



उत्पाद मैनुअल
पॉलिएस्टर स्ट्रैपिंग - विशिष्टि
आई एस 15559:2004 के अनुसार

**PRODUCT MANUAL FOR
POLYESTER STRAPPING- SPECIFICATION
ACCORDING TO IS 15559:2004**

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो(अनुरूपता मूल्यांकन) विनियम, 2018 की योजना-I के तहत प्रमाणन के संचालन में अभ्यास और पारदर्शिता सुनिश्चित करने के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय/ शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन लाइसेंस/प्रमाणपत्र प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	उत्पाद Product	:	IS 15559:2004
	शीर्षक Title	:	Polyester Strapping- Specification
	संशोधन संख्या No. of amendments	:	01
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	The straps shall be made from polyester (polyethylene terephthalate – PET). Manufacturer to submit declaration/test Certificate from Raw material supplier, as evidence of compliance to the same (to Clause 4.1 and 4.4 of IS 15559:2004)
b)	समूही करण दिशा निर्देश Grouping Guidelines	:	Please refer Annex - A

c)	नमूने का परिमाण Sample Size	:	20m approx
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer Annex – B
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	Please refer Annex - C
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	a) Surface Finish(CI 4.2) b) Colour(CI 4.3) c) Freedom from Defects(CI 4.5) d) Nominal Width and nominal thickness(CI 4.6) e) Split resistance(CI 5.2) f) Camber(CI 5.3) On pre-conditioned samples(after conditioning for a minimum of 16h as per IS 13360(part 5/Sec 1): a) Tensile Strength, Elongation and breaking Load
6.	लाइसेंस का कार्यक्षेत्र / Scope of the Licence :		
	IS 15559:2004 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेंस निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है। Licence is granted to use Standard Mark as per IS 15559:2004 with the following scope:		
	Name of the product	Polyester Strapping–Specification	
	Type	Type-I – Regular Strength Type-II – High Strength	
	Dimensions (width x thickness) for each type	e.g. Type I - 9.5 x 0.51 mm, Type II – 15.6 x 1.02 mm etc. Note: In case of dimensions other than table 1, value of min. breaking strength to be declared and indicated in scope e.g. Type II - 20.00 x 1.00 mm (min breaking strength 8010 N) (also see grouping guidelines)	

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ANNEX- A

GROUPING GUIDELINES

1. IS15559:2004 classifies Polyester Strapping in following types:
 - i) Type-I – Regular Strength (Width between 9.0mm to 12.9mm)
 - ii) Type-II – High Strength (Width between 13.0mm to 25.0mm)
2. For the purpose of grant of licence, and change in scope of licence, the following grouping guidelines shall apply:
 - a.) Sample(s) of each type (Type I/Type II) of the product intended to be covered in the scope of licence shall be drawn and tested
 - b.) To cover a range of nominal width and nominal thickness, samples of the highest and lowest width (and corresponding nominal thickness) as per Table 1 of IS 15559, shall be tested.

Note: In case it is intended to cover widths and/or thickness other than those given in Table 1, the above grouping shall apply. However, in such cases, the manufacturer shall declare the values of nominal width, thickness and minimum breaking strength. For such a given width value, the value of nominal thickness and the value of minimum breaking strength so declared shall not be less than the nominal thickness and minimum breaking strength value specified against the closest (lower) value of width in Table 1 of IS 15559.
3. However, scope of licence shall be restricted according to the manufacturing and testing facilities available.
4. During operation of licence, samples of all varieties covered in the scope of licence, shall be drawn in rotation, to the extent possible.

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ANNEX-B**LIST OF TEST EQUIPMENTS**

Major test equipment essentially required to test as per requirements of Indian Standard.

Sl. No.	Tests Used in with Clause Reference	Test Equipment/Chemicals and Identification Numbers (Where applicable)
1.	Intrinsic Viscosity(CI 4.4)	Cyclohexanone, Viscometer, Graduated flask, Filter funnel, Mechanical agitator equipped with a heating device, Analytical balance, Temperature-regulated bath, Time-measuring device, Thermometer(L.C.- 1 deg C), Phenol and Tetrachloroethane
2.	Freedom From Defects(CI 4.5)	Visual
3.	Nominal width and Nominal Thickness(CI. 4.6, Table 1)	Vernier Caliper (L.C.- 0.01mm) and Micrometer (L.C. 0.001mm)
4.	Breaking Strength(CI. 4.6, Table 1), Tensile Strength and Elongation(CI. 5.1, Table 2)	Tensile Testing machine with grips, force indicator, strain indicator (extensometers or strain gauges), data recording facility and sample preparation material.
5.	Split Resistance(CI 5.2)	Sample Cutter, Steel Scale(L.C.- 1mm), Sharp pin(Dia-2.4mm and taper-4.0mm at one end), Plier
6.	Camber(CI. 5.3)	Measuring Tape, Flat Surface

Note 1: The above is an indicative list for the purpose of guidance only and may not be treated as exhaustive

ANNEX- C

SCHEME OF INSPECTION AND TESTING

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare and implement a calibration plan for the test equipment.

