

DSG-CANUSA

A SHAWCOR COMPANY

INSULATE
SEAL
PROTECT

MIL SPEC PRODUCTS



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CPX 100

INSULATE
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PROTECT

2:1
SHRINK RATIO



THIN WALL CROSS-LINKED POLYOLEFIN

FLEXIBLE, MULTI-PURPOSE HEAT SHRINK TUBING

FEATURES AND BENEFITS

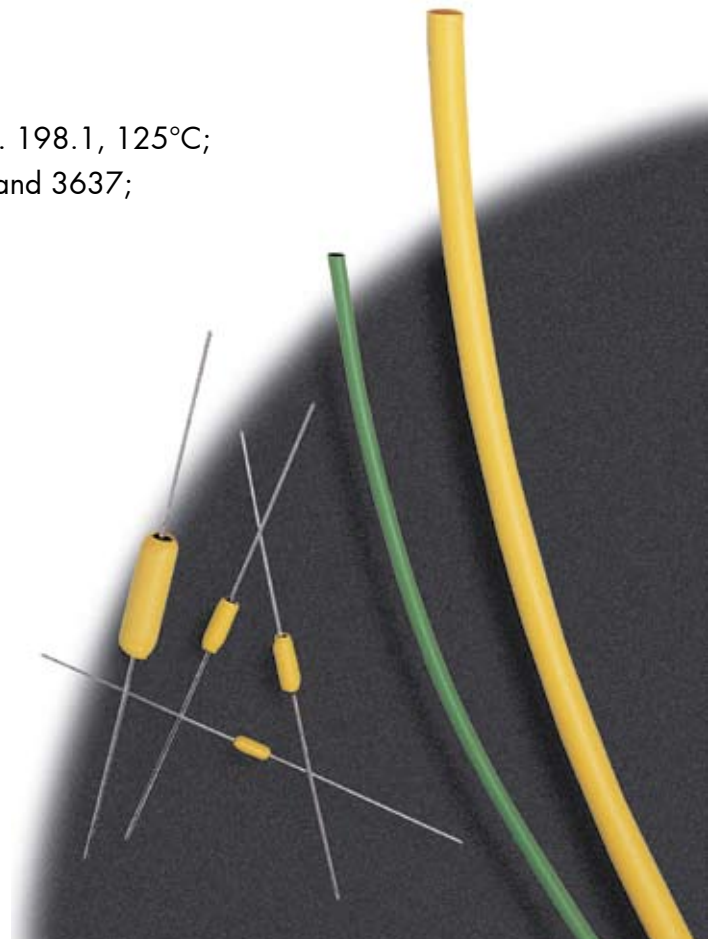
- 2:1 shrink ratio
- Flame retardant (colours only)
- Resistant to common fluids and solvents
- Economical mechanical protection for terminal strain relief and wire bundling
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 90°C

STANDARDS

- Meets UL 224, 125°C (colours only); CSA C22.2 No. 198.1, 125°C; SAE-AMS-DTL-23053/5, Class 1 and 2, AMS 3636 and 3637; DEF STAN 59-97, Issue 3, Type 2a

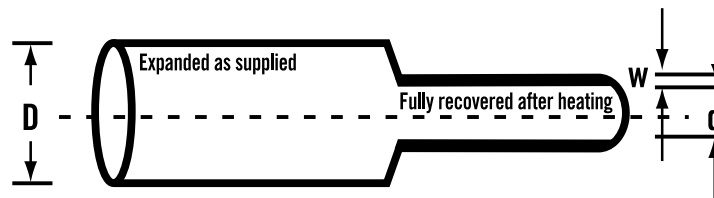
TYPICAL APPLICATIONS

- Electrical insulation of wire splices and terminals
- Strain relief of wire terminations
- Protects components from abrasion and fluids



DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Wall Thickness (nom.) W			
	mm	in	mm	in	mm	in	m	ft
0047	1.2	3/64	0.6	3/128	0.41	0.016	300	1000
0063	1.6	1/16	0.8	1/32	0.43	0.017	300	1000
0094	2.4	3/32	1.2	3/64	0.51	0.020	300	1000
0125	3.2	1/8	1.6	1/16	0.51	0.020	300	1000
0187	4.8	3/16	2.4	3/32	0.51	0.020	300	1000
0250	6.4	1/4	3.2	1/8	0.64	0.025	150	500
0375	9.5	3/8	4.7	3/16	0.64	0.025	150	500
0500	12.7	1/2	6.4	1/4	0.64	0.025	60	200
0625	16.0	5/8	8.0	5/16	0.76	0.030	60	200
0750	19.0	3/4	9.5	3/8	0.76	0.030	30	100
1000	25.4	1	12.7	1/2	0.89	0.035	30	100
1250	32.0	1 ¼	16.0	5/8	0.89	0.035	30	100
1500	38.1	1 ½	19.0	3/4	1.02	0.040	30	100
2000	50.8	2	25.4	1	1.14	0.045	30	100
3000	76.2	3	38.0	1 ½	1.27	0.050	15	50
4000	101.6	4	50.8	2	1.40	0.055	15	50



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.
- Select options:
 - Colour: Black (BK), Red (RD), White (WT), Clear (CL), Blue (BL), Yellow (YL), Green (GR)
 - Length: Standard Stick, Spool or custom length
- Please specify the product name, order reference number and options you require
- Order Example: CPX 100, 0375, black, 500 ft

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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LOW VOLTAGE BUS BAR INSULATION SYSTEMS THIN WALL CROSS-LINKED POLYOLEFIN

Problem: A leading supplier of Wind Energy Generation equipment was looking for a low cost solution to insulate bus bars. The challenge was to displace expensive low voltage electrical power cables using large copper conductors with an alternative cost effective insulated bus bar system. The insulated bus bar connects power generated from the wind turbines to the low voltage underground electrical transmission and distribution cable network that supplies electricity to the grid. The application required insulation of three inch round aluminum bus bars which provided the equivalent current throughput as copper conductors in low voltage cables, but at a much lower cost. The solution also required flame retardant insulation material capable of sustaining extreme heat and emergency overload conditions without propagating a flame. The aluminum bus bars would be connected in 20 ft sections for a total of approximately 220 ft length per phase in every wind tower. Typically each tower would have 6 x 200 ft lengths of continuous bus bars installed.

Solution: DSG-Canusa's CPX 100 four inch was recommended to insulate the low voltage bus bar made from 3 inch diameter aluminum pipe. CPX 100 is also rated to 600 V, flame retardant and offers a cost effective solution that provides excellent electrical, thermal and physical properties.

In terms of application, the CPX 100 tube can be easily cut to length and applied on the various sections of aluminum bus bars and recovered consistently through a conveyer style heat shrink appliance to maximize production output. The product supplied was four inch in expanded diameter, unlined and red in colour to identify as a live electrical phase line.



