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

GB/T 20504-2026

Replacing GB/T 20504-2006

**Anodic oxide coatings and organic polymer coatings on
aluminium and its alloys - Determination of image clarity**

铝及铝合金阳极氧化膜及有机聚合物膜 影像清晰度测定

(English Translation)

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Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Method Overview

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 20504-2006 "Criteria for Determination of Image Sharpness of Anodized Films on Aluminum and Aluminum Alloys".

Compared with GB/T 20504-2006, the main technical changes in the "Law" are as follows, apart from structural adjustments and editorial modifications.

- a) The scope has been changed (see Chapter 1, Chapter 1 of the 2006 edition);
- b) Terms and definitions have been changed (see Chapter 3, Chapter 3 of the 2006 edition);
- c) The method overview has been revised (see Chapter 4, Chapter 4 of the 2006 edition);
- d) The barcode label has been changed (see 5.1, 2006 version 5.1);
- e) Added brightness values to the brightness chart (see 5.2);
- f) Increased the light source requirements for the observation box (see Chapter 6);
- g) Increased requirements for sample cleaning (see 7.2);
- h) Additional sample collection requirements have been added (see 7.3);
- i) The measurement of image resolution has been changed (see 8.1, 7.2 in the 2006 edition);
- j) The determination of image distortion has been changed (see 8.2, 7.3 in the 2006 edition);
- k) The determination of turbidity values has been changed (see 8.3, 7.4 in the 2006 edition);

l) The experimental data processing has been changed (see Chapter 9, Chapter 8 in the 2006 edition);

m) The test report was amended (see Chapter 10, Chapter 9 of the 2006 edition).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Nonferrous Metals Industry Association.

This document is under the jurisdiction of the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC243).

1 Scope

This document describes the visual determination of image sharpness of aluminum and aluminum alloy anodized films and organic polymer films using bar charts and brightness charts.

method.

This method is applicable to anodized films of aluminum and aluminum alloys used in home furnishings, bathroom fixtures, automobiles, and building materials industries where surface image reflection is required.

And the determination of image clarity of organic polymer films.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 8005.3 Aluminum and Aluminum Alloys Terminology Part 3: Surface Treatment GB/T 8170 Rules for rounding off numerical values and the representation and determination of limiting values GB/T 11186 Method for measuring coating color

3 Terms and Definitions

The terms and definitions defined in GB/T 8005.3 and the following terms and definitions apply to this document.

Image clarity

The ability of anodic oxide films and organic polymer films to reflect image clarity.

4 Method Overview

Under certain lighting conditions, the horizontal and vertical image resolution of the sample is obtained by observing the image of the strip projected onto the sample surface through the observation window.

Image distortion is obtained by comparing the brightness of the sample surface bar mark image and the brightness mark image to obtain the turbidity value, and then calculating the image sharpness of the sample.

Figure 1 shows a schematic diagram of the image sharpness test.