

Translated English of Chinese Standard: GB/T38494-2020

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 81.060.20

Y 24

GB/T 38494-2020

Test Method for Impact Resistance of Ceramic Wares

陶瓷器抗冲击试验方法

Issued on: March 06, 2020

Implemented on: October 01, 2020

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

Table of Contents

Foreword.....	3
1 Scope.....	4
2 Terms and Definitions	4
3 Principle	4
4 Apparatus and Utensils	5
5 Specimen	5
6 Procedures	5
7 Calculation Formula	6
8 Presentation of Results.....	7
9 Test Report	7

Test Method for Impact Resistance of Ceramic Wares

1 Scope

This Standard specifies the test method for the impact resistance of ceramic wares.

This Standard is applicable to the impact test of the centre and edge of the bottom of the ceramic wares.

2 Terms and Definitions

For the purpose of this document, the following terms and definitions apply.

2.1 Impact energy

The energy that is required for generating cracks or breakage of ceramic wares.

2.2 Impact resistance

The impact energy (edge impact strength) or the square ratio of impact energy to thickness (centric impact strength) that is required for generating cracks or breakage of ceramic wares.

2.3 Centric position

The centre of the bottom of the ceramic wares.

2.4 Edge position

The position, when the bottom of the ceramic ware is placed flat on a plane, that the edge of the mouth is in contact with the pendulum.

3 Principle

The method, when the pendulum is released from a certain height to the lowest point, and the potential energy is converted into kinetic energy to impact the ceramic wares to cause cracks or breakage, which is used to characterize the impact resistance of the ceramic wares.

6.1.3 Incremental test

Place the pendulum at the lowest energy position; release the pendulum to impact the specimen; block the pendulum with hand or other objects to avoid secondary impact; observe whether the specimen is cracked or damaged. Gradually increase the impact energy until the sample is cracked or damaged.

6.1.4 Results recording

Record the impact energy when cracks or breakage occur, and measure the thickness of the centric point of the specimen.

6.2 Edge impact test

6.2.1 Placement of the sample

The sample is placed flat on the fixed table and fixed; the pendulum is placed at the lowest point. And the sample fixed table is adjusted so that the impact point of the pendulum is at the thinnest and most prominent position of the edge of the specimen.

6.2.2 Fixed value test

Place the pendulum at a predetermined energy position; release the pendulum to impact the specimen; block the pendulum with hand or other objects to avoid secondary impact. Take out the specimen, and observe whether the specimen is cracked or damaged.

6.2.3 Incremental test

Place the pendulum at the lowest energy position; release the pendulum to impact the specimen; block the pendulum with hand or other objects to avoid secondary impact; observe whether the sample is cracked or damaged. Gradually increase the impact energy until the sample is cracked or damaged.

6.2.4 Results recording

Record the impact energy when cracks or breakage occur.

7 Calculation Formula

The calculation of impact resistance in the centric impact test is shown in Formula (1):

$$S = I/t^2 \quad \dots\dots\dots (1)$$

Where:

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----