PM/3566/2
March 2025

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उत्पाद मैन्युअल
वस्त्रादि - विस्कोस रेयॉन कट स्टेपल ((स्पन) धागे –विशिष्टि
IS 3566:2023 के अनुसार

PRODUCT MANUAL
FOR Textiles – Viscose Rayon Cut Staple (Spun) Yarn ACCORDINGTO IS 3566:2023

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता 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 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 uniformity of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations,2018 for variousproducts. The document may also be used by prospective applicants desirous of obtaining BIS certification.

1.	मानक सांख्या **IS No.**	:	IS 3566: 2023
	शीर्षक **Title**	:	Textiles – Viscose Rayon Cut Staple (Spun) Yarn
	संशोधनों की सांख्या **No. of amendments**	:	01
2.	नमूना दिशानिर्देश **Sampling Guidelines**		
a)	कच्चा माल **Raw material**	:	The yarn shall be manufactured from viscose staple fibre conforming to IS 17266 Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be establishedduring Grant of Licence/Change in Scope of Licence/Factory Surveillance

b)	**समूहीकरण दिशानिर्देश Grouping Guidelines**	:	*Please refer Annex-A*
c)	**नमूने का पररमाण Sample Quantity**	:	*2 kg* Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (in case of market surveillance, effort may be made to procure therequired quantity of product sample, as far as possible since raw material sample may not be available in market)
3.	**परीक्षण उपकरणों की सूची List of Test Equipment**	:	Please refer to Annex-B
4.	**ननरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing**	:	Please refer to Annex-C
5.	**एक दिन में संभावित परीक्षण Possible tests in a day**		
	On pre-conditioned samples: Count and Count CV, Twist per metre Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.		
6.	**लाइसेंस का दायरा /Scope of the Licence:**		
	"Licence is granted to use Standard Mark as per IS 3566: 2023 with the following scope:		
	Name of the product		Viscose Rayon Cut Staple (Spun) Yarn
	Method of spinning		Ring Spun/Airjet Spun/ Air Vortex spun
	Construction		Single and/or multifold yarn
	Yarn Count (range)		Tex (Ne)

ANNEX-A

GROUPING GUIDELINES

i. For the purpose of grant of licence and change in scope of licence, Viscose Rayon Cut Staple (Spun) Yarn is classified according to

   a) **Method of spinning**: Ring Spun, Airjet Spun and Air Vortex spun

   b) **Construction**: Single and multifold yarn

   c) **Yarn Count (range):** >29.5 tex, > 19.6 – 29.5 tex, > 14.7 – 19.6 tex, ≤14.7 tex

ii. Separate samples of yarn made using each method of spinning (Ring Spun/Airjet Spun/ Air Vortex spun) and each type of construction (Single and multifold yarn) of any yarn count shall be tested

iii. Scope of licence shall be restricted based on the manufacturing and testing facilities available.

iv. During operation of licence, samples of each variety covered in the scope of licence, shall be tested in rotation, to the extent possible

ANNEX – B

LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl. No.	**Tests Used In With Clause Reference**	**Test Equipment/Chemical**
1	Count and Count CV, Cl. 5.1, 5.2, 5.3, Table 1, 2 & 3	Any of the following apparatus may be used depending upon the availability (as per IS 1315) • Any Special Balance — to indicate the linear density directly when a skein of known length of yarn is placed or hung on one side of the balance. • Pan Balance — capable of measuring to an accuracy of 1 mg. • Wrap Reel — having 1 372 m (1.5 yd) or 1 m girth (see Appendix B of IS 1315) and capable of reeling known lengths of yarn. • Yarn Tensioning Device — an adjustable tensioning device capable of giving a reeling tension that will result in skeins of the specified length when measured on a skein gauge. • Skein Gauge — a gauge for checking the length of the skein under a load of 0.5 gf/tex (5 mN/tex) and expressing the length as a plus or minus deviation from the nominal length.
2	Twist per metre, Cl. 5.2 & Table 2	**Apparatus for Direct counting method as per IS 832 (Part 1)** Twist counter, Dissecting needle, Means for magnifying the specimen being tested. **Apparatus for Untwist/Retwist Method For Single Spun Yarns as per IS 832 (Part 2)** Twist counter or twist tester, consisting of a pair of clamps, one of which is rotatable in either direction and positively connected to a revolution counter.
3	CSP, Cl. 5.1, 5.2, 5.3, Table 1, 2 & 3	Skein breaking load testing machine working on constant-rate-of-traverse (CRT) principle. Wrap-Reel - having a girth of l-372 m (1.5 yd) or 1 m and capable of reeling known length of yarn

