International Standard 787/2

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

General methods of test for pigments and extenders — Part 2 : Determination of matter volatile at 105 °C

Méthodes générales d'essai des pigments et matières de charge — Partie 2 : Détermination des matières volatiles à 105 °C

First edition — 1981-09-15

UDC 667.622 : 543.813 **Ref. No. ISO 787/2-1981 (E)**

Descriptors : paints, pigments, tests, colour.

Price based on 2 pages

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 787/2 was developed by Technical Committee ISO/TC 35, *Paints and varnishes*, and was circulated to the member bodies in December 1979.

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

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

No member body expressed disapproval of the document.

This International Standard cancels and replaces ISO Recommendation R 787/2-1968, 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 6 : Determination of residue on sieve — Oil method
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 of coloured pigments of similar types to light from a specified light source
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 2 : Determination of matter volatile at 105 °C

0 Introduction

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

1 Scope and field of application

This part of ISO 787 specifies a general method of test for determining the percentage by mass of matter volatile at a temperature of 105 °C in a sample of pigment or extender.

This method is applicable to pigments and extenders that are stable at 105 °C (but see also the note to 5.2).

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

2 Reference

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

3 Apparatus

3.1 Weighing bottle, squat form, wide-mouthed, with ground glass stopper.

3.2 Oven, capable of being maintained at 105 ± 2 °C.

3.3 Balance, accurate to 1 mg or better.

3.4 Desiccator, containing an efficient desiccant.

4 Sampling

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

5 Procedure

Carry out the determination in duplicate.

5.1 Test portion

Heat the weighing bottle (3.1), with the stopper removed, in the oven (3.2) at 105 °C for 2 h. Allow to cool in the desiccator (3.4), insert the stopper and weigh to the nearest 1 mg.

Spread 10 ± 1 g of the sample in a uniform layer on the bottom of the weighing bottle, insert the stopper and weigh to the nearest 1 mg.

NOTE — It may be necessary to reduce the mass of the test portion for pigments and extenders with a high bulk volume. The use of a test portion smaller than that specified should be stated in the test report.

5.2 Determination

Heat the weighing bottle and contents, with the stopper removed, in the oven at 105 ± 2 °C for a minimum of 1 h. Allow to cool in the desiccator, insert the stopper and weigh to the nearest 1 mg. Repeat the heating for at least 30 min, allow to cool in the desiccator, insert the stopper and again weigh to the nearest 1 mg. Repeat this procedure until two successive weighings differ by no more than 5 mg. Record the lower mass.

If the results of the two determinations differ by more than 10 % of the higher value, repeat the whole procedure (clause 5).

NOTE — If the material under test is unstable at 105 °C, the test conditions should be agreed between the interested parties and should be stated in the test report.