

**BUREAU OF INDIAN STANDARDS**

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भारतीय मानक मसौदा

प्लास्टिक — परीक्षण पद्धतियाँ

भाग 8 स्थायी /रासायनिक गुणधर्म

अनुभाग XX पर्यावरणीय तनाव -भंजक (ई. एस. सी.) प्रतिरोध का निर्धारण — गेंद या पिन छाप पद्धति

*Draft Indian Standard*

**PLASTICS — METHODS OF TESTING**

**PART 8 PERFORMANCE/CHEMICAL PROPERTIES**

**SECTION XX DETERMINATION OF RESISTANCE TO ENVIRONMENTAL  
STRESS CRACKING (ESC) —BALL OR PIN IMPRESSION METHOD**

(ICS 83.080.01)

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

Last date for receipt of comment is  
**01 July 2024**

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**NATIONAL FOREWORD**

*(Formal clauses will be added later).*

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:

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

Other parts in this series are:

Part 1 General guidance

Part 2 Constant tensile load method

Part 3 Bent strip method

Part 5 Constant tensile deformation method

Part 6 Slow strain rate method

In this adopted standard, reference appears to certain International Standard for which Indian Standard also exist. The corresponding Indian Standard, which is 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 178, Plastics — Determination of flexural properties	IS 13360 (Part 5/Sec 7) : 2022 / ISO 178 : 2019 Plastics — Method of testing: Part 5 Mechanical properties, Section 7 Determination of flexural properties ( <i>second revision</i> )	Identical
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 527-1, Plastics — Determination of tensile properties — Part 1: General principles	IS 13360 (Part 5/Sec 1) : 2021/ ISO 527-1: 2019 Plastics — Methods of testing: Part 5 Mechanical properties, Section 1 Determination of tensile properties — General requirements ( <i>second revision</i> )	Identical
ISO 527-2, Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics	IS 13360 (Part 5/Sec 26) : 2023/ ISO 527-5 : 2021 Plastics — Methods of testing: Part 5 Mechanical properties, Section 26 Determination of tensile properties test conditions for unidirectional fibre — Reinforced plastic composites ( <i>second 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	Identical

	test specimens, Section 4 Preparation of test specimens by machining ( <i>second revision</i> )	
ISO 3167, Plastics — Multipurpose test specimens	IS 13360 (Part 2/Sec 5) : 2018/ ISO 3167 : 2014 Plastics — Methods of testing: Part 2 Sampling and preparation of test specimens, Section 5 Multipurpose test specimens ( <i>second revision</i> )	Identical
ISO 3290, Rolling bearings — Balls — Dimensions and tolerances	IS 2898 (Part 1) : 2019/ ISO 3290-1 : 2014 — Rolling bearings — Balls: Part 1 Steel balls ( <i>second revision</i> )	Identical
ISO 4287, Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters	IS 18432 (Part 2) : 2023/ ISO 21920-2 : 2021 — Geometrical product specifications (GPS) — Surface texture Profile: Part 2 Terms, definitions and surface texture parameters	Identical

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

<i>International Standard</i>	<i>Title</i>
ISO 2557-1	Plastics — Amorphous thermoplastics — Preparation of test specimens with a specified maximum reversion — Part 1: Bars

For tropical countries like India, the standard temperature and the relative humidity shall be taken as  $27 \pm 2$  °C and  $65 \pm 5$  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 ISO Standard. For details, please refer to ISO 22088-4: 2006 or kindly contact:

**Smt. Meenal Passi**  
**Sc – F & Head (PCD)**  
 Petroleum & Coal related products Department (PCD)  
 Bureau of Indian Standards  
 9, B.S. Zafar Marg,  
 New Delhi-110002  
 Email: [pcd@bis.gov.in](mailto:pcd@bis.gov.in)  
 Telephone: 011-23235432

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