BS EN ISO 180:2023

BSI Standards Publication

Plastics — Determination of Izod impact strength

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee PRI/21, Testing of plastics.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Plastiques - Détermination de la résistance au choc Izod (ISO 180:2023)

Kunststoffe - Bestimmung der Izod-Schlagzähigkeit (ISO 180:2023)

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European foreword

This document (EN ISO 180:2023) 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 SIS.

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of an identical text or by endorsement, at the latest by December 2023, and conflicting national standards shall be withdrawn at the latest by December 2023.

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Endorsement notice

The text of ISO 180:2023 has been approved by CEN as EN ISO 180:2023 without any modification.

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Foreword

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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 document 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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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical behavior*, 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 fifth edition cancels and replaces the fourth edition (ISO 180:2019), which has been technically revised.

The main changes are as follows:

— results of an interlaboratory test for unnotched specimens (see Annex A) have been added;

— reference to standard ISO 16012 (see the Bibliography and 5.2) has been added;

— symbols used in Formulae (1) and (2) have been reviewed and updated;

— method designation in Clause 10 b) have been reviewed and updated.

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Introduction

The Izod impact strength determination method is suitable for use with the following range of materials:

— rigid thermoplastic moulding and extrusion materials, including filled and reinforced compounds in addition to unfilled types; rigid thermoplastics sheets;

— rigid thermosetting moulding materials, including filled and reinforced compounds; rigid thermosetting sheets, including laminates;

— fibre-reinforced thermosetting and thermoplastic composites incorporating unidirectional or non-unidirectional reinforcements such as mat, woven fabrics, woven rovings, chopped strands, combination and hybrid reinforcements, rovings and milled fibres and sheet made from pre-impregnated materials (prepregs);

— thermotropic liquid-crystal polymers.

The method is not normally suitable for use with rigid cellular materials and sandwich structures containing cellular material. Notched specimens are also not normally used for long-fibre-reinforced composites or thermotropic liquid-crystal polymers.

The method is suited to the use of specimens which can be either moulded to the chosen dimensions, machined from the central portion of a standard multipurpose test specimen (see ISO 20753) or machined from finished or semi-finished products such as mouldings, laminates and extruded or cast sheet.

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