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उत्पाद मनअल

Textiles - High density polyethylene (HDPE)/ polypropylene (PP) leno woven sacks for packaging and storage of fruits and vegetables - Specification

IS 16187 : 2014 के अनुसार

PRODUCT MANUAL FOR

Textiles - High density polyethylene (HDPE)/ polypropylene (PP) leno woven sacks for packaging and storage of fruits and vegetables - Specification

ACCORDING TO IS 16187 : 2014

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 16187 : 2014
	शीर्षक Title	:	Textiles - High density polyethylene (HDPE)/ polypropylene (PP) leno woven sacks for packaging and storage of fruits and vegetables - Specification
	संशोधनों की संख्या No. of amendments	:	01
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Raw materials i.e. HDPE/PP granules and colour masterbatch granules shall conform to requirements as per Cl. 3.1 HDPE/PP tape and fabric shall conform to the requirements of Cl. 3.2 of IS 16187:2014. Stitching thread shall conform to the requirements of Cl. 3.3.2 of IS 16187:2014 Conformity of raw materials to the requirements of the standard may be established through test certificate of the supplier, test report of third

			party lab or any other accredited lab or in house testing or combination thereof. (no testing required if material is ISI Marked)
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer ANNEX – A
c)	नमूने का आकार Sample Size	:	30 woven sacks + 3 HDPE/PP tape bobbin of 100 meters each + approx. 100 m stitching thread + 3 kg raw material granules + 1 kg colour masterbatch + 50 gram UV stabilizer (raw material shall not be drawn as part of factory and market samples)
d)	Sampling during surveillance		During operation of licence, in a year, 1 factory sample and 1 market sample shall be tested for all requirements of the standard and 1 factory sample and 1 market sample shall be tested for all requirements except tests after UV exposure (raw material shall not be drawn as part of factory and market samples)
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX – B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	Dimensions, Ends and Picks, Average breaking strength of fabric, Breaking strength of bottom seam, Mass of Fabric		
6.	लाइसेंस का दायरा /Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS IS 16187 : 2014 with the following scope:		
	Name of the product	Textiles - High density polyethylene (HDPE)/ polypropylene (PP) leno woven sacks for packaging and storage of fruits and vegetables	
	Material	High Density Polyethylene (HDPE) or Polypropylene (PP)	
	Type	I (25 kg nominal capacity) or II (50 kg nominal capacity)	
	Variety	With/ without pigmented tapes, with/ without UV stabilization	

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar
Marg, New Delhi – 110002

Annex A

Grouping Guidelines

1. The Standard covers the following classification of Leno sacks -

- a) Material: High Density Polyethylene (HDPE) or Polypropylene (PP)
- b) Type (based on nominal capacity): I (25 kg capacity) or II (50 kg capacity)
- c) Variety with pigmented (coloured) tapes/ without pigmented (coloured) tapes, with UV stabilization/ without UV stabilization

The manufacturer shall declare the material, type and variety they intend to cover in the Licence.

2. Considering the above,

i) Sample of leno sacks made from **each type of material** (HDPE and /or PP) shall be tested.

ii) Sample of **each type (based on nominal capacity)** i.e. Type I (25 kg capacity) and II (50 kg capacity) shall be tested.

iii) To cover variety **with pigmented (coloured tapes)**, sample of product made from pigmented (coloured tapes) shall be tested (coloured tapes shall be manufactured using colour masterbatch conforming to the material properties requirements as specified in IS 9833). If sacks with pigmented (coloured) tapes/ UV stabilization are tested, sacks without pigmented (coloured) tapes/ UV stabilization may also be covered in the scope

iv) Similarly, to cover variety **with UV stabilization**, sample of product with UV Stabilization shall be tested (The leno woven fabric or sacks made out of UV stabilized material shall have at least 50 percent of the original breaking strength when tested after exposure to UV radiation as per the method given in Annex B).

3. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the manufacturer.

4. During the operation of Licence, it shall be ensured that all the varieties covered in the Licence are tested in rotation, to the extent possible.

