



SLOVENSKI STANDARD
SIST EN ISO 787-13:2002
01-januar-2002

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General methods of test for pigments - Part 13: Determination of water-soluble sulphates, chlorides and nitrates (ISO 787-13:1973)

Allgemeine Prüfverfahren für Pigmente - Teil 13: Bestimmung der wasserlöslichen Sulfate, Chlorid und Nitrate (ISO 787-13:1973)

Méthodes générales d'essai des pigments - Partie 13: Détermination des sulfates, chlorures et nitrates solubles dans l'eau (ISO 787-13:1973)

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Ta slovenski standard je istoveten z: EN ISO 787-13:2001

ICS:

87.060.10 Pigmenti in polnila Pigments and extenders

SIST EN ISO 787-13:2002 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 787-13

August 2001

ICS 87.060.10

English version

**General methods of test for pigments - Part 13: Determination of
water-soluble sulphates, chlorides and nitrates (ISO 787-
13:1973)**

Méthodes générales d'essai des pigments - Partie 13:
Détermination des sulfates, chlorures et nitrates solubles
dans l'eau (ISO 787-13:1973)

Allgemeine Prüfverfahren für Pigmente und Füllstoffe - Teil
13: Bestimmung der wasserlöslichen Sulfate, Chloride und
Nitrate (ISO 787-13:1973)

This European Standard was approved by CEN on 27 July 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO 787-13:2001 (E)

Foreword

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

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 2002, and conflicting national standards shall be withdrawn at the latest by February 2002.

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

NOTE FROM CMC: The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

Endorsement notice

The text of the International Standard ISO 787-13:1973 has been approved by CEN as a European Standard without any modification.

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INTERNATIONAL STANDARD



787

PARTS XIII TO XVIII

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

General methods of test for pigments — Parts XIII to XVIII

First edition — 1973-11-01

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UDC 667.622 : 620.1

Ref. No. ISO 787/XIII TO XVIII-1973 (E)

Descriptors : paints, pigments, tests, chemical analysis, determination of content, sulphates, chlorides, nitrates, physical tests, electrical conductivity, colour fastness, daylight resistance, colouring power, lightening power, fineness, sieve analysis.

Price based on 17 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/XIII to XVIII (originally Draft International Standard ISO/DIS 2304) was drawn up by Technical Committee ISO/TC 35, *Paints and varnishes*, and circulated to the Member Bodies in April 1971.

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

Austria	Italy	Sweden
Egypt, Arab Rep. of	Netherlands	Switzerland
France	New Zealand	Turkey
Germany	Poland	United Kingdom
India	Romania	
Israel	South Africa, Rep. of	

No Member Body expressed disapproval of the document.

The purpose of this International Standard is to establish a series of general test methods for pigments which are suitable for all or many of the individual pigments 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, with a note of any detailed modifications which might be needed in view of the special properties of the pigment in question.

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

The Committee also decided that, where two or more procedures were widely used for determining the same or a similar characteristic of a pigment, 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 I : Comparison of colour

Part II : Determination of matter volatile at 105 °C

Part III : Determination of matter soluble in water (Hot extraction method)

Part IV : Determination of acidity or alkalinity of the aqueous extract

Part V : Determination of oil absorption value

Part VI : Determination of residue on sieve (Oil method)

Part VII : Determination of residue on sieve (Water method)

Part VIII : Determination of matter soluble in water (Cold extraction method)

Part IX : Determination of pH value of an aqueous suspension

Part X : Determination of density relative to water at 4 °C

Part XI : Determination of tamped volume

Part XII : Visual comparison of hue of powered white pigment (Hollow cone method)

The present document contains the following parts :

Part XIII : Determination of water-soluble sulphates, chlorides and nitrates

Part XIV : Determination of resistivity of aqueous extract

Part XV : Comparison of resistance of coloured pigments of similar types to light from a specified light source

Part XVI : Comparison of relative tinting strength (or equivalent colouring value) and colour on reduction in linseed stand oil using the automatic muller

Part XVII : Comparison of lightening power of white pigments

Part XVIII : Determination of residue on sieve by a mechanical flushing procedure

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General methods of test for pigments – Part XIII : Determination of water-soluble sulphates, chlorides and nitrates

0 INTRODUCTION

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

1 SCOPE AND FIELD OF APPLICATION

Part XIII of this International Standard specifies a general method of test for determining the water-soluble sulphates, chlorides and nitrates of pigments.

NOTE – When this general method is applicable to a given pigment, a cross-reference to it will simply be included in the International Standard relating to that pigment with a note of any detailed modification which may be needed in view of the special properties of the pigment in question. Only when this general method is not applicable to a particular pigment will a special method for determination of water-soluble sulphates, chlorides or nitrates be specified.

2 REAGENTS

All reagents used shall be of recognized analytical reagent quality. Distilled water, or water of equivalent purity, shall be used.

2.1 Hydrochloric acid, $d = 1,18$.

2.2 Silver nitrate, 0,01 N standard volumetric solution.

2.3 Ammonium chloride solution, 17,2 mg/l.

2.4 Sodium hydroxide solution, 200 g/l.

2.5 Barium chloride solution, 50 g/l.

2.6 Potassium chromate solution, 50 g/l.

2.7 Devarda's alloy, powdered.

2.8 Nessler's reagent, prepared by either method a) or method b) as follows :

a) Dissolve 5 g of potassium iodide in 3,5 ml of water. Add cold saturated mercury(II) chloride (HgCl_2) solution, while stirring, until a faint red precipitate is

formed. Continuing to stir, add 40 ml of potassium hydroxide solution (500 g/l), dilute to 100 ml, mix well, allow to settle, decant the clear supernatant liquid and store it in the dark.

b) Dissolve 3,5 g of potassium iodide and 1,25 g of mercury(II) chloride in 80 ml of water. Add cold saturated mercury(II) chloride solution, while shaking, until a slight red precipitate remains, then add 12 g of sodium hydroxide, shake until dissolved, and finally add a little more of the saturated mercury(II) chloride solution and dilute to 100 ml with water. Shake occasionally during several days, allow to stand, and use the clear supernatant liquid for the test.

3 APPARATUS

Normal laboratory equipment and

3.1 Sintered silica crucible, porosity grade P10 or P16 (pore size index 4-16 μm).

3.2 Nessler cylinders, capacity 50 ml.

3.3 Distillation apparatus.

4 SAMPLING

The sample of pigment used for the test shall be taken in accordance with the provisions of ISO/R 842, *Sampling raw materials for paints and varnishes*.

5 DETERMINATION OF SULPHATES

5.1 Procedure

Take 50 ml of the clear aqueous extract obtained in one of the methods, as appropriate, for the determination of matter soluble in water (either the hot extraction method¹⁾ or the cold extraction method²⁾), acidify with 3 ml of the hydrochloric acid (2.1) and boil the solution vigorously, taking care to avoid loss of solution by splashing. Add the barium chloride solution (2.5), drop by drop, to the hot solution until in slight excess, and allow the solution to

1) See Part III.

2) See Part VIII.