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

GB/T 3301-2023

**Test method for determination of specification allowance and
size of defects of domestic ceramic ware**

日用陶瓷器规格误差和缺陷尺寸的测定方法

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Foreword

This document was issued on 23 May 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 December 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 3301-2023 covers how the specification errors and the visible defects of domestic ceramic ware are measured - the tableware trade, where a plate or a cup is accepted or rejected on figures that have to mean the same thing in the factory and at the buyer's inspection bench. The samples clause is one line: clean, undamaged ware. The specification-error clause then works through the individual measurements, starting with volume error and the flat glass plate, larger than the piece itself, used in determining it, and going on to rim diameter error, height error, weight error and maximum dimensional error. The defect-size clause covers how a defect is measured and with what - a steel rule graduated in half-millimetres, a vernier caliper graduated in tenths of a millimetre - and the test report closes the document. Ceramic ware moves in the kiln by an amount that varies with body, glaze and position in the firing, so no two pieces come out identical; the entire commercial argument is over how much variation is allowed and how it gets measured. Terms follow GB/T 5000. It is used by tableware manufacturers and their quality departments, importers writing acceptance clauses into orders, and the testing bodies that arbitrate a rejected shipment.

This document describes the measurement method of specification errors (including

volume error, rim diameter error, height error, weight error, maximum dimensional error, etc.) and defect sizes of domestic ceramic ware.

This document is applicable to the determination of specification errors and defect sizes of domestic ceramic ware.

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 5000 Terminology for domestic ceramics

3 Terms and definitions

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

3.1 standard volume

The volume indicated on the product.

3.2 standard diameter

The diameter indicated on the product.

3.3 standard height

The height indicated on the product.

3.4 standard weight

The weight indicated on the product.

3.5 standard maximum size

The maximum size indicated on the product.

4 Samples

Clean and undamaged domestic ceramic ware.

5 Determination method of specification errors

5.1 Determination of volume error

5.1.1 Instruments and equipment

5.1.1.1 Glass flat plate: The size shall be larger than the maximum size of the product being tested. The flatness is checked with a steel ruler, and there shall be no obvious gap between the glass flat plate and the steel ruler.

5.1.1.2 Measuring cylinder: The graduation values are 1 mL, 5 mL, and 10 mL respectively.

5.1.2 Test procedures

Place the sample flat on a horizontal glass flat plate and fill it with water until the water surface reaches the specified height. For pots, lidded cups, lidded bowls, and lidded pots, the water surface shall reach the height at which the samples are filled with water but the water shall not overflow after the samples are covered with lids. For uncovered cups, uncovered bowls, uncovered pots, plates, and wine bottles, the samples are filled with water to the overflow surface. For cooking devices, the samples are filled the water to the edge of the lid. Use a measuring cylinder to measure the volume of injected water, which is the sample volume. For samples with a standard volume less than 250 mL, select a measuring cylinder with a graduation value of 1 mL; for samples with a standard volume of 250 mL~1000 mL, select a measuring cylinder with a graduation value of 5 mL; for samples with a standard volume greater than 1000 mL, select a measuring cylinder with a graduation value of 10 mL.

5.1.3 Test data processing

The volume error is calculated according to formula (1), and the result is rounded to one decimal place.

Ds -- standard diameter, the unit is millimeter (mm).

5.3 Determination of height error

5.3.1 Instruments and equipment

5.3.1.1 Steel ruler: The graduation values are 0.5 mm and 1.0 mm respectively.

5.3.1.2 Glass flat plate: The size shall be larger than the maximum size of the product being tested. The flatness is checked with a steel ruler, and there shall be no obvious gap between the glass flat plate and the steel ruler.

5.3.1.3 Vernier caliper: The graduation value is 0.1 mm.

5.3.2 Test procedures

Place the sample flat on a horizontal glass flat plate, and use a steel ruler or vernier caliper to measure the distance from the bottom of the sample to the edge of the mouth (excluding the cover) to obtain the maximum height and minimum height of the sample. For samples with a standard height less than 30mm, select a vernier caliper; for samples with a standard height of 30 mm~100 mm, select a steel ruler with a graduation value of 0.5 mm; for samples with a standard height greater than 100 mm, select a steel ruler with a graduation value of 1.0 mm.

5.3.3 Test data processing

The height error is calculated according to formula (3), and the result is rounded to one decimal place.

where:

Rh -- height error, %;

Hmax -- maximum height, the unit is millimeter (mm);

Hmin -- minimum height, the unit is millimeter (mm);

Hs -- standard height, the unit is millimeter (mm).

5.4 Determination of weight error

5.4.1 Instruments and equipment

5.4.1.1 Drying oven: It can work at a temperature of 110 degrees C+/-5 degrees C. Microwave, infrared,

with a standard maximum size greater than or equal to 200 mm, select a steel ruler with a graduation value of 1.0 mm.

5.5.3 Test data processing

The maximum dimensional error is calculated according to formula (5), and the result is rounded to one decimal place.