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JAPANESE INDUSTRIAL STANDARD

Test Methods for Corrosion Resistance of Anodic Oxidation Coatings on Aluminium and Aluminium Alloys

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by

Japanese Standards Association

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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Test Methods for Corrosion Resistance of Anodic Oxidation Coatings on Aluminium and Aluminium Alloys

H 8681-1988

1. Scope

This Japanese Industrial Standard specifies the test methods for corrosion resistance of anodic oxidation coatings, hereinafter referred to as the "coatings", processed on aluminium and aluminium alloy products, hereinafter referred to as the "products".

Remark: The units and numerical values given in { } in this Standard are based on the International System of Units (SI) and are appended for informative reference.

Further, the traditional units and numerical values shall be replaced by the accompanying SI units and the relevant converted values given in { } on January 1, 1991.

2. Definitions

For the purposes of this Standard, the definitions in JIS H 0201 apply.

3. Types of Test Methods

The types of test methods shall be as given in the following:

(1) Test methods for alkaline corrosion resistance

(a) Method by dropping alkaline solution

(b) Method by electromotive force measuring

(2) Method of CASS test

4. Test Methods for Alkaline Corrosion Resistance

4.1 Method by Dropping Alkaline Solution

4.1.1 Summary This test is a method to examine the alkaline corrosion resistance by measuring the time required until the coating dissolves away in a sodium hydroxide solution dripped on a sample through an alkaline dropping test equipment.

Applicable Standards and Corresponding International Standard: See page 20.

4.1.2 Equipment and Instruments The alkaline dripping test equipment shall be a thermostatic tank equipped with a constant volume test solution dripping device, a sample travelling apparatus and a test solution tank, and shall be so constructed as to ensure quick removal of test pieces; and the instruments shall be a glass bar thermometer, a washing tank, a rheostat, etc., and they shall be satisfy the requirements given in Table 1. An example of the probe of rheostat shall be shown in Fig. 1.

Table 1. Requirements for Apparatus and Instruments

Apparatus and instrument	Requirements to be satisfied
Constant volume test solution dripping device	Shall be capable of dripping a test solution of a defined volume continuously at a defined interval.
Sample travelling apparatus	The position of test piece shall be variable for each case of dripping of test solution.
Thermostatic tank	Test piece, test solution and test atmosphere shall be controllable at a specified temperature.
Glass-bar thermometer	A thermometer shall be capable of reading to the maximum 50°C and to the nearest 0.5°C.
Rheostat	A rheostat having the indication of 5000 Ω in the centre of its scale. A probe shall consist of a weight and contact bar. The contact bar shall be made of copper, 4 mm in diameter and its tip shall be finished by polishing to 2 mm in radius. The total mass of the contact bar and weight shall be about 50 g.