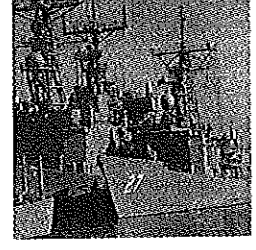
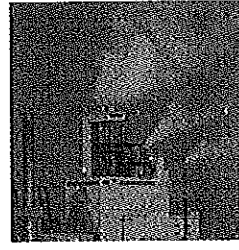
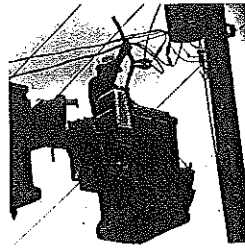


INSULATE
SEAL
PROTECT

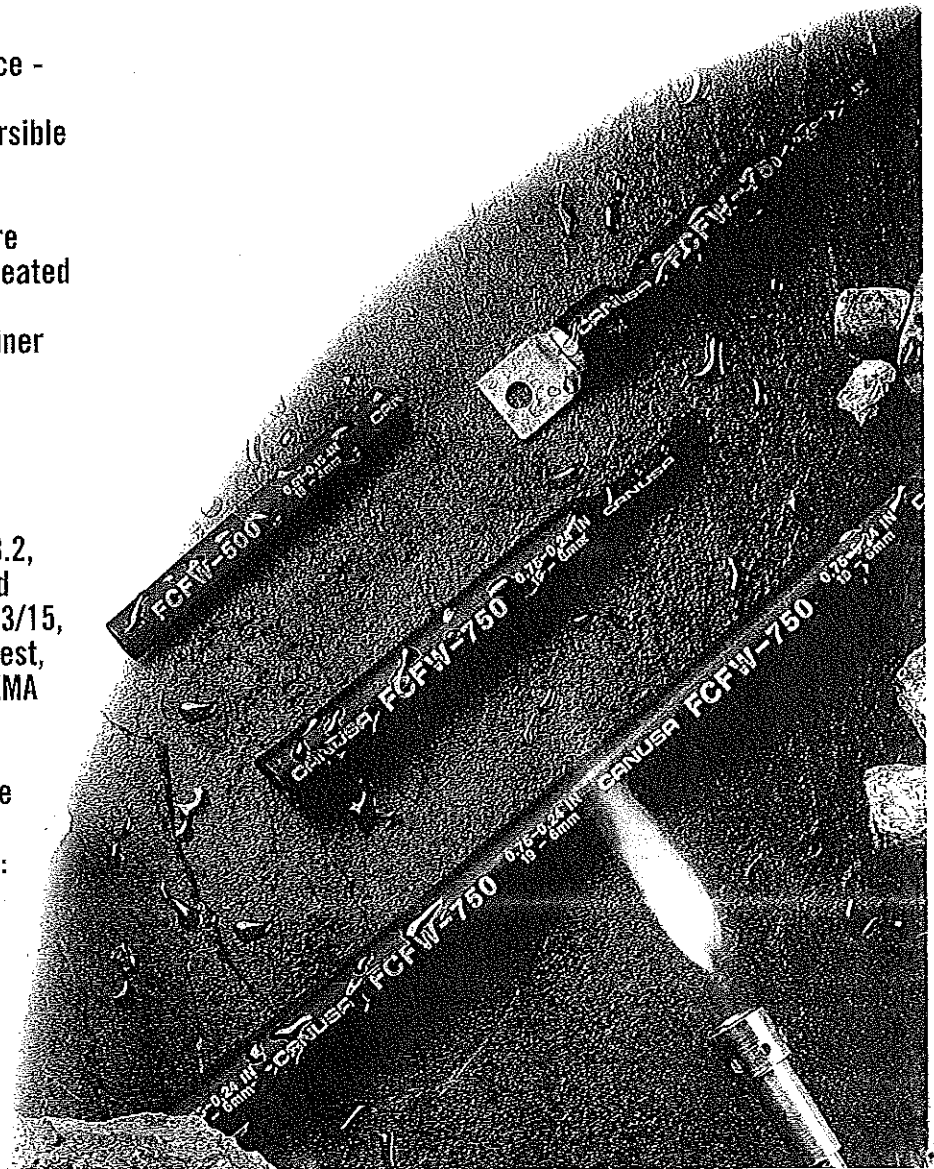


FCFW

Heavy Wall, Heat Shrinkable Tubing insulates and protects electrical splices and terminations where maximum flame retardancy and exceptional insulating and sealing characteristics are required

