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STANDARD SPECIFICATION NO. TM/HM/6/146 OF NT RUBBER PAD FOR USE WITH TRACK RELAYING TRAIN (TRT), MODEL P.811 S. (PROVISIONAL-1996)

1.0 This specification covers the requirement of NT Rubber Pads for use with Track Relaying Train (TRT) deployed on Indian Railways. Normally 972 nos. (594, 156 & 72 nos. for new sleeper conveyor chain No 1, 2 & 3 respectively and 150 Nos. for old sleeper conveyor chain) of NT Rubber Pads are required to be fixed with the conveyor chains for new sleepers near the gate meant for actual placement of sleepers on the ballast bed and for a small stretch of the conveyor meant for retrieving the old released sleepers. For dimensional details of the components covered by this specification, refer to RDSO's drawing no. TM/9606.

2.0 The specification may be treated as provisional subject to the modification based on service performance.

3.0 MATERIAL:

3.1 The rubber compound shall be based on the natural rubber compounded suitably so as to meet the physical characteristics of the rubber as stipulated under para 4.

4.0 PHYSICAL CHARACTERSTICS:

4.1	Hardness (shore `A')	:	60+5) -2)
4.2	Tensile strength (Kg/cm^2)	:	175 minimum
4.3	Elongation at break (%)	:	400 minimum
4.4	Change after aging at 70^0 Centigrade for 72 + 0) -2) hours		
4.4.1	Hardness (shore `A')	:	+3 - 0
4.4.2	Tensile strength	:	+10 % -15 %
4.4.3	Elongation at break	:	+10 % -15 %

5.0 BOND STRENGTH BETWEEN RUBBERS TO METAL

5.1 When 25 mm wide strip of rubber is cut from the finished product and tested by dead load method at an angle 180 degree, the values of separation shall be maximum 25 mm at a load of 5 Kg in one minute.

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6.0 TESTING AND INSPECTION

6.1 The compound offered by the manufacturer shall be visually inspected individually for their finish and freedom from defect viz. pits, porosity, cracks, improper edges etc.

6.2 Each component found suitable after visual inspection shall be checked for their dimensional characteristics as per drawing No TM/9606. Only those components found satisfactory with regard to all these dimensional characteristics shall be accepted subject to testing as per para 6.3 below. Necessary gadgets required for dimensional check, shall be provided by the Manufacturer.

6.3 Random sampling shall be done and three samples from each lot of maximum 500 pads shall be taken for testing. Two samples will be tested for the physical characteristics of the rubber material & one for the physical characteristics in normal condition vide para 4.4.1 to 4.4.3. Test method applied shall be as per IS:3400 of 1977 and shall conform to the characteristics as stipulated in para 4.0.

6.4 The third sample be tested for determining the bond strength between rubber to metal and shall conform to the parameter mentioned under para 5.1. Care shall be taken during sample preparation, so that full thickness of rubber is cut by a sample tool. During testing the metal to be held by the jaw, and load shall be applied on the rubber strip. For holding rubber & metal atleast 25 mm of length shall be separated manually.

7.0 ACCEPTANCE CRITERIA.

7.1 If the result of the test does not meet the specified requirement, additional two samples from the same lot shall be taken and testing operations to be repeated. Should both these samples satisfy the requirement, the lot represented shall be accepted. Should the tests fail with second set of samples, the material shall be taken as not complying with the standard.

8.0 PROTECTION

The exposed mild steel portions shall be protected with one coat of boiled linseed oil to IS:77-1976. Linseed oil for paints or any other rust preventive compound.

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