INTERNATIONAL STANDARD

ISO 20567-4

First edition
2023-03

Paints and varnishes — Determination of stone-chip resistance of coatings —

Part 4: Mobile multi-impact testing on a small testing area

Reference number
ISO 20567-4:2023(E)

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Published in Switzerland

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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).

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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.

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

A list of all parts in the ISO 20567 series can be found on the ISO website.

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.

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Introduction

The stone-chip resistance of the body finish is an important quality characteristic. A standard procedure for testing this characteristic is the method according to ISO 20567-1, which is performed with a stationary tester on a large test area. The method described here can be used in mobile form.

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Paints and varnishes — Determination of stone-chip resistance of coatings —

Part 4:
Mobile multi-impact testing on a small testing area

1 Scope

This document specifies a mobile method for evaluating the resistance of automotive finishes to chilled-iron grit projected onto the surface under test to simulate the effect of stone chipping.

Results from the test specified in this document are not comparable with results specified in ISO 20567-1.

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 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

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

ISO 4618, *Paints and varnishes — Vocabulary*

ISO 11124-2, *Preparation of steel substrates before application of paints and related products — Specifications for metallic blast-cleaning abrasives — Part 2: Chilled-iron grit*

ISO 11125-2, *Preparation of steel substrates before application of paints and related products — Test methods for metallic blast-cleaning abrasives — Part 2: Determination of particle size distribution*

3 Terms and definitions

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

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

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

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

4 Principle

The stone-chip resistance of the coating is tested with many small, sharp-edged impact bodies, which impact in portions and are largely independent of one another. The material used in the test is chilled-iron grit, which is projected onto the coating at an angle of 90° using compressed air. The extent of the damage depends on the working pressure, the grit, the projection duration and the design of the tester. Loose fragments of coating material are removed. The degree of damage is evaluated by comparison with pictorial reference standards.

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