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**Plastics — Polycarbonate sheets —  
Types, dimensions and characteristics**

*Plastiques — Plaques en polycarbonate — Types, dimensions et  
caractéristiques*

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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)).

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*.

This third edition cancels and replaces the second edition (ISO 11963:2012), which has been technically revised. The main changes compared to the previous edition are as follows.

- Relative humidity rule ( $50 \pm 10$ ) % was deleted from [5.4.1](#). Dimension change by the moisture absorption is very small, and the polycarbonate materials do not need to state adjustment of the relative humidity in the dimensional measurement.
- Relative humidity rule was changed from ( $65 \pm 5$ ) % to ( $50 \pm 10$ ) % in [6.7.2](#). Polycarbonate materials are not humidity sensitive material in weathering.

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 — Polycarbonate sheets — Types, dimensions and characteristics

## 1 Scope

This document specifies the requirements for solid, flat extruded sheets of polycarbonate (PC) for general applications. It applies specifically to sheets made of poly(*p,p'*-isopropylidene-diphenyl carbonate). The sheets can be coloured or colourless, and they can be transparent, translucent or opaque. The sheets can also be those that have a special weather-protective layer on one or both surfaces.

This document applies only to thicknesses equal to or greater than 1,5 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 75-1, *Plastics — Determination of temperature of deflection under load — Part 1: General test method*

ISO 75-2:2013, *Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite*

ISO 179-1:2010, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test*

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

ISO 306:2013, *Plastics — Thermoplastic materials — Determination of Vicat softening temperature (VST)*

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

ISO 877-1, *Plastics — Methods of exposure to solar radiation — Part 1: General guidance*

ISO 877-2, *Plastics — Methods of exposure to solar radiation — Part 2: Direct weathering and exposure behind window glass*

ISO 877-3, *Plastics — Methods of exposure to solar radiation — Part 3: Intensified weathering using concentrated solar radiation*

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

ISO 4892-1, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance*

ISO 4892-2, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps*

ISO 8256:2004, *Plastics — Determination of tensile-impact strength*

ISO 13468-1, *Plastics — Determination of the total luminous transmittance of transparent materials — Part 1: Single-beam instrument*

## 3 Terms and definitions

No terms and definitions are listed in this document.

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

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

## 4 Composition

**4.1** The following type of PC is preferred for PC sheet extrusion:

Thermoplastics ISO 21305-PC, E, 61-09

(see ISO 21305-1 for explanation of designation system for PC)

**4.2** The sheet may contain colorants, additives, processing aids and stabilizers (e.g. UV-absorbers) up to a total mass content of 5 %.

**4.3** Sheets of the type specified in [Clause 5](#) may have a protective layer (on one or both surfaces) with a UV-absorber content higher than that of the substrate. The composition of the protective layer (e.g. polycarbonate and UV-absorber; or PMMA and UV-absorber; or other materials) and the application techniques (e.g. co-extrusion, coating, lamination, flow-coating, dipping) are not specified by this document.

## 5 Requirements

### 5.1 Masking

The surface of the sheet as delivered shall be protected by plastic film or paper or a combination of both.

### 5.2 Appearance

Requirements concerning defects and optical quality shall be agreed upon between the interested parties.

### 5.3 Colour

The colorant(s) shall be homogeneously and uniformly distributed throughout the material, unless otherwise specified. For critical requirements, the degree of homogeneity shall be specified by the interested parties.

### 5.4 Dimensions

#### 5.4.1 Conditions of measurement

Measurements should preferably be made under the standard conditions  $23\text{ °C} \pm 2\text{ °C}$ . For measurements made under ambient conditions, allowance shall be made for dimensional changes due to the differences in temperature at the place of measurement from the preferred temperature.

#### 5.4.2 Length and width

The length and width of the sheets shall be agreed upon between the interested parties. The tolerances on length and width shall be as specified in [Table 1](#).