



PRODUCT MANUAL FOR AUTOMOTIVE VEHICLES – ELECTRIC HORNS ACCORDING TO IS 1884:1993

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 license/certificate.

1.	Product	:	IS 1884:1993
	Title	:	AUTOMOTIVE VEHICLES – ELECTRIC HORNS
	No. of Amendments	:	3
2.	Sampling Guidelines:		
a)	Raw material	:	---
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	9 nos
3.	List of Test Equipment	:	Please refer ANNEX – B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX –C
5.	Possible tests in a day :		a) Visual Examination and Dimensional Check b) High Voltage Test c) Current Draw Test d) Operating Voltage Range Test e) Sound Pressure Level Test
6.	Scope of the Licence :		Please refer ANNEX –D

ANNEX—A

GROUPING GUIDELINES

1. IS 1884:1993 covers Electric Horns for Automotive Vehicles which are classified into different varieties based on the following:
 - a) Rated Voltage and Supply
 - ac horn - 6 V, 12 V
 - dc horn – 6 V, 12 V, 24 V
 - b) Type (based on design)
 - Type 1
 - Type 2A
 - Type 2B
 - Type 3
 - c) Classification (based on environmental requirements)
 - Water Spray Proof
 - Water Sealed
2. Considering the above, the following grouping guidelines shall be followed for GoL/CSoL:
 - Separate samples of Electric Horn of any rated voltage, for each Type (based on design) and Classification (based on environmental requirements) shall be drawn and tested for all the requirements to cover all the rated voltages applicable for that particular Type and classification.
3. The Firm shall declare the Varieties of Electric Horns 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 - B**List of Test equipments**

Major test equipment required to test as per requirements of Indian Standard.

Sl. No.	Test Equipment	Tests Used in with Clause Reference
1.	Vernier Callipers, Height Gauge, Scale & Thread Gauge	Cl.8.2
2.	High voltage Tester	Cl. 8.3
3.	Voltmeter, Ammeter, Frequency Meter	Cl.8.4, 8.5, 8.6, 8.8, 8.9, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16
4.	Anechoic Room with Sound level Meter	Cl.8.6, 8.8, 8.9, 8.11, 8.12, 8.13, 8.14, 8.15 & 8.16
5.	Generator with tachometer for AC Horns	Cl 8.6, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16
5.	Humidity Chamber	Cl.8.7
6.	Megger / Ohm Meter (For Insulation Resistance)	Cl.8.7
7.	Endurance test Chamber with Cyclic on/off arrangements and ventilation with air current less than 10 m/s	Cl 8.8
8.	Vibration test Chamber with Frequency meter	Cl 8.9
9.	Salt Spray Chamber with Pressure gauge	Cl 8.10
10.	Dust Test Chamber with Blower Fan and Cement	Cl 8.12
11.	Chamber with Water spray and Arrangement for Sample revolution at the rate of 4 RPM.	Cl 8.14
12.	Water Tank with Scale and Timer	Cl 8.15
13.	Hot and Cold Chamber with Air Circulation arrangement	Cl 8.16
14.	Chamber with Temperature and Humidity Controller	Cl 8.13

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

ANNEX - C

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 1884:1993.

4. CONTROL UNIT – All electric horns of the same type and voltage rating manufactured 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 Standards 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	Levels of Control		
Clause	Requirements	Test Method		R: required (or) S: Sub-Contracting Permitted	No. of Samples	Frequency	Remarks
		Clause	Reference				
8.2	Visual Examination	8.2	IS 1884:1993	R	-	Each Electric Horn	---
8.4	Current Draw Test	8.4	IS 1884:1993	R	-	Each Electric Horn	
8.5	Operating Voltage Range Test	8.5	IS 1884:1993	R	-	Each Electric Horn	
8.6	Sound Pressure Level Test	8.6	IS 1884:1993	R	-	Each Electric Horn	
8.3	High Voltage Test	8.3	IS 1884:1993	R	10	Each Control Unit	
8.7	Insulation Resistance (Humid) Test	8.7.1	IS 1884:1993	S	1	Once in a month for each Type and Voltage rating	---
8.9	Vibration Test	8.9	IS 1884:1993	S	1		
8.10	Corrosion Resistance Test	8.10	IS 1884:1993	S	1		
8.11	Continuous Operation Test	8.11	IS 1884:1993	S	1		
8.8	Endurance Test	8.8	IS 1884:1993	S	3		

8.12	Dust Test	8.12	IS 1884:1993	S	1	Once in 6 Months for each Type and Voltage rating	---
8.13	Damp Heat (Cycling) Test	8.13	IS 1884:1993	S	1		
8.14	Water Spray Proof Test (if applicable)	8.14	IS 1884:1993	S	1		
8.15	Water Sealing Test (if applicable)	8.15	IS 1884:1993	S	1		
8.16	Temperature Stability Test	8.16	IS 1884:1993	S	1		

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.

ANNEX D**Scope of Licence**

“Licence is granted to use Standard Mark as per IS 1884:1993 with the following scope”:

Name of the product	Electric Horns
Type	Type 1 / Type 2A / Type 2B / Type 3
Voltage Rating	
Classification	Water Spray Proof / Water Sealed