



DUNBAR – 4650WS

4:1 SHRINK RATIO, SEMI-RIGID, DUAL-WALL, POLYOLEFIN TUBING
(Extended Temperature Range)

Applications

DUNBAR-4650WS is a fully flame retardant, semi-rigid, high shrink ratio, adhesive lined heat shrinkable polyolefin tube. Both jacket and adhesive lining (which flows when heated) are flame retardant. It is designed for insulation and encapsulation of wire splicing and used to seal and protect a wide variety of electrical applications, including wire splices, breakouts, and connectors-to-cable transitions.

Features

- ★ Shrink ratio: 75% or more in the radial direction, 10% or less in the axial direction
- ★ In stock for immediate shipments
- ★ Continuous operating temperature: - 55 °C (-67 °F) to 150 °C (302 °F)
- ★ Fully Flame-Retardant: Jacket and Adhesive
- ★ Excellent electrical properties
- ★ High resistance to abrasion chemicals and oils

Standard

- ★ UL 224 (File Number: E319314)
- ★ RoHS Compliant

Specification Values

| Property | | Test Method | Value | |
|----------------|---------------------|------------------|---|--------------------------------|
| Physical | Unaged | Tensile strength | Min. 2,000 psi | |
| | | Elongation | Min. 200% | |
| | Aged | Tensile strength | Min. 1,400 psi | |
| | | Elongation | Min. 100% | |
| | Specific Gravity | | ASTM D792 | Max. 1.33 |
| | Concentricity | | ASTM D2671 | Min. 60% |
| | Heat shock | | 250°C /4 hrs | No cracks, flowing or dripping |
| | Cold bend | | ASTM D746 | No cracking |
| Secant Modulus | | ASTM D882 | Max. 25,000 psi | |
| Electrical | Dielectric strength | | ASTM D2671 Min. 500 Volts/Mil. | |
| | Volume resistivity | | ASTM D876 Min. 1 x 10 ¹⁴ Ω - cm | |
| Chemical | Copper corrosion | | 150°C/16 hrs No corrosion | |
| | Fungus resistance | | ASTM G21 No growth | |
| | Flammability | | ASTM D2671 Pass – Jacket & Adhesive | |

Rev Feb 2015



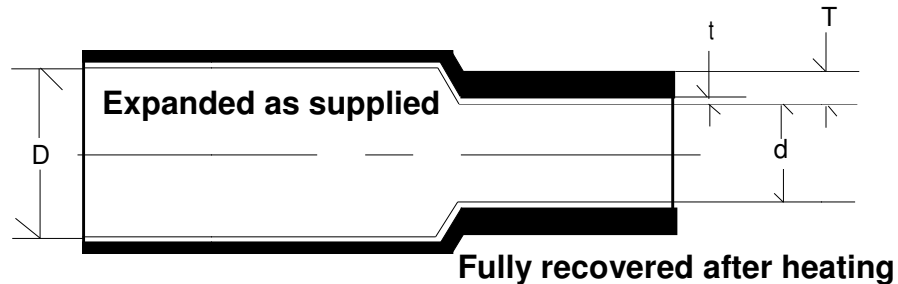
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Product Dimensions

Minimum Shrink Temperature: 130°C

| Size | Printed | Expanded | | Recovered | | | | | |
|---------------|---------|------------------------------|------|------------------------------|------|------------------------------------|------|--|------|
| | | Internal Diameter (min.) (D) | | Internal Diameter (max.) (d) | | Total Wall Thickness (Nominal) (T) | | Wall Thickness Adhesive Wall (Nominal) (t) | |
| | | In. | mm | In. | mm | In. | mm | In. | mm |
| 6 mm (No. 0) | FDW-0 | 0.236 | 6.3 | 0.050 | 1.27 | 0.047 | 1.20 | 0.022 | 0.56 |
| 8 mm (No. 1) | FDW-1 | 0.315 | 8.2 | 0.065 | 1.65 | 0.060 | 1.52 | 0.030 | 0.76 |
| 11 mm (No. 2) | FDW-2 | 0.433 | 11.3 | 0.090 | 2.29 | 0.075 | 1.91 | 0.040 | 1.02 |
| 12 mm (No. 3) | FDW-3 | 0.511 | 12.1 | 0.100 | 2.54 | 0.085 | 2.15 | 0.043 | 1.10 |
| 18 mm (No. 4) | FDW-4 | 0.708 | 18.1 | 0.175 | 4.45 | 0.095 | 2.41 | 0.054 | 1.30 |

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