
International Standard



2135

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Anodizing of aluminium and its alloys — Accelerated test of light fastness of coloured anodic oxide coatings using artificial light

Anodisation de l'aluminium et de ses alliages — Essai accéléré de solidité à la lumière artificielle des couches anodiques colorées

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2135 was developed by Technical Committee ISO/TC 79, *Light metals and their alloys*, and was circulated to the member bodies in September 1982.

It has been approved by the member bodies of the following countries:

Australia	India	South Africa, Rep. of
Austria	Iraq	Spain
Canada	Italy	Switzerland
China	Japan	Sweden
Czechoslovakia	Mexico	United Kingdom
Egypt, Arab Rep. of	Netherlands	USA
France	Norway	USSR
Germany, F.R.	Poland	
Hungary	Saudi Arabia	

No member body expressed disapproval of the document.

This second edition cancels and replaces the first edition (ISO 2135-1976).

Anodizing of aluminium and its alloys — Accelerated test of light fastness of coloured anodic oxide coatings using artificial light

1 Scope

This International Standard specifies an accelerated test method for assessing the fastness, using artificial light, of coloured anodic oxide coatings on aluminium and its alloys.

For evaluating light fastness on exterior exposure, only outdoor exposure under conditions comparable to actual service is completely satisfactory.

Accelerated testing is suitable as a quality control test of coloured anodic oxide coatings whose light fastness number has already been established by means of outdoor exposure testing.

2 Field of application

The method is applicable to coloured anodic oxide coatings on aluminium and its alloys produced by any means and for any purpose.

However, the method is not suitable for the measurement of coloured coatings with a light fastness number already established by means of outdoor exposure testing, and of less than 6.

3 References

ISO 105, *Textiles — Tests for colour fastness*.

Section A02, *Grey scale for assessing change in colour*.

Section B01, *Colour fastness to light: Daylight*.

Section B02, *Colour fastness to artificial light: Xenon arc fading lamp test*.

4 Principle

Exposure of anodized samples to artificial light and regular observations of any colour change by comparison with the grey scale (see ISO 105-A02).

The apparatus and light source are first calibrated by exposing parts of coloured cloth samples having a light fastness number of 6 on the European blue scale (see notes 1 and 2 to clause 8 and ISO 105-B01). The time of exposure is determined for these samples to show a colour change corresponding to grade 3 of the grey scale (i.e. about 25 % loss of colour). This length of time is defined as the **exposure cycle** for the apparatus (see note 3 to clause 8).

Coloured anodized specimens of unknown light fastness are then exposed under the same conditions as the standard cloth samples until they also show a colour change corresponding to grade 3 of the grey scale. The number of exposure cycles required to produce this colour deterioration is used to assign the light fastness numbers of the specimens tested (see clause 8).

5 Apparatus

For tests in artificial light, several types of apparatus fulfil the conditions stipulated in this International Standard (see also 7.1).¹⁾

Suitable light sources are provided by a xenon arc lamp, or by a carbon arc lamp (either open frame or enclosed).

6 Preparation of specimen

Partly cover the exposed surface of the test specimen by means of an opaque mask.

1) Information on suppliers of apparatus can be obtained on request from ISO Central Secretariat.