BUSBAR INSULATION TUBING BPTM

VOLTAGE CLASS 25 kV, APPLICATION Ø 6.5-220 MM

KEY FEATURES

- Exceptional insulation and long term reliability even at high continuous operating temperatures
- Extremely durable, resists damage from solvents, ultraviolet light,weathering, mechanical impact and general wear and tear
- Suitable for indoor and outdoor use
- Excellent anti-tracking properties
- Can be stored indefinitely at temperatures up to 50°C without loss of performance

TE Connectivity's (TE) Raychem medium wall, heat-shrinkable BPTM tubing provides insulation enhancement and protection against flashover and accidentally induced discharge.

Particularly useful in confined spaces BPTM tubing can be used on both circular and rectangular copper or aluminium busbars. On application of heat the tubing shrinks snugly over the busbar profile ensuring that the required minimum wall thickness is obtained. Raychem BPTM tubing can be installed easily during large scale production using an oven or in the field using a gas torch or hot air. Raychem BPTM tubing is manufactured from a non-halogen based polymer which has excellent performance in high voltage environments and greatly reduces the noxious and corrosive effects in fire situations.

The use of TE's Raychem BPTM tubing allows equipment designers the freedom to reduce air spacing between busbars, such as in the manufacture of switchgear cabinets where space is at a premium. Raychem BPTM tubing provides flashover protection up to 25 kV.

Customers can count on consistent, high quality products, driven by TE's proven innovation and backed by our extraordinary customer support.

Medium Voltage Busbar Insulation Tubing BPTM



TE's wildlife and asset protection products and systems of tubes, tapes, sheets, pre-formed covers and barriers provide a proven, cost-effective and easy-to-install solution to bird, animal and weather related outages.

CLEARANCE REDUCTION

The tables indicate the clearance reductions which are possible using Raychem BPTM tubing. These are derived from BIL, AC withstand, DC withstand and discharge extinction tests. These clearances should not be adopted without testing by the user. Sharp electrodes and unusual geometries may require wider clearances.

Key product specifications	Test method	Requirement
Thermal endurance	IEC 216	105°C min.
Accelerated ageing	ISO 188, ASTM D2671	168 hrs @ 120°C
- Tensile strength		10 MPa min.
- Ultimate elongation		300% min.
Comparative tracking index	IEC 112, VDE 0303/1	KA 3c
Dielectric strength	ASTM D149, IEC 243	180 kV/cm min. @ 2 mm
		150 kV/cm min. @ 2.5 mm
		120 kV/cm min. @ 3 mm
Low temperature flexibility	ASTM D2671 Procedure C	No cracking after 4 hrs @ -40°C
Smoke index	NES 711	Less than 120
Acid gas generation	Raychem PPS 3010 4.23	Less than 1% by weight
Note: For further product specification information see Raychem PPS 3010/04.		

Description	Product selection				Ordering information				UOM: roll of
	Rectangular bars L + T (mm)		Round bars D (mm)		Inside diameter (mm)		Wall thickness (mm)		
	min.	max.	min.	max.	H min.	h max.	W min.	w max.	
BPTM-15/6-A/U-4	12	18	6.5	12	15	6	1.1	1.90	30
BPTM-30/12-A/U-4	22	38	13.5	25	30	12	1.1	2.20	30
BPTM-50/20-A/U-4	36	65	22	43	50	20	1.1	2.35	30
BPTM-75/30-A/U-4	55	95	33	63	75	30	1.1	2.35	20
BPTM-100/40-A/U-4	70	130	44	86	100	40	1.1	2.35	25
BPTM-120/50-A/U-4	90	165	55	105	120	50	1.3	2.80	25
BPTM-175/70-A/U-4	125	235	80	150	170	70	1.3	2.80	15
BPTM-205/110-A/U-4	200	276	127	190	205	110	1.3	2.80	10
BPTM-235/130-A/U-4	235	315	150	220	235	130	1.5	3.10	20

Note: W, H = as supplied w, h = after free recovery.
Maximum longitudinal change after free recovery: +5% -10%. Maximum eccentricity (as supplied): 40%, (after free recovery) -75/30 10% - 100/40 15%. Fit the larger size of BPTM if two sizes fit the required application.
Installation instructions EPP 0618 6/08 and Material Safety Data Sheet available on request.

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Round busbars			
Rated voltage (kV)	Phase–phase (mm)	Phase–ground (mm)	IEC 71-2 air clearance (mm)
12	55	65	120
17.5	70	85	160
24	95	125	220
36	150	205	320

Rectangular busbars			
Rated voltage (kV)	Phase–phase (mm)	Phase–ground (mm)	IEC 71-2 air clearance (mm)
12	65	75	120
17.5	85	105	160
24	115	150	220
36	200	285	320

TECHNICAL REPORT

EDR-5537 BPTM Tubing Qualification Report

UVR 8016 – Testing of Raychem tubing BPTM dust pick-up and comparison of Raychem tubing BPTM cleaning techniques

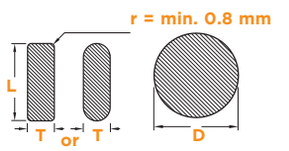
UVR 8091 – Production-scale installation of Raychem tubing BBIT/BPTM

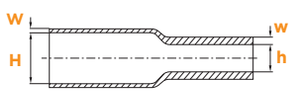
UVR 8122 – Resistance of BBIT/BPTM to hydrofluoric acid

UVR 8194 – Long term weathering and thermal ageing of Raychem BBIT and BPTM tubing

PRODUCT SELECTION

Raychem tubing BPTM should normally be used on the following busbar sizes





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