PRODUCT NAME

CPX 100

PRODUCT DESCRIPTION

Flexible, thin wall, flame retardant multi-purpose heat shrink tubing

APPLICATION

- Suitable for colour coding and low voltage electrical insulation applications
- Suitable for protecting against common fluids and solvents
- Ideal for wiring devices where abrasion resistance and electrical protection are required
- Suitable for use in environments where flame retardancy is required for health and safety reasons, e.g. use of fire retardant materials that can aid in rescue activities and prevent injury to those involved in fire and evacuation efforts

ADVANTAGES

- Improves time of application and eliminates need for high temperature application that can damage wires
- Multi purpose uses helps to reduce SKUs by consolidating on one product or stocking reels
- Resistant to a wide range of fluids and solvents
- 2:1 shrink ratio allows for coverage of irregularly shaped connectors and components
- In addition to weather proofing the connection, it also provides strain relief and vibration resistance

MARKET SEGMENTS

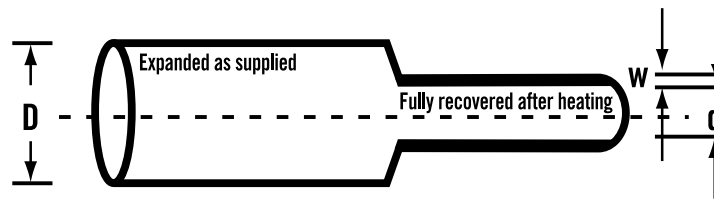
Automotive, Electronics, Electrical, Industrial OEM

OTHER POTENTIAL USERS

Auto manufacturers, OEM battery cable manufacturers, Electrical OEMs and low voltage switch gear manufacturers, Power distribution and panel builders for low voltage applications

DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Wall Thickness (nom.) W			
	mm	in	mm	in	mm	in	m	ft
0047	1.2	3/64	0.6	3/128	0.41	0.016	300	1000
0063	1.6	1/16	0.8	1/32	0.43	0.017	300	1000
0094	2.4	3/32	1.2	3/64	0.51	0.020	300	1000
0125	3.2	1/8	1.6	1/16	0.51	0.020	300	1000
0187	4.8	3/16	2.4	3/32	0.51	0.020	300	1000
0250	6.4	1/4	3.2	1/8	0.64	0.025	150	500
0375	9.5	3/8	4.7	3/16	0.64	0.025	150	500
0500	12.7	1/2	6.4	1/4	0.64	0.025	60	200
0625	16.0	5/8	8.0	5/16	0.76	0.030	60	200
0750	19.0	3/4	9.5	3/8	0.76	0.030	30	100
1000	25.4	1	12.7	1/2	0.89	0.035	30	100
1250	32.0	1 ¼	16.0	5/8	0.89	0.035	30	100
1500	38.1	1 ½	19.0	3/4	1.02	0.040	30	100
2000	50.8	2	25.4	1	1.14	0.045	30	100
3000	76.2	3	38.0	1 ½	1.27	0.050	15	50
4000	101.6	4	50.8	2	1.40	0.055	15	50



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.
- Select options:
 - Colour: Black (BK), Red (RD), White (WT), Clear (CL), Blue (BL), Yellow (YL), Green (GR)
 - Length: Standard Stick, Spool or custom length
- Please specify the product name, order reference number and options you require
- Order Example: CPX 100, 0375, black, 500 ft

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

CPX 201

INSULATE
SEAL
PROTECT

3:1
SHRINK RATIO



THIN WALL CROSS-LINKED POLYOLEFIN

YELLOW AND GREEN STRIPED HEAT SHRINK TUBING THAT IS FLEXIBLE AND FLAME RETARDANT

FEATURES AND BENEFITS

- High shrink ratio: 3:1
- Striped colour combination designates international electrical grounding
- Flame retardant
- Resistant to common fluids and solvents
- Flexible
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 90°C

STANDARDS

- Meets SAE-AMS-DTL-23053/5 Class 1 (performance and material); AMS 3636

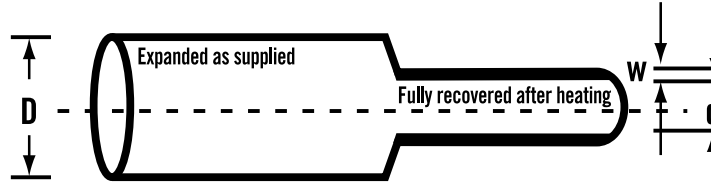
TYPICAL APPLICATIONS

- Identify ground wire and terminals
- Electrical insulation of in-line connections



DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Wall Thickness (nom.) W			
	mm	in	mm	in	mm	in	m	ft
0125	3.2	1/8	1.0	0.039	0.55	0.022	150	500
0187	4.8	3/16	1.5	0.059	0.60	0.024	60	200
0250	6.4	1/4	2.0	0.079	0.65	0.026	150	500
0375	9.5	3/8	3.0	0.118	0.75	0.030	60	200
0500	12.7	1/2	4.0	0.157	0.75	0.030	60	200
0750	19.0	3/4	6.0	0.236	0.85	0.033	30	100
1000	25.4	1	8.0	0.315	1.00	0.039	30	100
1535	39.0	1.50	13.0	0.512	1.15	0.045	30	100



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.
- Select options:
 - Colour: Yellow/green stripes
 - Printing: Printed or Unprinted
 - Length: Continuous reels
- Please specify the product name, order reference number and options you require
- Order Example: CPX 201, 0250, yellow/green stripes, unprinted, 500 ft lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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CPX 300

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3:1
SHRINK RATIO



THIN WALL HIGH SHRINK RATIO CROSS-LINKED POLYOLEFIN

HIGH SHRINK RATIO, FLEXIBLE HEAT SHRINK TUBING

FEATURES AND BENEFITS

- High shrink ratio (3:1) is ideal for covering irregularly sized objects
- Resistant to common fluids and solvents
- Flame retardant
- Flexible
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 90°C

STANDARDS

- Meets UL 224 125°C
- CSA C22.2 No. 198.1 125°C
- SAE-AMS-DTL-23053/5 Class 1 and 2
- DEF STAN 59-97 Issue 3 Type 2a

TYPICAL APPLICATIONS

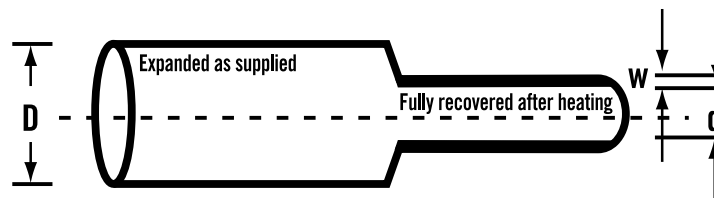
- Electrical insulation of in-line splices
- Strain relief of terminals
- Colour coding of electronic components



THIN WALL HIGH SHRINK RATIO CROSS-LINKED POLYOLEFIN **CPX 300**

DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Wall Thickness (nom.) W			
	mm	in	mm	in	mm	in	m	ft
0125	3.2	1/8	1.10	0.042	0.51	0.020	300	1,000
0187	4.8	3/16	1.60	0.063	0.70	0.020	300	1,000
0250	6.4	1/4	2.10	0.083	0.66	0.026	150	500
0375	9.5	3/8	3.20	0.125	0.76	0.030	150	500
0500	12.7	1/2	4.20	0.165	0.76	0.030	60	200
0750	19.1	3/4	6.40	0.250	0.84	0.033	30	100
1000	25.4	1	8.50	0.333	0.99	0.039	30	100
1500	38.1	1½	12.70	0.500	1.14	0.045	30	100



