INTERNATIONAL STANDARD

ISO 6272-2

Second edition
2011-08-15

Paints and varnishes — Rapid-deformation (impact resistance) tests —

Part 2: Falling-weight test, small-area indenter

Peintures et vernis — Essais de déformation rapide (résistance au choc) —

Partie 2: Essai de chute d'une masse avec pénétrateur de surface réduite

Reference number
ISO 6272-2:2011(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

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 6272-2 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 6272-2:2002), which has been technically revised. The main technical changes are:

a) all non-SI units have been deleted;

b) the definition has been deleted because the term “impact” is incorrect for this test;

c) a figure showing the test apparatus has been added;

d) the test is no longer carried out at a specified relative humidity; instead, the relative humidity is simply recorded but the test has to be completed within a specified length of time after conditioning the test panels;

e) a pin-hole detector is no longer used to detect holes in the coating under test;

f) the precision data have been deleted because the method is slightly different from the ASTM method to which the precision data applied;

g) the supplementary test conditions (formerly Annex A) have been incorporated in the test report.

ISO 6272 consists of the following parts, under the general title *Paints and varnishes — Rapid-deformation (impact resistance) tests*:

— *Part 1: Falling-weight test, large-area indenter*

— *Part 2: Falling-weight test, small-area indenter*

Paints and varnishes — Rapid-deformation (impact resistance) tests —

Part 2: Falling-weight test, small-area indenter

1 Scope

This part of ISO 6272 describes a method for evaluating the resistance of a dry film of paint, varnish or related product to cracking or peeling from a substrate when it is subjected to a deformation caused by a falling weight, dropped under standard conditions, acting on a small-area spherical indenter.

NOTE The terms “impact” and “impact resistance” are used in the title and text of this part of ISO 6272, but an important characteristic of the apparatus used is that it should produce rapid deformation rather than a true impact.

Because of the poor reproducibility of this test method, the method should be restricted to testing in only one laboratory when the results are expressed as numerical values. Interlaboratory agreement is improved when ranking is used in place of numerical values.

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 1513, *Paints and varnishes — Examination and preparation of test samples*

ISO 1514, *Paints and varnishes — Standard panels for testing*

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

ISO 13076, *Paints and varnishes — Lighting and procedure for visual assessments*

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

3 Principle

The coating under test is applied to suitable thin metal panels. After the coatings have cured, a standard weight is dropped a distance so as to strike an indenter that deforms the coating and the substrate. The test can be carried out with the coated side of the panel facing upwards (i.e. towards the falling weight and indentor) or downwards (i.e. away from the weight and indentor). By gradually increasing the distance the weight drops, the point at which failure occurs can be determined. Films generally fail by cracking, which is made more visible by the use of a magnifier or, on steel, by the application of a copper sulfate solution.