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

**GB 6406.1-1986**

Replacing GB/T 6406-1996

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**Super-abrasive -- Checking the grain size  
(English Translation)**

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## Table of Contents

- Foreword
- 1 Scope
- 2 Normative reference documents
- 3 Test equipment
  - 3.1 Screening test machine
  - 3.2 Test sieve

### Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 6406-1996 "Super hard abrasive diamond or cubic boron nitride particle size", and GB/T 6406-1996 Compared to the main technical content changes as follows.

- "(41 $\mu$ m ~ 1180 $\mu$ m)" modified to "for the manufacture of industrial products such as grinding wheels and saws" "16/18 ~ 500/600" (see Chapter 1, 1996 edition 1);
- modified the reference standard (see Chapter 2, 1996, Chapter 2);
- modify the granularity of the mark, such as an increase of 500/600,35/45 (see Table 3, Table 4, 1996 Table 1);
- modified the timer requirements (see 3.4, 1996 edition 4.5);
- modified the requirements for test environmental conditions (see Chapter 4, Edition.1996);
- modified the requirements of the test sieve varieties, all using electroformed sieves (see 3.2, 1996 edition 4.2);
- modified the requirements of the test screen mesh size deviation (see Table 2, 1996 edition 4.2.2);
- increased the requirements of the test sieve line deviation (see 3.2);
- increase the size of the mark for the 270/325 and 325/400 lower limit sieve (see Table 3);
- modified the requirements of the size of the composition (see Table 3, Table 4, 1996 Table 1).

This standard uses the re-drafting method to modify ISO 6106.:2013 "abrasive products superhard abrasive grain size test".

The technical differences between this standard and ISO 6106.:2013 are as follows.

--- Added reference to "JB/T 3914 super-hard abrasive sampling method" and "GB/T 18845 abrasive screening test machine" to the technical conditions of our country;

- the deletion of Chapter 3, "Terms and Definitions", as its contents are specified in GB/T 16458-2009 "Abrasive Abrasives Terminology";

- the reference standard "ISO 554 standard for atmospheric regulation and/or testing", since the reference standard has been specified in this standard Related provisions;

- to increase the test screen mesh size deviation and lattice number deviation requirements to increase the standard enforceability;

--- modify the particle size marking method, using the equivalent screening size of the marking method to adapt to our habits;

--- increase the aperture size of 1010 $\mu$ m, 25 $\mu$ m and 20 $\mu$ m electroforming test sieve grid number requirements, modify the mesh size 32 $\mu$ m and 28 $\mu$ m electroforming test sieve lines to ensure the integrity and rationality of the standard;

--- "8.1 Overview" was deleted because it was duplicated with the contents of 8.2;

--- delete the table 2, Table 3 Note, where the particle size distribution requirements are not operational; other content standards have been clearly stated, do not Repeat it.

This standard has a greater structural adjustment compared to ISO 6106.:2013, Appendix A lists the chapters of this standard and ISO 6106.:2013 A comparison of the numbers.

This standard also makes the following editorial changes to ISO 6106.:2013.

--- modified the standard name.

This standard is proposed by the China Machinery Industry Federation.

This standard is owned by the National Standard Committee on Abrasive Tools (SAC/TC139).

The drafting of this standard. Zhongnan Diamond Co., Ltd., Zhengzhou abrasive grinding Institute Co., Ltd., Henan Yellow River Whirlwind Co., Ltd.

Company, Zhengzhou Zhongnan Jie Te Superhard Materials Co., Ltd., Zhengzhou Huajing Diamond Co., Ltd., Fu Nike Superhard Materials Co., Ltd.

## 1 Scope

This standard specifies the test equipment, test conditions, test methods, results evaluation, particle size marking and Level limit.

This standard applies to 16/18 ~ 500/600 of synthetic diamond or cubic boron nitride

particle size test.

## 2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 18845 Abrasive Screening Testing Machine JB/T 3914 superhard abrasive sampling method

### 3.1 Screening test machine

A screening test machine complying with GB/T 18845 shall be used.

#### 3.2.1 Category

The square hole should be used to form a sieve.

#### 3.2.2 Requirements

The test sieve requirements are as follows.

- a) The surface of the test sieve is fixed with a support grid of 2.2 wires per centimeter per cent and has a diameter of 200 mm or 75 mm 25mm stainless steel frame.
- b) The entire set of screens shall be provided with a pick-up chassis and an upper cover.
- c) the mesh size and grid number of the test sieve are in accordance with Table 1. The deviation of the mesh size is in accordance with Table 2 and the deviation of the grid 5% of the values specified in Table 1.
- d) The test sieve should be cleaned regularly by ultrasonic means.

Table 1 Mesh size and grid number of test sieve

Mesh size

Number of lines

cm-1

Mesh size

Number of lines

cm-1

1830 4.97

1530 5.8

1280 6.5

1080 7.9

1010 8.2

915 8.5