SLOVENSKI STANDARD
SIST EN ISO 19399:2018

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Barve in laki - Ugotavljanje debeline suhega filma z metodo klinastega reza (metoda s praskanjem in vrtanjem) (ISO 19399:2016)

Paints and varnishes - Wedge-cut method for determination of film thickness (scribe and drill method) (ISO 19399:2016)

Beschichtungsstoffe - Bestimmung der Trockenschichtdicke mit dem Keilschnittverfahren (Ritz- und Bohrmethode) (ISO 19399:2016)

Peintures et vernis - Détermination de l'épaisseur par la méthode d'entaille en coin (Méthode de rayer et de forage) (ISO 19399:2016)

Ta slovenski standard je istoveten z: **EN ISO 19399:2017**

ICS:

87.040	Barve in laki	Paints and varnishes

SIST EN ISO 19399:2018 **en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 19399

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ICS 87.040

English Version

Paints and varnishes - Wedge-cut method for determination of film thickness (scribe and drill method) (ISO 19399:2016)

Peintures et vernis - Détermination de l'épaisseur par la méthode d'entaille en coin (Méthode de rayer et de forage) (ISO 19399:2016)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

The text of ISO 19399:2016 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 19399:2017 by 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of an identical text or by endorsement, at the latest by June 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

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Endorsement notice

The text of ISO 19399:2016 has been approved by CEN as EN ISO 19399:2017 without any modification.

INTERNATIONAL STANDARD

ISO 19399

First edition
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Paints and varnishes — Wedge-cut method for determination of film thickness (scribe and drill method)

Peintures et vernis — Détermination de l'épaisseur par la méthode d'entaille en coin (Méthode de rayer et de forage)

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Foreword

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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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

Paints and varnishes — Wedge-cut method for determination of film thickness (scribe and drill method)

1 Scope

This International Standard specifies a destructive method for determination of the dry film thickness, in which damage to the coat caused in a definite manner is evaluated microscopically. The method is suitable for almost all coat-substrate combinations and also allows determination of the single film thicknesses of coating systems.

The method cannot be applied or can only be applied with restrictions in case of

— too soft and/or elastic coatings (no recognizable scribe or drill hole can be observed),

— hard (cannot be scribed/drilled) or too soft and/or elastic substrates,

— too low visual contrast between the coating and substrate, and

— film thicknesses that are larger than the depth of field of the measuring microscope.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

3 Terms and definitions

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

3.1
substrate
surface to which a coating material is applied or is to be applied

[SOURCE: ISO 4618:2014, 2.244]

3.2
coating
layer formed from a single or multiple application of a coating material to a substrate

[SOURCE: ISO 4618:2014, 2.50.1]

3.3
coating system
combination of all coats of coating materials which are to be applied or which have been applied to a substrate

Note 1 to entry: The actual coating system can be characterized by the number of coats involved.

Note 2 to entry: See also *coating* (3.2).

[SOURCE: ISO 4618:2014, 2.54]

3.4
single coat
part of a coating system

3.5
total film thickness
distance between the surface of the coating and surface of the substrate

3.6
single film thickness
distance between the surface of a single coat and the surface of the coat (substrate) underneath

3.7
dry-film thickness
thickness of a coating remaining on the surface when the coating has hardened

[SOURCE: ISO 2808:2007, 3.5]

3.8
wedge cut
damage to the coating system caused mechanically under the specified angle to the surface and extending into the substrate

Note 1 to entry: The wedge cut can be implemented as a linear scribe or as a conical bore hole.

3.9
wedge-cut image
microscopic image of a wedge cut

3.10
adhesive failure
detachment of a coating from the substrate caused by external forces

Note 1 to entry: The substrate can be another coating beneath or the basic material.

3.11
cohesion failure
loss of cohesion within a coating caused by external forces

4 Principle

A wedge cut with a known flank angle is made in the coating using a scribing or drilling tool. The film thickness is calculated from the width of the flank projection of the wedge cut obtained with the measuring microscope.

5 Wedge-cut principle

The wedge cut for determination of the film thickness according to this International Standard can be made using a scribing tool (method A) or a drilling tool (method B).

Figure 1 shows a wedge cut according to method A in the cross section. The basis length, *l*, is the projection of the wedge-cut flank within the coating and is measured with a microscope between the upper and lower contrast mark in micrometres.