



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 19403-6:2020

# Paints and varnishes - Wettability - Part 6: Measurement of dynamic contact angle (ISO 19403-6:2017)

**I.S. EN ISO 19403-6:2020**

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## National Foreword

I.S. EN ISO 19403-6:2020 is the adopted Irish version of the European Document EN ISO 19403-6:2020, Paints and varnishes - Wettability - Part 6: Measurement of dynamic contact angle (ISO 19403-6:2017)

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EUROPEAN STANDARD

**EN ISO 19403-6**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2020

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English Version

## Paints and varnishes - Wettability - Part 6: Measurement of dynamic contact angle (ISO 19403-6:2017)

Peintures et vernis - Mouillabilité - Partie 6: Mesurage  
de l'angle de contact dynamique (ISO 19403-6:2017)

Beschichtungsstoffe - Benetzbarkeit - Teil 6: Messung  
des dynamischen Kontaktwinkels (ISO 19403-6:2017)

This European Standard was approved by CEN on 4 November 2019.

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**EN ISO 19403-6:2020 (E)**

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## **European foreword**

The text of ISO 19403-6:2017 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 19403-6:2020 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of an identical text or by endorsement, at the latest by August 2020, and conflicting national standards shall be withdrawn at the latest by August 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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## **Endorsement notice**

The text of ISO 19403-6:2017 has been approved by CEN as EN ISO 19403-6:2020 without any modification.

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**Paints and varnishes — Wettability —  
Part 6:  
Measurement of dynamic contact angle**

*Peintures et vernis — Mouillabilité —*

*Partie 6: Mesurage de l'angle de contact dynamique*



Reference number  
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**ISO 19403-6:2017(E)**



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## ISO 19403-6:2017(E)

### 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 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://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*.

A list of all parts in the ISO 19403 series can be found on the ISO website.

## **Introduction**

Dynamic contact angles describe the processes on the interface liquid/solid during volume increase (advancing angle) or volume decrease (receding angle) of a drop in horizontal position. As an alternative to the static method (see ISO 19403-2), for the advancing angle always a surface area is wetted, which was previously unwetted. For the receding angle, the contact angle during dewetting is observed. The difference between advancing angle and receding angle is a sign of different chemical or physical homogeneity (morphology, topology) or roughness. The receding angle is not suitable for the determination of the surface energy.



# Paints and varnishes — Wettability —

## Part 6: Measurement of dynamic contact angle

### 1 Scope

This document specifies a method to measure the dynamic contact angle with an optical method. The advancing and the receding angles are determined.

By means of this defined measurement, the wetting and dewetting properties can be characterized. It can also be concluded on the morphological and chemical homogeneity of interfaces.

### 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 — Terms and definitions*

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

ISO 19403-1, *Paints and varnishes — Wettability — Part 1: Terminology and general principles*

ISO 19403-2:2017, *Paints and varnishes — Wettability — Part 2: Determination of the free surface energy of solid surfaces by measuring the contact angle*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and ISO 19403-1, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 3.1 dynamic contact angle

contact angle, which is measured during advancing or receding of the three-phase point

Note 1 to entry: For the definition of “contact angle”, see ISO 19403-1:2017, 3.1.9.

Note 2 to entry: The advancing or receding of the three-phase point can be achieved by changing the volume of the liquid drop to be measured, by relative movement (immersing and pulling out) of a solid body to an interface, or by moving the drop over the interface (e.g. rolling off).

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