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

**Part 1:  
Multi-impact testing**

*Peintures et vernis — Détermination de la résistance des revêtements  
aux impacts de cailloux —*

*Partie 1: Essais de chocs multiples*



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Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
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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.

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 20567-1 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

ISO 20567 consists of the following parts, under the general title *Paints and varnishes — Determination of stone-chip resistance of coatings*:

- *Part 1: Multi-impact testing*
- *Part 2: Single-impact test with a guided impact body*

## Introduction

In the automobile industry, multi-layer paint coatings are applied to car bodies for protection. Grit, road-metal and other materials can damage these coatings in such a way that individual layers come off or the whole coating delaminates from the substrate.

Stone chipping can be simulated by means of single- and/or multi-impact tests. Part 1 of this International Standard describes multi-impact testing, Part 2 describes a single-impact test.

This part of ISO 20567 is based on the German Standard DIN 55996-1:2001, *Beschichtungsstoffe — Prüfung der Steinschlagfestigkeit von Beschichtungen — Teil 1: Multischlagprüfung (Paints and varnishes — Stone chip resistance test for coatings — Part 1: Multi impact test)*.

**NOTE** A recommended procedure for calibration of the apparatus is given in Annex A. Note that this annex is informative because the method described in it is not the only one suitable for checking whether a uniform impact pattern is produced.

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

## Part 1: Multi-impact test

### 1 Scope

This part of ISO 20567 specifies three methods for the evaluation of the resistance of automobile finishes and other coatings to chilled-iron grit projected onto the surface under test to simulate the impact of small stones.

### 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 samples for testing*

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 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*

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

ISO 21227-2, *Paints and varnishes — Evaluation of defects on coated surfaces using optical imaging — Part 2: Evaluation procedure for multi-impact stone-chipping test*

IEC 60454-2, *Specification for pressure-sensitive adhesive tapes for electrical purposes — Part 2: Methods of test*