		Yarn Tensioning Device Skein Gauge - a gauge for checking the length of the skein under a load of 0.5 gf/tex (5 mN/tex)
4	Lea breaking load, Cl. 5.1, 5.2, 5.3, Table 1, 2 & 3	Skein breaking load testing machine working on constant-rate-of-traverse (CRT) principle. Wrap-Reel - having a girth of l-372 m (1.5 yd) or 1 m and capable of reeling known length of yarn Yarn Tensioning Device Skein Gauge - a gauge for checking the length of the skein under a load of 0.5 gf/tex (5 mN/tex)
5	Yarn tenacity and Yarn tenacity CV, Cl. 5.1, 5.2, 5.3, Table 1, 2 & 3	A single-strand tensile testing machine working on one of the following principles: a) Constant-rate-of-traverse (CRT), b) Constant-rate-of loading (CRL), and c) Constant-rate-of-extension (CRE).
6	Breaking elongation, Cl. 5.1, 5.2, 5.3, Table 1, 2 & 3	A single-strand tensile testing machine working on one of the following principles: a) Constant-rate-of-traverse (CRT), b) Constant-rate-of loading (CRL), and c) Constant-rate-of-extension (CRE).
7	Unevenness and Unevenness CV, Cl. 5.1, 5.2, 5.3, Table 1, 2 & 3	Apparatus for determining the unevenness of linear density along the length of textile strands using capacitance measuring equipment (IS 16576)
8	Hairiness index, Cl. 5.1, 5.2, 5.3, Table 1, 2 & 3	Hairiness tester (Annex C of IS 3566)
9	Imperfections/km, Cl. 5.1, 5.2, 5.3, Table 1, 2 & 3	Apparatus for determining the unevenness of linear density along the length of textile strands using capacitance measuring equipment (IS 16576)
10	Conditioning	Conditioning chamber

ANNEX C

SCHEME OF INSPECTION AND TESTING

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 **RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT**:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: Entire quantity of viscose spun yarn of the same construction (single/multifold) made using the same method of spinning (Ring Spun/Airjet Spun/ Air Vortex spun) from the same consignment of viscose staple fibre under similar conditions in one day.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 **Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as "R" in Column 2 of Table 1)**, where different tests given in the specification shall be carried out in accordance with the method given in the specification**.** They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 **TEST RECORDS**- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. PACKING AND MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each carton/pallet of yarn provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per the Indian Standard.

3.2 **Additional Marking requirements**: The material shall also be marked with the following additional requirement on each carton/pallet of yarn:

a) "For BIS certification details please visit www.bis.gov.in"

4. REJECTION - Non-conforming material shall be clearly identified and labeled as "rejection" and it shall be segregated and stored separately by manufacturers in India. Such rejected material shall be disposed of suitably by manufacturers in India in such a way so as to ensure that there is no violation of provisions of BIS Act,2016 and the applicable Quality Control Order. Appropriate records of such rejection shall be maintained.

