International Standard

ISO 19397

First edition
2024-11

Paints and varnishes — Determination of the film thickness of coatings using an ultrasonic gauge

Peintures et vernis — Détermination de l'épaisseur du feuil de revêtements par mesurage par ultrasons

Reference number
ISO 19397:2024(en)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 139, *Paints and varnishes,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces ISO/TS 19397:2015, which has been technically revised.

The main changes are as follows:

— an introduction has been added;

— the normative references have been updated.

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.

Introduction

This document consistently enumerates the individual coatings applied in a multi-layer system by referring to the first coating applied on the substrate as coating 1. Some other standards referring to individual test methods enumerate in reverse order. See ISO 2808 for example.

Paints and varnishes — Determination of the film thickness of coatings using an ultrasonic gauge

1 Scope

This document specifies a method for determining the film thickness of coatings on metallic and non-metallic substrates using an ultrasonic gauge.

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 4618, *Paints and varnishes — Vocabulary*

ISO Guide 99, *International vocabulary of metrology — Basic and general concepts and associated terms (VIM)*

3 Terms and definitions

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

3.1
ultrasonic wave
acoustic wave having a frequency higher than the audible range of the human ear, generally taken as higher than 20 kHz

[SOURCE: ISO 5577:2017, 3.2.1]

3.2
longitudinal wave
compressional wave
wave in which the direction of displacement of particles is in the same direction as the propagation of the wave

[SOURCE: ISO 5577:2017, 3.3.1, modified — Note 1 to entry has been removed.]

3.3
echo
signal on the display of the ultrasonic instrument received from the test object

Note 1 to entry: See Figure 1 for an *A-scan presentation* (3.13) where the echo can be seen in the key, references 5 and 6.

Note 2 to entry: Depending on the test setup, additional echoes can be received.