

BUREAU OF INDIAN STANDARDS
DRAFT FOR COMMENTS ONLY
*(Not to be reproduced without permission of BIS or
used as an Indian Standard)*

Draft Indian Standard

PLASTICS — METHODS OF TESTING
PART 5 MECHANICAL PROPERTIES
SECTION 5 DETERMINATION OF CHARPY IMPACT PROPERTIES
SUBSEC 1 NON-INSTRUMENTED IMPACT TEST
[Second Revision of IS 13360 (Part 5/Sec 5)]

(ICS 83.080.01)

Methods of Sampling and Test for Plastics
Sectional Committee, PCD 27

Last date for receipt of comment is
7 October 2023

NATIONAL FOREWORD

(Formal clauses to be added later)

This standard was originally published in 1996 and subsequently revised in 2017. This revision has been undertaken to align the standard with the latest version of ISO 179-1 : 2023.

As the ISO is available in two parts, the Committee decided to bifurcate the standard (IS 13360 (Part 5/Sec 5)) into two subsections as:

Subsec 1: Non-instrumented impact test

Subsec 2: Instrumented impact test

The major changes in this revision are as follows:

- results of a round robin for unnotched specimens (see Annex B) have been added;
- reference to standard ISO 16012 (see the Bibliography and subclause 5.2) has been added;
- improvements of the micrometers and gauges subclause (see 5.2) have been addressed;
- symbols used in Formulae (1) and (2) have been reviewed and updated.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standards, references appear to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, is listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 291, Plastics — Standard atmospheres for conditioning and testing	IS 196 : 1966 Atmospheric conditions for testing (<i>revised</i>)	Not equivalent

ISO 293 Plastics — Compression moulding of test specimens of thermoplastic materials	IS 13360 (Part 2/Sec 1) : 2016/ISO 293 : 2004 Plastics - Methods of testing: Part 2 sampling and preparation of test specimens section 1 plastics - Compression moulding of test specimens of thermoplastic materials (<i>First Revision</i>)	Identical
ISO 294-1 Plastics — Injection moulding of test specimens of thermoplastic materials — Part 1: General principles, and moulding of multipurpose and bar test specimens	IS 13360 (Part 2/Sec 3) : 2019/ISO 294-1 : 2017 Plastics - Methods of Testing Part 2 Sampling and Preparation of Test Specimens Section 3 Injection moulding of test specimens of thermoplastic materials - General principles and moulding of multipurpose and bar test specimens (<i>First Revision</i>)	Identical
ISO 294-3 Plastics — Injection moulding of test specimens of thermoplastic materials — Part 3: Small plates	IS 13360 (Part 2/Sec 7) : 2021/ISO 294-3 : 2020 Plastics - Methods of testing: Part 2 Sampling and preparation of test specimens Section 7 Injection moulding of test specimens of thermoplastic materials - Small plates (<i>Third Revision</i>)	Identical
ISO 295 Plastics — Compression moulding of test specimens of thermosetting materials	IS 13360 (Part 2/Sec 2) : 2013/ISO 295 : 2004 Plastics - Methods of testing: Part 2 sampling and preparation of test specimens section 2 compression moulding of test specimens of thermosetting materials (<i>First Revision</i>)	Identical
ISO 2818 Plastics — Preparation of test specimens by machining	IS 13360 (Part 2/Sec 4) : 2021/ISO 2818: 2018 Plastics - Methods of testing: Part 2 Sampling and preparation of test specimens Section 4 Preparation of test specimens by machining (<i>Second Revision</i>)	Identical
ISO 10724-1 Plastics — Injection moulding of test specimens of thermosetting powder moulding compounds (PMCs) — Part 1: General principles and moulding of multipurpose test specimens	IS 13360 (Part 2/Sec 10) : 2006/ISO 10724-1:1998 Plastics - Methods of testing: Part 2 sampling and preparation of test specimens section 10 injection moulding of test specimens of thermosetting powder moulding compounds (PMCS) - General principles and moulding of multipurpose test specimen	Identical

The technical committee has reviewed the provisions of the following International Standards referred in these adopted standards and has decided that they are acceptable for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>
ISO 1268-11	Fibre-reinforced plastics — Methods of producing test plates — Part 11: Injection moulding of BMC and other long-fibre moulding compounds — Small plates
ISO 13802	Plastics — Verification of pendulum impact-testing machines — Charpy, Izod and tensile impact-testing

For tropical countries like India, the standard temperature and the relative humidity shall be taken as $27 \pm 2^\circ\text{C}$ and 65 ± 5 percent respectively.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*Second Revision*)'.

NOTE — The technical content of this document has not been enclosed as this is identical with the corresponding amendment to ISO Standard. For details, please refer to ISO 179-1 : 2023 or kindly contact:

Meenal Passi
Sc – F & Head (PCD)
 Petroleum & Coal related products Department (PCD)

Doc. No: PCD 27 (23184) WC
IS 13360 (Part 5/Sec 5/Subsec 1) : 2023
ISO 179-1 : 2023
August 2023

Bureau of Indian Standards
9, B.S. Zafar Marg,
New Delhi-110002
Email: pcd@bis.gov.in
Telephone : 011-23235432