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**Plastics — Compression-moulded  
sheets of polyethylene (PE-UHMW,  
PE-HD) — Requirements and test  
methods**

*Plastiques — Plaques moulées par compression en polyéthylène (PE-UHMW, PE-HD) — Exigences et méthodes d'essai*



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# Contents

Page

Foreword.....	iv
<b>1 Scope.....</b>	<b>1</b>
<b>2 Normative references.....</b>	<b>1</b>
<b>3 Terms and definitions.....</b>	<b>1</b>
<b>4 Material.....</b>	<b>1</b>
<b>5 Requirements.....</b>	<b>2</b>
5.1 Appearance.....	2
5.2 Dimensional tolerances.....	2
5.2.1 Thickness.....	2
5.2.2 Length and width.....	2
5.2.3 Rectangularity.....	2
5.3 Properties.....	3
5.3.1 Physical properties.....	3
5.3.2 Physiological behaviour.....	3
<b>6 Test methods.....</b>	<b>3</b>
6.1 Test specimens.....	3
6.1.1 Preparation of test specimens.....	3
6.1.2 Conditioning.....	4
6.1.3 Testing.....	5
6.2 Delivery condition.....	5
6.3 Appearance.....	5
6.4 Dimensions.....	5
6.4.1 Thickness, $h$ .....	5
6.4.2 Length, $l$ , and width, $b$ .....	5
6.4.3 Rectangularity.....	5
6.5 Density.....	5
6.6 Determination of abrasion properties.....	5
6.7 Tensile stress at yield, $\sigma_y$ , and tensile strain at yield, $\epsilon_y$ .....	5
6.8 Modulus of elasticity in tension, $E_t$ .....	5
6.9 Impact strength of notched specimens.....	6
6.9.1 Charpy impact strength of double-notched specimens.....	6
6.9.2 Charpy impact strength of single-notched specimens, $a_{cN}$ .....	6
6.10 Melt mass-flow rate (MFR).....	6
<b>7 Designation and order specification.....</b>	<b>6</b>
<b>8 Marking.....</b>	<b>6</b>
<b>Annex A (normative) Requirements for rectangularity.....</b>	<b>7</b>
<b>Annex B (normative) Determination of abrasion properties.....</b>	<b>8</b>
<b>Annex C (informative) Example of apparatus for the determination of abrasion properties.....</b>	<b>10</b>
<b>Bibliography.....</b>	<b>11</b>

## 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 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 61, *Plastics*, Subcommittee SC 11, *Products*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 15527:2018), which has been technically revised. The main changes compared to the previous edition are as follows:

- The minimum value of double-notched impact strength for PE-UHMW group 1.1 in [Table 2](#) has been changed from  $>40 \text{ kJ/m}^2$  to  $>80 \text{ kJ/m}^2$ .

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).

# Plastics — Compression-moulded sheets of polyethylene (PE-UHMW, PE-HD) — Requirements and test methods

## 1 Scope

This document specifies the requirements and test methods for solid flat compression-moulded sheets of polyethylene (PE-UHMW and PE-HD, see ISO 1043-1) without fillers or reinforcing materials. It applies only to thicknesses from 10 mm to 200 mm.

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

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

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

ISO 1133-1, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 1: Standard method*

ISO 1183 (all parts), *Plastics — Methods for determining the density of non-cellular plastics*

ISO 17855-1, *Plastics — Polyethylene (PE) moulding and extrusion materials — Part 1: Designation system and basis for specifications*

ISO 21304-1, *Plastics — Ultra-high-molecular-weight polyethylene (PE-UHMW) moulding and extrusion materials — Part 1: Designation system and basis for specifications*

ISO 21304-2, *Plastics — Ultra-high-molecular-weight polyethylene (PE-UHMW) moulding and extrusion materials — Part 2: Preparation of test specimens and determination of properties*

## 3 Terms and definitions

No terms and definitions are listed in this document.

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/>

## 4 Material

Sheets shall consist of PE-UHMW moulding materials as specified in ISO 21304-1 or PE-HD selected from polyethylene (PE) moulding materials as specified in ISO 17855-1, without fillers or reinforcing materials. Materials and additives of unknown identity shall not be used.

NOTE Legal conditions can necessitate a specific choice of moulding material (see 5.3.2).