

**SLOVENSKI STANDARD
SIST EN ISO 787-15:1997****01-december-1997**

Splošne metode preskušanja pigmentov in polnil - 15. del: Primerjava svetlobne obstojnosti barvastih pigmentov podobnih vrst (ISO 787-15:1986)

General methods of test for pigments and extenders - Part 15: Comparison of resistance to light of coloured pigments of similar types (ISO 787-15:1986)

Allgemeine Prüfverfahren für Pigmente und Füllstoffe - Teil 15: Vergleich der Beständigkeit bei Belichtung von Buntpigmenten ähnlichen Typs (ISO 787-15:1986)

Méthodes générales d'essai des pigments et matières de charge - Partie 15: Comparaison de la résistance à la lumière des pigments colorés de types semblables (ISO 787-15:1986)

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ICS:

87.060.10 Pigmenti in polnila Pigments and extenders

SIST EN ISO 787-15:1997 **en**

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EUROPEAN STANDARD

EN ISO 787-15

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 1995

ICS 87.060.10

Descriptors: paints, pigments, tests, daylight tests, determination, daylight resistance

English version

**General methods of test for pigments and
extenders - Part 15: Comparison of resistance to
light of coloured pigments of similar types
(ISO 787-15:1986)**

Méthodes générales d'essai des pigments et
matières de charge - Partie 15: Comparaison de
la résistance à la lumière des pigments colorés
de types semblables (ISO 787-15:1986)

Allgemeine Prüfverfahren für Pigmente und
Füllstoffe - Teil 15: Vergleich der
Beständigkeit bei Belichtung von Buntpigmenten
ähnlichen Typs (ISO 787-15:1986)

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

The text of the International Standard from ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) has been taken over as a European Standard by the Technical Committee CEN/TC 298 "Pigments and extenders".

This European Standard shall be given the status of a National Standard, either by publication of an identical text or by endorsement, at the latest by February 1996, and conflicting national standards shall be withdrawn at the latest by February 1996.

According to CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 787-15:1986 has been approved by CEN as a European Standard without any modification.

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International Standard**787/15**

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

General methods of test for pigments and extenders — Part 15: Comparison of resistance to light of coloured pigments of similar types

Méthodes générales d'essai des pigments et matières de charge — Partie 15: Comparaison de la résistance à la lumière des pigments colorés de types semblables

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Second edition — 1986-11-01

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Descriptors: paints, pigments, tests, daylight tests, determination, daylight resistance.

Price based on 5 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 787/15 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 787/XV:1973), clauses 0, 2, 3, 4, 6, 7 of which have been technically revised.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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The purpose of this International Standard is to establish a series of general test methods for pigments and extenders which are suitable for all or many of the individual pigments and extenders for which specifications might be required. In such cases, a cross-reference to the general method should be included in the International Standard relating to that pigment or extender, with a note of any detailed modifications which might be needed in view of the special properties of the product in question.

Technical Committee ISO/TC 35, *Paints and varnishes*, decided that all the general methods should be published as they become available, as parts of a single International Standard, in order to emphasize the relationship of each to the whole series.

The Technical Committee also decided that, where two or more procedures were widely used for determining the same or a similar characteristic of a pigment or extender, there would be no objection to including more than one of them in the ISO series. In such cases it will, however, be essential to state clearly in a specification which method is to be used and, in the test report, which method has been used.

Parts of the series already published are as follows:

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- Part 1 : Comparison of colour of pigments
- Part 2 : Determination of matter volatile at 105 °C
- Part 3 : Determination of matter soluble in water — Hot extraction method
- Part 4 : Determination of acidity or alkalinity of the aqueous extract
- Part 5 : Determination of oil absorption value
- Part 7 : Determination of residue on sieve — Water method — Manual procedure
- Part 8 : Determination of matter soluble in water — Cold extraction method
- Part 9 : Determination of pH value of an aqueous suspension
- Part 10 : Determination of density — Pyknometer method
- Part 11 : Determination of tamped volume and apparent density after tamping
- Part 13 : Determination of water-soluble sulphates, chlorides and nitrates
- Part 14 : Determination of resistivity of aqueous extract
- Part 15 : Comparison of resistance to light of coloured pigments of similar types
- Part 16 : Determination of relative tinting strength (or equivalent colouring value) and colour on reduction of coloured pigments — Visual comparison method
- Part 17 : Comparison of lightening power of white pigments
- Part 18 : Determination of residue on sieve — Mechanical flushing procedure
- Part 19 : Determination of water-soluble nitrates — Salicylic acid method
- Part 20 : Comparison of ease of dispersion — Oscillatory shaking method
- Part 21 : Comparison of heat stability of pigments using a stoving medium
- Part 22 : Comparison of resistance to bleeding of pigments
- Part 23 : Determination of density (using a centrifuge to remove entrained air)
- Part 24 : Determination of relative tinting strength of coloured pigments and relative scattering power of white pigments — Photometric methods

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General methods of test for pigments and extenders — Part 15: Comparison of resistance to light of coloured pigments of similar types

0 Introduction

This document is a part of ISO 787, *General methods of test for pigments and extenders*.

The terms "resistance to light" and "light fastness (or colour fastness)" describe the resistance of a material to change in its appearance as a result of exposure to light. The magnitude of the change, if any, is influenced by the quantity and quality of the light to which the material is exposed, and by the nature and composition of the material itself. Two compositions, each consisting of identical components but in different proportions, may not have the same resistance to light. Also, two compositions each consisting of the same proportions of similar, but not identical, components may not have the same resistance to light.

When exposed to natural light, the conditions of the test vary continuously because of the large number of variables (for example intensity and spectral distribution of the light, temperature, relative humidity, and the amount and nature of atmospheric contaminants) and therefore results cannot be related to similar tests carried out on other occasions. Consequently expressing the results as a function of time alone is not recommended.

These considerations form the basis for the comparison of light fastness of two different samples of a coloured pigment. Each sample is incorporated in the same proportion in otherwise identical compositions and these compositions, in a suitable form, are examined for any difference in their change of appearance after exposure to the same quantity and quality of light. In order to comply with these exposure conditions, it is necessary for the compositions to be exposed side by side at the same time to the same light source for the same period of time.

In addition, the light fastness of a pigment may be affected by the presence of other pigments such as titanium dioxide. This

important aspect may be accommodated in this part of ISO 787 by allowing the agreed binder (medium) to consist of a dispersion of such a pigment. The test procedure is then followed as described.

The extent to which the change on exposure is allowed to proceed before the comparison is made, may be of importance. It is unrealistic to assess the exposures when the change is only equivalent to the first perceptible change, but it is also inadvisable to wait until the amount of change is large. Thus, it is recommended that comparisons of change of appearance be made when the amount of change of the pigment with known resistance to light (agreed reference pigment) is equal to fastness grade 4 and 3 of the grey scale in accordance with ISO 105, section A02.

For any particular application, the method of test described in this International Standard needs to be completed by the following supplementary information. This information should be derived, in part or totally, from an (inter)national standard or other document related to the product under test or, if appropriate, should be agreed between the interested parties.

- a) Type and identification of the agreed reference pigment.
- b) The binder (medium) for dispersion of the test sample and the agreed reference pigment and details of the composition of the dispersion.
- c) The method of dispersion to be used.
- d) Whether the test is to be carried out under natural exposure (method A) or artificial light (method B).
- e) If method A is to be used, the exposure angle of the test specimens and glass cover.
- f) If method B is to be used, the details of the apparatus and of the light source.