



उत्पाद मैनुअल
Styrene-Butadiene Rubber Latex — Specification
Part 2 Carboxylated

IS 11356 (Part 2) : 2023 के
अनसार

PRODUCT MANUAL
FOR Styrene-Butadiene Rubber Latex — Specification
Part 2 Carboxylated
ACCORDING TO IS 11356 (Part 2) : 2023

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 11356 (Part 2) : 2023
	शीर्षक Title	:	Styrene-Butadiene Rubber Latex — Specification Part 2 Carboxylated
	संशोधनों की संख्या No. of amendments	:	NIL
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	NA
c)	नमूने का आकार Sample Size	:	2 litres

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		
6.	लाइसेंस का दायरा /Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 11356 (Part 2) : 2023 with the following scope:		
	Name of the product	Styrene-Butadiene Rubber Latex - Carboxylated	

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN,9, BAHADUR SHAH ZAFAR MARG,
NEW DELHI-110002

ANNEX – A

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests Used In With Clause Reference	Test Equipment	Chemicals
	Total Solid, Percent (Clause 3.1 Table 1) IS 9316 (Part 4) / ISO 124	Flat-bottomed dishes, lipless, of diameter approximately 60 mm Analytical balance with accuracy 0.1 mg. Pipette 1 ml Glass Rod Desiccator Ovens, capable of being maintained at 70 °C ± 5 °C, 105 °C ± 5 °C, or at another selected temperature between 100 °C and 160 °C accurate to ±5 °C/ Vacuum Oven	
	pH at 25 °C (Clause 3.1 Table 1), IS 9316 (Part 6)	pH-meter with temp indicator (with accuracy 0.01 pH) Combined electrode Magnetic stirrer and magnetic bar Thermometer (1 °C) dry glass or inert plastic vessel Electrode holder	Buffer solution, of nominal pH 7, Buffer solution, of nominal pH 4, Buffer solution, of nominal pH 9 Reference electrolyte (potassium chloride + silver chloride) Distilled Water
	Surface Tension, Dynes/cm, at 25 °C, (Clause 3.1 Table 1), IS 9316 (Part 1) / ISO 1409	Tensiometer (Du Noüy type), with a platinum or platinum-iridium alloy ring of either 60 mm or 40 mm nominal circumference / Tensiometer (Wilhelmy type), with a flat, thin plate made of platinum or platinum-iridium alloy Glass dish or vessel, of 50 cm ³ capacity Pipette Filter Paper Bunsen or ethanol lamp Thermostatic bath gas burner or Bunsen	Distilled water, carbon-dioxide-free Toluene, of recognized analytical purity
	Specific Gravity (Clause 3.1 Table 1), IS 3104 (Part 2)	Hydrometer Hydrometer Vessel	Distilled Water

		Thermometer with 0.1 °C accuracy loop stirrer	
	Residual Styrene, percent by mass (Clause 3.1 Table 1), IS 4511 (Part 3)/ ISO 13741-1	<u>IS 4511 (Part 3)</u> Dean and Stark-Distillation Apparatus(capacity 500-ml) Iodine Flask - 250-ml capacity Weighing Balance Burette Flask with stopper Stop Watch funnel lip/vapour seal Pipette Arrangement for cooling solution to 27±2 degree <u>ISO 13741-1</u> Gas Chromatograph as per Cl 6 of the ISO Carrier gas Nitrogen, helium of hydrogen Micro syringe Analytical balance Volumetric flasks	<u>IS 4511 (Part 3)</u> Methanol Reagent (containing 100 mg/kg p-tert butyl catechol or an equivalent polymerization inhibitor) Standard Potassium Bromide Potassium Bromate Solution (potassium bromate + potassium bromide) Sulphuric Acid Solution - 18 percent(m/m). Potassium Iodide Solution - 10percent (m/m) Standard Sodium Thiosulphate Solution - 0.1 N Starch Indicator Solution <u>ISO 13741-1</u> Propionitrile (internal Standard) Dimethyl formamide Tetra hydrofuran Certified Reference material
	Brookfield Viscosity, mPa.s, SP.1, 12 RPM/ SP2, 12 rpm at 25°C, (Clause 3.1 Table 1), IS 9316 (Part 2) / ISO 1652	Viscometer as per IS 9316 (Part 2) Spirit level or Bubble level Glass Beaker of min 85 mm dia, capacity min 600 ml Rectangular Bar of 9.5 mm x 3.0 mm Water Bath (1 °C accuracy) Glass Rod/Stirrer Screen with aperture approx 500 µm Stop watch	
	Average particle size, nm, (Clause 3.1 Table 1), IS 101 (Part 10/Sec 1) / ISO 22412	<u>IS 101: Part 10: Sec 1</u> Instrument for determination of PSD (monochromatic light source [laser], photo detectors) Preparation of Sample (a rotating riffler) Dispersion gases <u>ISO 22412</u> Optical apparatus for Dynamic Light Scattering	<u>IS 101: Part 10: Sec 1</u> Dispersants (wetting agents; stabilizers) and/or mechanical forces (agitation; sonication) Dispersion liquids dry powder feeder and a disperser

