Busbar MV Insulating Tape

DATASHEET

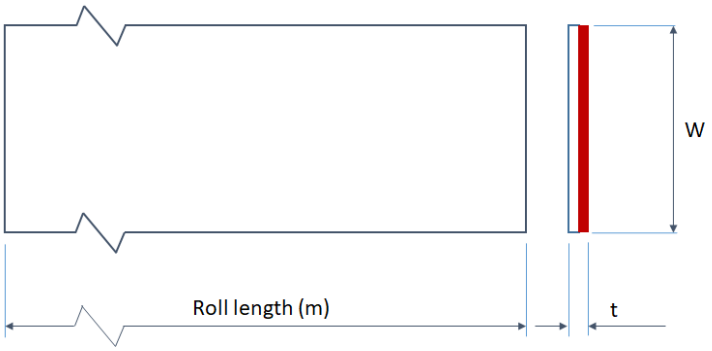
RTBM

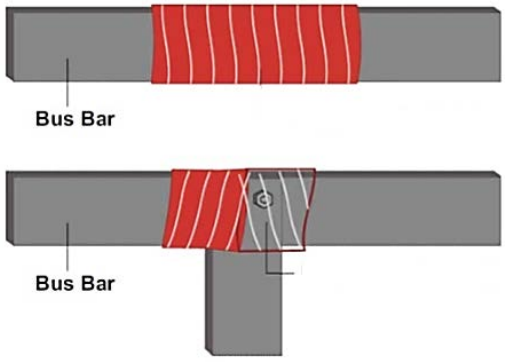
REPL Busbar Insulating Tape (RTBM) is a dual layer tape combining a heat shrinkable outer tape with excellent insulating and weathering properties with an inner hot melt adhesive, to provide moisture tight sealing.

It is used to provide insulation enhancement and protection for copper or aluminium busbar sections where tube products cannot easily be applied.
When applied, the outer tape shrinks and the inner adhesive layer forms a tight bond between the layers.

A single layer of RTBM applied at ⅔ overlap will provide AC withstand of a flashover up to 17.5kV. Double layers will increase withstand level up to 36kV.
It is suitable for both indoor and outdoor applications.

- Continuous Operating Temperature up to 90^{0}C
- Can be used in ambient temperatures down to -40^{0}C
- Unlimited shelf life when stored at <50^{0}C





Tape applied with overlap of ⅔ overlap width

PRODUCT DIMENSIONS – RTBM Series						
Code	As Supplied Width (W)	As Supplied Thickness (t)	Pack Size 5M Roll		Pack Size 10M Roll	
	mm	mm	Roll Dimensions Ømm x Wmm	Roll Weight (kgs)	Roll Dimensions Ømm x Wmm	Roll Weight (kgs)
RTBM-25	25	1.0 ± 0.1	78 x 25	0.150	110 x 25	0.290
RTBM-50	50	1.0 ± 0.1	78 x 50	0.290	115 x 50	0.600
RTBM-100	100	1.0 ± 0.1	80 x 100	0.300	Not available	

MATERIAL SPECIFICATIONS		
CHARACTERISTIC	VALUE	TEST METHOD
Physical Properties		
Water Absorption	1%	ISO 62/23^{O}C (14 Days)
Tensile Strength	11.8 MPa	ASTM D 638
Tensile Strength after Ageing	10 Mpa	ASTM D – 2671 (120^{o}c , 168 hours)
Elongation at Break	550%	ASTM D - 638
Elongation at Break after Ageing	450%	ASTM D – 2671 (120^{o}c , 168 hours)
Flammability	Self-Extinguish in 60 seconds	ASTM D – 2671
Dielectric Strength	20kV/mm	IEC 243
Dielectric Constant	3.0 Max	IEC 250
Volume Resistivity	10^{13} Ohm-cm	IEC 93
Copper Corrosion	120^{o}c, 168hrs, no corrosion	ASTM D - 2671

Please see data overleaf for recommended clearances

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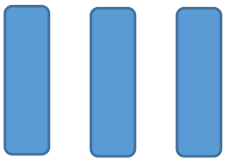
The table below gives recommendations on the potential reduction in clearances that can be achieved by using the RBTM tape on busbar sections.

However, they are intended for guidance only and the user should satisfy themselves through testing of the suitability for a specific application.

It should be noted that any sharp edges and unusual geometries will affect the performance of the tape.

CLEARANCE REDUCTION GUIDE						
Voltage Level (kV)	Round Busbars			Rectangular Busbars		
						
	With RTBM		Without	With RTBM		Without
	Phase - Phase	Phase - Earth	IEC 71-2 Air Clearance	Phase - Phase	Phase - Earth	IEC 71-2 Air Clearance
	mm	mm	mm	mm	mm	mm
12	55	65	120	65	75	120
17.5	70	85	160	85	105	160
24	95	125	220	115	150	220
36	150	205	320	200	285	320

APPLICATION GUIDE				
Product Code	Round Busbars Sections		Rectangular Busbars Sections	
				
	Busbar Diameter Range	Length of tape per metre of busbar section covered	Busbar Width Range	Length of tape per metre of busbar section covered
	mm	metre	mm	metre
RTBM-25	8-15	5	<25	10
RTBM-50	15-50	5-10	25-100	5-15
RTBM-100	50-100	5-10	100-200	5-15

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