Features

- High impact and abrasion resistance - capable of withstanding severe mechanical abuse of U.R.D., submersible and direct burial installations
- FCFW tubing will not split or rupture during installation, even when overheated
- Optional Thermoplastic Adhesive Liner provides complete environmental protection and insulation
- Flame retardant
- Meets: UL 486D, CSA C22.2 No. 198.2, ANSI C119-1, Western Underground Guides Nos. 2.4, 2.5, MIL-DTL-23053/15, Class 1, IEEE 383 Vertical Flame Test, ANSI C37.20.2, ICEA S-19-8 and NEMA insulation thickness requirements
- Rated for 1 kV, 90°C continuous use
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C



Technical Data

Physical

| Property | Test Method | Typical Performance |
|--|--------------------|--------------------------|
| Tensile Strength | ASTM D412, ISO 37 | 2100 psi (14.5 MPa) |
| Elongation | ASTM D412, ISO 37 | 600% |
| Elongation after Heat Aging (168 hrs at 175°C) | ASTM D2671, ISO 37 | 500% |
| Longitudinal Change on Recovery | ASTM D2671 | +1%, -10% |
| Specific Gravity | ASTM D792 | 1.2 |
| Heat Shock (4hrs at 225°C) | ASTM D2671 | No cracking or flowing |
| Low Temperature Flexibility (4hrs at -55°C) | ASTM D2671 | No cracking or splitting |
| Hardness (Shore D) | ASTM D2240 | 50D |
| Oxygen Index | ASTM D2863 | 27.00 |
| Flammability | ASTM D2671 | Flame Retardant |

Electrical

| | | |
|--|-----------|--------------------------------------|
| Dielectric Strength | ASTM D149 | 500 V/Mil (20kV/mm) |
| Dielectric Voltage Withstand (2500V, 60Hz, 1 min.) | UL 486D | No breakdown, 24kV-1 min, 15kV-4hrs. |
| Volume Resistivity | ASTM D257 | 10 ¹⁶ ohm-cm |

Chemical

| | | |
|-------------------|------------------|-------------------|
| Fluid Resistance | MIL-DTL-23053/15 | Good to Excellent |
| Copper Corrosion | ASTM D2671 | No Corrosion |
| Water Absorption | ASTM D570 | 0.2% |
| Fungus Resistance | ASTM G21 | No Growth |

Adhesive

| | | |
|--|------------|---|
| Adhesive softening point | ASTM E28 | 92°C +/- 5°C |
| Adhesive peel strength (300mm/min at 23°C) | ASTM D1000 | 35 pli 20 pli |
| - to steel, alum, P.E. | | |
| - to PVC | | |
| Adhesive Lap Shear (1in./min at 23°C) | ASTM D1002 | 125 psi (0.875 MPa) |
| Adhesive Blocking (30°C) | ASTM D1146 | No blocking |
| Adhesive Water Adsorption | ASTM D570 | less than 0.3% |
| Water Penetration | STM 706 | No penetration after 236 hrs. (min) of continuous immersion |

DSG-Canusa

There's no end to what we cover

Using heat shrink technology, DSG-Canusa provides electrical and mechanical insulation for electrical/utility, communications, automotive, and electronics markets. Our continued investment in research and development continues to yield new products to meet industry trends. Moreover, an aptitude and readiness to engineer unique solutions to suit Customer applications has earned us a reputation of excellence in Customer satisfaction. DSG-Canusa is a market leader with manufacturing and support facilities throughout the globe.

www.dsgcanusa.com

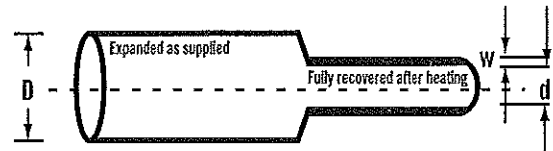
All information contained in this leaflet is believed to be reliable. We advise however that customers should separately evaluate the suitability of our products for their particular application. DSG-Canusa and Shawcor give no guarantees in respect of the accuracy or sufficiency of the information presented and disclaim any liability regarding its use. Our responsibilities are only those listed in our Standard Terms and Conditions of Sale for these products. In no instance will we be liable for any eventual, indirect, or consequential damage or damages arising from the sale, resale, transfer, use or misuse of the product.

