



उत्पाद मानुयल

एकल बनावट रबरयुक्त जलरोधक कपड़े 5915 : 1970 के अनुसार

PRODUCT MANUAL FOR SINGLE TEXTURE RUBBERIZED WATERPROOF FABRICS ACCORDING TO IS 5915 : 1970

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरण के प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग 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 5915 : 1970
	शीर्षक Title	:	एकल बनावट रबरयुक्त जलरोधक कपड़े Single Texture Rubberized Waterproof Fabrics
	संशोधन संख्या No. of Amendments	:	02
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	कोई विशेष आवश्यकता नहीं No specific requirements
b)	समूहिकरण दिशा निर्देश Grouping guidelines	:	कृपया Annex-A देखें Please refer ANNEX-A
c)	नमूने का परिमाण Sample Size	:	2 meters
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	कृपया Annex-B देखें Please refer ANNEX – B
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	कृपया Annex-C देखें Please refer ANNEX – C
5.	एक दिन में संभावित परीक्षण		

	Possible tests in a day:	
	i. Length ii. Width iii. Waterproofness iv. Fastness to washing of coloured fabric v. Reaction of Aqueous extract vi. Autoclaving Test vii. Resistance to cold viii. Resistance to Acid and Alkali ix. Weight	
6.	लाइसेन्स का कार्यक्षेत्र / Scope of the Licence :	
	IS 5915 : 1970 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है “Licence is granted to use Standard Mark as per IS 5915 : 1970 with the following scope:	
	उत्पाद का नाम Name of the product	एकल बनावट रबरयुक्त जलरोधक कपड़े Single Texture Rubberized Waterproof Fabrics
	प्रकार, गुणवत्ता और ग्रेड Type, Quality and Grade	Type 1 and/ Type 2 Quality 1 and/ Quality 2 Grade A and / Grade B

ANNEX A

TO PRODUCT MANUAL FOR SINGLE TEXTURE RUBBERIZED WATERPROOF FABRICS ACCORDING TO IS 5915 : 1970

GROUPING GUIDELINES

1. IS 5915 : 1970 covers Single Texture Rubberized Waterproof Fabrics which are classified as given below:
 - a) Based on application of proofing on the base fabric:
 - i) Type 1
 - ii) Type 2
 - b) Based on Rubber Polymer Content of the Proofing:
 - i) Quality 1
 - ii) Quality 2
 - c) Rubberized fabrics of each quality are classified in two grades:
 - i) Grade A
 - ii) Grade B
2. Considering the above, following grouping guidelines shall be followed for GoL/CSoL:
 - a) If Waterproof fabric of Type 2 is tested, Type 1 may also be covered in the scope of the licence.
 - b) If Waterproof fabric of Quality 1 is tested, Quality 2 may also be covered in the scope of the licence.
 - c) If Waterproof fabric of Grade B, is tested Grade A may also be covered in the scope of the licence.
3. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the manufacturer.
4. During the operation of the Licence, BO shall ensure that all varieties covered in the scope of Licence are tested in rotation, to the extent possible.

ANNEX B

**TO PRODUCT MANUAL FOR SINGLE TEXTURE RUBBERIZED WATERPROOF
FABRICS ACCORDING TO IS 5915 : 1970**

LIST OF TEST EQUIPMENT

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Length & Width (Clause 4.3.2 & 4.3.3)	Steel scale of length at least 2 m and graduated in centimeters and millimeter, Table, Conditioning Room or Chamber
2.	Water Proofness (Clause 4.3.4)	Conditioning Room or Chamber, Water (pH of 6-8.5), Static Pressure Head test apparatus (As per Appendix A & clause 6.1.1 of IS 7940), Stop watch.
3.	Accelerated Ageing test, (Clause 4.3.5)	Ageing oven (capable of maintaining temperature of 90± 1°C).
4.	Fastness to light (Clause 4.3.6.1)	i. Blue wool reference materials 1 to 8 ii. Light source- Xenon arc lamp with light filter and heat filter iii. Black-standard thermometer or a black-panel thermometer iv. Humidity chamber v. Opaque Cardboard or Thin Opaque Material vi. Colour matching lamps vii. Assessment cabinet viii. Sample mounting card, ix. Assessment mask x. Grey scale for assessing change in colour
5.	Fastness to washing of coloured fabric (Clause 4.3.6.2)	i) Suitable mechanical laundering device (As per clause 4.1 of IS 105-C10) ii) Balance iii) Mechanical stirrer iv) Non-corrodible (stainless) steel balls v) Hot plate vi) Soap