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.
- Select options:
 - Colour: Black (BK), Red (RD), White (WT), Blue (BL), Yellow (YL), Green (GR)
 - Printing: Printed or Unprinted
 - Length: Continuous reels
- Please specify the product name, order reference number and options you require
- Order Example: CPX 300, 0375, black, unprinted, 500 ft lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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CPX 876

INSULATE
SEAL
PROTECT

2:1
SHRINK RATIO



THIN WALL HIGHLY FLAME RETARDANT CROSS-LINKED POLYOLEFIN

FLEXIBLE, HIGHLY FLAME RETARDANT HEAT SHRINK TUBING, UL VW-1 RATED

FEATURES AND BENEFITS

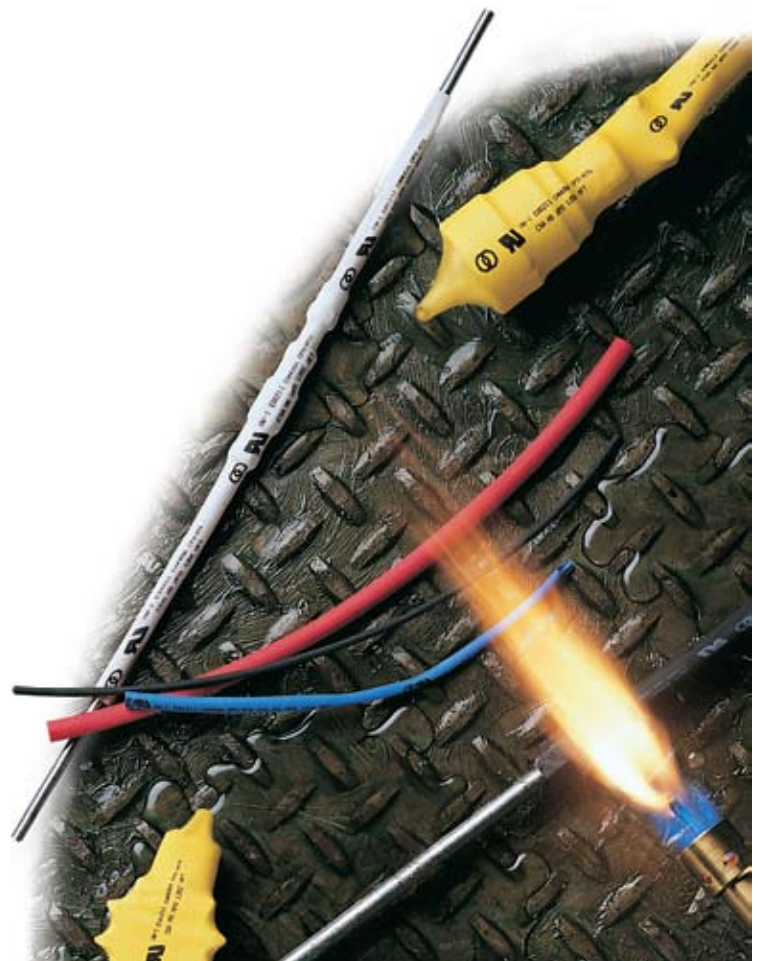
- 2:1 shrink ratio
- Highly flame retardant for use in consumer products
- Low shrink temperature reduces risk of damage to electronic components
- Flexible
- Resistant to common fluids and solvents
- Printable
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 85°C

STANDARDS

- Meets UL 224 125°C VW-1
- CSA C22.2 No. 198.1 125°C OFT
- SAE-AMS-DTL-23053/5 Class 3
- DEF STAN 59-97 Issue 3 Type 1a

TYPICAL APPLICATIONS

- Strain relief of wire connections
- Insulation of in-line splices
- Protection and bundling of small harnesses

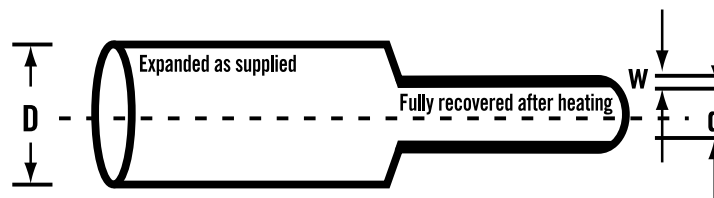


THIN WALL HIGHLY FLAME RETARDANT CROSS-LINKED POLYOLEFIN

CPX 876

DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Wall Thickness (nom.) W			
	mm	in	mm	in	mm	in	m	ft
0047	1.2	3/64	0.6	3/128	0.45	0.018	300	1,000
0062	1.6	1/16	0.8	1/32	0.45	0.018	300	1,000
0093	2.4	3/32	1.2	3/64	0.51	0.020	300	1,000
0125	3.2	1/8	1.6	1/16	0.51	0.020	300	1,000
0187	4.8	3/16	2.4	3/32	0.51	0.020	300	1,000
0250	6.4	1/4	3.2	1/8	0.64	0.025	150	500
0375	9.5	3/8	4.8	3/16	0.64	0.025	150	500
0500	12.7	1/2	6.4	1/4	0.64	0.025	60	200
0625	16.0	5/8	8.0	5/16	0.64	0.030	60	200
0750	19.0	3/4	9.5	3/8	0.76	0.030	30	100
1000	25.4	1	12.7	1/2	0.89	0.035	30	100
1250	32.0	1 ¼	16.0	5/8	0.89	0.040	30	100
1500	38.1	1 ½	19.0	3/4	1.02	0.040	30	100
2000	50.8	2	25.4	1	1.14	0.060	30	100
3000	76.2	3	38.1	1 ½	1.27	0.060	15	50
4000	101.6	4	50.8	2	1.40	0.060	15	50



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.
- Select options:
 - Colour: Black (BK), Red (RD), White (WT), Blue (BL), Yellow (YL), Green (GR)
 - Printing: Printed or Unprinted
 - Length: Continuous reels
- Please specify the product name, order reference number and options you require
- Order Example: CPX 876, 0125, black, unprinted, 1,000 ft lengths

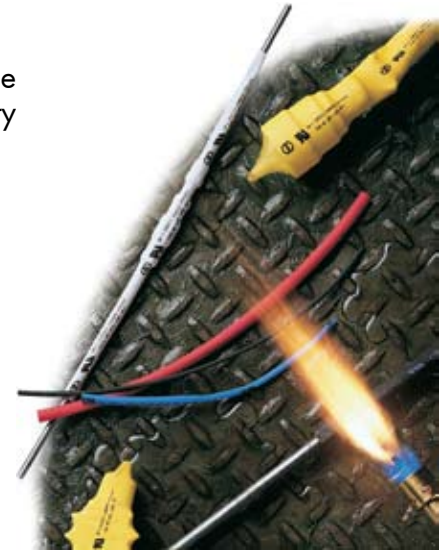
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HIGHLY FLAME RETARDANT HEAT SHRINK TUBING THIN WALL CROSS-LINKED POLYOLEFIN

CPX 876 is a thin wall polyolefin heat shrink tubing that offers exceptional flame retardance for consumer goods applications or when UL 224 VW-1 flammability resistance is required.



