# CMVBT

Anti-Track, Adhesive Coated, Heat Shrinkable Tape specifically designed for insulating and protecting Medium Voltage Bus Bar

## Main Features

- **Tested to ANSI C31.20.2 standards for medium voltage switchgear applications to 25 kV**
- **Reduces bus bar clearance requirements**
- **Protects against accidental flashover**
- **Anti-Track**
- **Halogen Free**
- **Continuous operating temperature: -25°C to 90°C**
- **Shrink temperature: 120°C**

# 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 175°C) | | |
| Tensile Strength | ASTM D2671 | 1500 psi (10 MPa) |
| Elongation | ASTM D2671 | 200% |
| Heat Shock (4 hrs at 225°C) | ASTM D2671 | No cracking or flowing |
| Low Temperature Flexibility (4 hrs at -25°C) | ASTM D2671 | No cracking |
| Flammability | ANSI C37.20, ASTM D2671 | Pass |

## Electrical

| | | |
|---|---|---|
| Dielectric Strength | ASTM D149 | 500 V/mil (20 kV/mm) at 2 mm |
| Surface Resistance | ASTM D257 | 510 x $10^9$ ohm |
| Volume Resistivity | ASTM D257 | 2.20 x $10^{13}$ 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 hrs |

## Chemical

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

## Adhesive

| | | |
|---|---|---|
| Adhesive Softening Point | ASTM E28 | 100°C |
| Low Temperature Flexibility | STM C12 | -25°C |
| Lap Sheer | STM C9 | 250 psi |
| Peel Strength: To Aluminum | STM C8 | 10 pli |
| Tracking Tests (2500 V, 300 min) | ANSI C37.20, ASTM D2303 | Non-tracking |

# Medium Voltage Bus Tape

## For Services to 25 kV Over Bolted Bus Bar

| ORDER REF. NO. | ROLL WIDTH (MIN) | BACKING THICKNESS RECOVERED (NOM) | ROLL LENGTH |
|---|---|---|---|
| | mm | mm | mm |
| CMVBT-1 | 25.4 | 1.06 | 7.62 |
| CMVBT-2 | 50.8 | 1.06 | 7.62 |
| CMVBT-4 | 101.6 | 1.06 | 7.62 |

# Clearances with Insulation

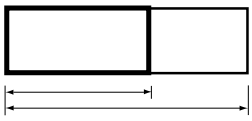
| SYSTEM VOLTAGE | BIL kV | p to p (mm) | p to g (mm) |
|---|---|---|---|
| 15 kV | 95 | 64 | 74 |
| 17 kV | 110 | 86 | 106 |
| 25 kV | 125 | 114 | 152 |

p to p: Phase to Phase orientation
p to g: Phase to Ground orientation
Spacing based on metal to metal dimension prior to insulation

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.

# Installation Instructions

CMVBT-1 is best for short lengths
CMVBT-2 is most commonly used and versatile
CMVBT-4 is used for long lengths
A 2/3 overlap is recommended
One layer application required to 17kV
Two layer application required to 25kV



Shrink ratio of 1.7:1 on Heating

# 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.

| | |
|---|---|
| Lengths: | Supplied on 7.6 m rolls |
| Standards: | Tested to ANSI C37.20.2 for applications to 25kV<br>Test report available |

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