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NATIONAL STANDARD OF THE
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ICS 81.060.20

CCS Y 24

GB/T 10811-2022

Replacing GB/T 10811-2002

Under-glaze/in-glaze decoration porcelain

釉下/中彩日用瓷器

Issued on: April 15, 2022

Implemented on: November 1, 2022

**Issued by: State Administration for Market Regulation;
Standardization Administration of PRC.**

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 *Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents*.

This document replaces GB/T 10811-2002 *Under (in)-glaze decoration porcelain*. Compared with GB/T 10811-2002, except for the structural adjustment and editorial revisions, the main technical content changes are as follows:

- The scope of application is changed (see Chapter 1; see Chapter 1 of the 2002 edition);
- The normative references are changed (see Chapter 2; see Chapter 2 of the 2002 edition);
- The product categories are changed (see Chapter 4; see Chapter 4 of the 2002 edition);
- The requirements for the resistance to thermal shock of products are changed (see 5.2; see 5.2 of the 2002 edition);
- The provisions of glaze glossiness grades are added (see 5.3);
- The technical requirements and testing methods for lead and cadmium dissolved quantity of products are deleted (see 5.3, 6.3 of the 2002 edition);
- The requirements and testing methods for resistance to microwave ovens are added (see 5.4, 6.4);
- The requirements and testing methods for resistance to “freezers to microwave ovens” are added (see 5.5, 6.5);
- The requirements and testing methods for resistance to “freezers to ovens” are added (see 5.6, 6.6);
- The requirements and testing methods for resistance to mechanical washing are added (see 5.7, 6.7);
- The requirements for rim diameter error, height error, and mass error of products are changed (see 5.8; see 5.4 of the 2002 edition);
- The technical requirements for the appearance quality of products are changed (see 5.9; see 5.5 of the 2002 edition);

Under-glaze/in-glaze decoration porcelain

1 Scope

This document specifies the product classification, technical requirements, test methods, inspection rules, packaging, marking, transportation, and storage of under-glaze and in-glaze decoration domestic porcelain.

This document is applicable to domestic porcelain with under-glaze and in-glaze decoration as the main decoration methods.

2 Normative references

The following documents contain the provisions which, through normative reference in this document, constitute the essential provisions of this document. For the dated referenced documents, only the versions with the indicated dates are applicable to this document; for the undated referenced documents, only the latest version (including all the amendments) is applicable to this document.

GB/T 2828.1-2012 Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 2829-2002 Sampling procedures and tables for periodic inspection by attributes (Apply to inspection of process stability)

GB/T 3295 Standard test method for 45° specular gloss of ceramic ware

GB/T 3298 Test method for resistance to thermal shock of domestic ceramic ware

GB/T 3299 Test method for water absorption of domestic ceramicware

GB/T 3300 Standard test method for deformation measurement of domestic ceramic ware

GB/T 3301 Standard method for measurement of volume, rim diameter allowance, height allowance, weight allowance and size of defects of domestic ceramic ware

GB/T 3302 Rules of package, mark, transport and reserve for domestic ceramic ware

GB/T 3303 Terminology of defects for domestic ceramics

GB/T 5000 Terminology for domestic ceramics

GB/T 27587 Test method for the resistance to microwave heating of domestic ceramicware

GB/T 32680 Test method for mechanical dishwashing resistance of domestic ceramic ware

GB/T 34253 Test method for resistance to freezer to microwave/oven usage on domestic ceramic wares

3 Terms and definitions

The terms and definitions defined in GB/T 3303 and GB/T 5000 apply to this document.

4 Product categories

4.1 According to the purposes of the products, they are divided into dishes, bowls, cups, pots, and other utensils.

4.2 According to the specifications of the products, they are divided into small, medium-sized, large, and special types. The size range of each type is shown in Table 1.

4.3 According to the water absorption of the products, they are divided into fine porcelain, ordinary porcelain, and stone ware.

5 Technical requirements

5.1 Water absorption

The water absorption of fine porcelain products shall not exceed 0.5%, the water absorption of common porcelain products shall not exceed 1.0%, and the water

absorption of stoneware products shall not exceed 5.0%.

5.2 Resistance to thermal shock

Small and medium-sized products shall not crack after one heat exchange between 180 °C and 20 °C; large and special products shall not crack after one heat exchange between 160 °C and 20 °C.

5.3 Glossiness

It shall meet the requirements in Table 2.

5.4 Resistance to microwave ovens

The heating energy shall be 72000 J. After the test according to 6.4, there shall be no cracking, no damage, and no arc generation.

5.5 Resistance to freezers to microwave ovens

After the test according to 6.5, there shall be no cracking, no damage, and no arc generation.

5.6 Resistance to freezers to ovens

After the test according to 6.6, there shall be no cracking and no damage.

5.7 Resistance to mechanical washing

The average obtained from all observers shall not be greater than 1.

5.8 Product specification error

5.8.1 Rim diameter error

The error of a rim diameter greater than 200 mm shall be within $\pm 1.0\%$, the error of a rim diameter between 60 mm~200 mm shall be within $\pm 1.5\%$, and the error of a rim diameter less than 60 mm shall be within $\pm 2.0\%$.

5.8.2 Height error

The error of a height greater than 100 mm shall be within $\pm 2.0\%$, the error of a height

between 30 mm~100 mm shall be within $\pm 2.5\%$, and the error of a height less than 30 mm shall be within $\pm 3.0\%$.

5.8.3 Mass error

The error of small and medium-sized products shall be within $\pm 6.0\%$, and the error of large and special products shall be within $\pm 4.0\%$.

5.9 Appearance quality

5.9.1 The product shall not have defects such as fried glaze, bump, through-wall crack, and leakage.

5.9.2 The glaze color and flower surface color of a complete set of products shall be basically the same, except for special designs; the bottom edge of the product shall be smooth, and it shall be stable when placed on a plane; the lid of the product with a lid basically coincides with the mouth; when a pot is tilted and its bottom is at an angle of 70° to the horizontal position, the lid of the pot shall not fall off; when the lid moves to one side, the gap between the lid and the mouth shall not exceed 3.0 mm; and the mouth of the spout shall not be lower than the mouth of the pot by 3.0 mm.

5.9.3 The appearance defects of each grade of products shall meet the requirements in Table 3, and there shall be no more than 2 defects within 10 mm^2 , and the following requirements shall be met:

- a) There shall be no more than 2 kinds of defects for each superior product;
- b) There shall be no more than 4 kinds of defects for each first-class product;
- c) There shall be no more than 6 kinds of defects for each qualified product.

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Contact: Wayne Zheng, Sales@ChineseStandard.net

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