

ICS 77.150.10

CCS H 61



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

GB/T 5237.2-2017

**Wrought aluminium alloy extruded profiles for architecture -
Part 2: Anodized profiles**

铝合金建筑型材 第2部分：阳极氧化型材

Issued on: October 14, 2017

Implemented on: July 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

1	Scope
2	Normative references
3	Terms and definitions
4	Requirements
4.1	Product Classification
4.2	Quality Assurance
4.6	Film properties
4.6.6	Weather resistance
5	Test methods
5.1	Mechanical properties according to the provisions of GB/T 5237.1 4.4
5.2	Dimensional deviation check by root 4.5
5.4	Film properties
5.4.1	Color difference check by root 4.6.2
5.4.6	Weather resistance
5.4.7	Appearance quality inspection by root 4.7
5.5	Table
6	Poor and appearance quality
6.1	Inspection and acceptance
6.4	Inspection items and process assurance projects
6.6	Determination of test results
7	Marking, packaging, transportation, storage and quality certificate
7.1	Mark

Foreword

GB/T 5237 "Aluminum Alloy Building Profile" is divided into six parts.

- Part 1. Substrate;
- Part 2. Anodized profiles;
- Part 3. Electrophoretic paint profiles;
- Part 4. Spray profiles;
- Part 5. Painting profiles;

--- Part 6. Thermal insulation profiles. This part is the second part of GB/T 5237. This part is drafted in accordance with the rules given in GB/T 1.1-2009. This part replaces GB 5237.2-2008 "Aluminum Alloy Building Profiles Part 2. Anodized Profiles". This part and GB 5237.2- Compared with.2008, the main technical changes except editorial changes are as follows:

- Deleted the statement in the preface that "This section 4.4.1, 4.4.2 is mandatory, and the remaining clauses are recommended" (see.2008 edition) Preface);
- Deleted the statement in the preface "This section refers to JISH8601-1999 "Aluminum and aluminum alloy anodized film" revised" (see the preface of the.2008 edition);
- Revised the applicable "scope" of this section (see Chapter 1, Chapter 1 of the.2008 edition);
- Removed the normative reference document GB/T 228-2002 (see Chapters 2 and 5.2 of the.2008 edition);
- Removed the normative reference document GB/T 1766 (see Chapter 2 of the.2008 edition and 5.4.6.1);

1 Scope

Part 2 of China's national standard for architectural aluminium alloy extruded profiles, covering anodised material. Anodising converts the aluminium's own surface into a thick oxide layer by making the profile the anode in an acid electrolyte, and it is different in kind from a coating: the layer grows into the metal rather than sitting on it, so it cannot peel or chip. Its porous structure is then coloured, either by electrolytic deposition of metal salts in the pores - which gives the bronzes and blacks characteristic of anodised architecture and is the most lightfast route available - or by dyeing, and finally sealed. Everything about the finish's durability depends on the film thickness and the quality of that seal, both of which are invisible on delivery and decisive over decades of weathering. The part applies to hot extruded aluminium profiles for anodising, electrolytic colouring or dyeing, and specifies the terms, requirements, test methods, inspection rules, marking, packaging, transport, storage, quality certificates and order contents.

This part of GB/T 5237 specifies the terms and definitions, requirements, test methods, inspection rules, signs, packaging, and anodized profiles. Transportation, storage and quality certificates and order forms (or contracts). This section applies to aluminum alloy hot extruded profiles (hereinafter referred to as profiles) for surface anodizing, electrolytic coloring or dyeing. Other aluminum alloy processed materials with the same application and surface treatment methods can also be referred to in this section.

2 Normative references

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

GB/T 3199 Aluminum and aluminum alloy processing products packaging, marking, transportation, storage

GB/T 4957 Non-conductive coating on non-magnetic base metal, thickness measurement of eddy current method

GB/T 5237.1 aluminium alloy building profiles - Part 1.

GB/T 6461 Metal and other inorganic coatings on metal substrates after corrosion test samples and test pieces

GB/T 6462 metal and oxide coating thickness measurement microscopy

GB/T 8005.3 Aluminium and aluminium alloys - Part 3. Surface treatment Aluminium and aluminium alloy anodized films and organic polymeric films - Part

1 Aluminium and aluminium alloys - Determination of thickness of anodized oxide film - Part

1 Aluminium and aluminium alloys -- Determination of sealing quality of oxidized oxides - Part 1 . Chromic acid method

GB/T 9276 coating natural weather exposure test method Aluminium and aluminium alloys - Determination of anodic oxide film - Part 3. Copper accelerated acetate spray test (CASS test) Aluminium and aluminium alloys - Determination of anodic oxide film - Part

4 Determination Aluminium and aluminium alloys - Determination of anodic oxide film - Part

3 Terms and definitions

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

3.1 Decorative surface exposedsurfaces Profiles that are processed, assembled into articles and mounted on buildings, visually visible surfaces (including in an open or closed state).

4.1 Product Classification

4.1.1 Grade, Status and Size Specifications The grade, condition and size specifications shall comply with the provisions of GB/T 5237.1.

4.1.2 Surface texture types and characteristics The surface texture types and characteristics are shown in Table 1. Table

1 Types and characteristics of profile surface texture Texture type texture features The glossy surface maintains the same surface texture appearance as the substrate Surface texture appearance obtained by sandblasting, shot blasting or alkali etching on the surface of the substrate Smooth, shiny surface texture appearance obtained by grinding the surface of the substrate with a cloth wheel, wool wheel and sandpaper Surface texture appearance of straight lines, chaotic lines, threads, corrugations, and swirls obtained by mechanically rubbing the surface of the substrate

4.1.3 Film thickness level, film color and surface treatment The film thickness level, film color and surface treatment of the film layer are shown in Table 2. Table

2 Film thickness level, film color and surface treatment Film thickness level a, b film color surface treatment method a AA10, AA15, AA20, AA

25 Silver white Bronze, black, gold, etc. Anodized sealing Anodized electrolytic coloring c sealing Anodizing dyeing d sealing a Film thickness level, coloring and sealing process have a great influence on the performance of the film. b Generally, the thicker the film thickness, the better the salt spray corrosion resistance. c Electrolytic coloring can only meet the customer's demand for a certain range of colors. d The ultraviolet light resistance of the dyed film layer is generally worse than that of electrolytic coloring.

4.1.4 Marking and examples Profile marking by product name, this part number, grade, status, section code and length, color (or color number), surface texture type, film A thick level of sequential representation. Examples of tags are as follows: Bronze, sand surface, film thickness grade AA15, 6063 grade, T5 state, profile section code 421001, length of 3000mm profile, standard Recorded as. Anodized profile GB/T 5237.2-6063T5-421001x3000 bronze sand surface AA15

4.2 Quality Assurance

4.2.1 Process Process assurance see A.1.

4.2.2 Raw materials Refer to A.2 for the quality of the substrate, the quality of the anodizing surface treatment chemicals and additives.

4.3 Chemical composition The chemical composition should meet the requirements of GB/T 5237.1.

4.4 Mechanical properties Mechanical properties should meet the requirements of GB/T 5237.1.

4.5 Dimensional deviation Dimensional deviation (including the film layer) shall comply with the provisions of GB/T 5237.1.

4.6 Film properties

4.6.1 Film thickness The average film thickness and local film thickness of the film layer are