazed tile. Unglazed and full-body porcelain wears as the same material all the way through, so it is rated by deep abrasion instead. That test measures how much material a grinding wheel removes.

Is PEI the same as hardness?

No. Hardness scales like Mohs measure scratching by minerals. PEI measures how a glazed surface stands up to foot traffic over time. A tile can be very hard and still carry a low PEI rating.

Do wall tiles need a high PEI rating?

Feet never touch a wall, so any PEI rating works there, including PEI 1. That is why many decorative tiles carry low ratings.

Where do I find a tile's PEI rating?

On the manufacturer's technical sheet, under ISO 10545-7 or surface abrasion. Every PORCEMALL product page shows it in the quick facts and in the technical data table.

Does PEI apply to vinyl or laminate?

PEI applies to glazed ceramic and porcelain. Vinyl is rated by the MIL thickness of its wear layer. Laminate is rated by AC class.

CHECK ANY FLOOR AGAINST THIS GUIDE

Every PORCEMALL product page lists its PEI rating with the rest of its ratings. Open a product page and check it against this guide.

954 278 8022 • infousa@porcemall.com

CONTACT

954 278 8022

infousa@porcemall.com

Monday to Friday, 8:30 am to 5:00 pm

ORLANDO BRANCH

7530 Currency Dr

Orlando, FL 32809

407 730 9074

MAIN OFFICE

3101 SW 13th Drive

Deerfield Beach, FL 33442

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