INTERNATIONAL STANDARD

**ISO 15528**

Third edition
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# Paints, varnishes and raw materials for paints and varnishes — Sampling

*Peintures, vernis et matières premières pour peintures et vernis — Échantillonnage*



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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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# Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 139, *Paints and varnishes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).



This third edition cancels and replaces the second edition (ISO 15528:2013) and ISO 8130-9:1992, which have been technically revised. The main changes compared to the previous edition are as follows:

— sampling of powder coatings from ISO 8130-9 has been included in the scope;

— all information on sample dividing of coating powders originally in ISO 8130-9 has been deleted;

— the text has been editorially revised and the normative references have been updated.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

# Introduction

Sampling depends on the product and the size of the container but not on the type of product, for example paint, varnish, coating powder, binder, pigment, extender or solvent. ISO 1513 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 of paint, varnish or related product. The samples of the product to be tested have been taken in accordance with this document.

Correct sampling forms the basis for the subsequent tests and their results. The various sampling procedures need to be carried out with great care by operators having the required knowledge and experience. The general instructions in this document are intended to supplement this knowledge and experience and are applicable to most situations. However, some products might require special sampling precautions that are not given in this document; therefore, special vigilance will be necessary on the part of operators to take note of any unusual characteristics exhibited by those products. Operators should be aware of product specifications and national safety regulations which could require special precautions.

# Paints, varnishes and raw materials for paints and varnishes — Sampling

## 1 Scope

This document specifies procedures for the sampling of paints and varnishes, including coating powders, and raw materials used in their manufacture. Such products include liquids and materials which, without undergoing chemical modification, are capable of being liquefied when heated up, and powdered, granulated and pasty materials. Samples can be taken from containers, for example cans, drums, tanks, tank wagons or ships' tanks, as well as from barrels, sacks, big-bags, silos or silo wagons or conveyor belts.

This document does not deal with the sample preparation for testing or reduction of the samples thus taken, which is dealt with in ISO 1513.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 6206, *Chemical products for industrial use — Sampling — Vocabulary*



## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and ISO 6206 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

**3.1**
**batch**
definite quantity of a material produced under uniform conditions

**3.2**
**lot**
total quantity of material to be sampled

Note 1 to entry: A lot can consist of a number of *batches* (3.1).

**3.3**
**individual sample**
part of a product taken from a bulk material by one sampling operation

**3.4**
**representative sample**
sample which complies, within the precision of the test methods used, in all of its characteristic features with the material sampled

**3.5**
**average sample**
mixture of equivalent portions of *individual samples* (3.3)

**3.6**
**top sample**
*individual sample* (3.3) taken at or near the surface of a material

**3.7**
**middle sample**
*individual sample* (3.3) taken at a level corresponding to approximately half of the total volume below the surface

**3.8**
**bottom sample**
*individual sample* (3.3) taken at or near the lowest level of a material

**3.9**
**all-layer sample**
*individual sample* (3.3) taken through the total height of the material, so that all layers are collected proportionately

**3.10**
**composite sample**
*individual sample* (3.3) taken from a number of different levels of a material



**3.11**
**intermittent sample**
*individual sample* (3.3) taken intermittently from a flow of material



**3.12**
**continuous sample**
sample taken continuously from a flow of material

**3.13**
**storage sample**
*individual sample* (3.3), *average sample* (3.5) or *continuous sample* (3.12) which is taken and stored for a specified period for reference purposes

## 4 General requirements

Sampling, the labelling and storage of samples and the preparation of the associated documentation shall be carried out by skilled personnel. After selection of a clean sampling device of a suitable type and size, sampling shall be performed taking into consideration the relevant regulations on environment, health and safety.

The sampling method used shall take into account both the physical and the chemical characteristics of the material concerned, for example its sensitivity to light and oxidation, its tendency to undergo surface reactions (skin formation) and its hygroscopic, physiological and toxicological characteristics.

Storage of the samples, including the storage samples, shall take into consideration relevant regulations on environment, health and safety, and the quality management requirements concerning labelling, traceability and periods of storage.

# 5 Sampling equipment

## 5.1 Sampling devices

### 5.1.1 General

The choice of sampling device depends on the type of material being sampled, the type of container, the level to which the container is filled and the sample size required. General requirements for sampling devices include:

— easy handling;

— easy cleaning (smooth surfaces);

— chemical resistance to the material being sampled.

### 5.1.2 Scoops

#### 5.1.2.1 Scoop (ladle)

(See also 5.1.7.)

A scoop shall consist of a material which is not altered by the product to be tested. It is primarily used for taking top samples of solid materials.

