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

GB/T 3810.11-2016

Replacing GB/T 3810.11-2006

**The methods of ceramic tiles -- Part 11: Determination of
crazing resistance for glazed tiles
(English Translation)**

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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 11 of GB/T 3810.

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

This part is part of GB/T 3810.11-2006 "Test methods for ceramic tiles Part 11. Determination of glaze resistance of glazed tiles".

This section is the main change compared with GB/T 3810.11-2006 as follows.

--- Added terminology and definition of the guide (see Chapter 2);

--- modified the definition of "glaze" (see Chapter 2 of 2.1, 2006);

- modified the requirements of the equipment (see Chapter 4, Chapter 4 of the 2006 edition).

This part uses the translation method equivalent to ISO 10545-11.:1994 "Ceramic tiles Part 11. Determination of glaze resistance of glazed tiles".

This section makes the following editorial changes.

--- Standard name changed to "Ceramic tile test method Part 11. Determination of glaze resistance of glazed tiles".

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, Hangzhou Nobel Group Co., Ltd., Guangdong Mona Lisa New Materials Group Ltd., Guangdong Dongpeng Holding Co., Ltd., National Building Sanitary Ceramics Quality Supervision and Inspection Center, Ministry of Industry and Information Technology Laboratory of quality control technology for ceramic and sanitary products.

1 Scope

This part of GB/T 3810 specifies the test method for the determination of glazed tiles of glazed tiles, excluding the effects of decorative effects Some glaze split.

2 Terms and definitions

The following terms and definitions apply to this document.

Glaze craze

Only fine cracks in the glaze layer, the body did not crack.

3 Principle

Anti-glaze cracking is to make the whole brick in the autoclave to withstand the role of high-pressure steam, and then make the glaze stained to observe the brick glaze situation.

4 Equipment

4.1

Autoclave. has a sufficiently large volume to allow sufficient separation between the five bricks for the test. The steam is supplied by an external steam source Maintain the pressure inside the kettle (500 ± 20) kPa, that is, the steam temperature is (159 ± 1) °C, keep 2h.

A direct heating autoclave can also be used.

5 Samples

5.1

Take at least 5 pieces of the whole brick for testing.

5.2

For large size bricks, it can be cut into the autoclave, but all cutting pieces should be tested. Cut pieces should be as much as possible Big earth.

6 Steps

6.1

with the naked eye (usually wearing glasses can wear glasses), in the 300lx light conditions from the sample 25cm ~ 30cm observed at the brick surface Visible defects, all samples should not have glaze before the test. The methylene blue solution described in 6.3 can be used for glaze cracking test. In addition to just out Kiln brick, as a quality assurance routine inspection, the other test brick should be (500 ± 15) °C temperature re-burning, but the heating rate shall not be large at 150 °C/h, holding time of not less than 2h.

6.2

Place the sample in the autoclave (4.1) with voids between the specimens. So that the pressure in the autoclave gradually increased, within 1h to reach ($500 \pm$

20) kPa, (159 ± 1) °C, and keep the pressure for 2h. And then turn off the steam source, for the direct heating autoclave is to stop heating, so that pressure can be done can be quickly reduced to the laboratory atmospheric pressure, in the autoclave to cool the sample for 0.5h. Remove the sample into the laboratory atmosphere and place it alone on the platform , Continue to cool for 0.5h.