PRODUCT NAME

CPX 876

PRODUCT DESCRIPTION

Exceptional flame retardant heat shrink tubing

APPLICATION

- Electrical insulation of wire terminations and in-line splices
- Strain relief of fine gauge wire terminations in consumer goods
- Bundling of wire harnesses in operating temperatures up to 135°C
- Highly flame retardant to meet Military, Automotive and Consumer specifications
- Used for applications where safety is a priority, i.e. airbags
- Colours and printable surface can be used for identification of components
- Shrink temperature of 85°C allows insulation and protection of temperature sensitive components

MARKET SEGMENTS

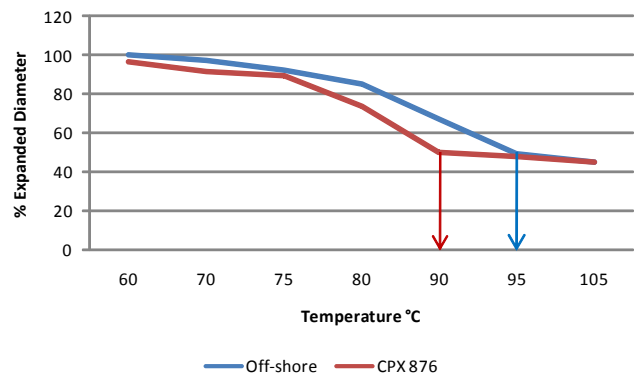
Consumer electronics, Military, Automotive

STANDARDS

- SAE-DTL-23053/5 Class 3
- UL 224 125°C, 600 V VW-1
- CSA C22.2 No. 198.1 125°C OFT
- DEF STAN 59-97 Issue 3 Type 1a

ADVANTAGES

- Rapid shrink profile with full recovery at 90°C
- Shrink profile in line with Tyco Verafit and Sumitmo B2
- Full shrink temperature is 5°C less than off-shore products
- Low shrink temperatures allow trouble-free application on temperature sensitive components
- RoHS compliant formulation

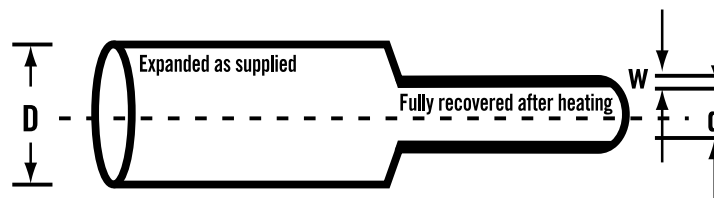


THIN WALL HIGHLY FLAME RETARDANT CROSS-LINKED POLYOLEFIN

CPX 876

DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Wall Thickness (nom.) W			
	mm	in	mm	in	mm	in	m	ft
0047	1.2	3/64	0.6	3/128	0.45	0.018	300	1,000
0062	1.6	1/16	0.8	1/32	0.45	0.018	300	1,000
0093	2.4	3/32	1.2	3/64	0.51	0.020	300	1,000
0125	3.2	1/8	1.6	1/16	0.51	0.020	300	1,000
0187	4.8	3/16	2.4	3/32	0.51	0.020	300	1,000
0250	6.4	1/4	3.2	1/8	0.64	0.025	150	500
0375	9.5	3/8	4.8	3/16	0.64	0.025	150	500
0500	12.7	1/2	6.4	1/4	0.64	0.025	60	200
0625	16.0	5/8	8.0	5/16	0.64	0.030	60	200
0750	19.0	3/4	9.5	3/8	0.76	0.030	30	100
1000	25.4	1	12.7	1/2	0.89	0.035	30	100
1250	32.0	1¼	16.0	5/8	0.89	0.040	30	100
1500	38.1	1½	19.0	3/4	1.02	0.040	30	100
2000	50.8	2	25.4	1	1.14	0.060	30	100
3000	76.2	3	38.1	1½	1.27	0.060	15	50
4000	101.6	4	50.8	2	1.40	0.060	15	50



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.
- Select options:
 - Colour: Black (BK), Red (RD), White (WT), Blue (BL), Yellow (YL), Green (GR)
 - Printing: Printed or Unprinted
 - Length: Continuous reels
- Please specify the product name, order reference number and options you require
- Order Example: CPX 876, 0125, black, unprinted, 1,000 ft lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

CPA 300

INSULATE
SEAL
PROTECT

3:1
SHRINK RATIO



THIN WALL ADHESIVE LINED CROSS-LINKED POLYOLEFIN

ADHESIVE LINED HEAT SHRINK TUBING IDEAL FOR APPLICATIONS WHERE BOTH EXCEPTIONAL FLAME RETARDANCY AND ENVIRONMENTAL SEALING CAPABILITIES ARE REQUIRED

FEATURES AND BENEFITS

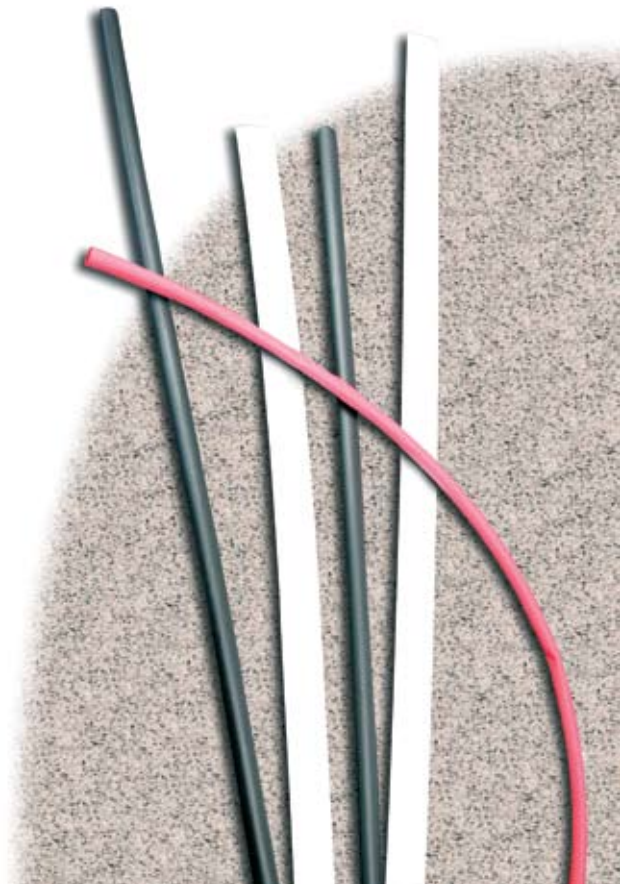
- 3:1 shrink ratio
- Highly flame retardant
- High shrink ratio allows for coverage of irregularly shaped connectors and components
- Adhesive liner bonds to plastics, rubber, neoprene, steel and polyethylene
- Superior sealing against water, moisture and other contaminants
- Superior protection for ring terminals without excessive adhesive flow
- Continuous operating temperature: -55°C to 125°C
- Shrink temperature: 120°C

