

Australian Standard[®]

Ceramic tiles

**Part 6: Determination of resistance to
deep abrasion for unglazed tiles**

STANDARDS
Australia



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The following are represented on Committee BD-044:

- Australian Ceramic Society
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Stone Advisory Association
- Australian Tile Council
- Ceramic Tile Manufacturers Association of Australia
- CSIRO Manufacturing and Materials Technology
- Master Builders Australia
- Master Glazed Wall and Floor Tile Layers Association of SA
- Plastics and Chemicals Industries Association Incorporated
- Property Council of Australia
- Surface Coatings Association Australia
- TAFE NSW

Additional Interests:

- Mr Richard Bowman
-

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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PREFACE

This Standard was prepared by the Standards Australia Committee BD-044, Fixing of Ceramic, Natural and Reconstituted Stone Tiles, to supersede AS 4459.6—1999, *Methods of sampling and testing ceramic tiles, Part 6: Determination of resistance to deep abrasion for unglazed tiles*.

The objective of this Standard is to specify a test method for determining the resistance to deep abrasion of all unglazed ceramic tiles used for floor coverings.

The objective of this revision is to adopt the current edition of ISO 10545-6.

This Standard is identical with, and has been reproduced from, ISO 10545-6:2010, *Ceramic tiles, Part 6: Determination of resistance to deep abrasion for unglazed tiles*.

As this Standard is reproduced from an International Standard, the following applies:

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AUSTRALIAN STANDARD

Ceramic tiles

Part 6:

Determination of resistance to deep abrasion for unglazed tiles

1 Scope

This part of ISO 10545 specifies a test method for determining the resistance to deep abrasion of all unglazed ceramic tiles used for floor coverings.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 630, *Structural steels — Plates, wide flats, bars, sections and profiles*

ISO 8486-1, *Bonded abrasives — Determination and designation of grain size distribution — Part 1: Macrogrits F4 to F220*

3 Principle

Determination of the abrasion resistance of unglazed tiles by measuring the length of the groove produced in the proper surface by means of a rotating steel disc, under given conditions and with the use of abrasive material.

4 Apparatus

4.1 Abrasion apparatus, consisting essentially of a rotating disc, a storage hopper with a dispensing device for the abrasive material, a test specimen support and a counterweight (see Figure 1).

The disc shall be made of S235 A (Fe 360 A) conforming to ISO 630, with a diameter of $(200 \pm 0,2)$ mm and a thickness at the edge of $(10 \pm 0,1)$ mm, and with a revolution rate of 75 r/min.

The pressure with which the test specimens are held against the steel disc shall be determined by calibrating the apparatus against transparent fused silica. The pressure shall be adjusted such that, after 150 revolutions using F80 abrasive, which shall be in accordance with ISO 8486-1, a chord of $(24 \pm 0,5)$ mm shall be produced. Transparent fused silica shall be used as a primary standard. A secondary standard of float glass or other products may be used.

When the diameter has worn by 0,5 % of the initial diameter, the steel disc shall be replaced.

4.2 Measuring gauge, accurate to 0,1 mm.