
INTERNATIONAL STANDARD



2135

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Anodizing of aluminium and its alloys — Accelerated test of lightfastness of coloured anodic oxide coatings

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

First edition — 1976-11-15

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UDC 669.71-169.15 : 620.1

Ref. No. ISO 2135-1976 (E)

Descriptors : metal finishing, anodizing, anodic coatings, aluminium, aluminium alloys, tests, accelerated tests, artificial light tests, daylight tests, colourfastness.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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 (originally ISO/DIS 3843) was drawn up by Technical Committee ISO/TC 79, *Light metals and their alloys*, and was circulated to the Member Bodies in June 1975.

It has been approved by the Member Bodies of the following countries:

Austria	Ireland	Sweden
Belgium	Italy	Turkey
Brazil	Japan	United Kingdom
Canada	Mexico	U.S.A.
Czechoslovakia	Norway	U.S.S.R.
France	Romania	Yugoslavia
Hungary	South Africa, Rep. of	
India	Spain	

No Member Body expressed disapproval of the document.

This International Standard cancels and replaces ISO Recommendation R 2135-1971 of which it constitutes a technical revision.

Anodizing of aluminium and its alloys – Accelerated test of lightfastness of coloured anodic oxide coatings

1 SCOPE

This International Standard specifies an accelerated test method for assessing the lightfastness of coloured anodic oxide coatings on aluminium and its alloys.

For evaluating lightfastness on exterior exposure, only outdoor exposure under conditions comparable to actual service is satisfactory. Accelerated testing is only suitable as a quality control test of coloured anodic oxide coatings where the fastness to light has already been established by outdoor exposure tests.

2 FIELD OF APPLICATION

This method is applicable to coloured anodic oxide coatings on aluminium and its alloys.

Primarily it is intended for coatings dyed with organic dyestuffs rather than for the special coloured finishes used in architectural applications for prolonged outdoor exposure.

3 REFERENCE

ISO/R 105/1, *Tests for colour fastness of textiles – First series.*

4 PRINCIPLE

Anodized samples are exposed to artificial light and any change of colour is compared with the fading of the standard coloured cloth samples subjected to the same illumination. The fading of cloth samples can be assessed as specified in ISO/R 105/1.

5 APPARATUS

For tests in artificial light, several types of apparatus (for example, Xenotest, Fadeometers, etc.) fulfil the conditions laid down in this International Standard.

6 PREPARATION OF SAMPLE

Partly cover the exposed surface of the anodized sample being examined and that of the standard cloths with an opaque material during the test, in order to aid detection of colour change.

7 PROCEDURE

7.1 Exposure conditions

The anodized sample and the standard cloth samples shall be simultaneously exposed to the artificial light, being placed at equal distances from the light source, around which they revolve in order to compensate for any variation in the distribution of the light on each sample.

The temperature of the standard cloths and of the sample examined shall not exceed 40 °C at any time during the test.

7.2 Period of exposure

Expose part of the standard cloths for indices 1 to 7 at the same time as the anodized sample being examined, for a sufficient period to produce a colour change corresponding to index 3 of the grey scale, either on the sample being examined or on the standard cloth for index 7.

8 EXPRESSION OF RESULTS

Degree of lightfastness

After exposure, compare the sample, in daylight, with the standard cloths by visual examination. Assign to the sample the degree of fastness to light of the standard cloth whose fading is equal to index 3 of the grey scale.

If the No. 7 standard cloth fades to a grey scale reading of 3 before there is any colour change in the sample, replace the cloth by a fresh No. 7 standard cloth and continue the exposure. Repeat this procedure until the sample fades to a reading of 3 on the grey scale. If two or more pieces of No. 7 standard cloth are used, assign the following lightfastness number :

Number of No. 7 standard cloths used	Lightfastness
2	8
3	8 – 9
4	9