



उत्पाद मानुयल
समग्रियों के परिवहन के लिए पॉलीइथाइलीन धारक
6312 : 1994 के अनुसार

PRODUCT MANUAL FOR
POLYETHYLENE CONTAINERS FOR THE TRANSPORT OF MATERIALS
ACCORDING TO IS 6312 : 1994

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरण के प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग 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 6312 : 1994
	शीर्षक Title	:	समग्रियों के परिवहन के लिए पॉलीइथाइलीन धारक Polyethylene containers for the transport of materials
	संशोधन संख्या No. of Amendments	:	दो : 02
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	LDPE / HDPE resin, Black Master Batch / Colour Master Batch shall be conforming to Cl 5.1 of IS 6312. Material for packaging of food products shall conform to IS 10146.
b)	समूहिकरण दिशा निर्देश Grouping guidelines	:	कृपया Annex-ए देखें Please see Annex – A
c)	नमूने का परिमाण Sample Size	:	10 Nos
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	कृपया Annex-बी देखें Please see Annex – B

4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	कृपया Annex-सी देखें Please see Annex – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day :		
	i. Brimful Capacity ii. Workmanship & Finish iii. Closure Leakage iv. Pressure tightness -Air pressure -Hydraulic pressure		
6.	लाइसेन्स का कार्यक्षेत्र/Scope of the Licence :		
	IS 6312 : 1994 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है “Licence is granted to use Standard Mark as per 6312 : 1994 with the following scope:		
	उत्पाद का नाम Name of the product	समग्रियों के परिवहन के लिए पॉलीइथाइलीन धारक Polyethylene containers for the transport of materials	
	प्रकार Types	1 and / 2A and/ 2B and / 3 and / 4A and/ 4B and/ 5	
	वर्ग Class	वर्ग एल व वर्ग एस Class L and / Class S	
	नाममात्र छमता Nominal Capacity	5 से 220 लीटर 5 to 220 litres	

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

ANNEX – A
TO PRODUCT MANUAL
FOR POLYETHYLENE CONTAINERS FOR THE TRANSPORT OF MATERIALS
ACCORDING TO IS 6312 : 1994

Grouping Guidelines

1. Polyethylene Containers for transport of materials as per IS 6312 : 1994 are classified as given below:

Types	1 / 2A / 2B / 3 / 4A / 4B / 5
Nominal Capacity	5 to 220 litres
Class	Containers suitable for Solid/ semi-solids (S) / Containers suitable only for Liquid (L)

2. For considering GoL/CSoL, Polyethylene Containers for transport of materials are grouped as given below,

Group A	Type 1 / 2A / 2B / 3
Group B	Type 4A / 4B / 5

3. In Group A, if a Polyethylene Container sample of Type 1 is tested, all the other types may be considered for GoL/ CSoL and if type 2A is tested 2A, 2B & 3 may be considered for GoL/CSoL.
4. A sample of preferably highest nominal capacity from the varieties applied for GoL/CSoL may be tested and Separate sample shall be tested for Class S and L.
5. The Firm shall declare the varieties intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing and testing capabilities of the Manufacturer.
6. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

ANNEX – B

TO PRODUCT MANUAL FOR POLYETHYLENE CONTAINERS FOR THE TRANSPORT OF MATERIALS ACCORDING TO IS 6312 : 1994

LIST OF TEST EQUIPMENTS

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

Sl. No.	Test used in With Clause Reference	Test Equipments
1	Density Clause 5	- Digital Balance with holding attachment - Distilled water-Butyl Acetate - Hydrometer - Glass beaker of 250 ml capacity - Thermometer - Air conditioner - Heated press (Steam and Electrical)
2	Melt Flow Rate Clause 5	- Melt flow rate Apparatus with digital temperature controller and timer and load of 5 kgf
3	Carbon Black Content & Carbon Black Dispersion Clause 5	- Furnace to accommodate the combustion tube with digital temperature controller - Combustion boats made of porcelain or silica, having minimum dimensions of 75 mm length, 9 mm width & 8 mm height - Combustion tube made of hard glass of approximately 30 mm diameter and 400 ± 50 mm length - Nitrogen gas Cylinder with flow meter for controlling flow of nitrogen within 1.7 ± 0.3 litres per minute. - Analytical balance or equivalent, capable of weighing to the nearest 0.1 mg - Desiccator, Trichloroethylene & solid carbon dioxide - Fume Hood - Hot plate-Projection Microscope with 100/200 times magnification - Glass Slides & Metal Shims
4	Brimful Capacity Clause 6 (Annex B)	- Weighing balance to determine the mass of the container to an accuracy of 1 g. - Rigid transparent Plastic disc with a slot big enough to completely cover the neck face of the container. - Thermometer - Measuring cylinder
5	Stacking test Clause 8.2 (Annex C)	- Room with Air Conditioner and temperature indicator - Water for Class L / Granular Solid for Class S
6	Closure Leakage test Clause 8.3 (Annex D)	- Water for Class L / Granular Solid for Class S - Stop Watch

