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

GB/T 5237.5-2017

**Wrought aluminium alloy extruded profiles for architecture -
Part 5: Paint coating profiles**

铝合金建筑型材 第5部分：喷漆型材

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Foreword

GB/T 5237 "Aluminum Alloy Building Profile" is divided into 6 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 fifth 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 5237.5-2008 "Aluminum Alloy Building Profiles Part 5. Fluorocarbon Paint Spray Profiles". This part and Compared with GB 5237.5-2008, the main technical changes except editorial changes are as follows:

--- Modified the standard name (see cover, cover of the.2008 edition);

- Deleted the statement in the preface that "this section 4.5.3.1, 4.5.5 is mandatory, and the remaining clauses are recommended" (see.2008 edition Preface)
- Removed the preface "This section refers to AAMA2605-2005 "Aluminum extrusion materials and sheet metal properties of ultra-high performance organic coatings Summation of the test method "to be revised" (see the preface to the.2008 edition);
- Revised the applicable "scope" of this section (see Chapter 1, Chapter 1 of the.2008 edition);
- Revised the directives for normative references (see Chapter 2, Chapter 2 of the.2008 edition);
- Removed the normative reference document GB/T 228-2002 (see Chapters 2 and

1 Scope

Part 5 of China's national standard for architectural aluminium alloy extruded profiles, covering liquid paint coated material with polyvinylidene fluoride. PVDF applied as a wet coating is the premium architectural finish and has been since the 1960s, and its reputation rests on a specific chemical fact: the carbon-fluorine bond is stronger than the ultraviolet energy that reaches the earth's surface, so the resin does not photodegrade the way hydrocarbon binders do. A PVDF facade holds its colour and gloss for thirty years or more in full exposure, which is what justifies its cost on a building nobody intends to recoat. The coating is applied by electrostatic spray in two or three layers with a primer, and the film thickness and cure of each is what the specification turns on. This part applies to hot extruded aluminium building profiles electrostatically sprayed with organic or aqueous solvent-based PVDF paint, 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, marking, packaging, transportation, and Storage, quality certificate and order form (or contract) content. This section applies to organic solvent-based or aqueous solvent-based polyvinylidene fluoride (PVDF) paint as a coating for the construction of electrostatic spray aluminum alloy Hot extruded profiles (hereinafter referred to as profiles). 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 1732 paint film impact resistance test

GB/T 1740 paint film moisture resistance test

GB/T 1766 Paint and varnish coating aging rating method

GB/T 1865-2009 Painted and varnish artificial weathering and artificial radiation exposure filtered xenon arc radiation

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 5237.2 aluminium alloy building profiles - part 2. anodized profiles

GB/T 6682 Analytical laboratory water specifications and test methods

GB/T 6739 Paint and varnish pencil method for determination of film hardness

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

GB/T 9276 coating natural weather exposure test method

GB/T 9286 color and varnish paint film cross-cut test

3 Terms and definitions

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

3.1 Decorative surface exposed surfaces 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 Type of film layer, film layer code, film layer composition, film layer characteristics and applicable environment of corresponding profiles The type of film layer, film layer code, film layer composition, film layer characteristics and applicable environment of the corresponding profiles are shown in Table 1. Table

1 Type of film layer, film layer code, film layer composition, film layer characteristics and applicable environment of corresponding profiles Membrane type film layer code a film layer

composition characteristics and corresponding environment of the corresponding profile

Two coat LF2-25 primer plus topcoat The second coating is generally a monochromatic or pearlescent mica scintillation effect film layer, which is not required Additional varnish protection. The second coating is suitable for solar radiation and the atmosphere Corrosive environment Three-coat LF3-34 primer, topcoat and varnish The three-coating is generally a metallic effect film in which the ball is used in the paint. Grinding aluminum powder to obtain metal texture effect, the metal texture is different from the second coating The layer of pearlescent mica film, because the aluminum powder is easy to oxidize or peel off, the surface of the film Varnish protection is required to ensure the overall performance of the film. Metallic aluminum paint Generally do not make two coatings. Three coatings are suitable for strong solar radiation and atmosphere Corrosive environment Four coat LF4-55 primer, barrier paint, top coat and varnish The four-coat layer is generally a metal effect film layer with higher performance requirements, and the film layer On the basis of the three-coat layer, a barrier film layer that blocks ultraviolet rays is added, Improved UV resistance. The four coatings are suitable for strong solar radiation, Extremely corrosive atmosphere

Note. The film characteristics, coating characteristics and requirements of primer, barrier paint, topcoat and varnish are shown in Table A.2. a "LF" in the film designation indicates painting treatment, the first Arabic digit after "LF" indicates the type of film layer, and the Arabic number after "-" indicates the film layer. The minimum local film thickness.

4.1.3 Tags and examples Profile marking by product name, this part number, grade, status, section code and length, color (or color number), film order Show. Examples of tags are as follows: Example 1. The paint color is 2345, the film type is four coat, 6063 grade, T5 state, the cross-section code is YST10002, the length is 4000mm, the paint profile, the standard Recorded as. Painting profile GB/T 5237.5-6063T5-YST10002x4000 color 2345LF4-

55 Example 2. The paint color is red, the film type is two coat, 6063 grade, T5 state, the cross-section code is YST10002, the length is 4000mm, the paint profile, the standard Recorded as. Painting profile GB/T 5237.5-6063T5-YST10002x4000 red LF2-25

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, pretreatment reagents and fluorocarbon paint.

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.