



## PRODUCT MANUAL FOR VISOR FOR SCOOTER HELMETS ACCORDING TO IS 9973 : 1981

*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.	<b>Product</b>	:	IS 9973 : 1981
	<b>Title</b>	:	VISOR FOR SCOOTER HELMETS
	<b>No. of Amendments</b>	:	1
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	-
b)	<b>Grouping guidelines</b>	:	Not applicable
c)	<b>Sample Size</b>	:	5 Nos of visors and 1 helmet for all tests
3.	<b>List of Test Equipment</b>	:	Please refer <a href="#">ANNEX – A</a>
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer <a href="#">ANNEX – B</a>
5.	<b>Possible tests in a day :</b>	:	All tests
6.	<b>Scope of the Licence :</b>		
	“Licence is granted to use Standard Mark as per IS 9973 : 1981 with the following scope:		
	<b>Name of the product</b>		Visor for scooter helmets

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

<b>S. No.</b>	<b>Tests used in with Clause Reference</b>	<b>Test Equipment</b>
1	Materials (Clause 3)	- Salt spray chamber
2	Design (Clause 4)	- Vernier calliper - Steel scale
3	Impact Resistance (Clause 5.1)	- Test apparatus - Air conditioner - Steel spherical ball
4	Penetration Resistance (Clause 5.2)	- Test apparatus - Pointed project with 50 gm weight
5	Flammability (Clause 5.3)	- Burner - Bare copper wire 0.71 mm - Protractor - Stop watch Burner
6	Spherical and Cylindrical error (Clause 5.4.2) and , Prismatic error (Clause 5.4.3)	- Standard lenses - Telescope - Adjustable light source with condenser
7	Diffuse Transmittance (Clause. 5.4.4) and Light Transmittance (Clause 5.4.5)	- Haze meter - Integrating sphere
8	Field of visors (Clause 5.5.1)	- Head forms of various sizes - Helmet of various sizes - Load of 50 N - Angle protractor or gauge to check the angle
9	Mass (Clause 7)	- Weighing balance weights

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

**ANNEX B**

**Scheme of Inspection And Testing**

**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 equipment.

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

**3. LABELLING AND MARKING** – As per the requirements of IS 9973 : 1981.

**4. CONTROL UNIT** – Entire quantity of visors manufactured from same material under similar conditions in a day 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 Standard 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**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
3	Materials – Bolts for fixing	3.1	IS 9973 IS 4151	S	Two	Each consignment	No further testing is required if accompanied with the test certificate. However, random sample counter check may be carried out once in three months.
4	Design	4.1	IS 9973	R	Two	Each control unit	-
5.1	Impact Resistance	5.1	IS 9973	R	Two	Each control unit	-
5.2	Penetration Resistance	5.2	IS 9973	R	Two	Each control unit	-
5.3	Flammability Resistance	5.3 Annex- G	IS 9973 IS 2925	R	One	Each control unit	-
<b>5.4</b>	<b>Optical requirements</b>						
5.4.1	Distortion	5.4.1	IS 9973	R	Each piece	-	-
5.4.2	Spherical and Cylindrical error	5.4.2 Appendix A	IS 9973	R	Two	Each control unit	-
5.4.3	Prismatic Error	5.4.3 Appendix A	IS 9973	R	Two	Each control unit	-

5.4.4	Diffuse Transmittance	5.4.4	IS 9973	R	Two	Each control unit	-
5.4.5	Light Transmission	5.4.5	IS 9973	R	Two	Each control unit	-
5.5	Field of vision	5.5.1	IS 9973 IS 4151	R	One	Every seventh control unit	-
6	Workmanship and Finish	6.1	IS 9973	R	Each piece	-	-
7	Mass	7.1	IS 9973	R	Eight	Each control unit	-

Note-1: 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.