ELECTRICAL
MECHANICAL
INSULATION

CANUSA

FLAME RETARDANT

3:1 STANDARD SHRINK RATIO

Medium Voltage
Crosslinked Polyolefin
Bus Bar Tubing

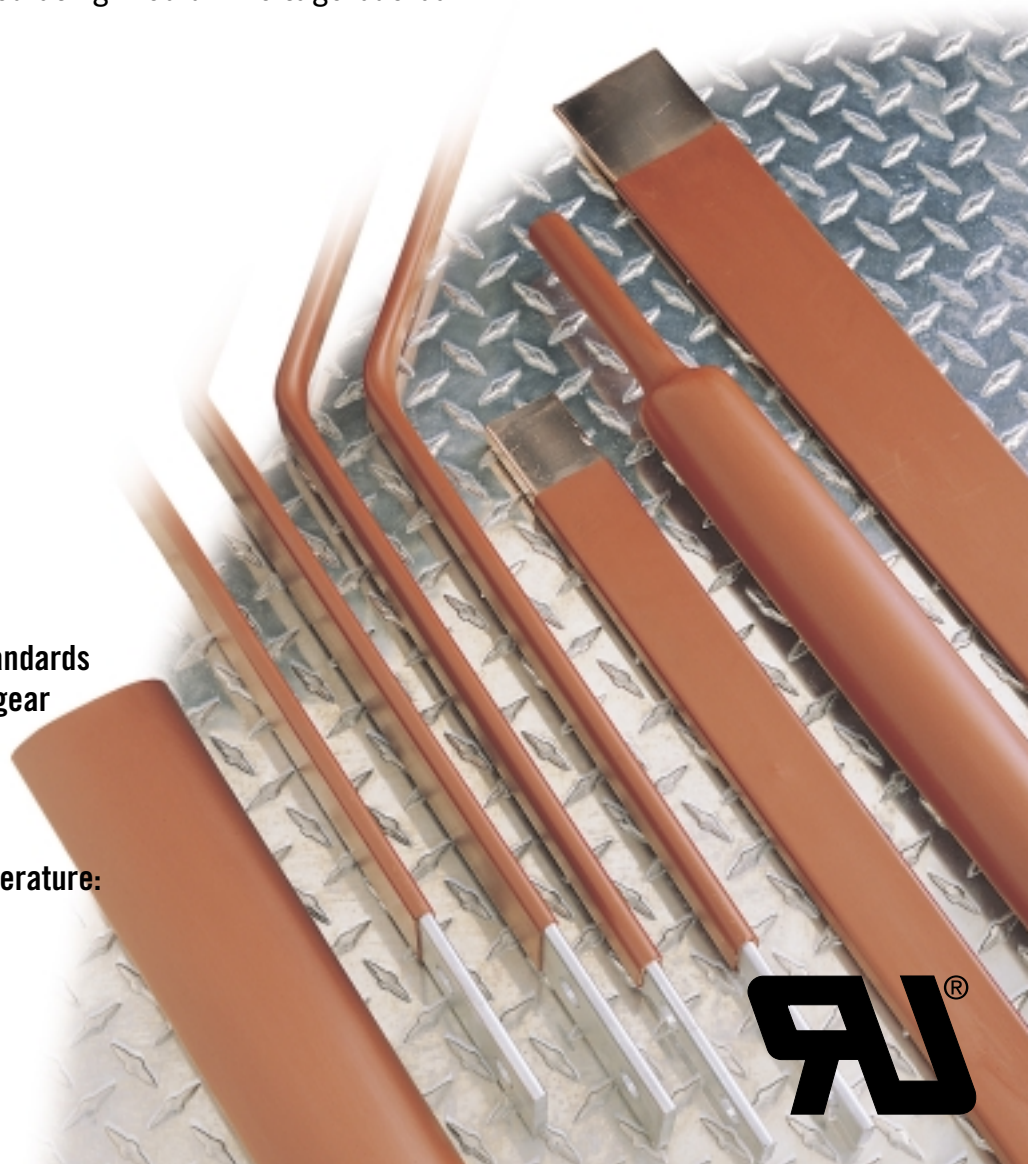
CBTM/CBTH

CBTM/CBTH

Medium and Heavy Wall Anti-track Heat Shrinkable Tubing specifically designed for insulating medium voltage bus bar

