Irish Standard
I.S. EN ISO 179-2:1999

Plastics – Determination of Charpy impact properties – Part 2: Instrumental impact test (ISO 179-2:1997)

I.S. EN ISO 179-2:1999

Incorporating amendments/corrigenda/National Annexes issued since publication:
EN ISO 179-2:1999/A1:2012 +
Corr 1998

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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I.S. EN ISO 179-2:1999

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 179-2:1999/A1

April 2012

ICS 83.080.01

English Version

Plastics - Determination of Charpy impact properties - Part 2: Instrumented impact test - Amendment 1: Precision data (ISO 179-2:1997/Amd 1:2011)

Plastiques - Détermination des caractéristiques au choc Charpy - Partie 2: Essai de choc instrumenté - Amendement 1: Données de fidélité (ISO 179-2:1997/Amd 1:2011)

Kunststoffe - Bestimmung der Charpy-Schlageigenschaften - Teil 2: 997/Amd.1: Instrumentierte Schlagzähigkeitsprüfung - Änderung 1: Angaben zur Präzision (ISO 179-2:1997/Amd 1:2011)

This amendment A1 modifies the European Standard EN ISO 179-2:1999; it was approved by CEN on 9 March 2012.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

The text of EN ISO 179-2:1997/Amd 1:2011 has been prepared by Technical Committee ISO/TC 61 “Plastics” of the International Organization for Standardization (ISO) has been taken over as EN ISO 179-2:1999/A1:2012 to the European Standard by 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of an identical text or by endorsement, at the latest by October 2012, and conflicting national standards shall be withdrawn at the latest by October 2012.

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.

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Endorsement notice

The text of ISO 179-2:1997/Amd 1:2011 has been approved by CEN as a EN ISO 179-2:1999/A1:2012 without any modification.

I.S. EN ISO 179-2:1999

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 179-2

June 1999

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Supersedes EN ISO 179-2:1996

English version

Plastics - Determination of Charpy impact properties - Part 2: Instrumented impact test (ISO 179-2:1997)

Plastiques - Détermination des caractéristiques au choc Charpy - Partie 2: Essai de choc instrumenté (ISO 179-2:1997)

Kunststoffe - Bestimmung der Charpy-Schlageigenschaften - Teil 2: Instrumentierte Schlagzähigkeitsprüfung (ISO 179-2:1997)

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EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

INTERNATIONAL STANDARD ISO 179-2:1997
TECHNICAL CORRIGENDUM 1

Published 1998-11-15

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Plastics — Determination of Charpy impact properties —

Part 2:
Instrumented impact test

TECHNICAL CORRIGENDUM 1

Plastiques — Détermination des caractéristiques au choc Charpy —

Partie 2: Essai de choc instrumenté

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to International Standard ISO 179-2:1997 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical properties*.

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Figure 2

The definition of s in the key to the figure should be:

"s = splintering break: unstable cracking followed by splintering;"

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Subclause 5.1.6

In note 1, the first line should read: "... requires a pendulum mass to foundation mass ratio of 40:1 ...".

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Foreword

The text of the International Standard from Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

This European Standard replaces EN ISO 179:1996.

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According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 179-2:1997 has been approved by CEN as a European Standard without any modification.

I.S. EN ISO 179-2:1999

INTERNATIONAL STANDARD

ISO 179-2

First edition
1997-12-15

Plastics — Determination of Charpy impact properties —

Part 2:
Instrumented impact test

Plastiques — Détermination des caractéristiques au choc Charpy —

Partie 2: Essai de choc instrumenté

Reference number
ISO 179-2:1997(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.

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.

International Standard ISO 179-2 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical properties*.

ISO 179 consists of the following parts, under the general title *Plastics — Determination of Charpy impact properties*:

— *Part 1: Non-instrumented impact test*

— *Part 2: Instrumented impact test*

Annexes A to C of this part of ISO 179 are for information only.

International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet central@iso.ch
X.400 c=ch; a=400net; p=iso; o=isocs; s=central

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Plastics — Determination of Charpy impact properties —

Part 2:
Instrumented impact test

1 Scope

1.1 This part of ISO 179 specifies a method for determining Charpy impact properties of plastics from force-deflection diagrams. Different types of rod-shaped test specimen and test configuration, as well as test parameters depending on the type of material, the type of test specimen and the type of notch are defined in part 1 of ISO 179.

Dynamic effects such as load-cell/striker resonance, test specimen resonance and initial-contact/inertia peaks are described (see figure 1, curve b, and annex A).

1.2 For the comparison between Charpy and Izod test methods, see ISO 179-1, clause 1.

ISO 179-1 is suitable for characterizing the impact behaviour by the impact strength only and for using apparatus whose potential energy is matched approximately to the particular energy to break to be measured (see ISO 13802, annex C). This part of ISO 179 is used if a force-deflection or force-time diagram is necessary for detailed characterization of the impact behaviour, and for developing automatic apparatus, i.e. avoiding the need, mentioned above, to match energy.

1.3 For the range of materials which may be tested by this method, see ISO 179-1, clause 1.

1.4 For the general comparability of test results, see ISO 179-1, clause 1.

1.5 The method may not be used as a source of data for design calculations on components. However, the possible use of data is not the subject of this part of ISO 179. Any application of data obtained using this part of ISO 179 should be specified by a referring standard or agreed upon by the interested parties.

Information on the typical behaviour of materials can be obtained by testing at different temperatures, by varying the notch radius and/or specimen thickness and by testing specimens prepared under different conditions.

It is not the purpose of this part of ISO 179 to give an interpretation of the mechanism occurring at every point on the force-deflection diagram. These interpretations are a task for on-going scientific research.

1.6 The test results are comparable only if the conditions of test specimen preparation, as well as the test conditions, are the same. Comprehensive evaluation of the reaction to impact stress requires that determinations be made as a function of deformation rate and temperature for different material variables such as crystallinity and moisture content. The impact behaviour of finished products cannot, therefore, be predicted directly from this test, but test specimens may be taken from finished products for testing by this method.

1.7 Impact strengths determined by this method may replace those determined using ISO 179-1 if comparability has been established by previous tests.