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

GB/T 22638.6-2016

Replacing GB/T 22638.6-2008

**Test methods for aluminium and aluminium alloy foils - Part 6:
Determination of direct current resistance**

铝箔试验方法 第6部分：直流电阻的测定

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Foreword

GB/T 22638 "aluminum foil test method" is divided into 10 parts. - Part 1. Determination of thickness; - Part 2. Detection of pinholes; - Part 3. Detection of adhesion; - Part 4. Determination of surface wetting tension; - Part 5. Detection of wettability; - Part 6. Determination of DC resistance; - Part 7. Determination of heat seal strength; - Part 8. Determination of texture content; - Part 9. Hydrophilic testing; Part 10. Determination of the surface density of the coating. This part is part 6 of GB/T 22638. This part is drafted in accordance with the rules given in GB/T 1.1-2009. This part of the replacement GB/T 22638.6-2008 "aluminum foil test method Part 6. Determination of DC resistance", and GB/T 22638.6- 2008, the main technical changes are as follows:

- increase the normative reference documents;
- modified the principle of the method; - a method of measuring the room temperature resistance of a sample by means of a DC four-probe square resistance/resistivity tester;
- modified the requirements of the double-arm bridge method and the determination of room temperature resistance method;
- increase the room temperature resistivity calculation formula, modify the standard size of the aluminum foil at room temperature DC resistance of the formula;
- increased precision requirements. This part is made by China Nonferrous Metals Industry Association. This part is the national nonferrous Metals Standardization Technical Committee (SAC/TC243). This part is responsible for drafting units. Kunming Metallurgical Research Institute, Guangzhou City Kunde Technology Co., Ltd., Yunnan Hao Xin Aluminum Foil Co., Ltd. This part participates in the drafting unit. Guangzhou Nonferrous Metals Research Institute, Beijing Institute of Nonferrous Metals and Rare Earth Application, Xiamen Haishun Aluminum Foil Limited Company, Guizhou Aluminum

Aluminum Co., Ltd., Jiangsu Daya Aluminum Co., Ltd., Kunshan Aluminum Co., Ltd., Shanghai and Shanghai Xin Aluminum Foil Co., Ltd. State Five Star Aluminum Co., Ltd., Ruyuan East Sunshine Fine Foil Co., Ltd., Huaxi Aluminum Co., Ltd., Northeast Light Alloy Co., Ltd. Aluminum Company North Aluminum processing plant, Guangzhou Hao Long Aluminum Co., Ltd. The main drafters of this part are. Huang Yunfeng, Wang Feng, Wang Xin, Xu Fushun, Wang Qifu, Zhang Xinhong, Li Junsheng, Zhang Chunping, Xiang Miao Miao, Chen Zhiming, The original wins, Jin Jie, Yue Youcheng, Ma Cuiyan, Jiang Xia, Wang Wei, Zhang Jinsong, Ma Yue, Wang Shouye. This part of the previous version of the standard to replace the release of the situation.

--- GB/T 22638.6-2008. Aluminum foil test method Part 6. determination of DC resistance

1 Scope

GB/T 22638.6-2016 is the Chinese national standard on test methods for aluminium and aluminium alloy foils - part 6: determination of direct current resistance, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 30 December 2016 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 November 2017. Classification: ICS 77.040.01, CCS H20. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This part of GB/T 22638 specifies the principle, reagents, instruments and equipment for the determination of DC resistance of aluminum foil, samples, arms Method, DC four probe method, precision and test report. This part is applicable to the determination of DC resistance of aluminum foil at room temperature. The arms method specified in this section shall be used for the determination of the DC resistance of aluminum foil at room temperature.

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 Pieces. For undated references, the latest edition (including all modifications) applies to this document. Representation and Judgment of Numerical Correction Rule and Limit Value of

GB/T 8170 Methods of test for aluminum foil - Part 1. Determination of thickness - Gravimetric method GB/T

3 Principle of the method

The room temperature resistivity of the aluminum foil sample was calculated by measuring the resistance of the aluminum foil sample at room temperature (20 °C), and then the standard Standard size (width x length. 10mm x 1000mm) when the aluminum foil at room temperature DC resistance.

4 Reagent

Anhydrous ethanol, pure chemical.

5 Instruments and equipment

5.1 projector, magnification of not less than 10 times.

5.2 vernier caliper, resolution of 0.02mm.

5.3 vernier caliper, resolution of 0.1mm.

5.4 Kelvin double-arm bridge, equipped with 0.001Ω standard resistance.

5.5 aluminum foil DC resistance tester, the accuracy is better than $\pm 3\%$, the minimum resolution of $1 \times 10^{-5}\Omega$.

5.6 thermometer with a resolution of 0.1 ° C.

6.1 Sample size

6.1.1 double-arm bridge method sample. rectangular specimen, sample gauge length L (part of the DC resistance test to participate in the length) should not be less than 400mm. test