



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 20566:2021

# Paints and varnishes - Determination of the scratch resistance of a coating system using a laboratory-scale car-wash (ISO/DIS 20566:2019)

**I.S. EN ISO 20566:2021**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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*This document is based on:*

EN ISO 20566:2021

*Published:*

2021-02-24

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2021-03-14

ICS number:

43.020

87.040

NOTE: If blank see CEN/CENELEC cover page

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## National Foreword

I.S. EN ISO 20566:2021 is the adopted Irish version of the European Document EN ISO 20566:2021, Paints and varnishes - Determination of the scratch resistance of a coating system using a laboratory-scale car-wash (ISO/DIS 20566:2019)

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EUROPEAN STANDARD

EN ISO 20566

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2021

ICS 43.020; 87.040

Supersedes EN ISO 20566:2013

English Version

## Paints and varnishes - Determination of the scratch resistance of a coating system using a laboratory-scale car-wash (ISO 20566:2020)

Peintures et vernis - Détermination de la résistance à la rayure d'un système de peinture sur un poste de lavage automobile de laboratoire (ISO 20566:2020)

Beschichtungsstoffe - Bestimmung der Kratzbeständigkeit von Beschichtungen mit einer Labor-Automobilwaschanlage (ISO 20566:2020)

This European Standard was approved by CEN on 6 January 2021.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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**EN ISO 20566:2021 (E)**

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## **European foreword**

This document (EN ISO 20566:2021) 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 August 2021, and conflicting national standards shall be withdrawn at the latest by August 2021.

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

This document supersedes EN ISO 20566:2013.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 20566:2020 has been approved by CEN as EN ISO 20566:2021 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
20566**

Third edition  
2020-05

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## **Paints and varnishes — Determination of the scratch resistance of a coating system using a laboratory-scale car-wash**

*Peintures et vernis — Détermination de la résistance à la rayure d'un  
système de peinture sur un poste de lavage automobile de laboratoire*



Reference number  
ISO 20566:2020(E)

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**ISO 20566:2020(E)**



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Published in Switzerland

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## ISO 20566:2020(E)

## 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.

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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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 20566:2013), which has been technically revised. The main changes compared to the previous edition are as follows:

- the term “control panel” has been changed to “reference panel”;
- the requirement for the temperature of the washing suspension has been deleted;
- verification using a plastics panel has been added to [Annex A](#);
- 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](http://www.iso.org/members.html).

## **Introduction**

With this test procedure, it is important to note that the test results will not, over time, remain constant, as a result of changes to the brush material. As the brush ages, the test will become more severe. As a result, the test procedure is suitable only for comparative tests carried out at any one time and using relatively short runs. Readings obtained using equipment which has accumulated different total numbers of operating hours are not comparable with each other.



# Paints and varnishes — Determination of the scratch resistance of a coating system using a laboratory-scale car-wash

## 1 Scope

This document specifies a test procedure for assessing the scratch resistance of organic paint coatings, in particular paint coatings used in the automotive industry (i.e. for assessing their car-wash resistance). Machine-based washing is simulated in the laboratory environment using a rotating brush and synthetic dirt. The test conditions have been designed to be as close as possible to the real conditions in a car-wash. If the test parameters are suitably chosen, the method can also be used for testing protective plastics films and plastics components.

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

ISO 2813, *Paints and varnishes — Determination of gloss value at 20°, 60° and 85°*

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

ISO 4628-1, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 1: General introduction and designation system*

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

ISO 13803, *Paints and varnishes — Determination of haze on paint films at 20°*

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

ISO 18314-1, *Analytical colorimetry — Part 1: Practical colour measurement*

## 3 Terms and definitions

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

#### **double pass**

single back-and-forward movement of the test panel holder

### 3.2

#### **test area**

area which is evaluated

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