



उत्पाद मैनुअल
आई एस 15636: 2022 के अनुसार
स्वचलन वाहन – व्यवसायिक वाहनों के लिए वातिल टायर- आड़ी और रेडियल प्लाई
के लिए

दस्तावेज संख्या – पी एम/आई एस 15636/4/नवम्बर 2025

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिश्रिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसी द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

PRODUCT MANUAL FOR

**PNEUMATIC TYRES FOR COMMERCIAL VEHICLES -
DIAGONAL AND RADIAL PLY
ACCORDING to IS 15636:2022**

Document No.- PM/IS 15636/4/November 2025

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.

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1.	Product	:	IS 15636: 2022
	Title	:	AUTOMOTIVE VEHICLES- PNEUMATIC TYRES FOR COMMERCIAL VEHICLES – DIAGONAL AND RADIAL PLY
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	---
b)	Grouping guidelines	:	Each type of Tyre as per the approved Family of Tyres according to Clause 6.2.5.2 of IS 15636:2012 shall be tested for GoL/CSOL. If a Tubeless Tyre version is approved, Tube version for the same Tyre Designation may also be covered in the Scope of Licence based on the Manufacturing/Testing capabilities of the Manufacturer.
c)	Sample Size	:	2 Tyres (as per Table 34 of IS 15636:2022). Also see Item 5 below.
3.	List of Test Equipment	:	Please refer ANNEX – A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – B
5.	Possible tests in a day :		
	Please refer ANNEX – C		
6.	Scope of the Licence :		Please refer ANNEX – C

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ANNEX A**List of Test Equipment***Major test equipment required to test as per the Indian Standard*

Sl. No.	Test Equipment	Tests used in with Clause Reference
1	i. Pressure Gauge ii. Steel Tape iii. Pie Tape iv. Vernier Caliper v. Thermo Hygrometer vi. Measuring Rim	Dimensions (Cl. 4.1)
2	i. Tyre Drum Testing Machine ii. Load iii. Test Drum iv. Pressure Gauge v. Test Rim	Load/Speed Performance Test (Cl. 4.3)
3	i. Tyre Drum Testing Machine ii. Load iii. Test Drum iv. Pressure Gauge	Endurance Test (Cl. 4.2)
4	i. Pressure Gauge ii. Depth Gauge	Tread Wear Indicators (Cl. 4.4)
5	i. Tyre Strength Test Machine ii. Pressure Gauge iii. Cylindrical Steel Plunger iv. Linear Scale v. Test Rim	Tyre Strength Test (Plunger Test) (Cl. 4.5)

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

ANNEX B

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan 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 defining the control unit i.e. Batch and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with **para 2.4** below.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.2 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. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in-house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer, and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in-house as “R” or other tests which can be sub-contracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1), where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 TEST RECORDS- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. LABELLING AND MARKING – As per the requirement of IS 15636:2022. The Standard Mark, as given in the Schedule of the licence, shall be marked on each Tyre provided always that the product thus marked conforms to all the requirement of the specification.

In addition, the licence no. CM/L-_____ and details of BIS website shall be marked at an appropriate place on product or package as follows: “For details of BIS certification please visit www.bis.gov.in”. Alternatively, a sticker or bead spacer or the like may be affixed on the tyre to provide details of BIS website as above.

4. RAW MATERIAL CONTROL – All the incoming raw materials shall be tested and proper records maintained before releasing material for production. Alternatively, the raw material shall be accompanied by the test certificate of the supplier. Recommended list of various raw materials is given in Annex I.

5. PROCESS CONTROL – The frequency of inspection and parameters shall be according to the approved plant quality audit programme. The recommendatory areas of manufacturing given in Annex II may be covered in this programme. During each stage, the given parameters and equipment set up shall be controlled, audited and recorded.

