



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 13802:2015

# Plastics - Verification of pendulum impact-testing machines - Charpy, Izod and tensile impact-testing (ISO/FDIS 13802:2015)

## I.S. EN ISO 13802:2015

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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*This document is based on:*

EN ISO 13802:2015

*Published:*

2015-06-10

*This document was published under the authority of the NSAI and comes into effect on:*

2015-07-02

ICS number:

83.200

NOTE: If blank see CEN/CENELEC cover page

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## National Foreword

I.S. EN ISO 13802:2015 is the adopted Irish version of the European Document EN ISO 13802:2015, Plastics - Verification of pendulum impact-testing machines - Charpy, Izod and tensile impact-testing (ISO/FDIS 13802:2015)

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*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

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## Correction Notice

**Reference:** EN ISO 13802:2015

**Title:** Plastics - Verification of pendulum impact-testing machines - Charpy, Izod and tensile impact-testing (ISO 13802:2015, Corrected version 2016-04-01)

**Work Item:** 00249801

Brussels, 2016-04-13

**please include the following minor editorial correction(s) in the document related to:**

the following language version(s) :

- English
- French
- German

for the following procedure :

- PQ/UQ
- Enquiry
- 2nd Enquiry
- Parallel Enquiry
- 2<sup>nd</sup> Parallel Enquiry
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- Parallel Formal Vote
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- UAP
- TC Approval
- 2<sup>nd</sup> TC Approval
- Publication
- Parallel Publication

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It has been brought to our attention that this document, issued on 2015-06-10, requires modification.

ISO has published on 2016-04-01 a corrected version for ISO 13802:2015 (English & French).

Please find enclosed the updated English and French versions.

EUROPEAN STANDARD

EN ISO 13802

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2015

ICS 83.200

Supersedes EN ISO 13802:2006

English Version

Plastics - Verification of pendulum impact-testing machines - Charpy, Izod and tensile impact-testing (ISO 13802:2015, Corrected version 2016-04-01)

Plastiques - Vérification des machines d'essai de choc pendulaire - Essais de choc Charpy, Izod et de choc-traction (ISO 13802:2015, Version corrigée 2016-04-01)

Kunststoffe - Verifizierung von Pendelschlagwerken - Charpy-, Izod- und Schlagzugversuch (ISO 13802:2015)

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**EN ISO 13802:2015 (E)**

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## European foreword

This document (EN ISO 13802:2015) 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 December 2015, and conflicting national standards shall be withdrawn at the latest by December 2015.

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.

This document supersedes EN ISO 13802:2006.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 13802:2015, Corrected version 2016-04-01 has been approved by CEN as EN ISO 13802:2015 without any modification.



**INTERNATIONAL  
STANDARD**

**ISO  
13802**

Second edition  
2015-06-01

Corrected version  
2016-04-01

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**Plastics — Verification of pendulum  
impact-testing machines — Charpy,  
Izod and tensile impact-testing**

*Plastiques — Vérification des machines d'essai de choc pendulaire —  
Essais de choc Charpy, Izod et de choc-traction*



Reference number  
ISO 13802:2015(E)

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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)).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical properties*.

This second edition cancels and replaces the first edition (ISO 13802:1999), which has been technically revised. It also incorporates the Technical Corrigendum ISO 13802:1999/Cor.1:2000.

This corrected version of ISO 13802:2015 incorporates the following correction:

- in [Table 4](#), the pendulum length,  $L_p$ , in m, has been changed from “0,225 to 0,390” to “0,221 to 0,417”.



# Plastics — Verification of pendulum impact-testing machines — Charpy, Izod and tensile impact-testing

## 1 Scope

This International Standard specifies frequency and methods for the verification of pendulum impact-testing machines used for the Charpy impact test, Izod impact test, and tensile impact test described in ISO 179-1, ISO 180, and ISO 8256, respectively. Verification of instrumented impact machines is covered insofar as the geometrical and physical properties of instrumented machines are identical to non instrumented machines. The force/work verification of instrumented machines is not covered in this International Standard.

This International Standard is applicable to pendulum-type impact-testing machines, of different capacities and/or designs, with the geometrical and physical properties defined in [Clause 5](#).

Methods are described for verification of the geometrical and physical properties of the different parts of the test machine. The verification of some geometrical properties is difficult to perform on the assembled instrument. It is, therefore, assumed that the manufacturer is responsible for the verification of such properties and for providing reference planes on the instrument that enable proper verification in accordance with this International Standard.

These methods are for use when the machine is being installed, has been repaired, has been moved, or is undergoing periodic checking.

A pendulum impact-testing machine verified in accordance with this International Standard, and assessed as satisfactory, is considered suitable for impact testing with unnotched and notched test specimens of different types.

[Annex A](#) details design requirements for Charpy testing machines.

[Annex B](#) details design requirements for Izod testing machines.

[Annex C](#) details design requirements for tensile impact machines.

[Annex D](#) explains how to calculate the ratio of frame mass to pendulum mass required to avoid errors in the impact energy.

[Annex E](#) explains deceleration of pendulum during impact.

[Annex F](#) details design requirements for one type of gauge used to verify striker and anvil/support alignment for Charpy testing machine.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 179-2, *Plastics — Determination of Charpy impact properties — Part 2: Instrumented impact test*

ISO 180, *Plastics — Determination of Izod impact strength*

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

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