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

GB/T 3398-1982

Replacing GB/T 3398-1982

**Plastics -- Determination of hardness -- Part 1: Ball indentation
method**

(English Translation)

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Foreword

GB/T 3398 "Plastics - Determination of hardness" is divided into two parts.

--- Part 1. Ball indentation method;

--- Part 2. Rockwell hardness.

This section GB/T 13398 Part of.

This part identical with ISO 2039-1:2001 "Plastics - Determination of hardness - Part 1. Ball indentation method" (in English).

This section is equivalent translation ISO 2039-1:2001.

For ease of use, this section made the following editorial changes.

--- Deleted the ISO foreword;

--- "ISO 2039 this part" to "GB/T 3398 to the present section";

--- With a decimal point instead of a comma as the decimal point, "";

--- For ISO 2039-1:2001 and other international standards referenced in our country is equivalent to using the standard, this section with a quote me National Standards in place of the corresponding international standards.

This Part replaces GB/T 3398-1982 "plastic ball indentation hardness test methods." this part of GB/T 3398-1982 The main technical differences are as follows;

--- Modify the standard name;

--- Expanding the scope of the standard;

--- Increasing the normative references a chapter;

--- Adds a chapter principle;

--- To increase the content of the test report;

--- Added Appendix A.

Appendix A of this section is an informative annex.

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Plastics Standardization Technical Committee (SAC/TC15) centralized.

This section is responsible for drafting. National Quality Supervision and Inspection Center of synthetic resin.

Participated in the drafting of this section. Beijing Yanshan Petrochemical resin, Sinopec hospital north of the National Chemical Building Materials Testing Center (Materials Testing Section), Guangzhou Blonde Technology Co., Ltd., National Petrochemical organic synthetic resin raw material quality inspection center.

1 Scope

GB/T 3398 This section specifies the method for the determination of plastic and hard rubber ball indentation hardness with a load device.

With this method for the determination of ball indentation hardness for the development, quality control and product standards by providing data acceptance and rejection.

2 Normative references

The following documents contain provisions which, through reference to GB/T 3398 to the present, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 2918-1998 standard plastic sample conditioning and environmental tests (idt ISO 291:1997)

3 Terms and Definitions

The following terms and definitions apply GB/T 3398 of this section.

Ball indentation hardness refers to a predetermined diameter steel balls, under the test load is applied vertically pressed into the surface of the sample, holding the unit after a certain time Indentation area on the pressure in Newtons per square millimeter (N/mm²).

Principle 4

The ball is pressed into a predetermined load to the specimen surface, in the loading measuring indentation depth, the surface area of the Deep Computing pushed. By the following Relationship to calculate the ball indentation hardness.

Ball indentation hardness = load applied to a surface area/pushed

5 Instruments

5.1

hardness tester, mainly by the support plate is provided with a sample of an adjustable stand, with the connecting member and the indentation is no impact Means for applying a load configuration.

Hardness testing machine shall be equipped with measuring equipment indentation is the indentation depth in the range of 0.4 mm, the measurement precision of $\pm 0.005\text{mm}$.

At maximum load, when the deformation measurements along the spindle afterburner, deformation of the frame is not greater than 0.05mm.

Indentation is a hardened and polished steel balls, the ball after the test does not show any deformation or damage.

Ball should have a diameter (5.0 ± 0.05) mm.

5.2

timer, accurate to $\pm 0.1\text{s}$.

6 Sample

Each sample should be a smooth or flat specimens of sufficient size to minimize the impact on the edge of the test results; for example, 20mm x 20mm. Between the two should be parallel to the sample surface, the recommended thickness of 4mm.

GB/T 3398.1-2008/ISO 2039-1:2001