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

GB/T 3043-2017

Replacing GB/T 3043-2000

**Conventional abrasive -- Chemical analysis of brown fused
aluminium oxide**

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Foreword

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

This standard replaces GB/T 3043-2000 "corundum chemical analysis method", compared with the GB/T 3043-2000 main technical changes are as follows.

- Increasing the determination of silica gel method (see 5.3);
- Increasing the determination of ferrous sulfate sulfosalicylic acid colorimetric method (see 7.3);
- Increased calcium oxide determination of the volume method (see 9.2);
- Increased capacity of magnesia determination method (see 10.2);
- Added X-ray fluorescence spectrometry (tablet method) (see Chapter 14);
- Increased potassium oxide, sodium oxide determination (flame photometry) (see Chapter 15).

This standard uses redrafted Law Amendment uses ISO 9285.1997 "abrasive and crystalline fused fused alumina chemical analysis."

This standard compared with ISO 9285.1997 in the structure there are more adjustments, Appendix B lists the standard and ISO 9285.1997

Chapter number control list.

This standard and ISO 9285.1997 technical differences and the reasons are as follows.

- On normative references, this standard made a technical difference with the adjustment

to adapt to China's technical conditions, adjust the situation

Concentration reflected in the second chapter "Normative references", the specific adjustments are as follows.

* Use modified GB/T 4676 international standard instead of ISO 9138.1993;

* Deleted references to ISO 6353-1.1982, ISO 6353-2.1983, ISO 6353-2/Add.2.1986 and ISO 6353-

3.1987.

--- Increased determination of the determination of silica gel agglomeration, ferrous sulfate determination of sulfosalicylic acid colorimetric method, calcium oxide and magnesium oxide

Determination of the volume method, the EDTA capacity of aluminum oxide method to meet the status quo of our test methods, methods are long-term

Practice verification, test results are stable and reliable.

--- Increasing X-ray fluorescence spectrometry (tableting method), because of X-ray fluorescence spectrometry (tableting method) corundum silica,

Ferric oxide, titanium dioxide, calcium oxide, magnesium oxide, zirconium dioxide content has been widely recognized at home and abroad, proved its

Test results are stable and reliable.

--- Increasing the determination of potassium oxide, sodium oxide (flame photometry), because most domestic enterprises do not have atomic absorption spectrometry

Force, to adapt to the status quo of our country increased flame photometry.

--- Removed the international standard appendix A, because the original Appendix A only pointed out that other available analytical methods, combined with China's actual situation

Part of the situation has been the provisions of the standard provisions.

This standard made the following editorial changes.

--- The standard name was changed to "ordinary abrasive corundum chemical analysis method."

This standard is proposed by the China Machinery Industry Federation.

This standard by the National Abrasives Standardization Technical Committee (SAC/TC139) centralized.

This standard was drafted. Zhengzhou abrasive grinding Institute Co., Ltd., Shanxi Taiyue Abrasives Co., Ltd., Chongqing Boxing Mining (set

Mission) Limited.

1 Scope

This standard specifies the corundum abrasive and crystal ingot burning reduction (or burning), silica, ferric oxide, titanium dioxide, calcium oxide, oxygen

Determination of magnesium, zirconium dioxide, aluminum oxide, potassium oxide and sodium oxide.

This standard applies to the determination of corundum abrasive and chemical composition of the crystal block does not apply to the composition of the product after the change occurs.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 4676 ordinary abrasive sampling method (GB/T 4676-2003, ISO 9138.1993, MOD)

3.1 crystalline block sample

Take a statistically representative of the crystalline block, crushed to fully through the 2mm screen, mix, with the quartering down to 10g ~ 20g. Following

Continued use steel mortar or corundum mortar finely ground through the 150µm sieve. With suction 9.8N ~ 14.7N magnet sucked out into the smashing

Iron. Then mix well, put into the sample bag, dry in oven at 105 degrees C ~ 110 degrees C for 1h, take it out, put it in the dryer and cool it for use.

3.2 abrasive samples

Sampling and shrinking according to GB/T 4676.

Abrasives with a particle size of > 150 µm are first reduced to 10 g to 20 g and then finely ground in a corundum mortar until they all pass through a 150 µm mesh,

Uniform, into the sample bag, drying placed in the dryer spare.

Abrasive size ≤ 150µm, shrink to 10g ~ 20g into the sample bag, drying placed in the dryer spare.

3.3.1 atomic absorption spectrometry sample preparation

Atomic absorption spectrometry sample preparation methods see 13.3.

3.3.2 X-ray fluorescence spectrometry (tableting method) Preparation of the sample

X-ray fluorescence spectrometry (tableting method) sample preparation methods see 14.4.1.

4.1 Test Procedure

Weigh the sample about 1g, accurate to 0.0001g, placed in a high-temperature furnace 1050 degrees C before burning to a constant weight platinum crucible, note the crucible

Plus the quality of the sample, cover micro-Kai, placed in 1100 degrees C high temperature furnace burning 1h, removed, placed in a desiccator cooling, weighing, repeated burning to