भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDRADS

Draft for comments only Doc: TXD 01 (28706) WC
September 2025

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भारतीय मानक मसौदा

वस्त्रादि – कपड़ों की इलेक्ट्रोस्टैटिक प्रवृत्ति के मूल्यांकन के लिए परीक्षण विधियाँ

भाग 4: क्षैतिज यांत्रिक घर्षण का उपयोग करके परीक्षण विधि

(Draft Indian Standard)

TEXTILES — TEST METHODS FOR EVALUATING THE ELECTROSTATIC PROPENSITY OF FABRICS

PART 4: TEST METHOD USING HORIZONTAL MECHANICAL FRICTION

ICS 59.080.30

Physical Methods of Test Sectional Committee TXD 01	Last date for receipt of comments 17 November 2025

NATIONAL FOREWORD

(Formal clauses will be added later)

This Indian Standard intended to be adopted is identical with ISO 18080-4 : 2015 'Textiles — Test methods for evaluating the electrostatic propensity of fabrics — Part 4: Test method using horizontal mechanical friction' issued by the International Organization for Standardization (ISO).

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 the standard intended to be adopted, 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 105-F01, Textiles — Tests for colour fastness — Part F01: Specification for wool adjacent fabric	IS/ISO 105-F01:2001, Textiles – Tests for colour fastness Part F01 Specification for wool adjacent fabric	Identical under single numbering
ISO 105-F02, Textiles — Tests for colour fastness — Part F02: Specification for cotton and viscose adjacent fabrics	IS/ISO 105-F02:2009, Textiles – Tests for colour fastness Part F02 Specification for cotton and viscose adjacent fabrics	Identical under single numbering
ISO 5084, Textiles — Determination of thickness of textiles and textile products	IS 7702:2012, Textiles – Determination of thickness of textiles and textile products (*first revision*)	Identical under dual numbering
ISO 6330, Textiles — Domestic washing and drying procedures for textile testing	IS 15370:2023, Textiles — Domestic Washing and Drying Procedures for Textile Testing (*Second Revision*)	Identical under dual numbering

The Committee has reviewed the provisions of the following International Standard referred in this intended to be adopted standard and has decided that it is acceptable for use in conjunction with this standard:

International Standard	*Title*
ISO 3175-2	Textiles — Professional care, dry-cleaning and wet-cleaning of fabrics and garments — Part 2: Procedure for testing performance when cleaning and finishing using tetrachloroethene
ISO 3175-3	Textiles — Professional care, dry-cleaning and wet-cleaning of fabrics and garments — Part 3: Procedure for testing performance when cleaning and finishing using hydrocarbon solvents

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)’.

1 Scope

This part of ISO 18080 specifies a test method using horizontal mechanical friction with measurement of friction-charged electrostatic potential on specimens of fabric and the time for that potential to decay. The test method is suitable for fabrics of all types of composition and construction that are capable of withstanding frictional charging.

Some fabrics, e.g. fabrics of low strength or loose construction, may not be physically capable of withstanding the manual friction used in this test method or may give false results. In such cases, the test method described in ISO 18080-1 can be used to evaluate electrostatic propensity.

The test method described may not be suitable for evaluating garments and garment materials in relation to safety of personnel and protection of electrostatic discharge sensitive devices.

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.

i) ISO 105-F01, Textiles — Tests for colour fastness — Part F01: Specification for wool adjacent fabric
ii) ISO 105-F02, Textiles — Tests for colour fastness — Part F02: Specification for cotton and viscose adjacent fabrics
iii) ISO 3175-2, Textiles — Professional care, dry-cleaning and wet-cleaning of fabrics and garments — Part 2: Procedure for testing performance when cleaning and finishing using tetrachloroethene
iv) ISO 3175-3, Textiles — Professional care, dry-cleaning and wet-cleaning of fabrics and garments — Part 3: Procedure for testing performance when cleaning and finishing using hydrocarbon solvents
v) ISO 6330, Textiles — Domestic washing and drying procedures for textile testing

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
antistatic
property of a material that reduces its propensity to acquire electrostatic charges or allows electrostatic charges to dissipate quickly

3.2
conductive
providing a sufficiently high conductivity so that potential differences over any parts of a material or object are not sufficiently large to be of practical significance

3.3

friction-charged electrostatic potential
potential generated on a material by friction with another or same material obtained as voltage

3.4
decay time
time for the impressed voltage to decay to a percentage of the peak voltage

3.5
half decay time
time for the impressed voltage to decay to half of the peak voltage

FORMAT FOR SENDING COMMENTS ON BIS DOCUMENTS

(Please use A4 size sheet of paper only and type within fields indicated. Comments on each clause/sub clause/table/fig etc. be started on a fresh box. Information in column 3 should include reasons for the comments and suggestions for modified working of the clauses when the existing text is found not acceptable. Adherence to this format facilitates Secretariat's work)

Please e-mail your comments to txd@bis.gov.in

NAME OF THE COMMENTATOR/ORGANIZATION:

DOCUMENT NO: TXD 01 (28706) WC

Item, clause Sub-clause no. commented upon (use separate box a fresh)	**Comments**	**Specific Proposal (Draft) clause to be added/ amended**	**Remarks**	**Technical References and Justification on which (2), (3), (4) are based**
(1)	(2)	(3)	(4)	(5)