TABLE 1
(ONLY FOR GUIDANCE PURPOSE)

(1)				(2)	(3)		
Test Details				**Test equipment requirement R: required (or) S: Sub- contracting permitted**	**Levels of Control**		
Cl.	**Requirement**	**Test Methods Clause Reference**			**No. of Sample**	**Frequency**	**Remarks**
4	General requirements (fibre and visual requirements of yarn)		IS 17266 IS 3566	R	One	Each consignment	No testing required for ISI marked viscose staple fibre
5.1 & Table 1	**Requirements of 100 Percent Viscose Airjet Yarn (Single Yarn)**						
i.	Count		IS 1315	R	6 bobbins	Each control unit	
ii.	Count CV		IS 1315	R	6 bobbins	Each control unit	
iii.	CSP		IS 1671	R	6 bobbins	Each control unit	
iv.	Lea breaking load CV		IS 1671	R	6 bobbins	Each control unit	
v.	Yarn tenacity		IS 1670	S	6 bobbins	Once in a month	
vi.	Yarn tenacity CV		IS 1670	S	6 bobbins	Once in a month	
vii.	Breaking elongation		IS 1670	S	6 bobbins	Once in a month	
viii.	Unevenness		IS 16576	S	6 bobbins	Once in 15 days	
ix.	Unevenness CV		IS 16576	S	6 bobbins	Once in a 15 days	
x.	Hairiness index	Annex C	IS 3566	S	6 bobbins	Once in three months	
xi.	Imperfections/km,		IS 16576	S	6 bobbins	Once in 15 days	

5.2 & Table 2	**Requirements of 100 Percent Viscose Ring Spun Yarn (Single Yarn)**						
i.	Count		IS 1315	R	6 bobbins	Each control unit	
ii.	Count CV		IS 1315	R	6 bobbins	Each control unit	
iii.	Twist per metre		IS 832 (Part 1) or IS 832 (Part 2)	R	6 bobbins	Each control unit	
iv.	CSP		IS 1671	R	6 bobbins	Each control unit	
v.	Lea breaking load CV		IS 1671	R	6 bobbins	Each control unit	
vi.	Yarn tenacity		IS 1670	S	6 bobbins	Once in a month	
vii.	Yarn tenacity CV		IS 1670	S	6 bobbins	Once in a month	
viii.	Breaking elongation		IS 1670	S	6 bobbins	Once in a month	
ix.	Unevenness		IS 16576	S	6 bobbins	Once in 15 days	
x.	Unevenness CV		IS 16576	S	6 bobbins	Once in 15 days	
xi.	Hairiness index	Annex C	IS 3566	S	6 bobbins	Once in three months	
xii.	Imperfections/km,		IS 16576	S	6 bobbins	Once in 15 days	
5.3 & Table 3	**Requirements of 100 Percent Viscose Air Vortex Yarn (Single Yarn)**						
i.	Count		IS 1315	R	6 bobbins	Each control unit	
ii.	Count CV		IS 1315	R	6 bobbins	Each control unit	
iii.	CSP		IS 1671	R	6 bobbins	Each control unit	
iv.	Lea breaking load CV		IS 1671	R	6 bobbins	Each control unit	

v.	Yarn tenacity		IS 1670	S	6 bobbins	Once in a month	
vi.	Yarn tenacity CV		IS 1670	S	6 bobbins	Once in a month	
vii.	Breaking elongation		IS 1670	S	6 bobbins	Once in a month	
viii.	Unevenness		IS 16576	S	6 bobbins	Once in 15 days	
ix.	Unevenness CV		IS 16576	S	6 bobbins	Once in a 15 days	
x.	Hairiness index	Annex C	IS 3566	S	6 bobbins	Once in three months	
xi.	Imperfections/km,		IS 16576	S	6 bobbins	Once in 15 days	
5.4	**Multifold Yarns (Single yarn used to make multifold yarn)**						
5.4.2	Average resultant count of the multifold yarn		IS 1315	R	6 bobbins	Each control unit	
5.4.3	Lea breaking strength CV percentage and CSP of multifold yarn		IS 1671	R	6 bobbins	Each control unit	
5.4.4	Ply twist in the multifold yarn		IS 832 (Part 1)	R	6 bobbins	Each control unit	
5.4.6	Hairiness index	Annex C	IS 3566	S	6 bobbins	Once in three months	