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I.S. EN ISO 28199-2:2009

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 28199-2:2009)

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EUROPEAN STANDARD

NORME EUROPÉENNE

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EN ISO 28199-2

September 2009

ICS 87.040

English Version

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 28199-2:2009)

Peintures et vernis - Évaluation des propriétés des systèmes de revêtement liées au mode d'application - Partie 2: Stabilité des couleurs, pouvoir masquant du procédé, détrempe, absorption des pertes de peinture à la pulvérisation, mouillage, texture superficielle et marbrures (ISO 28199-2:2009)

Beschichtungsstoffe - Beurteilung applikationsbedingter Eigenschaften von Beschichtungssystemen - Teil 2: Farbstabilität, Prozessdeckvermögen, Anlösen, Spritznebelaufnahme, Benetzung, Oberflächenstruktur, Wolkigkeit (ISO 28199-2:2009)

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Foreword

This document (EN ISO 28199-2:2009) 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of an identical text or by endorsement, at the latest by March 2010, and conflicting national standards shall be withdrawn at the latest by March 2010.

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INTERNATIONAL STANDARD

ISO 28199-2

First edition
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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

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

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Reference number
ISO 28199-2:2009(E)

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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.

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ISO 28199-2 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*

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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, understood to be 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 ISO 28199-1):

— 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 (this part of ISO 28199);

— tendency to sagging, formation of bubbles, pinholing and hiding power (ISO 28199-3).

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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

1 Scope

This part of ISO 28199 specifies methods for the determination of colour stability, process hiding power, re-dissolving, overspray absorption, wetting, surface texture and mottling of coating materials applied to a test panel under defined conditions.

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 28199-1:2009, *Paints and varnishes — Evaluation of properties of coatings related to the application process — Part 1: Relevant vocabulary and preparation of test panels*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 28199-1 apply.

4 Colour stability

4.1 General

Colour stability is determined by evaluation of the values measured for a wedge-shaped base coat and constant-thickness clear coat, obtained in accordance with 9.4 of ISO 28199-1: 2009.

4.2 Evaluation

Plot the colour space values determined for the wedge-shaped base coat and constant-thickness clear coat in accordance with ISO 28199-1:2009, 9.4, against the film thickness of the base coat, and evaluate the development of the curve visually. Determine the lowest (t_{min}) and the highest (t_{max}) film thicknesses at which the curve is approximately parallel to the X-axis. With regard to parallelism, a tolerance range or a minimum gradient shall be agreed. Figures 1 and 2 showing examples of film thickness plotted against lightness (L^*). The Y-axis can also show the colour values a^*, b^*, C^* and h.

The range of colour stability ends at that film thickness at which the curve is no longer parallel to the X-axis.

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