Features

- Reduces bus bar clearance requirements
- Protects against accidental flashover
- Anti-track
- Halogen free
- Tested to ANSI C37.20.2 standards for medium voltage switchgear applications to 36 kV
- UL Recognized Component
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 120°C



CBTM/CBTH

Medium Voltage Crosslinked Polyolefin Bus Bar Tubing

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM D412, ISO 37	1200 psi (8.3 MPa)
Elongation	ASTM D412, ISO 37	370%
Heat Aging (7 Days at 175°)		
Tensile Strength	ASTM D2671	1500 psi (10MPa)
Elongation	ASTM D2671	200%
Heat Shock (4hrs at 225°C)	ASTM D2671	No cracking or flowing
Low Temperature Flexibility (4hrs at -40°C)	ASTM D2671	No cracking
Flammability	ANSI C37.20, ASTM D2671	Pass

Electrical

Dielectric Strength	ASTM D149	500 V/mil (20 kV/mm) at 2mm
Surface Resistance	ASTM D257	510 x 10^9 ohm
Volume Resistivity	ASTM D257	1.9 x 10^{16} ohm-cm
Dielectric Constant	ASTM D150	3.4
Tracking Resistance (2500 V, 300 min)	ANSI C37.20, ASTM D2303	Non-Tracking
Weathering	ASTM G53	Non-Tracking after 6000 hours

Chemical

Corrosion	ASTM D2671	No Corrosion
Water Absorption	ASTM D570	0.25%
Fluid Resistance	MIL-DTL-23053/15	Good to Excellent

CANUSA

There's no end to what we cover

CANUSA is a global company providing electrical and mechanical insulation solutions for a variety of industries and applications. Starting from products created by extensive developmental research at Shaw Industries (incorporated 1955), CANUSA is a recognized world leader in the provisioning of high quality heat shrink products.

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Dimensions

CBTM: Medium Wall Bus Tubing - For Services to 25kV on Unbolted Bus Bar (Z=M)

ORDER REF. NO. METRIC	ORDER REF. NO. IMPERIAL	EXPANDED: INTERNAL DIAMETER (MIN) D		EXPANDED: WALL THICKNESS (NOM) w		RECOVERED: INTERNAL DIAMETER (MAX) d		RECOVERED: WALL THICKNESS (NOM) w		APPLICATION RANGES: * RECTANGULAR BUS BAR MIN		* RECTANGULAR BUS BAR MAX		ROUND BUS BAR MIN		ROUND BUS BAR MAX	
XXXX	YYYY	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN
0190	0750	19.0	0.75	1.14	0.045	5.5	0.22	2.70	0.109	6.4	1/4	6.4	1/4	6.8	0.27	15.2	0.60
0330	1300	33.0	1.30	1.14	0.045	10.1	0.40	2.97	0.117	12.7	1/2	28.5	1 1/8	12.4	0.49	27.9	1.10
0520	2050	52.0	2.05	1.14	0.045	19.0	0.75	2.79	0.110	31.5	1 1/4	50.8	2	22.3	0.88	43.1	1.70
0698	2750	69.8	2.75	1.14	0.045	25.4	1.00	2.87	0.115	44.4	1 3/4	76.2	3	29.7	1.17	58.4	2.30
0889	3500	88.9	3.50	1.14	0.045	29.9	1.18	3.09	0.122	57.1	2 1/4	101.6	4	35.8	1.41	73.6	2.90
1193	4700	119.3	4.70	1.14	0.045	39.9	1.57	3.20	0.126	73.0	2 7/8	142.8	5 5/8	47.7	1.88	101.6	4.00
1701	6700	170.1	6.70	1.14	0.045	58.4	2.30	3.17	0.125	114.3	4 1/2	203.2	8	69.5	2.74	144.7	5.70