6. REJECTION - All the production which conforms to the Indian Standard and covered under scope of the licence shall be marked with 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

(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
4.1	Tyre Dimensions	Annex A Table 6 to 28	IS 15636	R	One	Once in three months for each variety	In case of failure in any requirement, marking shall be suspended, reasons for failure investigated and corrective actions taken. Double the number of samples indicated shall then be tested and marking and original frequency may be restored only if both the samples pass.
4.2	Endurance Test	Annex B Table 29	IS 15636	S	One or more	Once in three months	
4.3	Load/Speed Performance Test	Annex C	IS 15636	S	One or more	Once in three months	
4.4	Tread Wear Indicators	4.4	IS 15636	R	Three	Once in three months for each variety	
4.5	Tyre Strength (Plunger Test)	Annex D Table 30 to 33	IS 15636	R	One or more	Once in three months	
5	Marking	5.1 to 5.4 Annex E & F	IS 15636	R	Each Tyre		No. of samples may be drawn and tested as per clause 4.2, 4.3 and 4.5 in such a way that all varieties of tyres manufactured are covered once in two years.
6	Type Approval / Type Test	6.1 to 6.3, Table 34 and Annex ‘G’	IS 15636	R	As per Table 34	Each Family of Tyre	At the time of initial approval or whenever there is any change in already approved family of tyres.

ANNEX I**RAW MATERIAL CONTROL****(Clause 4.1 of SIT)**

Sl No	Item	Tests
1	Natural Rubber	a) Visual inspection b) Moisture content c) Ash content d) Dirt content e) Viscosity
2	Synthetic Rubber	a) Moisture content b) Ash content c) Viscosity d) Compound testing
3	Lattices	a) Contents b) Viscosity c) TSC
4	Carbon Black	a) Moisture content b) Ash content c) DBP value d) Iodine number e) Sieve residue
5	Activators	a) Moisture content b) Sieve residue c) ASSAY d) Ash content e) HCL insoluble f) Acid number
6	Vulcanising Agents	a) Melting point b) Acetone insoluble c) Specific gravity d) Softening point e) Solubility
7	Process Oil	a) Aniline point b) Viscosity c) Specific gravity
8	Tyre Cord	a) Warp sheets i) Breaking strength ii) Percentage elongation iii) Twist iv) Moisture content b) Nylon square woven fabric i) Strip and grab ii) Adhesion strength iii) EPI
9	Bead Wire	a) Breaking strength b) Percentage elongation c) Torsion d) Bend test e) Adhesion f) Copper coating
10	Solvent	a) Specific gravity b) Distillation range

ANNEX II**PROCESS CONTROL****(Clause 4.2 of SIT)**

Area	Parameters to be controlled
Compounding	Ingredient weights
Mixing	Time/Temperature or Energy, Sequence
Dip Preparation	Ingredient weights, time, temperature sequence
Dipping	Temperature, stretch/tension, speed/time, width
Extrusion	Stock identification, temperature, width, dimensions
Calendering	Stock/fabric identification, temperature, width, gauge
Bead making	Stock/wire identification, diameter, No. of strands, No. of turns
Stock preparation	Stock identification, width, angle
Tyre building	Component identification, sequence
Tyre curing	Time, temperature/pressure, sequence
Final Inspection	Every tyre shall be visually examined for defects and appearance
<u>In process Testing</u>	
COMPOUND	
Final Batch	Specific Gravity Rapid Modulus Rheometer Test Physical Properties
DIP SOLUTION	
Final	Total solids pH value
DIPPED FABRIC	
Tyre Cord warp sheet	Breaking strength Percentage Elongation Adhesion & Dip pick up
Sq. woven nylon fabric	E.P.I. Strength Adhesion and dip pick up
CALENDERED FABRIC	
Tyre cord warp sheet	E.P.I. Gauge Sq. metre weight
Sq. woven fabric	Gauge Sq. metre weight

ANNEX C

Possible Tests in a Day

1. Marking,
2. Tyre Strength Test (Plunger Test),
3. Load/Speed Performance Test
4. Tread Wear Indicators

Note:

During surveillance inspection, all possible tests shall be carried out in the factory. A Factory sample shall also be drawn for independent testing during surveillance inspection. No Market samples shall be drawn.

ANNEX D**Scope of the Licence**

Licence is granted to use Standard Mark as per IS 15636:2022 with the following scope:

Name of the Product	Pneumatic Tyres for Commercial Vehicles
Application Category	
Construction Type	
Structure	
Tyre Size Designation	
Speed Category	
Use of Tube (Tube or Tubeless)	
Load Index (or Load Capacity)	
Ply Rating of diagonal ply tyres	
Carcass Material	