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JIS H 8688 : 1998

**Test method for determination
of mass per unit area of anodic
oxide coatings on aluminium
and aluminium alloys—
Gravimetric method**

ICS 25.220.20

Descriptors : aluminium, aluminium alloys, anodizing, anodic coating, thickness
measurement, mass spectrometry, mass

Reference number : JIS H 8688: 1998 (E)



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H 8688 : 1998

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently, **JIS H 8680 : 1993** was withdrawn, and the gravimetric method, specified in the withdrawn **JIS H 8680**, has been replaced in **JIS H 8688 : 1998**. This establishment, for the purpose of making it easy to compare Japanese Industrial Standards with International Standards, to prepare the Japanese Industrial Standard which conforms to International Standards, and to propose the original plan for International Standard on a basis of Japanese Industrial Standard, has adopted (1) microscopical method, (2) eddy current method, and (3) split-beam microscope, which were specified in **JIS H 8680**, as divisions to make them separately independent standards, and (4) gravimetric method has been prepared to have independent standard number in consideration of its content as standard property.

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Divisional Council on Non-Ferrous Metals

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Test method for determination of mass per unit area of anodic oxide coatings on aluminium and aluminium alloys— Gravimetric method

Introduction This Japanese Industrial Standard has been prepared based on the first edition of *ISO 2106 Anodizing of aluminium and its alloys—Determination of mass per unit area (surface density) of anodic oxide coatings—Gravimetric method*, published in 1982, without any modification in the technical contents.

1 Scope This Standard specifies the gravimetric method by which the mass per unit area (surface density) of anodic oxide coatings (hereafter referred to as “coatings”) on the products (hereafter referred to as “products”) manufactured of aluminium and aluminium alloy is measured.

This method can be applied to the almost all aluminium alloys except those in which the copper content is greater than 6 %.

Remarks : The International Standard corresponding to this Standard is as follows.

ISO 2106 : 1982 *Anodizing of aluminium and its alloys—Determination of mass per unit area (surface density) of anodic oxide coatings—Gravimetric method*

2 Normative reference The following standard contains provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent edition of the standard indicated below shall be applied.

JIS H 0201 *Glossary of terms used in the surface treatment of aluminium*

3 Definitions For the purpose of this Standard, the definitions in **JIS H 0201** apply.

4 Summary Dissolve the coatings, weigh the mass difference between before and after dissolving, and express the amount of anodized coatings per unit area in mass. When the density of coating is known, the average thickness (μm) of coating obtained by its conversion is also obtainable.

5 Test specimen Test specimen shall be as follows.

- a) Sample out the test specimen from the significant surface of products. When no product can be submitted, the test specimen, which was prepared from the same material⁽¹⁾ as that of the product and under the same treating conditions⁽²⁾ as those for the same coatings, may be used.
- b) The standard size of test specimen is 50 mm $\times$ 100 mm. Even if the standard dimensions cannot be taken out, it is recommendable to take out the test specimen measuring 0.08 to 1.0 dm² in surface area and 100 g or less in its mass. Additionally, when the surface of coating has nonsignificant surface which was covered with film, either remove it by mechanical or chemical measures in advance, or perform coating it with film protective against acid.