ANNEX B**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	Tapes – Width and Thickness (Cl. 3.2 and IS 6192/IS 11197)	Steel Rule / Vernier 0.1mm LC, Spring Loaded dial micrometer of 0.001mm LC & 140kN/m ² pressure
2	Tapes – Linear Density Cl. 3.2 and IS 6192/IS 11197)	Weighing Balance 0.1mg accuracy, Drying Oven, Wrap Reel
3	Tapes – Tenacity and elongation - Cl. 3.2 and IS 6192/IS 11197)	Tensile testing machine with constant rate of extension, suitable clamps and facility to measure elongation
5	Tapes – Heat Shrinkage (HDPE) Cl. 3.2 and IS 6192/IS 11197)	Heat shrinkage test apparatus with water bath, specimen holder and lead in wire
6	Tapes – Colour Fastness for pigmented tapes (Cl. 3.2 and IS 6192/IS 11197)	Xenon Arc lamp test apparatus, Geometric grey scale
7	Tapes – Dimensional stability (PP) Cl. 3.2 and IS 6192/IS 11197)	Air circulating Oven
8	Mass of bale (Cl. 3.3.4), Capacity (S No (i) of Table 1)	Weighing Scale
9	Dimensions [Cl. 3.3.4 and Table 1]	Scale, Flat smooth table
10	Ends per dm [Cl. 3.3.4 and Table 1]	Pick glass
11	Picks per dm [Cl. 3.3.4 and Table 1]	Pick glass
12	Mass of fabric [Cl. 3.3.4 and Table 1]	Weighing Balance 5mg accuracy, Steel Scale, Flat smooth table
13	Average breaking strength of fabric [Cl. 3.3.4 and Table 1]	Tensile testing machine CRE with facility to record/indicate force and separation
14	Breaking strength of bottom seam [Cl. 3.3.4 and Table 1]	Tensile testing machine with suitable clamps, stop watch, scale
15	UV Resistance ([Cl. 4.2]	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
16	Conditioning of sample (Cl. 6)	Conditioning Chamber to maintain 27±2°C, 65±2% humidity

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

ANNEX C

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 and implement 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 incorporated legibly and indelibly on each bale provided always that the material so marked conforms to each requirement of the specification.

3.1 The bales shall also be marked with the following:

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

4. CONTROL UNIT – For the purpose of this scheme, entire quantity of leno woven sacks of the same type and variety and made from the same consignment of material under similar conditions of manufacture in a 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 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 requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
3.1 to 3.3	Raw Material (HDPE/PP granules and tapes and colour masterbatch granules)	3.1 to 3.3	IS 16187	S	01	Each Consignment	Raw materials i.e. HDPE/PP granules and colour masterbatch granules shall conform to requirements as per Cl. 3.1 HDPE/PP tape and fabric shall conform to the requirements of Cl. 3.2 of IS 16187:2014. Stitching thread shall conform to the requirements of Cl. 3.3.2 of IS 16187:2014 Conformity of raw materials to the requirements of the standard may be established through test certificate of the supplier, test report of third party lab or any other accredited lab or in house testing or combination thereof. (no testing required if material is ISI Marked)

3.2	Fabric and Tape						
	Width and Thickness	5.2 & 5.3	IS 6193	R	05	Each control unit (if manufactured in house) / Each consignment (if procured from outside).	
	Linear Density	3.2	IS 16187	R	05	-do-	
	Weaving Pattern of fabric	3.2	IS 16187	R	Manufacturer shall ensure adequate inspection/in process control to ensure that weaving pattern is in accordance with leno weave with low weave density as specified in the standard		
3.3	Sacks						
3.3.1	Seam	3.3.1	IS 16187	R	05	Each control unit	Manufacturer shall ensure adequate inspection/in process control to ensure that sacks are in accordance requirements as specified in the standard
3.3.2	Stitching Thread	3.3.2	IS 16187	R	05	Each control unit	
3.3.3	Mouth	3.3.3	IS 16187	R	05	Each control unit	
3.3.4	Bag dimensions	3.3.4	IS 16187	R	05	Each control unit	
4.1	Sack Specifications						
4.1 & Table 1	i)Dimensions		IS 1954	R	30 sacks	Each control unit	Manufacturer shall ensure adequate inspection/in process control to ensure that sacks are in accordance requirements as specified in the standard
	ii) Mass of fabric		IS 1964	R	30 sacks	Each control unit	
	iii) Ends per dm		IS 1963	R	30 sacks	Each control unit	

	iv) Picks per dm		IS 1963	R	30 sacks	Each control unit	
	v) Average breaking strength of fabric		IS 1969 (part 1)	R	05	Each control unit	
	vi) Breaking strength of bottom seam		IS 9030	R	05	Each control unit	
4.2	UV resistance	Annex B	IS 16187	S	01	Once in 6 months	Applicable for leno bags made from UV stabilized HDPE/PP
4.3	Mass of bale	Annex C	IS 16187	R	Each Bale	Each bale packed	

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.

Note-3: One consignment of material is defined as all material of one defined type and quality, delivered to the manufacturer by one supplier according to one dispatch note.