



PRODUCT MANUAL FOR BICYCLE RIMS ACCORDING TO IS 624:2025

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.

1.	Product	:	IS 624:2025
	Title	:	BICYCLE RIMS
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	As per clause 6 of IS 624: 2025
b)	Grouping guidelines	:	Please refer ANNEX- <u>A</u>
c)	Sample Size	:	Two pair of Rims (Both front and rear)
3.	List of Test Equipment	:	Please refer ANNEX – <u>B</u>
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – <u>C</u>
5.	Possible tests in a day:		a) Shape and dimensions (Cl. 5) b) Manufacture (Cl. 8) c) Finish (Cl. 11.1) d) Compression test (Cl. 10)
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 624:2025 with the following scope:		
	Name of the product		Bicycle Rims
	Profile		
	Material		
	Nominal diameter code		
	Nominal width code		
7.	Any other product specific guidelines		Please refer <u>ANNEX-D</u> on Guidelines on sharing of manufacturing facilities between BIS licensees for carrying out certain specific manufacturing activities

ANNEX A

GROUPING GUIDELINES

- 1) Bicycle Rims covered under IS 624: 2025 can be classified on the basis of the following:
 - a) **Profile:**
Steel: Beaded Edge (BE)/ Straight Side (SS)/ Hooked Bead (HB)/ Hooked Edge (HE)/ Crotchet (C)
Aluminium alloy: Tubeless straight side (TSS)/ Tubeless Crotchet (TC)/ Single wall (SW)/ Double wall (DW)/ Triple wall (TW).
 - b) **Nominal Diameter Code & Nominal Width Code**
 - c) **Material:** Steel/ Aluminium alloy
- 2) Sample of highest nominal diameter of any nominal width, for each profile type and each material shall be tested to cover Rims of all nominal width for that particular type and material for nominal diameter up to and including the diameter of tested Rim.
- 3) The Firm shall declare the Varieties of Rims they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
- 4) During the operation of license, it shall be ensured that all varieties covered in the license are tested in rotation, to the extent possible.

ANNEX C**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.	Shape & Dimensions(Cl. 5, Table 1 to 13), Manufacture (Cl. 8)	1. Micro meter 2. Vernier caliper 3. Valve hole gauges 4. Circumference tapes 5. Spoke hole gauges 6. Feeler gauge 7. Radius gauges 8. Measuring tape 9. Angle gauge
2.	Finish (Cl. 9)	1. Coating Thickness tester 2. Salt spray test setup, 3. Hygrometer 4. Air Pressure gauge 5. Bench Vice & File, Chemicals 1. Copper sulphate 2. Ferric chloride 3. Hydrochloric acid 4. Antimony trioxide 5. Sodium chloride
3.	Compression test (Cl. 10)	Compression test setup as per Fig. 14
4.	Physical test (Cl. 11.1)	Steel Ball and test set up as per Cl. 11.1
5.	Chemical test (Cl. 11.2)	a) Mild Steel Tank with rubber lining b) Thermocouple c) Temperature Controller d) Common salt solution e) Stop Watch f) Salt spray chamber and appropriate salt solution

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

ANNEX C**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 **Control Unit/Batch No.:** For the guidance of manufacturers, the recommended definition of Control Unit/Batch is quantity of Bicycle rims of same profile type, same nominal dia, same nominal width and of same material manufactured under identical conditions in a week.

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

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. 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.

1.5 In case of supplying the semi-finished product under agreement between 2 manufacturers (both holding BIS license for this product), guidelines given in **Annex D** of this Manual shall be followed.

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~~ ^{ANNEX-C} 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. Please refer ANNEX-C also regarding guidelines on Sharing of manufacturing facilities between BIS licensees for carrying out certain specific manufacturing activities.

3. LABELLING AND MARKING – As per the requirements of IS 624: 2025. In addition, each Rim shall carry Batch number or code number for traceability on it or its package. The Standard Mark, as given in the Schedule of the licence, shall be marked on each Rim provided always that the frame 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 Rim or its package, as follows: “For details of BIS certification please visit www.bis.gov.in”.

