



वस्त्रादी –उच्च घनत्व पॉलीइथलीन मोनोफिलामेंट (एचडीपीई)
एकतंतु के गोल जाली वाली मच्छरदानी का कपड़ा
IS 10054 : 2025 के अनुसार

PRODUCT MANUAL
FOR Textiles — High Density
Polyethylene (HDPE) Monofilament
Mosquito Netting, Round Mesh
ACCORDING TO IS 10054 : 2025

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, 2025 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification.

1.	मानक संख्या IS No.	:	IS 10054: 2025
	शीर्षक Title	:	Textiles — high density polyethylene (HDPE) monofilament mosquito netting, round mesh — specification
	संशोधनों की संख्या No. of amendments	:	NIL
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Raw material shall be in accordance with clause 3.1 of IS 10054: 2025. Conformity of materials to the requirement of the specification may be established through either of the following or a combination of the same: Test report from a laboratory recognized by the Bureau/ Government laboratories empanelled by the Bureau/NABL accredited laboratories; Material supplier's test certificate; In house factory test report. Note: This section indicates the requirements for raw material (if

		specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance.
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	: NIL
c)	नमूने का परिमाण Sample Quantity	: Full width × 5 Metre of netting +100 Metre of Monofilament Yarn + 100g of the HDPE granules used in manufacture. 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 the required quantity of product sample, as far as possible since raw material sample may not be available in market).
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	: - Name of the product - Width Note: Apart from the above, any other requirements/ parameters may also be declared as per the standard, as applicable.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	: Please refer Annex –A
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	: Please refer Annex - B
5.	एक दिन में संभावित परीक्षण Possible tests in a day	
	All tests are possible to be carried out in a day except colour Fastness. 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 10054 : 2025 with the following scope:	
	Name of the product	Textiles — high density polyethylene (HDPE) monofilament mosquito netting, round mesh — specification.

ANNEX – A

LIST OF TEST EQUIPMENTS
(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl. No.	Tests used in with Clause Reference	Test Equipment/Chemical
1	Density of the HDPE material, Clause 3.1	Pycnometer, Thermometer, Constant temperature Bath, Analytical balance, immersion vessel, stationary support, wire, sinker, liquid bath, density gradient column, glass floats, siphon
2	Melt flow rate (MFR), Clause 3.1	Extrusion Plastometer, Cylinder, Standard Die, Piston, Temperature control system, timing device, Level, Go/No-Go Gauge, Funnel, Packing tool, Spatula, Balance, Weight Support, Die Plug, Micrometer
3	Uniformity of filament and freedom from defects, Clause 3.1 & 3.2	Inspection table, magnifying glass, vernier caliper, micrometer
4	Linear density of filament, Clause 4.1 & Table 1	Crimp tester / wrap reel, steel scale, weighing balance (Least Count- 1mg)
5	Number of holes per cm ² , Clause 4.1 & Table 1	Template: a) A metal plate of about 0.5 mm thickness with a square hole of 2 cm × 2 cm cut accurately in the centre. or b) A rigid transparent plastic sheet with a square of 2 cm × 2 cm marked in the centre, counting glass, flat surface of contrasting colour
6	Mass, Clause 4.1 & Table 1	Horizontal, flat smooth table • Graduated steel scale • Weighing Balance (Accuracy of 0.005g) • Cutting die (square & round)
7	Bursting strength, Clause 4.1 & Table 1	Bursting strength tester
8	Width & Length, Clause 4.1 & Table 1	Calibrated rule (least count-1mm), Measuring table

Sl. No.	Tests used in with Clause Reference	Test Equipment/Chemical
9	Colour fastness to light (change in colour), Clause 4.1 & Table 1	As per IS/ISO 105-B01: Exposure rack/ Xenon arc lamp fading apparatus with specimen holders, Opaque cardboard, Grey scale for assessing change in colour, in accordance with ISO 105-A02, blue wool references Xenon arc lamp fading apparatus with specimen holders As per IS/ISO 105-B02: Blue wool reference materials 1 to 8 OR Blue wool reference materials L2 to L9, Humidity-test control fabric, Laboratory exposure devices (Light source, temperature sensor, humidity, Covers, colour matching lamps, Assessment cabinet, Sample mounting card, Assessment mask, Grey scale for assessing change in colour, complying with ISO 105-A02)
10	Colour fastness to washing, test 2 — change in colour and staining, Clause 4.1 & Table 1	Suitable mechanical laundering device as per clause 4.1 of IS/ISO 105-C10, Balance (accurate to $\pm 0.01\text{g}$), Mechanical stirrer (min. speed-1000 rpm), Non-corrodible (stainless) steel balls, means of heating the soap solution, Soap, Sodium carbonate, Grade 3 water, Adjacent fabrics, Non-dyeable fabric, Grey scales or spectrophotometer
11	Identification of Polyethylene, Clause 4.3	Micro-burner, Stop Watch, Compound microscope (100X to 500X), dissecting needles, glass slide in a suitable mounting medium, cover glasses and a cross sectioning device, Cuprammonium Hydroxide Solution, Sulphuric Acid — 80 percent (m/m), Nitric Acid, Acetone, Phenol — 90 percent (m/m), m-Cresol
12	Conditioning of samples	Humidity chamber

ANNEX – C

SCHEME OF INSPECTION AND TESTING

1. QUALITY ASSURANCE PLAN

1.1 It is expected that during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) 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 (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: All the rolls/bundles of mosquito netting of a particular width and shade, produced from the same lot of HDPE monofilament yarn under similar manufacturing conditions in a day.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

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.

2. ENSURING COMPLIANCE THROUGH TESTING- manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

2.1 TEST RECORDS- The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made available for inspection by BIS.

3. PACKING AND MARKING - The Standard Mark as given in the Schedule of the license shall be marked or printed on each roll or bundle of mosquito netting, 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:** Additionally, the following shall also be marked on each roll or bundle of mosquito netting:

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

4. REJECTION - The production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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
(Recommended Levels of Control By BIS- for Guidance Only)

(1)				(2)		
Test Details				Recommended Levels of Control		
Cl.	Requirement	Test Methods		No. of Sample	Frequency	Remark
		Clause	Reference			
3.1	Yarn	--	IS 7328	One		
3.1	Density of the material	--	-do-	One		
3.1	Melt flow rate (MFR)	--	-do-	One		
4.3	Identification of polyethylene	--	IS 667	One		
3.2	Netting — shade	3.2	IS 10054	One		
4.1 & Table 1	Linear density of filament	4.1	IS 3442	One		
-do-	Number of holes	-do-	IS 10054	One		
-do-	Mass	-do-	IS 1964	One		
-do-	Bursting strength	-do-	IS 1966 (Part 1)	One		
-do-	Width	-do-	IS 1954	One		
-do-	Length	-do-	-do-	One		
4.2 & Table 2	Colour fastness to light (change in colour)	4.2	IS/ISO 105-B01 or IS/ISO 105-B02	One	Once in every six months or	
-do-	Colour fastness to washing, test 2 (change in colour and staining)	-do-	IS/ISO 105-C10	One	Whenever there is change in raw material supplier	