

## FLEXIBLE POLYOLEFIN

### 2 : 1 Shrink

#### MILITARY SPECIFICATION and UL / CSA



RoHS/RoHS2 Compliant

#### TYPICAL FEATURES

- 1) SUMITUBE B2 is a very flexible, flame-retarded, radiation-crosslinked heat shrinkable polyolefin tubing which meets all of the material and functional requirements of Military Specification AMS-DTL- 23053/5, Class 1 and 3.
- 2) Shrink temperature is 90°C.
- 3) Operating temperature range is -55°C to +135°C and up to 200°C for short time durations.
- 4) B2 is recommended for use in general purpose applications such as wire marking, color coding, and electrical insulation of light wire harness assemblies. For higher expansion ratio versions see B2(3X), B2(4X), and B2(4XC) data sheets.

#### STANDARD SIZES

| SIZE   | INSIDE DIAMETER<br>AS SUPPLIED<br>(MIN) |       | INSIDE DIAMETER<br>AFTER RECOVERY<br>(MAX) |      | WALL THICKNESS<br>AFTER RECOVERY<br>(NOM) |      |
|--------|---|-------|--|------|---|------|
|        | INCH                                    | (MM)  | INCH                                       | (MM) | INCH                                      | (MM) |
| 3/64   | .046                                    | 1.2   | .023                                       | 0.6  | .016                                      | 0.40 |
| 1/16   | .063                                    | 1.6   | .031                                       | 0.8  | .017                                      | 0.43 |
| 3/32   | .093                                    | 2.4   | .046                                       | 1.2  | .020                                      | 0.51 |
| 1/8    | .125                                    | 3.2   | .062                                       | 1.6  | .020                                      | 0.51 |
| 3/16   | .187                                    | 4.8   | .093                                       | 2.4  | .020                                      | 0.51 |
| 1/4    | .250                                    | 6.4   | .125                                       | 3.2  | .025                                      | 0.64 |
| 3/8    | .375                                    | 9.5   | .187                                       | 4.8  | .025                                      | 0.64 |
| 1/2    | .500                                    | 12.7  | .250                                       | 6.4  | .025                                      | 0.64 |
| 5/8*   | .625                                    | 15.9  | .313                                       | 7.9  | .027                                      | 0.69 |
| 3/4    | .750                                    | 19.1  | .375                                       | 9.5  | .030                                      | 0.76 |
| 1      | 1.000                                   | 25.4  | .500                                       | 12.7 | .035                                      | 0.89 |
| 1 1/4* | 1.250                                   | 31.8  | .625                                       | 15.9 | .038                                      | 0.97 |
| 1 1/2  | 1.500                                   | 38.1  | .750                                       | 19.1 | .040                                      | 1.02 |
| 2**    | 2.000                                   | 50.8  | 1.000                                      | 25.4 | .045                                      | 1.14 |
| 3**    | 3.000                                   | 76.2  | 1.500                                      | 38.1 | .050                                      | 1.27 |
| 4**    | 4.000                                   | 101.6 | 2.000                                      | 50.8 | .055                                      | 1.40 |

**Standard Colors:** Black, White, Red, Yellow, Blue, Green, Violet, Gray, Orange (Other colors subject to factory approval and quote)

**Standard Package:** Spooled (S) or 4 foot lengths (4')

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

**Example:** B2 1/4 Black 4'

\* These sizes do not meet SAE dimensional requirements (sizes not listed in spec size tables)

\*\* These sizes do not meet /5, Class 3 (sizes not listed in Class 3 size table)

## B2 SPECIFICATION VALUES

| PROPERTY (UNITS)  | TEST METHOD  | REQUIREMENT  |
|---|--|--|
| <b>Physical:</b><br>Tensile strength (psi)<br>Elongation (%)<br>Specific gravity<br>Low temperature flex (-55° C)<br>Heat shock (250° C, 4 hrs.)<br>Heat resistance (175° C, 168 hrs.)<br>Elongation (%)<br>Secant modulus (psi)<br>Longitudinal change (%) | ASTM D638<br>ASTM D638<br>ASTM D792<br>AMS-DTL-23053<br>AMS-DTL-23053<br><br>ASTM D638<br>ASTM D882<br>AMS-DTL-23053 | 1500 min.<br>200 min.<br>1.35 max.<br>no cracking<br>no cracking<br><br>100 min.<br>2.5 X 10 <sup>4</sup> max.<br>±5 |
| <b>Electrical:</b><br>Dielectric strength (volts/mil)<br>Volume resistivity (ohm-cm)  | ASTM D876<br>ASTM D876   | 500 min.<br>1.0 X 10 <sup>14</sup> min.  |
| <b>Chemical:</b><br>Corrosion (175° C, 16 hrs.)<br>Water absorption (%)<br>Fluid resistance (23°C, 24 hrs.)<br>Tensile strength (psi)<br>Flammability<br>Shrink temperature, nominal  | AMS-DTL-23053<br>ASTM D570<br><br>AMS-DTL-23053<br>UL 224 VW-1   | no corrosion<br>0.5 max.<br><br>1000 min.<br>pass<br>90° C   |

**Specification references:** AMS-DTL-23053/5, Class 1 & 3  
 UL 224 125° C, 600 V, VW-1 File E48762 YDPU2  
 CSA C22.2 No. 198.1-98



915 Armorlite Drive  
 San Marcos, CA 92069

Telephone: (800) 758-3515  
 FAX: (800) 758-3517

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