7	Drop Test Clause 8.4 (Annex E)	- Arrangements for Drop Test from 1.2 m & 1.8 m as per Cl E-2.1 (a) to (g) of IS 6312 - Flat concrete Surface, - Deep Freezer,
8	Pressure Tightness Test Clause 8.5 (Annex F)	- Air Compressor with regulator - Pressure gauge - Rubber plug / Screw Cap for sealing mouth of container - Water bath (or) - Hydrostatic Pressure testing apparatus with pressure gauge - Rubber plug / Screw Cap for sealing mouth of container
9	Hydrostatic Test Clause 8.6 (Annex G)	- Hydrostatic Pressure testing apparatus with pressure gauge - Rubber plug / Screw Cap for sealing mouth of container - Hot Water bath
10	Handle Strength Test Clause 8.7 (	- Handle Testing Machine as per Annex – H of IS 6312
11	Top Load Resistance Test (Clause 8.8)	- Room With Air Conditioner and temperature indicator - Flat surface for Top load Test - Weights / Suitable arrangement for loading calculated force - Vernier Caliper / Scale
12	ESCR Test (Clause 8.9)	- 0.5% aqueous solution of polyoxyethylated nonylphenol (Teepol B 300) - Air Controlled oven at 60 deg C (or) Test liquid tank at 80 deg C - Magnifying Glass

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

ANNEX - C

SCHEME OF INSPECTION AND TESTING

FOR POLYETHYLENE CONTAINERS FOR THE TRANSPORT OF MATERIALS ACCORDING TO IS 6312 : 1994

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. LABELLING AND MARKING – The Standard Mark as given in the Schedule of the license shall be Stencilled/Printed on each Container provided always that the container to which this mark is thus applied conforms to every requirement of the specification.

3.1 Each container shall be legibly and indelibly marked with the following information:

- a) Indication of the source of manufacture;
- b) Nominal capacity of the container in litres;
- c) Classification i.e. Type and Class;
- d) Batch No. or code No., if any
- e) “Made from Food-grade plastics material” in case of packaging of food stuffs
- f) BIS Licence Number (CM/L.....)
- g) BIS website details i.e. for details of BIS certification please visit www.bis.gov.in

3.2 For ECO-Mark product, the additional requirements specified in IS 6312 under Cl 9 “Additional Requirements for Eco-Mark” shall be followed.

4. CONTROL UNIT – For the purpose of this scheme, one day’s production of containers of the same Capacity, Type & Class, produced continuously from the same batch of raw materials 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					Levels of Control		
Clause	Requirements	Test Method Cl. Ref.	Test Method IS	Test equipment requirement R: required (or) S: Sub-contracting permitted	No. of Samples	Frequency	Remarks
5	HDPE Grade PE BAW A40-T003 / A45-T003/ A50-T003 / A40-T006/ A45-T006 / A50-T006 or PE BAN A45-T003 / A50-T003 / A45-T006	-	IS 7328	S	One	Every Batch of Resin	Samples may be got tested in a BIS recognized lab before a batch is taken up for processing. No testing is required in case the material is accompanied by a test certificate from the manufacturer or if the material is ISI marked.
	Carbon Black Content	10	IS 2530	S	One	-do-	
	Carbon Black Dispersion	Annex B	IS 7328	S	One	-do-	
6	Brimful Capacity	Annex B	IS 6312	R	One	Each Control Unit	Defective pieces shall be rejected
7	Workmanship & Finish	-	IS 6312	R	Every Container		Please see Note 1 below
8.2	Stacking Test	Annex C	IS 6312	R	One *	Every 30 th Control Unit	Each type and class of container to be tested in rotation.
8.3	Closure Leakage test	Annex D	IS 6312	R	One	Each Control Unit	-do-
8.4	Drop test	Annex E	IS 6312	S	Six	Once in Three Months	Please see Note 1 below
8.5	Pressure Tightness Test:						
	- Air Pressure	Annex F	IS 6312	R	Each Container		Production form each mould shall be covered in each Control Unit
	- Hydraulic Pressure	Annex F	IS 6312	R	One	Each Control Unit	In case containers manufactured from more than one mould, tests shall

							be carried out on a sample of container from each mould's production
8.6	Hydrostatic Test	Annex G	IS 6312	R	One	Every 5 th Control Unit	In case of failure, one sample from each control unit shall be tested till five consecutive control unit passes Please see Note 1 below
8.7	Handle Strength test	Annex H	IS 6312	R	One	Every 5 th Control Unit	Each type and class of container to be tested by rotation.
8.8	Top Load Resistance	Annex J	IS 6312	R	One	Every 5 th Control Unit	-do-
8.9	Environmental Stress Crack Resistance	Annex K	IS 6312	S	one	Once in Three Months	Please see Note 1 below

* Number of containers in a sample can be decided as per the requirement of height applicable as per Annex C of IS 6312.

Note-1: Please refer Table 1 of IS 6312 for the tests applicable for different type (s) of containers.

Note-2: 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-3: 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.