

# Paints and varnishes — Examination and preparation of test samples (ISO 1513:2010)

ICS 87.040

## National foreword

This British Standard is the UK implementation of EN ISO 1513:2010. It supersedes BS EN ISO 1513:1995 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee STI/10, Test methods for paints.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2010

© BSI 2010

ISBN 978 0 580 64641 6

### Amendments/corrigenda issued since publication

Date	Comments

English Version

**Paints and varnishes - Examination and preparation of test samples (ISO 1513:2010)**

Peintures et vernis - Examen et préparation des échantillons pour essai (ISO 1513:2010)

Beschichtungsstoffe - Prüfung und Vorbereitung von Proben (ISO 1513:2010)

This European Standard was approved by CEN on 15 April 2010.

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 CEN 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

This document (EN ISO 1513:2010) has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with Technical Committee CEN/TC 139 "Paints and varnishes" 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 November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 1513:1994.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

### Endorsement notice

The text of ISO 1513:2010 has been approved by CEN as a EN ISO 1513:2010 without any modification.

## 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 1513 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This fourth edition cancels and replaces the third edition (ISO 1513:1992), which has been technically revised. It also incorporates the Technical Corrigendum ISO 1513:1992/Cor.1:1994. The main technical changes are:

- a) the title has been changed to “Examination and preparation of test samples”;
- b) the normative references have been updated;
- c) a definitions clause with definitions of thixotropy and homogenization has been added;
- d) the examination and mixing procedures for liquid and paste-like products have been combined into a single clause (Clause 5);
- e) the type of sieve to be used for straining the sample is no longer specified.



# Paints and varnishes — Examination and preparation of test samples

## 1 Scope

This International Standard specifies both the procedure for preliminary examination of a single sample, as received for testing, and the procedure for preparing a test sample by blending and reduction of a series of samples representative of a consignment or bulk of paint, varnish or related product.

NOTE The samples of the product to be tested are assumed to conform to ISO 15528.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4618, *Paints and varnishes — Terms and definitions*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and the following apply.

### 3.1

#### **thixotropy**

decrease in the apparent viscosity of a liquid under shear stress followed by a gradual recovery when the stress is removed

NOTE The effect is time-dependent.

### 3.2

#### **homogenization**

process of combining components, particles or layers of the original samples (in the case of composite samples) or of pre-treated fractions of samples into a more homogeneous state in order to ensure equal distribution of the substances in, and properties of, the sample

## 4 Sample container

### 4.1 Condition of container

Record any defects in the sample container and any visible leakage. If it is possible that the contents have been affected, the sample shall be rejected.

## 4.2 Opening of container

**WARNING** — Some paints and related products (such as paint removers) are prone to develop gas or vapour pressure during storage. Care should be taken in opening containers, particularly if bulging of the lid or the bottom of the container is observed.

If such phenomena occur, they should be noted in the report (see Clause 9).

Remove all packing materials and other debris from the outer surface of the container, particularly around the closure. Open the container carefully, taking care not to disturb the contents.

## 5 Preliminary procedure for liquid products (e.g. paint) and paste-like products (e.g. putty)

### 5.1 Visual examination

#### 5.1.1 Surface skin

Record the presence of any surface skin and whether the skin is continuous, hard, soft, thin or excessively thick.

If skin is observed on the sample, it is preferable to discard the sample. If this is impractical, detach the skin as completely as possible from the sides of the container and remove it, if necessary by straining.

For analytical test purposes, where skin is present, it might be necessary to disperse the skin and include it in the test sample.

#### 5.1.2 Consistency

Record whether the sample is thixotropic or whether gelling has taken place, taking care not to confuse gelling and thixotropy.

**NOTE** Both thixotropic and gelled coating materials have a jelly-like consistency but, whereas the consistency of the former is markedly reduced by stirring or shaking, the consistency of a gelled coating material cannot be changed in this way.

#### 5.1.3 Separation into layers

Record any separation of the sample into layers.

#### 5.1.4 Visible impurities

If there are any visible impurities, record their presence and remove them if possible.

#### 5.1.5 Clarity and colour

In the case of varnishes, thinners, catalyst solutions, etc., record the clarity and colour of the sample.

#### 5.1.6 Sediment

Record the type of sediment (if any), for example soft, hard or hard-dry. If the sediment is hard and appears dry and crumbly inside a lump when cut with a clean palette knife, describe it as "hard-dry".



## 5.2 Homogenization

### 5.2.1 Limitations

Samples which have gelled or show a hard-dry sediment (see 5.1.6) which cannot be effectively reincorporated shall not be used for test purposes.

