

ICS 71.100.10
CCS H 21

YS

**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 438.2-2013

Replacing YS/T 438.2-2001

**Methods for physical performance determination of sandy
alumina. Part 2: Determination of the attrition index**

砂状氧化铝物理性能测定方法 第2部分：磨损指数的测定

(English Translation)

Issued on: January 1, 1970

Implemented on: January 1, 1970

Issued by: Ministry of Industry and Information Technology

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Method summary
- 4 Instrument

Foreword

YS/T 438 "sandy alumina determination of physical performance" is divided into five sections.

- Part 1. Determination of particle size distribution by sieving;
- Part 2. Determination of the abrasion index;
- Part 3. Determination of angle of repose;
- Part 4. Determination of specific surface area;
- Part 5. Determination of alpha- alumina content of X- ray diffraction.

This is Part 2.

The partial replacement of YS/T 438.2-2001 "Determination of sandy alumina determination of physical performance wear index" this part is YS/T 438.2-2001 "Determination of the physical properties of sandy alumina Determination of attrition index of" amendments and YS/T 438.2-2001 compared to the main changes are as follows.

- Increased precision;
- Increased quality assurance and control of the content;
- Instrument schematic improvements;
- Sample drying temperature is "300 °C ± 10 °C" changed to "105 °C ± 5 °C".

This section drafted in accordance with GB/T 1.1-2009 given rules.

The non-ferrous metal part by the National Standardization Technical Committee (SAC/TC243) centralized.

This part mainly drafted by. Aluminum Corporation of China Guangxi Branch, Luoyang Xiangjiang Wanji Aluminum Co., Ltd.

1 Scope

This section provides sandy alumina in a fluidized bed to determine the wear its attrition index method.

This section applies to the determination of sandy alumina abrasion index.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Determination of particle size distribution of sieving. YS/T 438.1 sandy alumina determination of physical performance - Part 1

3 Method summary

The sandy alumina sample is divided into two parts, part of the sample directly measured -45 μ m screening size fraction mass fraction; another part of the test Like in the fluidized bed at a constant air circulation blowing the wear and sieved grain size was measured -45 μ m mass fraction. According to the two parts Level content changes -45 μ m grain sample is calculated wear index of the sample.

4 Instrument

4.1

balance. the largest weighing 100g, accuracy of 0.01g.

4.2

Oven. maximum use temperature of 300 °C.

4.3

Attrition Index measuring apparatus shown in Figure 1, having the following composition.

4.3.1

fluidizing tube. hard glass tube, an inner diameter of 25mm, length 1500mm, placed vertically, the bottom flange fixed to the base support and commissioning Cylinder connection.

4.3.2

Test cylinder. diameter 25mm, height 120mm.

4.3.3

Intake leak. leak diameter $0.381\text{mm} \pm 0.002\text{mm}$, and calibrated at the test center of the cylinder hole, the structure shown in Figure 2.

4.3.4

tank. volume 30L ~ 50L.

4.3.5

flow rate adjusting valves.

4.3.6

Pressure gauge. maximum range 1MPa.

4.3.7

dry compressed air or nitrogen ($\geq 99.99\%$).

4.3.8

precipitator.