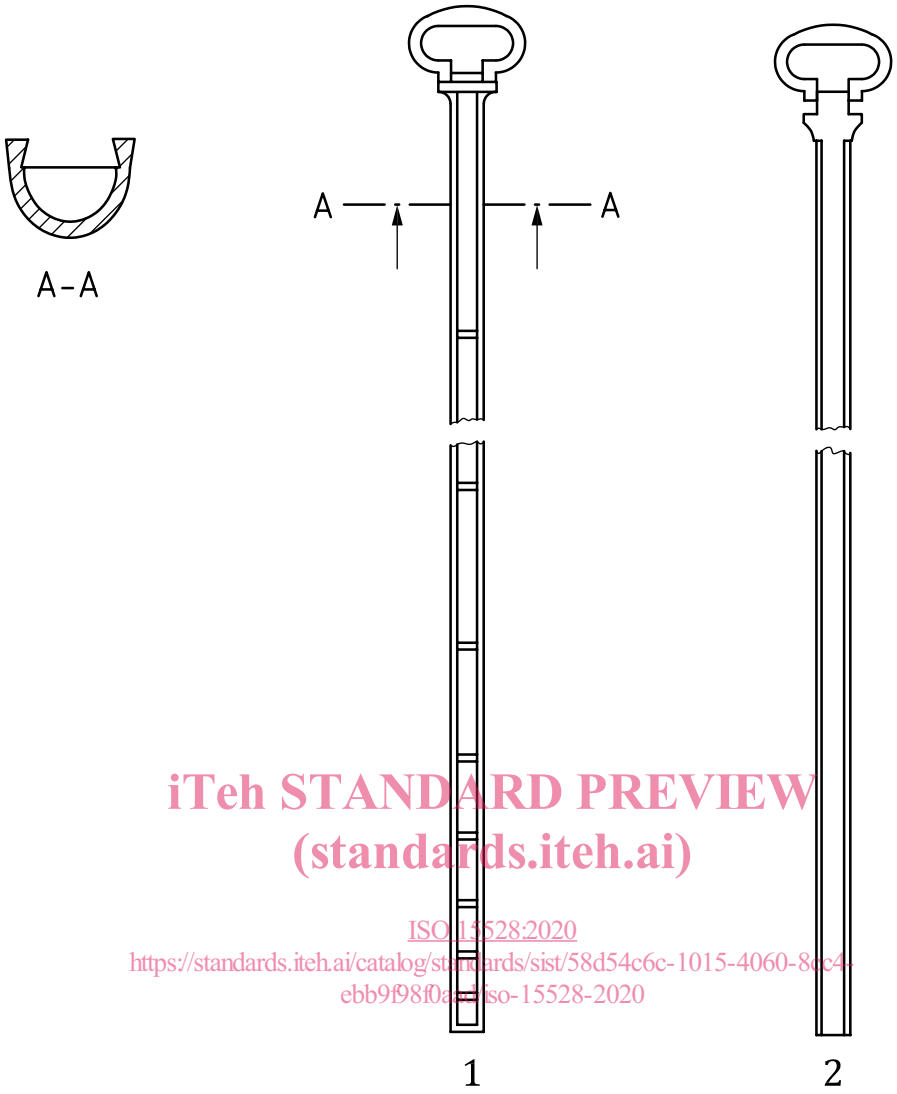


#### 5.1.2.2 Scoop for liquids

This instrument consists of a D-shaped metal trough divided into compartments along its length, and a shutter that moves vertically along the entire length to open and close compartments (see Figure 1). It is normally 25 mm to 50 mm in diameter.



The instrument is inserted closed and the shutter pulled out to admit the liquid; the scoop is then closed and withdrawn.






**Key**

1 trough
2 shutter

**Figure 1 — Sample scoop for liquids**

#### 5.1.2.3 Scoops for powders

Such scoops are open instruments intended for use with solids in powder form. They are metal, of semicircular or C-shaped cross-section and when inserted bore out a core through the material (see Figure 2).

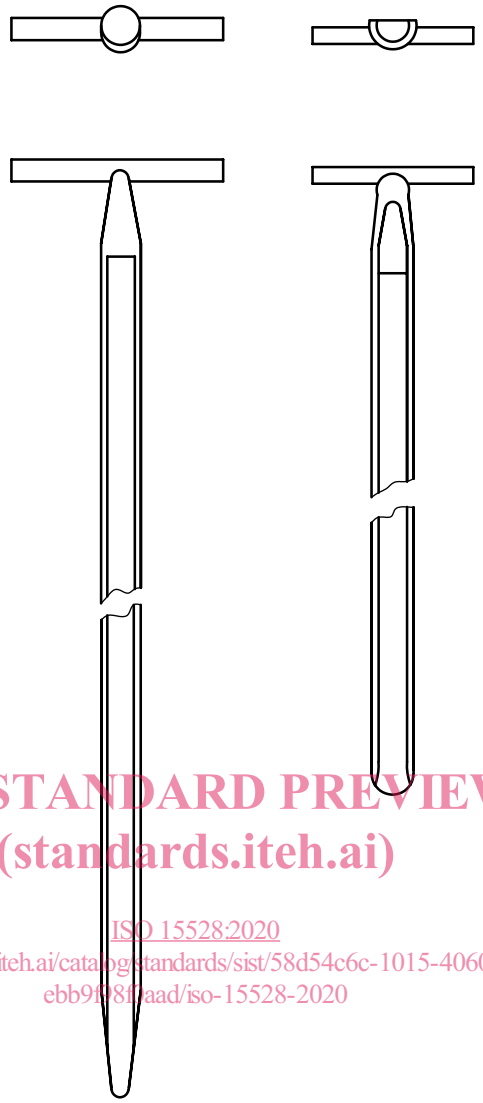




**Figure 2 — Sampling scoops for powders**

### 5.1.3 Sampling tubes for liquids

#### 5.1.3.1 Concentric tubes

These consist of two concentric metal tubes which fit closely one inside the other along their entire length, so that one tube can be rotated within the other. A longitudinal opening or series of openings of about one-third of the circumference is cut in both tubes. In one position the tube is open and admits the liquid; by turning the inner tube it becomes a sealed container (see Figure 3).

The inner tube is normally 30 mm to 40 mm in diameter. It may be undivided along its length, in which case the two tubes are provided with V-shaped ports at their lower ends, placed so that liquid contained in the instrument can be drained through them when the longitudinal opening is open.

Alternatively, the inner tube may be divided transversely into a number of compartments, normally from 3 to 10, in which case the bottom V-shaped ports are omitted. Such an arrangement enables separate samples of liquid to be withdrawn from different depths in the container.

The tube should be of sufficient length to reach the bottom of the container. It is inserted closed, then opened to admit the liquid and finally closed and withdrawn.