



SLOVENSKI STANDARD SIST EN ISO 1628-1:2009

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Plastics - Determination of the viscosity of polymers in dilute solution using capillary viscometers - Part 1: General principles (ISO 1628-1:2009)

Kunststoffe - Bestimmung der Viskosität von Polymeren in verdünnter Lösung durch ein Kapillarviskosimeter - Teil 1: Allgemeine Grundlagen (ISO 1628-1:2009)

Plastiques - Détermination de la viscosité des polymères en solution diluée à l'aide de viscosimètres à capillaires - Partie 1: Principes généraux (ISO 1628-1:2009)

Ta slovenski standard je istoveten z: EN ISO 1628-1:2009

ICS:

83.080.01 Polimerni materiali na splošno Plastics in general

SIST EN ISO 1628-1:2009 en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 1628-1

February 2009

ICS 83.080.01

Supersedes EN ISO 1628-1:1998

English Version

**Plastics - Determination of the viscosity of polymers in dilute
solution using capillary viscometers - Part 1: General principles
(ISO 1628-1:2009)**

Plastiques - Détermination de la viscosité des polymères
en solution diluée à l'aide de viscosimètres à capillaires -
Partie 1: Principes généraux (ISO 1628-1:2009)

Kunststoffe - Bestimmung der Viskosität von Polymeren in
verdünnter Lösung durch ein Kapillarviskosimeter - Teil 1:
Allgemeine Grundlagen (ISO 1628-1:2009)

This European Standard was approved by CEN on 12 January 2009.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN ISO 1628-1:2009) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

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 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

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

This document supersedes EN ISO 1628-1:1998.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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INTERNATIONAL STANDARD

ISO
1628-1

Third edition
2009-02-01

Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers —

Part 1: General principles

*Plastiques — Détermination de la viscosité des polymères en solution
diluée à l'aide de viscosimètres à capillaires —
Partie 1: Principes généraux*

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ISO 1628-1:2009(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.

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.

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.

ISO 1628-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

This third edition cancels and replaces the second edition (ISO 1628-1:1998), of which it constitutes a minor revision intended primarily to correct an error in Subclause 9.1, paragraph 4 (starting: "The intrinsic viscosity shall be calculated from"), where, in line 2, "intrinsic-viscosity values" has been replaced by "inherent-viscosity" values.

ISO 1628 consists of the following parts, under the general title *Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers*:

- *Part 1: General principles*
- *Part 2: Poly(vinyl chloride) resins*
- *Part 3: Polyethylenes and polypropylenes*
- *Part 4: Polycarbonate (PC) moulding and extrusion materials*
- *Part 5: Thermoplastic polyester (TP) homopolymers and copolymers*
- *Part 6: Methyl methacrylate polymers*

Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers —

Part 1: General principles

1 Scope

This part of ISO 1628 defines the general conditions for the determination of the reduced viscosity, intrinsic viscosity and K -value of organic polymers in dilute solution. It defines the standard parameters that are applied to viscosity measurement, and can be used to develop standards for measuring the viscosities in solution of individual types of polymer. It can also be used to measure and report the viscosities of polymers in solution for which no separate standards exist.

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 3105:1994, *Glass capillary kinematic viscometers — Specifications and operating instructions*

ISO 3205, *Preferred test temperatures*

ISO 80000-1, *Quantities and units — Part 1: General*¹⁾

ISO 80000-4, *Quantities and units — Part 4: Mechanics*

3 Definitions

3.1 Dimensions and units

The dimensions of properties defined in this part of ISO 1628 are expressed in terms of L for length, M for mass and T for time in accordance with ISO 80000-1, while the units appropriate to the properties are given in ISO 80000-1 and ISO 80000-4.

3.2 Definitions applicable to any liquid

3.2.1

viscosity

viscosity of a fluid sheared between two parallel plates, one of which moves relative to the other in uniform rectilinear motion in its own plane, defined by the Newton equation

1) To be published. (Revision of ISO 31-0:1992)