
**Paints and varnishes — Evaluation of
properties of coating systems related to
the application process —**

**Part 1:
Relevant vocabulary and preparation of
test panels**

*Peintures et vernis — Évaluation des propriétés des systèmes de
revêtement liées au mode d'application —*

Partie 1: Vocabulaire pertinent et préparation des panneaux d'essai



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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.

ISO 28199-1 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

ISO 28199 consists of the following parts, under the general title *Paints and varnishes — Evaluation of properties of coating systems related to the application process*:

- *Part 1: Relevant vocabulary and preparation of test panels*
- *Part 2: Colour stability, process hiding power, re-dissolving, overspray absorption, wetting, surface texture and mottling*
- *Part 3: Visual assessment of sagging, formation of bubbles, pinholing and hiding power*

Introduction

In many areas (e.g. car manufacture, industrial coatings, coatings for plastics) the coating materials used are adapted to the specific application equipment and technologies of the particular user. A coating material is, therefore, to be understood as a semi-manufactured product that only receives its final form in combination with the specific application conditions. The adaptation to the application conditions is therefore decisive for the quality of the coated product.

The test methods specified in ISO 28199 are based on studies by a Working Group of the European Council for Automotive R&D (EUCAR).

They may be used for evaluation of coating materials in research, development and production with regard to their suitability and safety for industrial processes, and error analysis. The properties of coating materials and coatings to be evaluated depend on the film thickness, so a coating system of increasing thickness is applied to a test panel under defined conditions.

The following characteristics are measured (in this part of ISO 28199):

- film thickness in accordance with ISO 2808;
- surface texture;
- colour in accordance with ISO 7724 (all parts).

In combination with visual assessment, the following properties are determined:

- colour stability, process hiding power, re-dissolving, overspray absorption, wetting, surface texture and mottling (ISO 28199-2);
- tendency toward sagging, formation of bubbles, pinholing and hiding power (ISO 28199-3).

The International Organization for Standardization (ISO) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning the locally related measurements used in Version A in Clauses 8 and 9.

ISO takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured ISO that he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with ISO. Information may be obtained from:

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Paints and varnishes — Evaluation of properties of coating systems related to the application process —

Part 1: Relevant vocabulary and preparation of test panels

1 Scope

This part of ISO 28199 defines terms relating to the evaluation of coating materials in research, development and production with regard to their suitability and safety for industrial processes and error analysis.

This part of ISO 28199 specifies methods for the preparation of test panels and the subsequent measurement of film thickness, colour and surface texture.

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 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 7724-1, *Paints and varnishes — Colorimetry — Part 1: Principles*

ISO 7724-2, *Paints and varnishes — Colorimetry — Part 2: Colour measurement*

ISO 7724-3, *Paints and varnishes — Colorimetry — Part 3: Calculation of colour differences*

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

ISO 28199-2, *Paints and varnishes — Evaluation of properties of coating systems related to the application process — Part 2: Colour stability, process hiding power, re-dissolving, overspray absorption, wetting, surface texture and mottling*

ISO 28199-3, *Paints and varnishes — Evaluation of properties of coating systems related to the application process — Part 3: Visual assessment of sagging, formation of bubbles, pinholing and hiding power*