

# SPECIFICATION FOR 'NON ADHESIVE POLYIMIDE FILM TAPE'

APPROVED BY

CEE/TM

<b>RAJIV KUMAR BARNWAL</b>	Digitally signed by RAJIV KUMAR BARNWAL Date: 2022.11.22 17:19:39 +05'30'
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SPECIFICATION FOR 'NON ADHESIVE POLYIMIDE FILM TAPE' FOR THREE PHASE TRACTION MOTOR	CHITTARANJAN LOCOMOTIVE WORKS WEST BENGAL , INDIA No. 4TMS.096.029 Rev. 1 First Issued on: 14.09.2009
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(Prepared & checked by)  SSE/TMDO	<b>NIHAR RANJAN MONDAL</b>	Digitally signed by NIHAR RANJAN MONDAL Date: 2022.11.12 11:32:23 +05'30'	(Reviewed by)  Dy.CEE/ TMD	<b>RANJAN KUMAR PRAMANIK</b>	Digitally signed by RANJAN KUMAR PRAMANIK Date: 2022.11.15 17:29:56 +05'30'
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ALTERATION SHEET				
Alt.No	Description of modification	Authority	Signature	Date

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**1.0 General:****1.1 Scope :**

This specification covers the manufacture and supply of ‘ Non Adhesive Polyimide Film Tape’ 2 mil thk x 20 mm wide to be used in 3-Phase Traction Motor type 6 FRA 6068 & 6FXA 7059 application as winding of over hang portion on stator coils. The materials shall comply with this specification, instruction, mechanical properties and electrical properties and all other listed requirement. This specification is based ABB Delivery Instruction/Specn. No. HZN 02575 and Dupont’s technical data sheet.

**1.2 Construction Structural Requirements:**

The material is made of aromatic polyimide foil.

**1.3 Size:**

Thickness- 2 mil (0.0508 mm) x 20 mm width (in continuous roll of 50 m).

**2.0 Requirements:****2.1 Properties**

Size & Term	Unit	Values	Test Method
Thickness	mm	0.0508 ± 0.004 mm	
Mass per unit area	g/m <sup>2</sup>	72	DIN 53352
Permissible Deviation		± 5	
Tensile Strength at 23 <sup>0</sup> C	N/mm <sup>2</sup>	> 160	ISO 1184
Elongation at rupture at 23 <sup>0</sup> C	%	> 45	ISO 1184
Dielectric Strength at 23 <sup>0</sup> C	KV/mm	> 197	IEC 243
Shrinkage % MD & TD at 400 <sup>0</sup> C (752 <sup>0</sup> F) Max.	%	≤ 2.5	DIN 40634 page-1 section 2.9.3

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**3.0. Marking:**

Each roll shall be legibly marked at both ends with the following information:-

- (a) Manufacture's name or trademark.
- (b) Purchase order reference and date.
- (c) Description, size, Quality, batch no., date of mfg. and date of expiry

**4.0. Packing :**

The material shall be supplied in 50 meters (maximum 20% of the lot can be accepted as roll length 30-50 meter without any joint) roll wound on a hard tubular core / spools with an inside diameter of 55 to 76 mm also sufficient tension to form a compact roll without deforming the construction of the tape. The tape shall wound tightly over the core such that the edges are not uneven and shall not get loosened when dropped over a floor from one meter height. Each roll of the material shall be suitably packed so that no damage can arise during transportation and it can be unloaded easily.

**5.0 Inspection:-**

The material shall be inspected by an authorized representative of CLW as per clause no. 2.1 at the firm's premises for which necessary testing facilities shall be made available by the supplier free of cost.

- 5.1 Inspection authority must check original Challan/invoice of imported raw material. Quantity of Raw material consumed against P.O under Inspection must be endorsed under Challan/Invoice.
- 5.2 In case of import, the firm must produce original TC, GC & import document etc. to the Inspection authority. TC should not be older more than 90 days at the time of Inspection.

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**6.0 Source of Raw Material:**

6.1 Items as per para- 1.3 shall be manufactured from aromatic polyimide film of following grades:

- i) Polyimide film HN type of M/s Dupont/USA/Japan.
- ii) Polyimide film AV type of M/s Kaneka North America LLC/USA.

6.2 Firm (manufacturers of items as per para- 1.3 above) shall offer raw material to the authorized inspection authority to verify the use of correct grade of insulating film having sourced from specified polyimide film manufacturer only, before commencing prototype/bulk manufacture. The supplier shall furnish copies of original current (recent) invoices of procurement along with TC of polyimide film manufacturer to the Inspecting Authority.

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