

**PRODUCT MANUAL FOR  
Fibre Ropes - Polypropylene Split Film, Monofilament and Multifilament (PP2) and  
Polypropylene High-Tenacity Multifilament (PP3) — 3-, 4-, 8- and 12-Strand Ropes  
According to IS 5175:2014/ISO 1346:2012**

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.	<b>Product</b>	:	IS 5175:2014/ISO 1346:2012
	<b>Title</b>	:	Fibre Ropes - Polypropylene Split Film, Monofilament and Multifilament (PP2) and Polypropylene High-Tenacity Multifilament (PP3) — 3-, 4-, 8- and 12-Strand Ropes
	<b>No. of amendments</b>	:	1
2.	<b>Sampling Guidelines</b>		
a)	<b>Raw material</b>	:	Declaration from the supplier of the material from which the rope is made to be obtained to designate it as PP2 or PP3.
b)	<b>Grouping Guidelines</b>	:	Please refer Annex - A
c)	<b>Sample Size</b>	:	10 meter
3.	<b>List of Test Equipment</b>	:	Please refer Annex - B
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer Annex - C
5.	<b>Possible tests in a day</b>	:	All tests can be done in a day after conditioning of samples
6.	<b>Scope of the Licence :</b>		
	Licence is granted to use Standard Mark as per IS 5175:2014/ISO 1346:2012 with the following scope:		
	<b>Name of the product</b>	Fibre Ropes - Polypropylene Split Film, Monofilament and Multifilament (PP2) and Polypropylene High-Tenacity Multifilament (PP3) — 3-, 4-, 8- and 12-Strand Ropes	
	<b>Type</b>	A/B/L/T	
	<b>Size</b>	Reference number (approximate diameter in mm)	
	<b>Material</b>	Split/Mono/Multi PP2/ High tenacity Multi PP3 Unspliced ropes/ropes with eye spliced terminations	

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**GROUPING GUIDELINES**

The standard specifies two kinds of material from which rope is made: PP2 (Split/Mono/Multi filament) and PP3 (High tenacity Multifilament). Further, these ropes may be unspliced or with eye-spliced termination.

The standard specifies four types of polypropylene ropes based on construction: Type A, B, L, T

Separate samples to be drawn for each kind of rope material (PP2, PP3) intended to be covered in the scope of licence. However, either unspliced or eye-spliced sample may be drawn for covering both unspliced and eye-spliced ropes in scope of licence.

Separate samples to be drawn for each type (construction) of rope (Type A, B, L, T) intended to be covered in the licence.

However, in case sample corresponding to higher reference number (diameter) is drawn for testing, scope may cover all lower reference numbers (diameter) as well

For example: If sample of rope material PP2 (Split or Mono or Multifilament) unspliced, type A, Reference number 6 is drawn for testing, scope of licence may cover fibre ropes of material PP2 (Split/Mono/Multi filament), Unspliced ropes and ropes with eye spliced terminations, Type A, Reference Numbers 4,5 and 6.

However, it shall be ensured that the manufacturer has got complete manufacturing as well as testing facilities for the sizes required to be covered in the scope of the licence.

During the operation of licences, samples of all varieties covered in the licence shall be drawn for testing in rotation.

**ANNEXURE B**

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**TEST EQUIPMENT**

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

Sr. No.	Test Equipment	Tests used in with Clause Reference
1.	Vernier Caliper (LC-0.1 mm, Range- 100 mm)	Diameter, Clause 6, (Table 1,2,3) Pitch or length of lay (Table 4, 5)
2.	Measuring Scale, measuring tape (LC – 1 mm, Range)	Linear Density, Clause 6 (Table 1,2,3), Pitch or length of lay (Table 4, 5)
3.	Weighing Balance (capable of weighing to an accuracy of 1%)	Linear Density, Clause 6 (Table 1,2,3)
4.	Constant rate of traverse type Tensile Testing Machine	Minimum Breaking Force (Table 1,2,3)
5.	Tension Device	Linear Density, Clause 6 (Table 1,2,3)
6.	Thermo Hygrometer	Linear Density, Clause 6 (Table 1,2,3)
7.	Air conditioner	Linear Density, Clause 6 (Table 1,2,3)

This is an indicative list for the purpose of guidance only and may not be taken as exhaustive

## ANNEXURE C

### PRODUCT MANUAL FOR Fibre Ropes - Polypropylene Split Film, Monofilament and Multifilament (PP2) and Polypropylene High-Tenacity Multifilament (PP3) — 3-, 4-, 8- and 12-Strand Ropes According to IS 5175:2014/ISO 1346:2012

#### 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 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 shall be incorporated on the labels attached at both ends of each coil of polypropylene rope provided always that the rope in each coil to which this mark is applied conform to every requirement of the specification. The standard mark shall also be marked on each package containing such ropes.

3.1 Marking, packaging, labeling, invoicing and delivery length shall be in accordance with ISO 9554. In addition, the following details shall be marked on labels affixed to each coil.

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

ii) BIS website details: [www.bis.gov.in](http://www.bis.gov.in)

**4. CONTROL UNIT** – The total quantity of rope of one type and one reference number manufactured from one type of material in a day from same batch of yarn shall constitute one 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 should 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. Any rejected material which is potentially re-salable be sheared or cut or deformed in such a manner that it cannot be used for any other purpose except re-melting. A separate record shall be maintained giving information on quantity and cast number/coil number/control unit number, as applicable, relating to all such rejections/defective/sub-standard material of the production not conforming to the requirements of the Specification and the method of its disposal. Such material shall in no case be stored together with that conforming to the Specification. The Standard Mark (if already applied) on rejected material should be defaced.

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**SCHEME OF INSPECTION AND TESTING**

**TABLE 1**  
**LEVELS OF CONTROL (Clause 5 of SIT)**

**TABLE 1**

(1)				(2)	(3)		(4)
TEST DETAILS					LEVELS OF CONTROL		
Clause	Requirements	Test Method		Test equipment requirement R: required (or) S: Sub-contracting permitted	No. of Samples	Frequency	REMARKS
		Clause	Reference				
5.1	Construction	5.2.1	IS 5175:2014	R	All ropes	Each control unit	
5.2	Manufacture, lay and delivery length		ISO 9554	R	All ropes	Each control unit	
6.0	Linear Density	6	IS 5175:2014	R	Three ropes	Each control unit	
6.0	Minimum breaking force	6	IS 5175:2014	R	Three ropes	Each control unit	

Note-1: 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.