

Translated English of Chinese Standard: GB/T3854-2017

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

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 83.120

Q 23

GB/T 3854-2017

Replacing GB/T 3854-2005

Test Method for Hardness of Reinforced Plastics by Means of a Barcol Impresser

增强塑料巴柯尔硬度试验方法

Issued on: September 07, 2017

Implemented on: August 01, 2018

Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of PRC.

Table of Contents

Foreword.....	3
1 Scope.....	4
2 Normative References	4
3 Principle	4
4 Test Instrument	4
5 Specimen	5
6 Test Conditions	5
7 Test Procedures	5
8 Test Results	6
9 Test Report	6
Appendix A (Informative) Barcol Hardness Tester.....	8

Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard replaced GB/T 3854-2005 *Test Method for Hardness of Reinforced Plastics by Means of Barcol Impresser*; compared with GB/T 3854-2005, this Standard has the major technical changes as follows:

- Modify the structural diagram of the Barcol hardness tester into an Appendix (see Appendix A of this Edition; Clause 4 of 2005 Edition);
- Specify that if the pyramid of hardness tester is damaged, it shall be replaced; delete the replacing method of instrument head (see 7.1.2 of this Edition; 7.1.3 of 2005 Edition);
- Modify the number of tests into at least 10 times (see 7.2.5 of this Edition; Clause 8 of 2005 Edition);
- Calculate the test results as per the provisions of GB/T 1446; delete the calculation formulas of arithmetic mean, standard deviation and dispersion coefficient (see 8.2 of this Edition; 9.2, 9.3, 9.4 of 2005 Edition).

This Standard was proposed by China Building Material Federation.

This Standard shall be under the jurisdiction of National Technical Committee for the Standardization of Fiber Reinforced Plastics (SAC/TC 39).

Drafting organizations of this Standard: East China University of Science and Technology; Huachang Polymer Co., Ltd. of East China University Science Technology; and Shanghai Society of Corrosion Science and Technology.

Chief drafting staffs of this Standard: Liu Zuozhen, Hu Fuzeng, Lv Xiaoping, Lei Hao, Qian Jianhua, Liu Hua, and Huang Rui.

The historical editions replaced by this Standard are as follows:

- GB/T 3854-1983, GB/T 3854-2005.

Test Method for Hardness of Reinforced Plastics by Means of a Barcol Impresser

1 Scope

This Standard specifies principle, test instrument, specimen, test conditions, test procedures, test results and test report by using the Barcol hardness tester to test the hardness of reinforced rigid plastics and their products.

This Standard is applicable to the determination of the Barcol hardness of the reinforced rigid plastics and their products; while the determination of the Barcol hardness of the non-reinforced rigid plastics and their products can also refer to this Standard; however, it is not applicable to the materials with Barcol hardness less than 20.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 1446 The Generals of Test Methods for Properties of Fiber-Reinforced Plastics

3 Principle

When using the Barcol hardness tester to measure the surface hardness of the materials, it indicates that press the specific pyramid into the specimen under the pressure of the standard load spring; the relative hardness of the specimen is characterized according to the depth of the press.

4 Test Instrument

Use the Barcol hardness tester to measure, its structural diagram can refer to Appendix A.

7.2.1 Place the specimen on a hard and stable supporting surface (such as steel plate, glass plate, cement platform, etc.) to test; the product can be tested directly on the appropriate part of its surface. The curved specimen shall be supported stably, when applying the test pressure, please note to avoid bending and deformation of the specimen.

7.2.2 Place the pyramid sleeve vertically on the surface of the specimen; place the supporting lug on the same surface or other solid materials with the same height; ensure that the pyramid and supporting lug in the same plane.

7.2.3 Hold the hardness tester casing with hand, apply a downward pressure quickly and evenly till the dial reading reaches its maximum value; record such maximum value (some materials shall appear reading of maximum value drifting back; such reading is in non-linear relationship with time); such reading is the Barcol hardness value. When the pyramid is in contact with the tested surface, try to avoid sliding and scratching.

7.2.4 The position of the indentation shall be greater than 3mm from the edge of the specimen; the spacing of the indentation shall also be greater than 3mm.

7.2.5 Test the hardness on at least 10 different positions of the specimen.

8 Test Results

8.1 Single test value: $x_1, x_2, x_3, \dots, x_n$.

8.2 According to the provisions of GB/T 1446, calculate the arithmetic mean $\bar{x}$, standard deviation S , dispersion coefficient C_v ; the results shall be retained two significant digits.

9 Test Report

The test report shall include the following contents at least:

- a) Specimen name, appearance quality;
- b) Specimen delivery organization;
- c) State adjustment and test environment condition of the specimen;
- d) Model of the Barcol hardness tester;
- e) Test results;
- f) This Standard number;

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 -----