STANDARDS

- Meets SAE-AMS-DTL-23053/4, Class 3
- UL 224, 125°C
- Automotive OEM Approvals

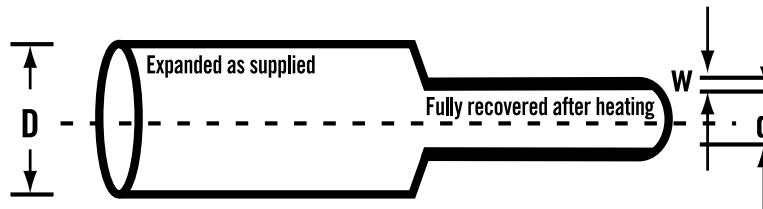
TYPICAL APPLICATIONS

- Environmental sealing of simple in-line splices
- Strain relief and sealing of connectors and terminals
- Mechanical protection of components



DIMENSIONS

Order Number	Expanded		Recovered						Lengths (Sticks)	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Total Wall Thickness (nom.) W		Meltable Wall Thickness (nom.)			
	mm	in	mm	in	mm	in	mm	in	m	in
0125	3.2	1/8	1.0	0.040	1.0	0.040	0.5	0.020	1.2	48
0187	4.7	3/16	1.5	0.060	1.0	0.040	0.5	0.020	1.2	48
0250	6.4	1/4	2.0	0.080	1.0	0.040	0.5	0.020	1.2	48
0375	9.5	3/8	3.2	0.125	1.5	0.060	0.7	0.027	1.2	48
0500	12.7	1/2	4.1	0.160	1.8	0.070	0.8	0.030	1.2	48
0750	19.1	3/4	6.4	0.250	1.8	0.070	0.8	0.030	1.2	48
1000	25.4	1	8.1	0.320	2.5	0.100	1.0	0.040	1.2	48
1250	31.8	1¼	10.6	0.416	2.5	0.100	1.0	0.040	1.2	48
1500	39.9	1½	13.0	0.510	2.5	0.100	1.0	0.040	1.2	48



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.
- Select options:
 - Colour: Black (BK), White (WT), Red (RD)
- Please specify the product name, order reference number and options you require
- Order Example: CPA 300, 0125, black, 48 in lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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FUSE LINK PROTECTION THIN WALL ADHESIVE LINED CROSS-LINKED POLYOLEFIN

Problem: A customer needed a solution to insulate (mechanically protect), and waterproof the fuse links in refrigerators exposed to liquid condensation. They wanted to replace their current technology, epoxy covered plastic shells, which was prone to a number of problems including environmental, safety issues, long cure times, and failure in the field due to moisture ingress. DSG-Canusa presented a solution for waterproofing the fuse by recommending CPA 300 heat shrink tubing with a Coldmelt mastic inner liner.

Solution: The solution incorporated DSG-Canusa UL 224/CSA approved CPA 300, 3/8 in (70 mm) heat shrink tubing as the outer covering along with Coldmelt, 25 mm mastic inner liner. The Coldmelt mastic strips wrapped around the fuse link provides complete waterproof protection in addition to thermal protection during processing while the CPA 300 tubing provides flame retardance and sealing where it adheres to the wire to prevent moisture ingress.

The two part Coldmelt/heat shrink option provided added strain relief which not only reduced the effect of mechanical stresses during service but also ensured that the fuse remains below its trip point temperature of 84°C during processing.

PRODUCT NAME

CPA 300

PRODUCT DESCRIPTION

Adhesive lined, flame retardant heat shrink tube with high shrink ratio allowing for coverage of irregularly shaped connectors and components

ADVANTAGE

- Capability to provide professional customer service and custom solution
- Superior peel strength adhesive allowing more assurance of product reliability over time
- Better sealing efficiency ensuring no moisture ingress
- Improved time of application and limits exposure to high temperatures that can trip the fuse inside
- Allows for coverage of irregularly shaped connectors and components
- Protects against mechanical abuse

OTHER POTENTIAL USES

- Splice sealing
- Eyleit terminals



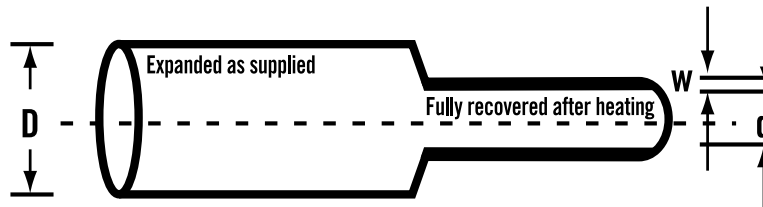
ADDITIONAL ATTRIBUTES

- Colour options for aesthetics
- Custom cut lengths available
- Non-tacky adhesive prevents sticking during cutting to improve cut quality



DIMENSIONS

Order Number	Expanded		Recovered						Lengths (Sticks)	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Total Wall Thickness (nom.) W		Meltable Wall Thickness (nom.)			
	mm	in	mm	in	mm	in	mm	in	m	in
0125	3.2	1/8	1.0	0.040	1.0	0.040	0.5	0.020	1.2	48
0187	4.7	3/16	1.5	0.060	1.0	0.040	0.5	0.020	1.2	48
0250	6.4	1/4	2.0	0.080	1.0	0.040	0.5	0.020	1.2	48
0375	9.5	3/8	3.2	0.125	1.5	0.060	0.7	0.027	1.2	48
0500	12.7	1/2	4.1	0.160	1.8	0.070	0.8	0.030	1.2	48
0750	19.1	3/4	6.4	0.250	1.8	0.070	0.8	0.030	1.2	48
1000	25.4	1	8.1	0.320	2.5	0.100	1.0	0.040	1.2	48
1250	31.8	1¼	10.6	0.416	2.5	0.100	1.0	0.040	1.2	48
1500	39.9	1½	13.0	0.510	2.5	0.100	1.0	0.040	1.2	48



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.
- Select options:
 - Colour: Black (BK), White (WT), Red (RD)
- Please specify the product name, order reference number and options you require
- Order Example: CPA 300, 0125, black, 48 in lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

THERMALLY STABLE MATERIAL

A SOLUTION TO THE HIGH COST OF FIRE IN ELECTRICAL CABLE SYSTEMS

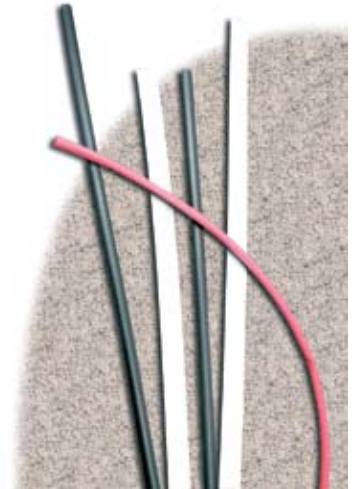
There is an increasing need to use thermally stable, flame retardant materials in electrical cable systems what will sustain extreme heat and emergency overload conditions. The requirement for flame retardancy is critical in operating environments where health and safety issues are of primary concern, e.g. automotive, marine and electronics

PRODUCT NAME

CPA 300

PRODUCT DESCRIPTION

High ratio, heat shrink tubing accommodates extreme differences between cables, connectors and backshells. The adhesive lining provides the strongest bond in the industry to copper, polyethylene, steel, PVC and other substrates.