CBTH: Heavy Wall Bus Tubing - For Services to 36kV on Unbolted Bus Bar (Z=H)

ORDER REF. NO. METRIC	ORDER REF. NO. IMPERIAL	EXPANDED: INTERNAL DIAMETER (MIN) D		EXPANDED: WALL THICKNESS (NOM) w		RECOVERED: INTERNAL DIAMETER (MAX) d		RECOVERED: WALL THICKNESS (NOM) w		APPLICATION RANGES: * RECTANGULAR BUS BAR MIN		* RECTANGULAR BUS BAR MAX		ROUND BUS BAR MIN.		ROUND BUS BAR MAX	
XXXX	YYYY	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN
0279	1100	27.9	1.10	1.67	0.066	8.9	0.35	3.88	0.153	9.5	3/8	12.7	1/2	10.6	0.42	17.7	0.70
0508	2000	50.8	2.00	1.57	0.062	16.0	0.63	4.08	0.161	22.2	7/8	34.9	1 3/8	19.3	0.76	33.0	1.30
0680	2700	68.0	2.68	1.52	0.060	22.1	0.87	4.08	0.161	34.9	1 3/8	50.8	2	26.1	1.05	43.1	1.70
0899	3500	89.9	3.54	1.52	0.060	29.9	1.18	4.08	0.161	50.8	2	76.2	3	35.8	1.41	58.4	2.30
1199	4700	119.9	4.72	1.57	0.062	39.9	1.57	4.19	0.165	69.8	2 3/4	111.1	4 3/8	47.7	1.88	81.2	3.20
1702	6600	167.6	6.60	1.67	0.066	65.0	2.56	4.19	0.165	114.3	4 1/2	177.8	6.5	69.5	2.74	124.4	4.90

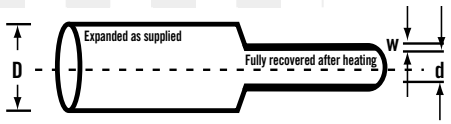
* Assume Rectangular Bus Bars have 1/4 inch thickness on MIN. application ranges and 5/8 inch thickness on MAX. application ranges.

Application ranges noted above selected to obtain minimum insulation thickness required to meet ANSI C37.20.2 withstand requirements at bus bar spacing and operating voltages noted. These spacings were determined from a limited number of test configurations. Due to the wide variety of bus bar configurations, these spacings and recovered wall thicknesses should not be employed by the user without actual verification and testing for the intended application.

Clearances with Insulation

System Voltage	BIL kV	CBTM Medium Wall Tubing p to p		CBTM Medium Wall Tubing p to g		CBTH Heavy Wall Tubing p to p		CBTH Heavy Wall Tubing p to g	
		mm	IN	mm	IN	mm	IN	mm	IN
15 kV	95	86.0	3.4	106.0	4.2	55.0	2.2	66.0	2.6
25 kV	125	114.0	4.5	152.0	6.0	71.0	2.8	101.0	4.0
36 kV	150	165.0	6.5	203.0	8.0	142.0	5.6	190.0	7.5

p to p: Phase to Phase orientation
p to g: Phase to Ground orientation
Spacing based on metal to metal dimension prior to insulation
Spacing based on insulation wall thickness per application range of above tables



Ordering

Select a dimension which will shrink snugly over the component to be covered. If recovery is restricted the resultant wall thickness will be less than specified.

To Order in Metric Units:

Tubing Weight — Order Ref. No.

CBT Z - XXXX - AA - M

Standard Length

To Order in Imperial Units:

Tubing Weight — Order Ref. No.

CBT Z - YYYY - BB - I

Standard Length

Standard Colors (CC)

Order Code	Color
RD	RED

Lengths:	Supplied as 50 ft. (15 m) reels. Max 1 splice allowed, with min length of 15 ft. (4.6) mi
Standards:	Tested to ANSI C37.20.2 to 36kV. Test Report Available: UL Recognized Component.

Note: Non-standard sizes, lengths and adhesive linings available subject to factory quotation.

REV 3