		Dispersion of particles by procedures like sonication, filtration, etc	
	Coagulum content, percent by mass, (Clause 3.1 Table 1), IS 9316 (Part3) / ISO 706	Test Filter (SS wire cloth with aperture width $180 \pm 10 \mu\text{m}$ / 80 mesh sieve) Two SS rings (ID between 25 mm to 50mm) Beaker (min 600 ml)Oven Desiccator Filter Paper Weighing Balance Stop Watch	Water Soluble Ethoxylated AlkylPhenol (5 percent m/m) Distilled Water Litmus paper

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

ANNEX B

SCHEME OF INSPECTION AND TESTING

1. **LABORATORY-** A laboratory shall be maintained, which shall be suitably equipped (as given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the method given in the specification.

1.1 The manufacturer shall prepare and implement a calibration plan for the test equipment.

2. **TEST RECORD-** The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. **PACKING AND MARKING** – When material is supplied in containers, the Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each container of the product provided always that the material so marked conforms to each requirement of the specification. Marking shall be done as per Cl. 4.2.

3.1 However, when material is supplied in tankers or bulk packaging, the Standard Mark as given in Schedule of the licence shall be incorporated on a test certificate to be provided along with each consignment of the product as per the format at **Appendix-1** enclosed, provided always that the product thus marked conforms to all the requirement of the specification.

3.3 In addition, the following shall be marked on each container and/or the test certificate:

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

5. **CONTROL UNIT-** For the purpose of this scheme, entire quantity of the product manufactured in single batch shall be taken as one control unit.

6. **LEVELS OF CONTROL :-** The tests as indicate in Table 1 and at the levels of controls in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and records maintained in accordance with paragraph 2 above.

6.1 All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark.

7. **REJECTION -** 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.

TABLE1
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or)S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods Clause Reference			No. of Sample	Frequency	Remarks
3.1, Table 1	Total Solid, percent		IS 9316 (Part 4)	R	One	Each control unit	
3.1, Table 1	pH at 25 °C		IS 9316 (Part 6)	R	One	Each control unit	
3.1, Table 1	Surface Tension, Dynes/cm, at 25 °C		IS 9316 (Part 1)	S	One	Once in three months	
3.1, Table 1	Specific Gravity		IS 3104 (Part 2)	R	One	Each control unit	
3.1, Table 1	Residual Styrene, percent by mass		IS 4511 (Part 3)	R	One	Each control unit	
3.1, Table 1	Brookfield Viscosity, mPa.s, SP.1, 12 RPM/ SP2, 12 rpm at 25°C		IS 9316 (Part 2)	R	One	Each control unit	
3.1, Table 1	Average particle size, nm		IS 101 (Part 10/Sec 1)	S	One	Once in three months	
3.1, Table 1	Coagulum content, percent by mass		IS 9316 (Part 3)	R	One	Each control unit	

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.

Appendix-1
TEST CERTIFICATE
XYZ COMPANY (REGISTERED OFFICE ADDRESS AND WORKS ADDRESS)

TEST CERTIFICATE FOR STYRENE-BUTADIENE RUBBER LATEX PART 2
CARBOXYLATED

TEST CERTIFICATE NO.

DATED

SUPPLIED TO M/s (Name and Address of Consignee)

It is certified that the material described below fully conforms to IS 11356 (Part 2) : 2023.
The properties of the product, as tested in accordance with the Scheme of Inspection and Testing contained in the BIS Certification Marks License No. CM/L are as indicated below against each order no. etc.

(PLEASE REFER TO IS 11356 (Part 2) : 2023 FOR DETAILS OF SPECIFICATION
REQUIREMENTS)
TEST RESULTS

Order no and date	Name of the material	Test	Requirement	Observed value	Control Unit/ Batch Number	Month and Year of manufacture	Quantity	Remarks
		Total Solid, percent						
		pH at 25 °C						
		Surface Tension, Dynes/cm, at 25 °C						
		Specific Gravity						
		Residual Styrene, percent by mass						
		Brookfield Viscosity, mPa.s, SP.1, 12 RPM/ SP2, 12 rpm at 25°C						
		Average particle size, nm						
		Coagulum content, percent by mass						

The material supplied conforms to specified requirements of IS 11356 (Part 2) : 2023.

REMARKS:

Tank Car / Tank Truck / Container ship no.

MATERIAL SUPPLIED BY

Signature:

Name and Address of manufacturer:

Recognized Trade Mark if any:

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