APPLICATIONS

- Connectorized cable repair
- Water resistance and encapsulation of connectors, splices or other substrates
- Suitable for insulating and protecting LV electrical connectors and terminal blocks
- Environmental and outdoor protection
- Identifies cable polarity (Red: +ive, Black: -ive); cables are easier to route and troubleshoot
- Ideal for jacketing cables where abrasion resistance and electrical protection are required
- Strain relief of eyelit terminals and connectors

ADVANTAGES

- CPA adhesive has the industry's best peel strength allowing more assurance of product reliability over time
- Low shrink temperature improves time of application and eliminates the need for high temperature applications that can damage wires
- High shrink ratio allows for coverage of irregularly shaped connectors and components, as well as part rationalization when used to replace 2:1 ratio products
- DSG-Canusa technical and customer support
- Flammability resistance that meets UL 224

ADDITIONAL ATTRIBUTES

- Available in sizes from 1/8 in up to 1.5 in
- Available in Black, White and Red

MARKET SEGMENT

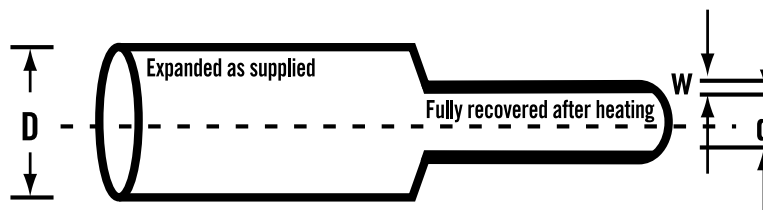
Automotive, Electrical, Industrial OEM

OTHER POTENTIAL USES

Automotive manufacturers, OEM battery cable manufacturers, Electric Utilities for cable splice protection, Consumer Electrics, Marine

DIMENSIONS

Order Number	Expanded		Recovered						Lengths (Sticks)	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Total Wall Thickness (nom.) W		Meltable Wall Thickness (nom.)			
	mm	in	mm	in	mm	in	mm	in	m	in
0125	3.2	1/8	1.0	0.040	1.0	0.040	0.5	0.020	1.2	48
0187	4.7	3/16	1.5	0.060	1.0	0.040	0.5	0.020	1.2	48
0250	6.4	1/4	2.0	0.080	1.0	0.040	0.5	0.020	1.2	48
0375	9.5	3/8	3.2	0.125	1.5	0.060	0.7	0.027	1.2	48
0500	12.7	1/2	4.1	0.160	1.8	0.070	0.8	0.030	1.2	48
0750	19.1	3/4	6.4	0.250	1.8	0.070	0.8	0.030	1.2	48
1000	25.4	1	8.1	0.320	2.5	0.100	1.0	0.040	1.2	48
1250	31.8	1¼	10.6	0.416	2.5	0.100	1.0	0.040	1.2	48
1500	39.9	1½	13.0	0.510	2.5	0.100	1.0	0.040	1.2	48



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.
- Select options:
 - Colour: Black (BK), White (WT), Red (RD)
- Please specify the product name, order reference number and options you require
- Order Example: CPA 300, 0125, black, 48 in lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

CNP 200

INSULATE
SEAL
PROTECT

2:1
SHRINK RATIO



THIN WALL NEOPRENE

NEOPRENE HEAT SHRINK TUBING SUITABLE FOR HARNESSING, HYDRAULIC COUPLINGS AND APPLICATIONS REQUIRING EXCEPTIONAL FLEXIBILITY

FEATURES AND BENEFITS

- 2:1 shrink ratio
- Superior cut-through and abrasion resistance
- Very flexible even at low temperatures
- Excellent oil resistance
- Continuous operating temperature: -70°C to 120°C
- Shrink temperature: 135°C

STANDARDS

- MIL-R-46846 Type 1
- Meets SAE-AMS-DTL-23053/1 Class 1 and 2
- AMS 3623

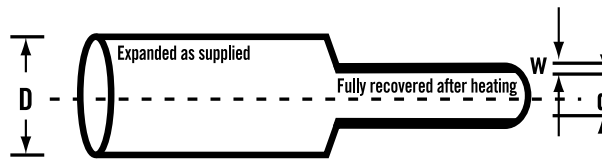
TYPICAL APPLICATIONS

- Insulation, strain relief and abrasion resistance for wire harnesses exposed to fluids and solvents



DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min) D		Internal Diameter (max) d		Wall Thickness (nom) W			
	mm	in	mm	in	mm	in	m	ft
0125	3.2	1/8	1.57	0.072	0.760	0.030	60	200
0187	4.8	3/16	2.36	0.106	0.890	0.035	60	200
0250	6.4	1/4	3.18	0.125	0.890	0.035	60	200
0375	9.5	3/8	4.75	0.187	1.020	0.040	60	200
0500	12.7	1/2	6.35	0.250	1.220	0.048	30	100
0625	16.0	5/8	7.92	0.312	1.320	0.052	30	100
0750	19.0	3/4	9.53	0.375	1.450	0.057	30	100
0875	22.2	7/8	11.11	0.437	1.650	0.065	30	100
1000	25.4	1	12.70	0.500	1.780	0.070	15	50
1250	32.0	1¼	15.54	0.612	2.210	0.087	15	50
1500	38.1	1½	19.05	0.750	2.410	0.095	15	50
1750	44.5	1¾	22.23	0.875	2.720	0.107	15	50
2000	50.8	2	25.40	1.000	2.790	0.110	15	50
3000	75.2	3	38.10	1.500	3.180	0.125	15	50



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.
- Select options:
 - Colour: Black (BK)
 - Printing: Printed or Unprinted
- Please specify the product name, order reference number and options you require
- Order Example: CNP 200, 0250, black, unprinted, 200 ft lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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DERAY® KY 175

INSULATE
SEAL
PROTECT

2:1
SHRINK RATIO



THIN WALL PVDF

TRANSPARENT, THIN WALL PVDF (POLYVINYLIDENE FLUORIDE) HEAT SHRINK TUBING IDEAL FOR ELECTRONIC, AUTOMOTIVE AND MILITARY APPLICATIONS REQUIRING PROTECTION AND SEE THROUGH INSPECTION IN AGGRESSIVE ENVIRONMENTS

FEATURES AND BENEFITS

- 2:1 shrink ratio
- Highly flame retardant
- High withstand to abrasion and cut-through
- Excellent chemical and solvent resistance
- Semi-rigid
- Continuous operating temperature: -55°C to 175°C
- Shrink temperature: 175°C

STANDARDS

- DEF STAN 59-97 Issue 3 Type 3a
- Meets SAE-AMS-DTL-23053/8
- AMS 3632
- UL 224 VW-1