Dimensions

| ORDER REF. NO. METRIC | ORDER REF. NO. IMPERIAL | EXPANDED | | RECOVERED | | WALL THICKNESS (mm) | APPLICATION RANGE FOR GENERAL USE | SHEATHING SHELF CONDUCTOR SIZE | LENGTHS | | | |
|-----------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|---------------------|-----------------------------------|--------------------------------|----------|------------|-----|------------|
| | | INTERNAL DIAMETER (mm) | INTERNAL DIAMETER (in) | INTERNAL DIAMETER (mm) | INTERNAL DIAMETER (in) | | | | mm | in | | |
| 0089 | 0350* | 8.9 | 0.35 | 3.0 | 0.12 | 1.8 | 0.07 | 3.5-3 | 15-3 | #14 - #10 | 1.2 | 6, 48 |
| 0130 | 0500* | 13.0 | 0.51 | 4.1 | 0.16 | 2.4 | 0.080 | 4.5-11 | 2-45 | #8 - #6 | 1.2 | 6, 48 |
| 0191 | 0750 | 19.1 | 0.75 | 6.1 | 0.24 | 2.5 | 0.09 | 6.5-16.5 | 25-65 | #6 - #2 | 1.2 | 9, 12, 48 |
| 0279 | 1100 | 27.9 | 1.10 | 8.9 | 0.35 | 3.0 | 0.12 | 10-24 | 4-95 | #1 - 3/0 | 1.2 | 9, 12, 48 |
| 0381 | 1500 | 38.1 | 1.50 | 11.9 | 0.47 | 4.1 | 0.16 | 13-35 | 5-1.4 | 2/0 - 350 | 1.2 | 9, 12, 48 |
| 0508 | 2000 | 50.8 | 2.00 | 16.0 | 0.63 | 4.1 | 0.16 | 17.5-44 | 7-1.75 | 250 - 500 | 1.2 | 9, 12, 48 |
| 0681 | 2700 | 68.1 | 2.70 | 22.1 | 0.87 | 4.1 | 0.16 | 24-59 | 95-2.3 | 600 - 1600 | 1.2 | 12, 18, 48 |
| 0899 | 3500* | 89.9 | 3.54 | 30.0 | 1.18 | 4.1 | 0.16 | 33-80 | 1.3-3.1 | 800 - 1250 | 1.2 | 12, 18, 48 |
| 1199 | 4700* | 119.9 | 4.72 | 39.9 | 1.57 | 4.2 | 0.17 | 44-104 | 1.75-4.1 | 1500-2500 | 1.2 | 12, 18, 48 |

* FCFW 3500 and FCFW 4700 are not UL or CSA listed.

** Meets the material performance of MIL Spec only.



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. For each item, please specify the product name plus each of the following options:

1 Order Reference Number

See above in the "Dimensions" chart

2 Color Options

black | red

3 Printing Options

printed | unprinted

4 Lining Options

lined | unlined

5 Length Options

(specify metric or imperial)

See above in the "Dimensions" chart

For Example: FCFW, 1500, black, unprinted, unlined, 48" lengths

FOR INFORMATION ON CUSTOMER SPECIFIC SIZES AND LENGTH OPTIONS CONTACT OUR SALES REPRESENTATIVE

Standards: UL486D, CSA C22.2 No. 198.2, ANSI C119.1, Western Underground Guides Nos. 2.4, 2.5, MIL-DTL-23053/15, Class 1, IEEE 383 Vertical Flame Test, ANSI C37.20.2, ICEA and NEMA insulation thickness requirements.