### 5.2.2 General

During all the operations specified in 5.2.3 to 5.2.5, take care to ensure minimum loss of solvent. To this end, carry out all the operations as rapidly as practicable, consistent with satisfactory mixing.

### 5.2.3 Removal of skin

If the original sample contained skin, detach and remove any remnants by straining the incorporated sample through a sieve.

### 5.2.4 If no compact sediment is present

Mix the sample thoroughly until it is completely homogenous.

At all times during the sample preparation, avoid, as far as possible, entrainment of air. The sample shall be free from air bubbles before use.

### 5.2.5 If compact sediment is present

If it is required to complete the examination of a sample in which compact sediment is present (but not hard-dry sediment, see 5.2.1), proceed as follows.

Pour all the liquid present into a clean container. Remove the settled pigment from the bottom of the original container with a palette knife and mix thoroughly. When a uniform consistency has been achieved, return the liquid to the original container, a small portion at a time, carefully incorporating each addition before the next is made. The sample shall be free from air bubbles before use.

## 6 Preliminary procedure for products in powder form

No special procedure is usually required for these products, but unusual features shall be recorded, such as abnormal colour, the presence of large or hard lumps or the presence of foreign matter.

## 7 Blending and reduction of a series of samples

### 7.1 General

In cases where a series of samples has been taken from a homogeneous product, they may either be tested separately or be combined to produce a reduced sample as specified in 7.2 and 7.3.

### 7.2 Liquid and paste-like products

After thoroughly mixing each sample as specified in 5.2, pour or otherwise transfer the samples into a clean, dry container of suitable size and thoroughly mix them by stirring, shaking, etc. When the mixed sample appears to be homogeneous, take a reduced sample in accordance with ISO 15528. Place the reduced sample in one or more clean, dry containers, allowing 5 % ullage, then close, label and, if necessary, seal the containers.

### **7.3 Products in powder form**

Empty the contents of the various sample containers into a clean, dry container of suitable size and mix thoroughly. Reduce the sample to a suitable size, e.g. 1 kg to 2 kg, by quartering either manually or by means of a rotary sample divider (riffle divider), then place the reduced sample in one or more clean, dry containers. Close, label and, if necessary, seal the containers.

## **8 Labelling of sample containers**

State the following particulars, if known, on the label of the sample container:

- a) the name of the manufacturer and a description of the product;
- b) the date of manufacture;
- c) the size and other details of the consignment;
- d) the place of sampling, the date of sampling and the name of the sampler;
- e) the reference number or numbers of the batch, storage tank, drum, etc., from which the sample or samples were taken;
- f) the date of blending and the name of the blender;
- g) a reference to this International Standard (ISO 1513).

If the sample is despatched to another laboratory, a delivery note shall be sent with it repeating the details given on the label and also, if required (for example by the laboratory receiving the sample), a preliminary examination report (see Clause 9).

## **9 Preliminary examination report**

The report shall contain at least the following information:

- a) a description of the sample, as indicated on the label (see Clause 8);
- b) a reference to this International Standard (ISO 1513);
- c) the appearance, clarity, etc., of the sample;
- d) a description of any skin observed and of the straining procedure adopted;
- e) a description of any sediment observed and of the mixing and re-incorporation procedure adopted (see 5.1.1);
- f) other preliminary observations, as indicated in Clauses 4 and 5.



---

## BSI - British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

### Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: +44 (0)20 8996 9000. Fax: +44 (0)20 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

### Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: +44 (0)20 8996 9001. Fax: +44 (0)20 8996 7001 Email: [orders@bsigroup.com](mailto:orders@bsigroup.com) You may also buy directly using a debit/credit card from the BSI Shop on the Website <http://www.bsigroup.com/shop>

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

### Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact Information Centre. Tel: +44 (0)20 8996 7111 Fax: +44 (0)20 8996 7048 Email: [info@bsigroup.com](mailto:info@bsigroup.com)

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: +44 (0)20 8996 7002 Fax: +44 (0)20 8996 7001 Email: [membership@bsigroup.com](mailto:membership@bsigroup.com)

Information regarding online access to British Standards via British Standards Online can be found at <http://www.bsigroup.com/BSOL>

Further information about BSI is available on the BSI website at <http://www.bsigroup.com>.

### Copyright

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

Details and advice can be obtained from the Copyright and Licensing Manager. Tel: +44 (0)20 8996 7070 Email: [copyright@bsigroup.com](mailto:copyright@bsigroup.com)