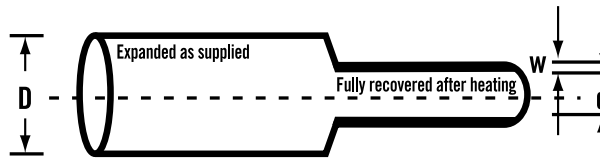
TYPICAL APPLICATIONS

- Strain relief and insulation of high temperature wires
- Protects against aggressive fluids and high temperatures



DIMENSIONS

Order Number	Expanded		Recovered				Lengths			
	Internal Diameter (min) D		Internal Diameter (max) d		Wall Thickness (nom) W		Cut		Spool	
	mm	in	mm	in	mm	in	m	in	m	ft
0047	1.2	3/64	0.6	3/128	0.24	0.009	1.2	48	300	984
0062	1.6	1/16	0.8	1/32	0.24	0.009	1.2	48	300	984
0094	2.4	3/32	1.2	3/64	0.24	0.009	1.2	48	300	984
0125	3.2	1/8	1.6	1/16	0.24	0.009	1.2	48	300	984
0187	4.8	3/16	2.4	3/32	0.24	0.009	1.2	48	300	984
0250	6.4	1/4	3.2	1/8	0.30	0.012	1.2	48	300	984
0375	9.5	3/8	4.8	3/16	0.30	0.012	1.2	48	150	492
0500	12.7	1/2	6.4	1/4	0.30	0.012	1.2	48	100	328
0750	19.0	3/4	9.5	3/8	0.40	0.016	1.2	48	50	164
1000	25.4	1	12.7	1/2	0.50	0.020	1.2	48	50	164



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.
- Select options:
 - Colour: Black (BK), Clear (natural)
 - Printing: Printed or Unprinted
 - Lengths: Spools or 48 in (1.2 m) cut lengths
- Please specify the product name, order reference number and options you require
- Order Example: DERAY® KY 175, 0125, black, unprinted, 984 ft lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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DERAY® V25

INSULATE
SEAL
PROTECT

2:1
SHRINK RATIO



DIESEL RESISTANT FLEXIBLE ELASTOMERIC TUBING

DIESEL RESISTANT ELASTOMERIC HEAT SHRINK TUBING SUITED FOR PROTECTING CABLES, WIRE HARNESSES AND BRAKE LINES IN TRANSPORTATION AND MILITARY APPLICATIONS WHERE RESISTANCE TO DIESEL, OIL, HYDRAULIC FLUIDS AND OTHER CHEMICALS IS CRITICAL

FEATURES AND BENEFITS

- 2:1 shrink ratio
- Long term resistance to diesel, hydraulic fluids and chemicals
- Flexible
- Flame retardant
- High abrasion and cut resistance
- Continuous operating temperature: -75°C to 150°C
- Shrink temperature: 130°C

STANDARDS

- Meets SAE-AMS-DTL-23053/16
- VG 95343 Part 05 Type D
- DEF STAN 59-97 Type 6B

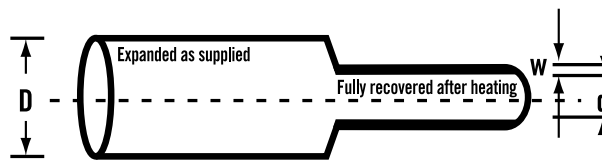
TYPICAL APPLICATIONS

- Protective covering for military cables and harnesses



DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min) D		Internal Diameter (max) d		Wall Thickness (nom) W			
	mm	in	mm	in	mm	in	m	ft
0125	3.2	1/8	1.6	1/16	0.80	0.031	300	984
0187	4.8	3/16	2.4	3/32	0.90	0.035	300	984
0250	6.4	1/4	3.2	1/8	1.00	0.039	300	984
0375	9.5	3/8	4.8	3/16	1.10	0.043	150	492
0500	12.7	1/2	6.4	1/4	1.30	0.051	100	328
0750	19.0	3/4	9.5	3/8	1.50	0.059	50	164
1000	25.4	1	12.7	1/2	1.90	0.075	50	164
1500	38.0	1½	19.0	3/4	2.50	0.098	50	164
2000	51.0	2	25.4	1	3.10	0.122	50	164
3000	76.0	3	38.0	1½	3.30	0.130	25	82



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.
- Select options:
 - Colour: Black (BK)
 - Printing: Printed or Unprinted
- Please specify the product name, order reference number and options you require
- Order Example: DERAY® V25, 0125, black, unprinted 984 ft lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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DERAY® VT 220

INSULATE
SEAL
PROTECT

2:1
SHRINK RATIO



THIN WALL VITON®

THIN WALL VITON® FLUROELASTOMER HEAT SHRINK TUBING SUITABLE FOR USE IN ELECTRONIC SYSTEMS AND COMPONENTS IN AUTOMOTIVE, MILITARY/AEROSPACE AND INDUSTRIAL APPLICATIONS REQUIRING OUTSTANDING HEAT AND FLUID RESISTANCE

FEATURES AND BENEFITS

- 2:1 shrink ratio
- Highly abrasion resistant
- High withstand to corrosive fluids in extreme temperatures
- Flame retardant
- Very flexible
- Easily hot stamped
- Continuous operating temperature: -55°C to 220°C
- Shrink temperature: 175°C

STANDARDS

- MIL-R-46846 Type 3 Class 1
- SAE-AMS-DTL-23053/13
- VG 95343 Part 05 Type E
- DEF STAN 59-97 Issue 3 Code 4a
- VDE PAN 6480 No. MP421

TYPICAL APPLICATIONS

- Bundling and strain relief of wire harnesses in high temperature applications

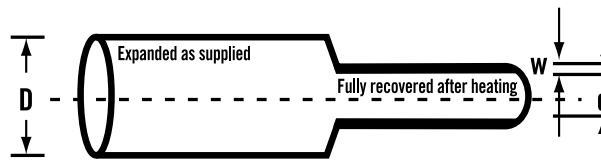
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DIMENSIONS

Order Number	Expanded		Recovered				Lengths	
	Internal Diameter (min) D		Internal Diameter (max) d		Wall Thickness (nom) W			
	mm	in	mm	in	mm	in	m	ft
0125	3.2	1/8	1.6	0.062	0.80	0.031	50	164
0187	4.8	3/16	2.4	0.094	0.90	0.035	50	164
0250	6.4	1/4	3.2	0.125	0.90	0.035	50	164
0375	9.5	3/8	4.8	0.188	1.00	0.039	50	164
0500	12.7	1/2	6.4	0.250	1.20*	0.047	30	98
0750	19.0	3/4	9.5	0.375	1.40*	0.055	30	98
1000	25.4	1	12.7	0.500	1.80*	0.071	30	98
1500	38.1	1½	19.0	0.750	2.40*	0.094	15	49
2000	50.8	2	25.4	1.000	2.80*	0.110	15	49

*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.
- Select options:
 - Colour: Black (BK)
 - Printing: Printed or Unprinted
- Please specify the product name, order reference number and options you require
- Order Example: DERAY® VT220, 0125, black, unprinted 164 ft lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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FCFW

