



**PRODUCT MANUAL FOR
Pressure Sensitive Adhesive Insulating Tapes for Electrical Purposes -
Plasticized Polyvinylchloride Tapes with Non Thermosetting Adhesive
ACCORDING TO IS 7809(Part 3/Sec 1):1986**

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 Standard	:	IS 7809(Part 3/Sec 1):1986
	Title	:	Pressure Sensitive Adhesive Insulating Tapes for Electrical Purposes - Plasticized Polyvinylchloride Tapes with Non Thermosetting Adhesive
	No. of amendments	:	2
2.	Sampling Guidelines		
a)	Raw material	:	Log rolls IS 7809 (Part 1)
b)	Grouping Guidelines	:	Please refer Annex - A
c)	Sample Size	:	15 cut rolls for all tests
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	:	Measurement of width and length
6.	Scope of the Licence :		Please refer Annex - D

ANNEX A

Grouping Guidelines

1. The following aspects of pressure sensitive adhesive insulating tape shall be taken into consideration for grouping of different varieties of tapes for the purpose of GoL/ CSoL:
 - a. Declared thickness
 - b. Type/ Designation
 - c. Flammability- Flame retardant (FR) and Flammable
2. Tapes of each thickness, Type/ Designation and Flammability shall be tested.
3. The Firm shall declare the varieties of pressure sensitive adhesive insulating tape intended to be covered 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 the Licence, BO shall ensure that all the varieties covered in the Licence are 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.	Test Equipment	Tests used in with Clause Reference
1	Steel Scale, Vernier Callipers	Width- 3.2
2	Measuring Tape	Length- 3.3
3	Thickness Dial Gauge	Thickness- 3.4
4	Tensile Testing Machine	Tensile Strength- 4.1
5	Steel Test Plate	Adhesion to steel- 4.2
6	Roller	Adhesion to backing- 4.3
7	High Voltage Tester	Electric strength at room temperature- 4.4
8	HV test Jig	Electric strength after humid conditioning- 4.5
9	Humidity Chamber	Electric strength after humid conditioning- 4.5
10	Bunsen burner	Flammability- 4.6
11	Primer in the form of an isosceles triangle with base 25 mm and 30 mm high	
12	Draught protection device	
13	Stopwatch	Electric strength at room temperature- 4.4 Electric strength after humid conditioning- 4.5 Flammability- 4.6
14	Test device for determining electrolytic corrosion	Electrolytic corrosion- 4.7
15	DC source	Electrolytic corrosion- 4.7 Insulation Resistance test- 4.9
16	Insulation Tester	Electrolytic corrosion- 4.7
17	IR test Jig	Insulation Resistance test- 4.9
18	Conditioning Chamber	Electrolytic corrosion- 4.7 Stability to accelerated ageing- 4.8

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 equipments.

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 7809(Part 3/Sec 1):1986.

4. CONTROL UNIT – Tapes of one type, width and thickness manufactured under similar conditions from same consignment of raw material, in one shift shall constitute a control unit.

4.1 Whenever a licensee procures log rolls from outside sources and only the slitting of the log rolls to required sizes and the packing of individual rolls of tapes are undertaken, the log rolls of same type and thickness made from the same backing material and one lot of adhesive shall constitute a consignment.

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.

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	Remark
		Clause	Reference				
3.1	General requirements	4.1, 5.1 & 6.1	IS 7809(Part 1)	---	Each roll	#	
3.2 - 3.4	Dimensions	6.2-6.4	IS 7809(Part 1)	R	Three	Each control unit	
4.1	Tensile Strength	9	IS 7809(Part 2)	R	One		
4.2	Adhesion to steel	10.3.2		R	One		
4.3	Adhesion to backing	10.3.3		R	One		
4.4	Electric strength at room temperature	12		R	One		
4.9	Insulation resistance test	4 -	IS 8516, IS 2259	R	Three	Every 7 th control unit	
4.5	Electric strength after humid conditioning	13	IS 7809(Part 2)	R	One		
4.6	Flammability	6	IS 7809(Part 2)	R	One		
4.7	Electrolytic Corrosion	2 or 3	IS 8516	R	One		
4.8	Stability to accelerated ageing	App. A	IS 7809(Pt 3/ Sec 1)	R	One	Every 15 th control unit	
3.1	Storage life	7.1	IS 7809(Part 1)	R	5 rolls	Once in a year for each colour & thickness	
Requirements for Log Rolls							
3.1	Appearance and colour	4.1	IS 7809(Part 1)	R	Three	Each consignment of log rolls (not exceeding 100 rolls)	
3.1	Freedom from defects	5.1		R			
3.1	Core Diameter	6.1		R			
3.3	Length	6.3		R			
3.4	Thickness	3	IS 7809(Part 2)	R			
4.4	Electric strength at room temperature	12		R			
4.1	Tensile Strength	9		R			
4.6	Flammability	6		R			

No further testing is required if tested as part of requirement for log rolls.

Note-1: The 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. 7809(Part 3/Sec 1):1986 with the following scope:

Name of the Product	Pressure Sensitive Adhesive Insulating Tapes for Electrical Purposes
Type	General purpose type/ Low temperature application type
Grade	FR/ Non FR (Flammable)
Thickness	