



उत्पाद मैनुअल
AGRO TEXTILES-SHADE NETS FOR AGRICULTURE & HORTICULTURE PURPOSES - SPECIFICATION
IS 16008(part-1):2016 के अनुसार

PRODUCT MANUAL
FOR AGRO TEXTILES-SHADE NETS FOR
AGRICULTURE & HORTICULTURE PURPOSES - SPECIFICATION –
PART-1 SHADE NET MADE FROM TAPE YARNS.
ACCORDING TO IS 16008(part-1):2016

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में अभ्यास और पारदर्शिता के संचालन में 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 16008(part 1):2016
	शीर्षक Title	:	Agro Textiles-Shade Nets for Agriculture & Horticulture Purposes -Specification - Part-1 Shade Net Made From Tape Yarns
	संशोधनों की संख्या No.of amendments	:	1
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	HDPE Tape/Fabric shall conform to Cl. 4 of IS 16008 (Pt.1)
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Each Type to be tested. However, if coloured shade nets are to be included in the licence, sample of coloured shade nets shall be tested
c)	नमूने का आकार Sample Size	:	3 HDPE Tape Yarn Bobbin of 100 metres, Full width X 3metre shade net.

3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX – <u>A</u>
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer ANNEX – <u>B</u>
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	All the tests mentioned in the IS except Retention of breaking strength after UV Exposure and Colour fastness to artificial light are possible to be carried out in a day.		
6.	लाइसेंस का दायरा /Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 16008(part1):2016 with the following scope:		
	Name of the product	Agro Textiles-Shade Nets for Agriculture & Horticulture Purposes - Part-1 Shade Net Made From Tape Yarns	
	Type	Type I(50 shade percentage)/Type II(75 shade percentage)/Type III (90 shade percentage)	
	Coloured shade nets (optional)	Including or excluding coloured shade nets	

ANNEX A

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	Width of the Tape Cl 4.1	Steel Rule / Vernier 0.1mm LC
2	Linear Density Cl 4.1	Wrap reel, Weighing Balance with least count 0.1mg, Drying Woven.
3	Tapes – Heat Shrinkage (HDPE) (Cl. 4.1.1 and IS 6192)	Heat shrinkage test apparatus with water bath, specimen holder and lead in wire 6 T
4	Colour Fastness to Artificial Light (Sl. No iv of Table 1 and IS 2454)	Xenon Arc lamp test apparatus, Geometric grey scale.
5	Mass(Cl 6.1 & SL No. 1 of Table 1)	Weighing Balance, Steel Scale
6	Retention of Breaking Strength after U.V Exposure Sl. No iii of Table 1, Annex B of IS 16008 part-1 & IS 1969(part1):2018	Test Chamber with Fluorescent UV lamps Type B with irradiance level 0.63W/m ² with facility for heating and condensation, Tensile testing machine CRE type
7	Average Breaking Strength of Fabric (Sl. No ii of Table 1 & IS 1969(part1):2018	Tensile testing machine CRE with facility to record/indicate force and separation
8	Bursting Pressure Sl. No v of Table 1 & IS 1966(part-1):2009	Bursting Tester, Non ionic Wetting Agent
9	Shading Percentage Sl. No vi of Table 1 & Annex C of IS 16008(pt1):2016	Shade-O-Meter consisting a chamber with arrangement of light source, Filters, Sample Holder and sensor.
10	Conditioning of Sample where ever required	Humidity Chamber

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

ANNEX B

**SCHEME OF INSPECTION AND TESTING FOR CERIFICATION OF AGRO TEXTILES — SHADE NETS
FORAGRICULTURE AND HORTICULTURE PURPOSES — SPECIFICATION PART 1 SHADE NETS MADE
FROM TAPE YARNS ACCORDING TO
IS 16008 (PART1) : 2016**

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.

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. PACKING AND MARKING—The Standard Mark, as given in the Schedule of the licence, shall be marked on the shade nets rolls/bundles or on a label attached to each shade net roll/bundle, provided always that material so marked conform to requirements of the specification.

Packing and Marking shall be done as per the provisions of the Indian Standard. In addition, the following shall be incorporated on each net roll/bundle or on a label attached to each shade net roll/bundle:

- i) BIS Licence Number CM/Land
- ii) BIS website details i.e. “For details of BIS certification please visit www.bis.gov.in”.

4. CONTROL UNIT – For the purpose of this scheme, all the shade nets rolls/bundles of same type having the same manufacturing parameters and manufactured under similar conditions in a day shall constitute a Control unit.

5. LEVELS OF CONTROL - The tests as indicated in Table 1 and at the levels of control specified therein, shall be carried out on the whole production of the factorywhich is covered by this scheme and appropriate records and charts maintained in accordance with paragraph 2 above.

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.

Table 1 Levels of Control

(1)				(2)	(3)		
Test Details				Test equipment requirementR: required (or) S: Sub-contracting permitted	Levels of Control		
Clause		No. of Sample			No of Samples	Frequency	Remarks
		Clause	Reference				
4.1	HDPE Tapes	4.1	IS 16008 (Part 1)	S	Four samples	Every 8 hours of production or part thereof	Sample from different machines is to be taken (See Note 3)
4.1.1	Tape width	4.1		R			
	Linear Density	4.1		R			
	Heat Shrinkage at 60°	4.1.1		R			
	Heat Shrinkage at 95C°	4.1.1		R			
4.2	Fabric	4.2	-do-	R	One samples	-do-	Sample from different knitting machines is to be taken
4.3	Colour	4.3	-do-	R	Each roll/bundle	-	-
6.1	Dimensions	-	IS 1954	R	-do-	-	-
6.2 and Table 1	Requirements						-
	i) Mass	-	IS 1964	R	Two samples	Each Control Unit	-

	ii) Breaking strength before UV exposure Warp way and weft way	-	IS 1969 (Pt 1)	R	Two samples each of warp and weftway	-do-	-
	iii) Retention of breaking strength after UV Exposure	Annex B	IS 16008 (Part 1) IS 1969(Part 1)	R	Two	Once in 15 days	-
	iv) Colour fastness to artificial light (Applicable to coloured shade nets only)	-	IS/ISO 105-B02 : 2014*	S	Two	Once in Six months	-
	v) Bursting pressure	-	1966 (Part 1) or IS 1966 (Part 2)	R	Two	Every control unit	-
	vi) Shading percentage	Annex C	IS 16008 (Part 1)	R	Two	-do-	-

* IS/ISO 105-B02 : 2014 has Superseded IS 2454

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 empaneled 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 to BO head.

Note –3: If material is purchased, conformity of purchased lot (consignment) to IS 16008 (Part 1) shall be established either by supplier test certificate/test report issued by laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau/ in-house testing of each lot. Record(s) of such certificate(s)/test reports/in-house tests shall be maintained.