2. TEST RECORDS - The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING AND MARKING, - The Standard Mark as given in schedule of the licence and Licence Number (i.e. CM/L -) shall be incorporated on each Coil/container, provided always that the product thus marked conform to all the requirements of the specification.

3.1 PACKING - The material shall be packed in suitable form of packing as per provisions of clause 6.1 of IS 15559:2004.

3.2 MARKING - The information as mentioned under clause 6.2 of IS 15559:2004 shall be legibly and indelibly marked on each coil. In addition, the following shall be incorporated on each coil:

i) BIS Licence No. (CM/L.....)

ii) For details of BIS certification details please visit www.bis.gov.in

4. CONTROL UNIT – For the purpose of this scheme, a control-unit is defined as the entire quantity of Polyester Strapping of the same type and same width and thickness manufactured under similar conditions in a single day from the same material.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

6. TEST CERTIFICATE - For each consignment of BIS Certified material conforming to IS 15559:2004, there shall be a test certificate which shall contain the Standard Mark, the Control Unit number and the corresponding test results (as given in Annexure-I enclosed)

7. REJECTIONS - Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1: (LEVELS OF CONTROL)
(Para 5 of Scheme of Inspection and Testing)

(1)				(2)	(3)		(4)
TEST DETAILS					LEVELS OF CONTROL		REMARKS
Clause	Requirements	Test Method		Test equipment requirement R: required (or) S: Sub-contracting permitted	No. of Samples	Frequency	
		Clause	Reference				
4.1	Manufacture	4.1	IS 15559	S	Each lot of raw material as purchased shall be accompanied with the test certificate of supplier or to be tested from Any BIS recognized/empaneled lab or other accredited laboratory.		
4.2	Surface Finish	4.2	IS 15559	R	One	Each Control Unit	----
4.3	Colour	4.3	IS 15559	R	One	Each Control Unit	----
4.4	Intrinsic Viscosity (only for PET material)	4.4	IS 15559	S	One	Each lot of raw material as purchased shall be accompanied with the test certificate of supplier or to be tested from Any BIS recognized/empaneled lab or other accredited laboratory.	
4.5	Freedom from Defects	4.5	IS 15559	R	One coil of each hour	Each Control Unit	----
4.6 & Table 1	a) Nominal width of strapping b) Nominal thickness of strapping	4.6	IS 13360(Part 5/Sec1)	R	One coil of each hour	Each Control Unit	----
4.6 & Table 1	Breaking Strength	4.6	IS 13360(Part 5/Sec1)	R	One	For every 10000 m*	----
5.1 & Table 2	a)Tensile strength b)Elongation	5.1	IS 13360(Part 5/Sec1)	R	One	Both tests For every 10000 m*	----

5.2	Split Resistance	5.2	IS 15559	R	Two	For every 10000 m*	----
5.3	Camber	5.3	IS 15559	R	One	For every 10000 m*	----

*One sample for tensile test and two for split resistance shall be drawn for each 10000m of strap or part thereof of the strap of same width and thickness.

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification.

Annexure-I
TEST CERTIFICATE FORMAT
(Para 6 of Scheme of Inspection and Testing)
To be issued by Manufacturing Units only

ABC LIMITED
(REGISTERED OFFICE ADDRESS AND WORKS ADDRESS)
CM/L-

Test Certificate for Polyester Strapping- Specification

TEST CERTIFICATE NO. _____ DATED _____

TO M/s _____ (NAME AND ADDRESS OF CONSIGNEE)

It is certified that the material described below fully conforms to IS 15559:2004. All requirements of the product, as tested in accordance with the Scheme of Inspection and Testing contained in the BIS Certification Marks Licence No. CM/L____are as indicated below against each order no. etc.

(PLEASE REFER TO IS 15559:2004 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

Order No. & Date	Type- (I or II), Nominal Width	Nominal Thickness and Breaking Strength	Requirements of Polyester Strapping						
			Surface Finish	Colour	Intrinsic Viscosity	Tensile Strength	Elongation	Split Resistance	Camber

REMARKS SHIPPING ADVICE NO.
WAGON NOS.

FOR ABC LIMITED

(for BIS certification details www.bis.gov.in)