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JIS H 8680-2 : 1998

Test methods for thickness
of anodic oxide coatings on
aluminium and aluminium alloys—
Part 2 : Eddy current method

ICS 25.220.20

Descriptors : aluminium, aluminium alloys, anodizing, anodic coating, thickness
measurement, eddy-current tests

Reference number : JIS H 8680-2 : 1998 (E)

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 the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Thereby, **JIS H 8680 : 1993** was withdrawn, and the eddy current method in the withdrawn standard is replaced by this part 2.

In this establishment, in order to help comparison of **JIS** with **ISO**, preparation of **JIS** conforming to **ISO** and proposal for a draft of International Standard based on **JIS**, among four kinds of measuring methods which have been specified in the former **JIS H 8680** (1) Microscopical method, (2) Eddy current method and (3) Non-destructive measurement by split-beam microscope are established as the respective standards of **JIS H 8680-1**, **JIS H 8680-2**, **JIS H 8680-3**, and (4) Determination of mass per unit area of anodic oxide coatings is separated from the series and established as **JIS H 8688**.

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Divisional Council on Non-Ferrous Metals

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Test methods for thickness of anodic oxide coatings on aluminium and aluminium alloys— Part 2 : Eddy current method

Introduction This Japanese Industrial Standard has been prepared based on ISO 2360, *Non-conductive coatings on non-magnetic basis metals—Measurement of coatings thickness—Eddy current method* issued in 1982 without changing technical contents. Further, on the specification for coating thickness standard sheet, an Annex (informative) is newly added. This Standard specifying the test method for the coating thickness of anodic oxide coatings applied onto aluminium and aluminium alloys comprises three parts of the microscopical method, the eddy current method and the non-destructive measurement by split-beam microscope, and its application shall be subjected to the agreement according to the shape of a product, the kind of a coating, the coating thickness, etc. between the supplier and the purchaser.

1 Scope This Standard specifies the coating thickness test method by the eddy current method for anodic oxide coatings (hereafter referred to as “coatings”) which have been applied onto products of aluminium and aluminium alloys (hereafter referred to as “products”).

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

ISO 2360 : 1982 *Non-conductive coatings on non-magnetic basis metals—Measurement of coating thickness—Eddy current method*

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. If the indication of the year of publication is given to these referred standards, only the edition of indicated year constitutes the provision of this Standard but the revision and amendment made thereafter are not applied. The normative references without the indication of the year of publication apply limiting only to the most recent edition.

JIS H 0201 : 1998 *Glossary of terms used in the surface treatment of aluminium*

JIS H 8601 : 1992 *Anodic oxide coatings on aluminium and aluminium alloys*

JIS Z 8401 : 1961 *Rules for rounding off of numerical values*

3 Definitions For the main terms used in this Standard, the definitions in JIS H 0201 apply.

4 Summary This is a non-destructive measuring method that when a high frequency eddy current is generated on a substrate by approaching an induction coil through which a high frequency current flows to a test specimen, the impedance of the induction coil which varies according to the distance at that time is measured, and the obtained value is converted to a coating thickness. In this method, care shall be taken as the material of the substrate, the roughness of the surface and the degree of flatness are liable to influence the measurements.