



PRODUCT MANUAL FOR BICYCLE –MUDGUARDS ACCORDING TO IS 6218:2025

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 6218:2025
	Title	:	BICYCLE – MUDGUARDS
	No. of Amendments	:	One
2.	Sampling Guidelines:		
a)	Raw material	:	As per clause 4 of IS 6218:2025 <i>In case material as below is used, following conformity shall be ensured:</i> • Steel- CR1 grade of IS 513 (Part 1) • Plastic material- IS 7078 <i>for material made of recycled plastic, minimum % of virgin material to be used</i>
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	Two pairs for Steel Mudguards; Three pairs for Synthetic resin or plastic mudguards
3.	List of Test Equipment	:	Please refer <u>ANNEX – B.</u>
4.	Scheme of Inspection and Testing	:	Please refer <u>ANNEX – C.</u>
5.	Possible tests in a day :		
	i) Manufacture, Workmanship and Finish (Clause 5) ii) Warping Test (Clause 6.1) iii) Cold resistant test- For synthetic resin or plastic mudguards only (Clause 6.3) iv) Physical test for finish- (Clause 6.4.1)		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 6218:2025 with the following scope:		
	Name of the product	Bicycle Mudguards	
	Type of bicycle in which mudguard will be fitted	➤ Young adult bicycles, ➤ City and trekking, ➤ Roadster, ➤ Sports light roadster (SLR) bicycles,	

		➤ Mountain bicycles, ➤ Racing bicycles, ➤ Electrically power-assisted (EPAC) bicycles
	Material	Steel/ Aluminium alloy/ Reinforced polymer/ Titanium alloy/ Magnesium alloy/ Synthetic resin/plastic (<i>to be declared by manufacturer</i>)
	Based on location:	Front/Rear
7.	Any other Product Specific guidelines	Please refer ANNEX-D on Guidelines on sharing of manufacturing facilities between BIS licensees for carrying out certain specific manufacturing activities

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ANNEX - A
Grouping Guidelines

1. Bicycles Mudguards as per IS 6218:2025 can be classified into different varieties on the basis of following parameters:

a) **Type of bicycle** in which mudguard will be fitted:

- Young adult bicycles,
- City and trekking,
- Roadster,
- Sports light roadster (SLR) bicycles,
- Mountain bicycles,
- Racing bicycles,
- Electrically power-assisted bicycles (EPAC)

Grouping based on types of bicycle:

Group 1	Group 2
➤ Young adult bicycles, ➤ City and trekking, ➤ Roadster, ➤ Sports light roadster (SLR) bicycles, ➤ Mountain bicycles, ➤ Racing bicycles <i>as per IS 10613</i>	Electrically power-assisted bicycles (EPAC) <i>as per IS 19035 (Part 1)</i>

b) **Material :**

Steel/ Aluminium alloy/ Reinforced polymer/ Titanium alloy/ Magnesium alloy/
Synthetic resin/plastic (to be declared by manufacturer)

c) Based on location: Front/Rear

2. Considering the above, following sampling guidelines shall be followed for Grant of Licence/Change in Scope of Licence:

- a) Mudguard of each group of cycle type as above, shall be tested separately.
- b) Material of Mudguard shall be declared by the manufacturer. Mudguard made of each material shall be tested separately.
- c) Mudguard of any type (based on location of installation) may be tested to cover both types.

3. Manufacturer shall declare all varieties of Mudguards intended to be covered in scope of licence. Scope of the licence shall be restricted based on the manufacturing and testing facilities available.

4. During the operation of the licence, samples of each variety covered in the scope of licence, shall be 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.	Dimensions as per <i>clause 5.1</i>	a) Vernier Caliper b) Micrometer c) Scale
2.	Warping Test as per <i>clause 6.1</i>	a) Surface Plate b) Scale
3.	Strength test as per <i>Clause 6.2</i>	Test set up as per Cl. 6.2 of IS 10613 Test set up as per 4.3.11 of IS 19305 (Part 1). <i>as applicable</i>
4.	Cold resistant test (For synthetic resin or plastic mudguards only) as per <i>Clause 6.3</i>	Test set up as per Cl. 6.3, Fig. 3 of IS 6218
5.	Ball Drop Test as per <i>clause 6.1</i>	a) Solid Steel Ball b) Scale
	Chemical Test as per <i>clause 6.2</i>	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 during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) 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 (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT/BATCH:

1.3.1 **Control Unit/Batch No./Code No.:** For the guidance of manufacturers, the recommended definition of Control Unit is quantity of All Mudguards 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

Manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

2.1 TEST RECORDS — The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made available for inspection by BIS.

3. LABELLING AND MARKING

Labelling and Marking shall be done as per IS 6218 : 2025. The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each product, provided the product conforms to all applicable requirements of the Indian Standard.

3.1 Additional Marking Requirements: Additionally, the following shall also be marked on product or package:

- a) “For BIS certification details please visit www.bis.gov.in”

4. REJECTION

The production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the 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)		
Test Details				Levels of Control		
Cl.	Requirement	Test Methods		No. of Sample	Frequency	Remarks
		Clause	Reference			
4	Material	4	IS 6218 IS 513-1 IS 7078	One	Each Consignment	No further testing is required, if accompanied with test certificate or ISI marked
5	Manufacture, Workmanship and Finish	5	IS 6218	Firm should exercise adequate control so that whole production should meet the requirements. Appropriate records shall be maintained		
6.1	Warping test	6.1	IS 6218	One	Every Control unit	
6.2	Strength test	6.2	IS 6218 IS 10613 IS 19305-1	One	Once in six month	Testing shall be done in such a way that at least one sample of Mudguard for each type of bicycle and made from each material, which are manufactured in the six month period shall be tested
6.3	Cold staining test (For synthetic resin or plastic mudguard only)	6.3	IS 6218	One	Once in six month	Testing shall be done in such a way that at least one sample of Mudguard for each type of bicycle, which are manufactured in the six month period shall be tested
6.4	Tests for finish					
	Ball Drop Test	6.4.1	IS 6218	One	Every Control unit	
	Chemical Test	6.4.2	IS 6218	One	Once in six months	Testing shall be done in such a way that at least one sample of Mudguard for each type of bicycle, which are manufactured in the six month period shall be tested

Toxicity test (for items which come into intimate contact with the rider)	6.5	IS 6218 IS 10613	One	Once in six months	Testing shall be done in such a way that at least one sample of Mudguard for each type of bicycle, which are manufactured in the six month period shall be tested
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NOTE-1: In case of agreement between two 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. 4,5 (except 5.4) and 6 (except 6.4), as applicable, of IS 6218. 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 facilities between BIS licensees for carrying out certain specific manufacturing activities for Bicycle Mudguards as per IS 6218: 2025*****Definitions:**

- a) **Pre- Painting stages:** Manufacturing processes including Cutting, Forming of Sheet, etc. till the stage from where the surface preparation for finishing operation starts.
- b) **Painting stages:-** Manufacturing processes including Surface preparation, phosphating, painting 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 Mudguards as per IS 6218: 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. 4,5 (except 5.4) and 6 (except 6.4), as applicable, IS 6218. 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