

Introduction

Understanding the technical performance characteristics of porcelain tiles for commercial interiors is critical to ensuring durability and suitability for the intended application. Glazed and unglazed porcelain undergo rigorous testing to evaluate their resistance to scratching, abrasion, and surface wear—key factors in determining their ability to withstand the demands of high-traffic environments. These assessments provide valuable insights for interior designers, architects, and specifiers in selecting tiles that align with commercial spaces' functional and aesthetic requirements.

Deep Abrasion Resistance

What It Measures: This test evaluates the ability of the tile's surface (especially unglazed or through-body tiles) to resist abrasion from heavy, consistent use. It is quantified in terms of volume loss (in cubic millimeters).

How Designers Understand It: Designers use this test to select tiles for high-traffic areas like retail spaces, airports, and corridors. Lower volume loss indicates higher durability, which is critical for projects where longevity and maintenance are key concerns.

Industry Standard:

- ASTM C1243 (American)
- ISO 10545-6 (International)

Body Type: Unglazed Porcelain

Required Value: Volume loss under 175 mm³



PEI Rating

What It Measures: The PEI test categorizes glazed tiles based on their resistance to surface wear caused by foot traffic. Tiles are graded from PEI 0 (for walls only) to PEI 5 (suitable for heavy commercial use).

How Designers Understand It: Designers can rely on the PEI rating to ensure tiles match the expected traffic levels in a space.

- **PEI 2:** Light residential use (e.g., bathrooms)
- **PEI 3:** Moderate traffic (e.g., offices)
- **PEI 4:** Heavy residential or light commercial use (e.g., restaurants)
- **PEI 5:** Heavy-duty commercial areas (e.g., malls, transportation hubs)

Industry Standard:

- ASTM C1027 (American)
- ISO 10545-7 (International)

Body Type: Glazed Porcelain



Mohs Hardness Scale

What It Measures: The scale assesses a tile's surface scratch resistance. It ranks materials from 1 (softest, like talc) to 10 (hardest, like diamond). Glazed porcelain typically falls between 6 and 8.

How Designers Understand It: Designers can use this test scale to determine a tile's durability in areas with potential for scratching, such as commercial kitchens or lobbies. A higher Mohs rating indicates better resistance to wear from foot traffic, dragged furniture, or abrasive cleaning practices.

Industry Standard: Does not exist.



Conclusion

At Creative Materials Corporation, we understand the importance of selecting surface materials that balance durability, performance, and design. With over three decades of expertise, our consultative approach ensures access to dedicated teams of experts who can guide you through the technical nuances of product selection, including critical tests like the Mohs Hardness Test, Deep Abrasion Resistance, and PEI Rating. Whether you're designing for high-traffic commercial spaces or seeking alternate product solutions for your next project, we are your trusted partner in providing superior surface materials that meet the demands of corporate and commercial environments. Let our expertise and personalized support be your resource for achieving exceptional results.

Related White Papers

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- [Ceramic and Porcelain Tile Testing Methods and Results Explained](#)
- [Differences in Porcelain Tile Body Types](#)