

# SUMITUBE® W5DL

## DUAL WALL SEMI-RIGID POLYOLEFIN

### MILITARY SPECIFICATION

#### TYPICAL FEATURES

- 1) SUMITUBE W5DL is a semi-rigid, dual wall, non-flame retarded polyolefin heat-shrinkable tubing. Upon the application of heat the inner liner melts and flows to encapsulate components or splices contained within.
- 2) Shrink temperature is 130° C.
- 3) Sumitube W5DL meets or exceeds the requirements of MIL-DTL-23053/4D, Class 1.
- 4) Operating temperature range is -55° C to +110° C.
- 5) SUMITUBE W5DL is recommended in applications for connections and wire harnesses where filling voids and interstices is of importance. W5DL provides good strain relief because it does not adhere to the substrate material; it can be removed for repair of components.

#### STANDARD SIZES

| SIZE | INSIDE DIAMETER AS SUPPLIED (MIN) |      | INSIDE DIAMETER AFTER RECOVERY (MAX) |      | WALL THICKNESS AFTER RECOVERY (NOM) |      |
|------|-----------------------------------|------|--------------------------------------|------|-------------------------------------|------|
|      | INCH                              | (MM) | INCH                                 | (MM) | INCH                                | (MM) |
| 1/8  | .125                              | 3.2  | .023                                 | 0.6  | .038                                | 0.97 |
| 3/16 | .187                              | 4.8  | .060                                 | 1.5  | .043                                | 1.10 |
| 1/4  | .250                              | 6.4  | .080                                 | 2.0  | .047                                | 1.20 |
| 3/8  | .375                              | 9.5  | .135                                 | 3.4  | .050                                | 1.27 |
| 1/2  | .500                              | 12.7 | .195                                 | 5.0  | .055                                | 1.40 |
| 3/4  | .750                              | 19.1 | .313                                 | 8.0  | .065                                | 1.65 |
| 1    | 1.000                             | 25.4 | .400                                 | 10.2 | .075                                | 1.91 |

**Standard Colors:** Black, White, Red, Yellow, Blue, Brown, Gray

**Standard Package:** 4 feet (4')

**How to Order:** (Type of material) (Size) (Color) (Packaging)

**Example:** W5DL 1/4 Black 4'



**SUMITOMO ELECTRIC**



## W5DL SPECIFICATION VALUES

| PROPERTY (UNITS)  | TEST METHOD  | REQUIREMENT  |
|---|--|--|
| <b>Physical:</b><br>Tensile strength (psi)<br>Elongation (%)<br>Cold impact (-55° C)<br>Heat shock (250° C, 4 hrs.)<br>Secant modulus (psi)<br>Longitudinal change (%)                | ASTM D638<br>ASTM D638<br>ASTM D746<br>MIL-DTL-23053<br>ASTM D882<br>MIL-DTL-23053 | 1500 min.<br>200 min.<br>no cracking<br>no cracking<br>2.5 x 10 <sup>4</sup> min.<br>+1, -10 |
| <b>Electrical:</b><br>Dielectric strength (volts/mil)<br>Volume resistivity (ohm-cm)  | ASTM D2671<br>ASTM D876  | 500 min.<br>1 X 10 <sup>15</sup>   |
| <b>Chemical:</b><br>Corrosion (121° C, 16 hrs.)<br>Water absorption (%)<br>Fluid resistance (23° C, 24 hrs.)<br>Tensile strength (psi)<br>Flammability<br>Shrink temperature, nominal | MIL-DTL-23053<br>ASTM D570<br><br>MIL-DTL-23053                                    | no corrosion<br>0.5 max.<br><br>1000 min.<br>N/A<br>130° C                                   |

**Specification reference:** MIL-DTL-23053/4D, Class 1