

Rheology - Part 1: Vocabulary and symbols for rotational and oscillatory rheometry (ISO 3219-1:2021)

## EESTI STANDARDI EESSÕNA

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See Eesti standard EVS-EN ISO 3219-1:2021 sisaldab Euroopa standardi EN ISO 3219-1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 3219-1:2021 consists of the English text of the European standard EN ISO 3219-1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.05.2021.	Date of Availability of the European standard is 26.05.2021.
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English Version

Rheology - Part 1: Vocabulary and symbols for rotational  
and oscillatory rheometry (ISO 3219-1:2021)

Rhéologie - Partie 1: vocabulaire et symboles pour la  
rhéométrie rotative et oscillatoire (ISO 3219-1:2021)

Rheologie - Teil 1: Begriffe und Formelzeichen für die  
Rotations- und Oszillationsrheometrie (ISO 3219-  
1:2021)

This European Standard was approved by CEN on 29 October 2020.

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

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## European foreword

This document (EN ISO 3219-1:2021) 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of an identical text or by endorsement, at the latest by November 2021, and conflicting national standards shall be withdrawn at the latest by November 2021.

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.

This document supersedes EN ISO 3219:1994.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 3219-1:2021 has been approved by CEN as EN ISO 3219-1:2021 without any modification.

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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.

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)).

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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](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*, 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), and in cooperation with ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

This first edition cancels and replaces the second edition (ISO 3219:1993), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the terms and definitions have been moved to ISO 3219-1, the general principles have been moved to ISO 3219-2;
- new terms and definitions have been added;
- [Table 1](#) on symbols has been added.

A list of all parts in the ISO 3219 series can be found on the ISO website.

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](http://www.iso.org/members.html).

# Rheology —

## Part 1:

# Vocabulary and symbols for rotational and oscillatory rheometry

## 1 Scope

This document specifies general terms and definitions that are used in the context of rotational and oscillatory rheometry.

Further terms and definitions can be found in the other parts of the ISO 3219 series where they are used.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 <https://www.iso.org/obp>

### 3.1

#### absolute value of the complex shear modulus

$|G^*|$

ratio of the amplitude of the *shear stress*  $\tau_0$  (3.41) and the amplitude of the *shear strain*  $\gamma_0$  (3.40)

Note 1 to entry: The absolute value of the complex shear modulus  $|G^*|$  has the unit pascal (Pa).

### 3.2

#### absolute value of the complex shear viscosity

$|\eta^*|$

ratio of the amount of the complex shear modulus  $|G^*|$  (3.1) and the *angular frequency*  $\omega$  (3.5)

Note 1 to entry: The absolute value of the complex shear viscosity  $|\eta^*|$  has the unit pascal multiplied by seconds (Pa·s).

### 3.3

#### amplitude sweep

oscillatory test with variable amplitude at a constant *angular frequency*  $\omega$  (3.5)

### 3.4

#### angular displacement

#### angular deflection

$\varphi$

angular measure where the angle is indicated by the length of the arc

Note 1 to entry: The angular displacement has the unit radians (rad).