International Standard 787/1

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

General methods of test for pigments and extenders — Part 1: Comparison of colour of pigments

Méthodes générales d'essai des pigments et matières de charge — Partie 1: Comparaison de la couleur des pigments

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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 787/1 was developed by Technical Committee ISO/TC 35, *Paints and varnishes*, and was circulated to the member bodies in June 1980.

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

Australia	Ireland	Poland
Austria	Israel	Romania
Brazil	Italy	South Africa, Rep. of
Canada	Kenya	Sweden
China	Korea, Rep. of	Switzerland
Egypt, Arab Rep. of	Netherlands	United Kingdom
India	Norway	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds:

France
Germany, F.R.

This International Standard cancels and replaces ISO Recommendation R 787/1-1968, of which it constitutes a technical revision.

Printed in Switzerland

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 :

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 : Comparison of relative tinting strength (or equivalent colouring value) and colour on reduction in linseed stand oil using the automatic muller
Part 17 : Comparison of lightening power of white pigments
Part 18 : Determination of residue on sieve — Water method — 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 method

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General methods of test for pigments and extenders — Part 1: Comparison of colour of pigments

0 Introduction

This document is a part of ISO 787, *General methods of test for pigments and extenders*. ISO/R 787/1 was published in July 1968. This revision differs from the 1968 edition in that

a) the colour comparison is carried out using the procedure described in ISO 3668, and

b) the binder is not specified.

1 Scope and field of application

1.1 This part of ISO 787 specifies a general method of test for comparing the colour of a coloured pigment with that of an agreed sample.

1.2 Either of the procedures described in clause 6 is acceptable but the method using an automatic muller is the reference method.

NOTE — When this general method is applicable to a given pigment, only a cross-reference to it should be included in the International Standard relating to that pigment, with a note of any detailed modifications which may be needed in view of the special properties of the material in question. Only when the procedures given in this general method are not applicable to a particular material should a special method for comparison of colour be specified.

2 References

ISO 150, *Raw, refined and boiled linseed oil for paints and varnishes — Specifications and methods of test.*

ISO 842, *Raw materials for paints and varnishes — Sampling.*

ISO 3668, *Paints and varnishes — Visual comparison of the colour of paints.*

3 Binder

The binder used shall be agreed between the interested parties. If no binder is specified or agreed, linseed oil, complying with the requirements of the refined grade specified in ISO 150, should be used.

4 Apparatus

Ordinary laboratory apparatus, and

4.1 Palette knife, with a tapered steel blade of approximate dimensions 140 to 150 mm long, 20 to 25 mm wide at its widest point and not less than 12,5 mm wide at its narrowest point, or a palette knife of suitable plastics material.

4.2 Substrate, minimum area 150 mm × 50 mm. Choose a substrate according to the binder used and the method of colour comparison. If a glass panel is used, it shall be clear and colourless.

4.3 Burette, with a delivery such that 1 ml of the binder contains about 35 drops.

4.4 Muller.

Either of the following may be used:

4.4.1 Automatic muller, with ground glass plates, preferably water cooled, of diameter 180 to 250 mm, to which a variable but known force of up to about 1 kN may be applied. The driven glass plate shall have a rotational frequency of between 70 and 120 r/min and the apparatus should have an arrangement for pre-setting the number of revolutions in multiples of 25.

NOTE — If the automatic muller does not have water-cooled plates, care should be taken that temperature variations do not occur during the grinding operation.

4.4.2 Hand muller, with a diameter of 70 to 75 mm.

4.5 Plate, of ground glass or marble, for use when the automatic muller (4.4.1) is not available.

5 Sampling

Take a representative sample of the pigment to be tested as described in ISO 842.