		vii) Sodium carbonate. anhydrous viii) Grade 3 water ix) Adjacent fabrics (Multifibre adjacent fabric or Two single-fibre adjacent fabrics) x) Non-dyeable fabric xi) Beaker (4 litres) xii) Grey scales or Spectrophotometer xiii) Filter paper
6.	Reaction of aqueous extract (Clause 4.3.7)	i) Distilled or deionized water, of at least grade 3. ii) Potassium permanganate iii) Sodium hydroxide iv) Distillation apparatus v) Dilute sulphuric acid vi) Hot plate vii) Beakers viii) Potassium chloride solution ix) Buffer solutions (4, 7 or 9 are recommended) x) Stoppered glass or polypropylene flasks xi) Mechanical shaker xii) Rods xiii) pH-meter, with a glass electrode xiv) Balance xv) Volumetric Flasks (1 litre capacity)
7.	Autoclaving test (Clause 4.3.8)	Autoclave (As per clause B-2.1)
8.	Resistance to Cold (Clause 4.3.9)	Bend test mandrel, Deep freezer
9.	Resistance to acid and alkali (Clause 4.3.10)	Hydrochloric acid or Sodium Hydroxide, Vernier calliper/Scale.
10.	Weight (Clause 4.3.11 & Table 1)	A. METHOD A — CONDITIONED MASS METHOD i. Horizontal, Flat Smooth Table ii. Graduated Steel Scale iii. Balance — Capable of weighing to an accuracy of 0.005 g iv. Conditioning Chamber B METHOD B — OVEN-DRY METHOD i) Horizontal, Smooth Flat Table ii) Graduated Steel Scale

		iii) Dying Oven iv) Balance v) T- Square vi) Scissors or razor blade.
11.	Proofing Content (Clause 4.3.11 & Table 1)	i) Solvent Capable of Swelling or Dissolving Cured Polymer Present in the Sample ii) Conditioning Chamber iii) Reflux Condenser iv) Round Bottom Flask v) Heater vi) Spatula vii) Light Petroleum Hydrocarbon Solvent viii) Air Oven ix) Weighing Bottle x) Silica Crucible xi) Weighing Balance
12.	Breaking Strength (Clause 4.3.11 & Table 1)	i) Tensile testing machine ii) Equipment, for cutting test specimens iii) Vernier Calliper iv) Conditioning Chamber.
13.	Rubber Polymer Content of the Proofing (Clause 3.2.1 & 3.2.2)	i) Extraction apparatus (As per Figure 1) ii) Acetone iii) Chloroform iv) Potassium carbonate v) Weighing Balance vi) Filter paper vii) Air Oven viii) Desiccator ix) Scissors x) Heater xi) Steam Bath xii) Air Supply medium xiii) Potassium hydroxide xiv) Absolute ethanol xv) Silver nitrate xvi) Pipettes xvii) Measuring cylinders - xviii) Beakers xix) Filter Papers xx) Distillation apparatus

	xxi) Congo Red Paper xxii) Ether xxiii) Erlenmeyer Flask (200 ml, 500 ml) xxiv) Reflux Condenser xxv) Separatory funnel xxvi) Hydrochloric acid xxvii) Cotton Absorbent xxviii) Barium Chloride xxix) Bromine xxx) Nitric acid xxxi) Picric acid xxxii) Potassium chlorate xxxiii) Zinc Oxide xxxiv) Asbestos Gauze xxxv) Bunsen Burner xxxvi) Watch Glass xxxvii) Hot plate OR xxxviii) Sodium Carbonate xxxix) Sodium Carbonate Solution xl) Porcelain Crucible (75 ml Capacity)/Silica crucibles xli) Glass Spatula xlii) Glass rod xlili) Tongs xliv) Muffle Furnace xlv) Wire Gauze xlvi) Calibrated thermocouple and Temperature Recording device xlvii) Sodium Chromate Solution xlviii) Sodium Hydroxide Solution xlix) Gooch Crucible l) Copper Sulphate li) Paraffin lii) Sodium Sulphate
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		liii) Sulphuric Acid liv) Granulated Zinc lv) Kjeldahl Flask (750 ml) lvi) Methyl red Solution lvii) Burette with stand
14.	Miscellaneous	Sampling tubes, and other necessary laboratory reagents and glassware

The above list is indicative only and may not be treated as exhaustive.