4. 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 (Recommended levels of control- For guidance only)

(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				
6	Material			S			
6.1	Steel						
6.1 6.1.1 5.3	i. Ultimate tensile strength ii. Yield stress iii. Elongation iv. Flatness v. Thickness		IS 513-1 IS 1608 IS 1599		One	Each consignment	No further testing is required if the material is ISI Marked or accompanied with a test certificate.
6.2	Aluminum Alloy						
	i. Tensile strength ii. Yield strength iii. Elongation iv. Hardness v Joining pin		IS 1285		One	Each consignment	

5	Shapes and Dimensions						
5	Shape and dimensions	3.1, 3.2, 3.2.1, 3.2.2 Table 1 to 6, Fig.1 to 4	IS 624	R	Firm should exercise adequate control so that whole production should meet the requirements. Appropriate records shall be maintained		
8	Manufacture	8.1 to 8.5	IS 624	R			
10	Compression test	9.2	IS 624	R	One	Each Control Unit	
9	Finish						
	Appearance	7.1	IS 1068	R	All finished rims		
	Thickness of coating	9.1	IS 1068	R	One	All the rims electroplated together in every shift	In case of failure of the sample, one rim from every batch electroplated in that shift may be tested and only those batches found conforming may be remarked.
	Adhesion of coating	9.2	IS 1068	R	One	All the rims electroplated together in every shift	
9, 11.2	Salt spray test for Corrosion resistance and Dip Coating test	9.3	IS 1068 IS 6009 IS 6910	S	One	Once in 6 months	Testing shall be done in such a way that at least one sample of Rim of each profile type and of each material, which are manufactured in six months are tested
11.1	Ball drop test	11.1	IS 624	S	One	Once in a month	Testing shall be done in such a way that at least one sample of Rim of each profile type and of each material, which are manufactured in one month are tested

NOTE-1: In case of agreement between 2 manufacturers (holding BIS license for this product) for supplying the semi-finished product, then the supplier licensee will carry out all tests as per Cl. 5,6, 8, and 10 of IS 624. Receiver licensee will carry out all tests as per SIT in his factory and bear the responsibility for the final quality of the product dispatched and sold with BIS Standard Mark. Please refer ANNEX-D of this Manual for details.

ANNEX-D

Guidelines on sharing of manufacturing facility between BIS licensee manufacturers for carrying out certain specific manufacturing activities for Bicycle Rims as per IS 624: 2025

Definitions:

- a) Pre- Painting stages:** Manufacturing processes including Cutting, Forming and welding of Sheets, Punching of Spoke and Valve Holes, etc. till the stage from where the surface preparation for finishing operation starts.
- b) Painting stages:-** Manufacturing processes including Surface preparation, phosphating, painting/powder coating/electroplating and final labeling and marking.
- c) Supplier licensee:-** Licensee who shares his pre-painting facility and supplies semi-finished goods (up to Pre-painting stages) to another licensee (called Receiver licensee) for painting operations.
- d) Receiver licensee:** Licensee who carries out painting activities on semi-finished goods received from another licensee (called Supplier licensee).

Guidelines:

If two or more than two BIS licensees agree among themselves to share their manufacturing facilities for Pre-painting and Painting stages among each other, then the same may be permitted, subject to fulfillment of the following:

- i) All such manufacturers who intend to share the facilities, shall have BIS licence for Bicycle Rims as per IS 624: 2025.
- ii) The product shall be marked with BIS Certification Marks licence no. of the receiver licensee.
- iii) Information for all such semi-finished products shall be submitted by both supplier as well as receiver licensee to BIS. List of consignees along with details of goods shall be submitted by supplier licensee on quarterly basis to BIS. The receiver licensee shall also submit the list of all suppliers with details of goods received to BIS on quarterly basis.
- iv) There shall be proper record maintenance of all such semi-finished products indicating quantity, Batch No./ Date of manufacturing, date of supply and receipt etc. both at supplier as well as receiver licensee end. Records of in-process inspections shall be maintained. The supplier licensee will carry out all tests as per Cl. 5, 6, 8 and 10 of IS 624. Receiver licensee will carry out all tests as per SIT in his factory and bear the responsibility for the final quality of the product dispatched and sold with BIS Standard Mark.
- v) In case of failure of products or complaints on quality of products, actions as per BIS Rules shall be taken against the receiver licensee as the product is to be marked with his licence number and he bears the onus for final quality of the product