Plastics - Unplasticized poly(vinyl chloride) (PVC-U) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties (ISO 21306-2:2019)

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 21306-2:2019 sisaldab Euroopa standardi EN ISO 21306-2:2019 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 21306-2:2019 consists of the English text of the European standard EN ISO 21306-2:2019.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 10.04.2019.	Date of Availability of the European standard is 10.04.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

Plastics - Unplasticized poly(vinyl chloride) (PVC-U) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties (ISO 21306-2:2019)

Plastiques - Matériaux à base de poly(chlorure de vinyle) non plastifié (PVC-U) pour moulage et extrusion - Partie 2: Préparation des éprouvettes et détermination des propriétés (ISO 21306-2:2019)

Kunststoffe - Weichmacherfreie Polyvinylchlorid (PVC-U)-Werkstoffe - Teil 2: Herstellung von Probekörpern und Bestimmung von Eigenschaften (ISO 21306-2:2019)

This European Standard was approved by CEN on 12 March 2019.

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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 21306-2:2019) 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of an identical text or by endorsement, at the latest by October 2019, and conflicting national standards shall be withdrawn at the latest by October 2019.

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 1163-2:1999.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 21306-2:2019 has been approved by CEN as EN ISO 21306-2:2019 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).

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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 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This first edition of ISO 21306-2 cancels and replaces ISO 1163-2:1995, which has been technically revised. The main changes compared to the previous edition are as follows:

— ISO 3167 has been replaced by ISO 20753;

— IEC 93 has been replaced by the new editions of IEC 62631-3-1 and of IEC 62631-3-2.

A list of all parts in the ISO 21306 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.

Plastics — Unplasticized poly(vinyl chloride) (PVC-U) moulding and extrusion materials —

Part 2: Preparation of test specimens and determination of properties

1 Scope

This document specifies the methods of preparation of test specimens and the test methods to be used in determining the properties of PVC-U moulding and extrusion materials. Requirements for handling test materials and for conditioning both the test material before moulding and the specimens before testing are given.

The properties required for the designation of PVC-U thermoplastics are given in ISO 21306-1. All properties are intended to be determined by the appropriate methods referred to in this document and values obtained shall be presented as laid down in ISO 10350-1.

The values determined in accordance with this document are not necessarily be identical to those obtained using specimens of different dimensions and/or prepared by different procedures. The values obtained for the properties of a moulding depend on the moulding compound, the shape, the test method and the state of anisotropy. The last-mentioned depends on the gating of the mould and the moulding conditions, for example temperature, pressure and injection rate. Any subsequent treatment is also be considered, for example conditioning or annealing.

The thermal history and the internal stresses of the specimens can strongly influence the thermal and mechanical properties and the resistance to environmental stress cracking, but exert less effect on the electrical properties, which depend mainly on the chemical composition of the moulding compound.

In order to obtain reproducible and comparable test results, the methods of preparation and conditioning, the specimen dimensions and the test procedures specified herein are used. Values determined are not necessarily be identical to those obtained using specimens of different dimensions or prepared using different procedures.

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 62, *Plastics — Determination of water absorption*

ISO 75-1, *Plastics — Determination of temperature of deflection under load — Part 1: General test method*

ISO 75-2, *Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite*

ISO 178, *Plastics — Determination of flexural properties*

ISO 179-1, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test*

ISO 179-2, *Plastics — Determination of Charpy impact strength — Part 2: Instrumented impact test*

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 293, *Plastics — Compression moulding of test specimens of thermoplastic materials*

ISO 306, *Plastics — Thermoplastic materials — Determination of Vicat softening temperature (VST)*

ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles*

ISO 527-2, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics*

ISO 527-4, *Plastics — Determination of tensile properties — Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites*

ISO 899-1, *Plastics — Determination of creep behaviour — Part 1: Tensile creep*

ISO 1183-1, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pyknometer method and titration method*

ISO 1183-2, *Plastics — Methods for determining the density of non-cellular plastics — Part 2: Density gradient column method*

ISO 1183-3, *Plastics — Methods for determining the density of non-cellular plastics — Part 3: Gas pyknometer method*

ISO 2818, *Plastics — Preparation of test specimens by machining*

ISO 4589-2, *Plastics — Determination of burning behaviour by oxygen index — Part 2: Ambient-temperature test*

ISO 4589-3, *Plastics — Determination of burning behaviour by oxygen index — Part 3: Elevated-temperature test*

ISO 8256, *Plastics — Determination of tensile-impact strength*

ISO 10350-1, *Plastics — Acquisition and presentation of comparable single-point data — Part 1: Moulding materials*

ISO 20753, *Plastics — Test specimens*

ISO 21306-1, *Plastics — Unplasticized polyvinyl chloride) (PVC-U) moulding and extrusion materials — Part 1: Designation system and basis for specifications*

IEC 60112, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60243-1, *Electrical strength of insulating materials — Test methods — Part 1: Tests at power frequencies*

IEC 60250, *Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths*

IEC 60296, *Fluids for electrotechnical applications — Unused mineral insulating oils for transformers and switchgear*

IEC 60695-11-10, *Fire hazard testing — Part 11-10: Test flames — 50W horizontal and vertical flame test method*

IEC 62631-3-1, *Dielectric and resistive properties of solid insulating materials — Part 3-1: Determination of resistive properties (DC methods) — Volume resistance and volume resistivity — General method*

IEC 62631-3-2, *Dielectric and resistive properties of solid insulating materials — Part 3-2: Determination of resistive properties (DC methods) — Surface resistance and surface resistivity*