ANNEX C

**SCHEME OF INSPECTION AND TESTING
FOR SINGLE TEXTURE RUBBERIZED WATERPROOF FABRICS ACCORDING
TO IS 5915 : 1970**

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 a calibration plan for the test equipments.

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

3. PACKAGING, LABELLING AND MARKING – The Standard Mark, as given in the Schedule of the licence shall be labelled or stencilled on each piece and/or rolls, provided always that fabric to which this mark is thus applied conforms to every requirements of the specification.

3.1 In addition, each piece of the rubberized fabric shall be indelibly and legibly marked at both ends with the following information:

- a) Manufacturer's name, initials or recognized trade-mark, if any
- b) Month and year of manufacture
- c) length of the piece in meters
- d) Licence No. (CM/L-_____)
- e) BIS website details i.e - "For details of BIS certification scheme, see website www.bis.gov.in".

3.2 Other identification letters shall be stamped on the material if required by the purchaser.

4. CONTROL UNIT – For the purpose of this scheme, the entire quantity of Single texture rubberized water proof fabrics processed under similar conditions in a single day shall constitute a control unit.

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 shall be marked with Standard Mark.

6. 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

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4.1	Base fabric	4.1	IS 5915	R	One	Every Consignment	Irrespective of types, qualities & grades
4.2	Proofing	4.2.1 to 4.2.4	IS 5915	R	One	Every Compound	-do-
4.3	Finished Fabric						
4.3.1	General	4.3.1	IS 5915	R	One	Every Control Unit	-do-
4.3.2	Length	7	IS 1954	R	One	Every Control Unit	-do-
4.3.3	Width	8	IS 1954	R	One	Every Control Unit	-do-
4.3.4	Waterproofness	7	IS 7940	R	One	Every Control Unit	-do-
4.3.5	Accelerated Ageing Test	9	IS 3400 (Part 4)	R	One	Once in two weeks	-do-
4.3.6	Colour	4.3.6	IS 5915	R	One	Every Control Unit	-do-
4.3.6.1	Fastness to light	8	IS/ISO 105-B02	R	Two	Every Control Unit*	-do-
4.3.6.2	Fastness to washing of coloured fabric	7	IS/ISO 105-C10	R	Two	Every Control Unit ⁺	-do-
4.3.7	Reaction of Aqueous extract	8	IS 1390	R	One	Every Control Unit	-do-
4.3.8	Autoclaving Test	Appendix B	IS 5915	R	One	Every Control Unit	-do-
4.3.9	Resistance to cold	4.3.9	IS 5915	R	One	Every Control Unit	-do-
4.3.10	Resistance to Acid and Alkali	4.3.10	IS 5915	R	One	Every Control Unit	-do-

4.3.11 & Table 1, (i)	Weight	6	IS 1964	R	One	Every Control Unit	-do-
(ii)	Proofing Content	Appendix B	IS 5915	R	One	Every Control Unit	-do-
(iii)	Breaking Strength N/5 CM grip a) Warp b) Weft		IS 7016 (Part 2)	R	One	Every Control Unit	-do-

* In the first instance samples for each colour and shade shall be drawn and tested in their own laboratory. Those colours and shades only shall be marked which conform to the relevant requirement of the specification. Afterwards undertaking to the effect that there shall be no change in brand, colour, shade, and processing conditions may be obtained. However, 2 samples drawn from each colour and shade shall be got tested once a year in an independent laboratory/ in their own laboratory in case facilities exist.

+ This frequency is to be followed in case the dyeing processes are continuous, otherwise for batch process the requirements have to be tested twice a week for each of the colour and shade.

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 for approval by BO Head.