

BUREAU OF INDIAN STANDARDS

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Draft Indian Standard

**RUBBER HOSES, TEXTILE-REINFORCED, FOR GENERAL-PURPOSE WATER
APPLICATIONS — SPECIFICATION**
(*Sixth Revision of IS 444*)

(ICS 23.040.70)

Rubber and Rubber Products Sectional Committee,
PCD 13

Last date for comment
09 April 2024

NATIONAL FOREWORD

(*Formal clauses will be added later*)

This standard was first published in 1953 and subsequently revised in 1964, 1968, 1980, 1987 and 2017.

The sixth revision has been undertaken to align it with the latest version of ISO 1403 : 2019 in dual numbering system to make pace with latest developments that have taken place at international level.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions and terminologies 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 standard reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

| International Standard | Corresponding Indian Standard | Degree of Equivalence |
|--|--|-----------------------|
| ISO 37, Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties | IS 3400 (Part 1) : 2021/ ISO 37 : 2017 Methods of test for vulcanized rubber : Part 1 Determination of tensile stress-strain properties (fourth revision) | Identical |
| ISO 188, Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests | IS 3400 (Part 4) : 2012 /ISO 188 : 2011 Methods of test for vulcanized rubber : Part 4 Accelerated ageing and heat resistance (third revision) | Identical |
| ISO 1307, Rubber and plastics hoses — Hose sizes, minimum and maximum inside diameters, and tolerances on cut-to-length hoses | IS 15933 : 2011/ ISO 1307 : 2006 Rubber and plastics hoses — Hose sizes, minimum and maximum inside diameters, and tolerances on cut-to-length hoses | Identical |
| ISO 1402, Rubber and plastics hoses and hose assemblies — Hydrostatic testing | IS 443 (Part 3) : 2023 / ISO 1402 : 2021 Methods of Test for Rubber and Plastics — Tubing, Hoses and Hose Assemblies Part 3 Rubber and Plastics Hoses and Hose Assemblies — Hydrostatic Testing (Fourth Revision) | Identical |
| ISO 4671, Rubber and plastics hoses and hose assemblies — Methods of measurement of the dimensions of hoses and the lengths of hose assemblies | IS 443 (Part 8) : 2023 / ISO 4671 : 2022 Methods of Test for Rubber and Plastics — Tubing, Hoses and Hose Assemblies Part 8 Rubber and Plastics Hoses and Hose Assemblies — Methods of Measurement of the Dimensions of Hoses and the Lengths of Hose Assemblies | Identical |
| ISO 7326, Rubber and plastics hoses — Assessment of ozone resistance under static conditions | IS 443 (Part 1) : 2022 / ISO 7326 : 2016 Methods of Test for Rubber and Plastics Tubing, Hoses and Hose Assemblies Part 1 Rubber and Plastics Hoses Assessment of | Identical |

| | Ozone Resistance under Static Conditions (Fourth Revision) | |
|--|--|-----------|
| ISO 8033, Rubber and plastics hoses — Determination of adhesion between components | IS 3400 (Part 24) : 2012 / ISO 8033 : 2016 Methods of test for vulcanized rubber : Part 24 Rubber and plastics hose — Determination of adhesion between components (first revision) | Identical |
| ISO 8330, Rubber and plastics hoses and hose assemblies — Vocabulary | IS 16204 : 2014/ ISO 8330 : 2022 Rubber and plastics hoses and hose assemblies — Vocabulary | Identical |
| ISO 10619-1, Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 1: Bending tests at ambient temperature | IS 443 (Part 10) : 2023 / ISO 10619-1 : 2017 Methods of Test for Rubber and Plastics — Tubing, Hoses and Hose Assemblies Part 10 Rubber and Plastics Hoses and Tubing — Measurement of Flexibility and Stiffness — Bending Tests at Ambient Temperature | Identical |
| ISO 10619-2, Rubber and plastics hoses and tubing — Measurement of flexibility and stiffness — Part 2: Bending tests at sub-ambient temperatures | IS 443 (Part 11) : 2023 / ISO 10619-2 : 2021 Methods of Test for Rubber and Plastics — Tubing, Hoses and Hose Assemblies Part 11 Rubber and Plastics Hoses and Tubing — Measurement of Flexibility and Stiffness — Bending Tests at Sub-Ambient Temperatures | Identical |

This standard also makes a reference to the Packing and BIS Certification Marking of the product. Details of which are given in National Annex A.

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.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*).' The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

NOTE — The technical content of the document is not available on website. For details, please refer the corresponding ISO 1403 : 2019 or kindly contact:

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National Annex A

(National Foreword)

A-1 PACKING

The hose shall be packed as agreed to between the purchaser and the supplier.

A-2 BIS CERTIFICATION MARKING

A-2.1 The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.