

ICS 91.100.25
CCS Q 31



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 3810.16-2016

Replacing GB/T 3810.16-2006

**Test methods of ceramic tiles -- Part 16: Determination of small
colour differences**

陶瓷砖试验方法 第16部分：小色差的测定
(English Translation)

Issued on: April 25, 2016

Implemented on: March 1, 2017

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

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Foreword

GB/T 3810 "ceramic tile test method" is divided into 16 parts.

- Part 1. Sampling and receiving conditions;
- Part 2. Inspection of dimensions and surface quality;
- Part 3. Determination of water absorption, apparent porosity, apparent relative density and bulk density;
- Part 4. Determination of fracture modulus and failure strength;
- Part 5. Determining the impact resistance of a brick with a recovery factor;
- Part 6. Determination of wear depth of unglazed tiles;
- Part 7. Determination of abrasion resistance of glazed tiles;
- Part 8. Determination of linear thermal expansion;
- Part 9. Determination of thermal shock resistance;
- Part 10. Determination of wet expansion;
- Part 11. Determination of glaze resistance of glazed tiles;
- Part 12. Determination of frost resistance;
- Part 13. Determination of resistance to chemical corrosion;
- Part 14. Determination of resistance to contamination;
- Part 15. Determination of lead and cadmium elution of glazed tiles;
- Part 16. Determination of small chromatic aberration.

This part is part 16 of GB/T 3810.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part of the replacement GB/T 3810.16-2006 "Ceramic tile test method Part 16.

Determination of small color." this part of the main changes compared with GB/T 3810.16-2006 as follows.

- modified the scope of the standard (see Chapter 1, Chapter 1 of the 2006 edition);
- modified the definition of "CIE1976L * a * b * value" (see 3.3, version 3.3);
- modified the definition of "CMC color difference" (see 3.4, version 3.4);
- Added a description of the trade coefficient for glazed tiles and glazed tiles (see Chapter 4).

This part uses the translation method equivalent to ISO 10545-16.:2010 "Ceramic tiles Part 16. Determination of small chromatic aberration".

This section makes the following editorial changes.

--- Standard name changed to "Ceramic tile test method Part 16. Determination of small color." this section is proposed by the China Building Materials Federation.

This part of the National Building Sanitary Ceramics Standardization Technical Committee (SAC/TC249) centralized.

This part of the drafting unit. Xianyang Ceramic Research and Design Institute, Foshan Entry-Exit Inspection and Quarantine Bureau, Hangzhou Nobel Group Co., Ltd., Guangdong Mongolia Na Lisa New Material Group Co., Ltd., Guangdong Dongpeng Holding Co., Ltd., National Building Sanitary Ceramics Quality Supervision and Inspection Center, Ministry of Industry and Information Technology Department of building sanitary ceramics and sanitary products quality control technology evaluation laboratory.

1 Scope

This part of GB/T 3810 specifies the use of color measuring instruments for the determination of uniform color uniformity of the surface of the monochromatic ceramic tiles A small color difference method. This method uses a maximum acceptable value as the tolerance to allow chromatic aberration, which depends only on the color matching phase but not related to the nature of the color and chromaticity involved.

This standard does not involve changes in color for artistic purposes.

Note: This test is only applicable to the uniform color, uniform surface of the monochromatic ceramic tiles.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

ISO 105-J03..2009 Textiles color fastness test J03 part. Calculation of color difference
(Textiles-Testsforscolourfast-ness-PartJ03. Calculationofcolourdifferences CIE015..2004
Colorimetry

3 Terms and definitions

The following terms and definitions apply to this document.

Chroma

A certain color deviates from the degree of gray that has the same brightness as it.

Note: The more the color is off the gray, the higher the saturation is.

Lightness

A continuous gray scale from white to gray corresponding to color.

CIE1976L * a * b * value CIE1976L * a * b * CIELAB value the chromaticity coordinates of the CIE1976L * a * b * (CIELAB) color space were calculated from the three stimulus values measured by CIE015..2004.

Note 1: CIE stands for "International Commission on Illumination".

Note 2: For more information on spectral reflectance curves, see ISO 23603/CIES012. For more information on the CIE1976L * a * b * color space, See ISO 11664-4/CIES014.

CMC color difference CMCcolourdifference ΔE_{cmc} A set of chromatic aberration equations using the CIELAB (ΔL^* , ΔC^* , ΔH^*) values calculated between the test sample and the reference standard sample.