INSULATE
SEAL
PROTECT

3:1
SHRINK RATIO



HEAVY WALL CROSS-LINKED POLYOLEFIN TUBING

HEAVY WALL HEAT SHRINK TUBING INSULATES AND PROTECTS ELECTRICAL SPLICES AND TERMINATIONS WHERE MAXIMUM FLAME RETARDANCY AND EXCEPTIONAL INSULATING AND SEALING CHARACTERISTICS ARE REQUIRED

FEATURES AND BENEFITS

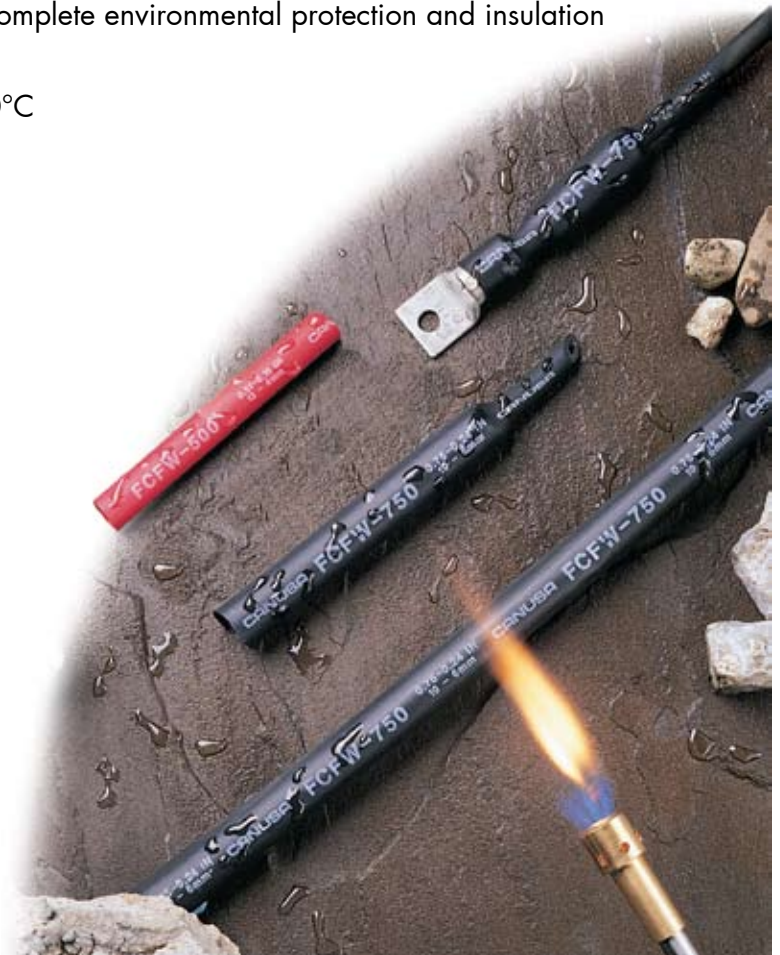
- 3:1 shrink ratio
- Flame retardant
- High impact and abrasion resistance - capable of withstanding severe mechanical abuse of U.R.D., submersible and direct burial installations
- FCFW tubing will not split or rupture during installation, even when overheated
- Optional thermoplastic adhesive liner provides complete environmental protection and insulation
- Rated for 1 kV, 90°C continuous use
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C

STANDARDS

- Meets UL 486D; CSA C22.2 No. 198.2; ANSI C119- 1; Western Underground Guides No. 2.4 and 2.5
- IEEE 383 Vertical Flame Test; ANSI C37.20.2; ICEA S-19- 8 and NEMA insulation thickness requirements
- SAE-AMS-DTL-23053/15 Class 1
- DNV Type approval

TYPICAL APPLICATIONS

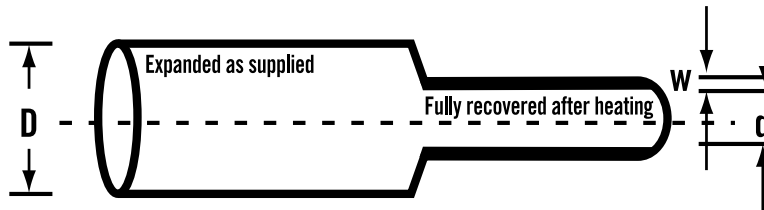
- Insulation of low voltage cables
- Battery cable protection
- Flame retardant systems



DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		600/1000 V SINGLE CONDUCTOR SIZE	LENGTHS	
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) d		WALL THICKNESS (NOM) W						
	MM	IN	MM	IN	MM	IN	MM	IN	AWG/MCM	M	IN
0350**	8.9	0.35	3.0	0.12	1.8	0.07	3.5 - 8	.15 - .3	#14 - #10	1.2	48
0500**	13.0	0.51	4.1	0.16	2.4	0.08	4.5 - 11	.2 - .45	#8 - #6	1.2	48
0750	19.1	0.75	6.1	0.24	2.5	0.09	6.5 - 16.5	.25 - .65	#6 - #2	1.2	48
1100	27.9	1.10	8.9	0.35	3.0	0.12	10 - 24	.4 - .95	#1 - 3/0	1.2	48
1500	38.1	1.50	11.9	0.47	4.1	0.16	13 - 35	.5 - 1.4	2/0 - 350	1.2	48
2000	50.8	2.00	16.0	0.63	4.1	0.16	17.5 - 44	.7 - 1.75	250 - 500	1.2	48
2700	68.1	2.70	22.1	0.87	4.1	0.16	24 - 59	.95 - 2.3	600 - 1000	1.2	48
3500*	89.9	3.54	30.0	1.18	4.1	0.16	33 - 80	1.3 - 3.1	800 - 1250	1.2	48
4700*	119.9	4.72	39.9	1.57	4.2	0.17	44 - 104	1.75 - 4.1	1500 - 2500	1.2	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 resulting wall thickness will be less than specified.
- Select Options:
 - Colour: Black (BK) or Red (RD)
 - Printing: Printed or Unprinted
 - Adhesive Lining: Lined (D) or Unlined (U)
 - Lengths: 6, 9, 12 or 48 inches
- Please specify the product name, order reference number and options you require.
- Order Example: FCFW, 1500, black, unprinted, unlined, 48 in lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

All information contained in this data sheet 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.

FIRE SYSTEM SAVINGS

A SOLUTION TO THE HIGH COST OF FIRE IN ELECTRICAL CABLE SYSTEMS

The hidden and direct costs of hard wire fires prove the benefits of using DSG-Canusa **FCFW Flame Retardant** heat shrink tubes. There is an increasing need to use thermally stable material in electrical cable systems that can sustain extreme heat and emergency overload conditions without propagating flame. The requirement for flame retardancy is critical in operating environments where health and safety issues are of primary concern. An accidental explosion or the overheating of conductors or cables should not result in a fire or downtime of a key piece of electrical equipment. The safety of people, goods and facilities depends heavily on the reliability of cables to supply necessary energy, communications and security under any emergency condition whether it be in shipboard, mining, mass transit, power plant systems or applications.



PRODUCT NAME

FCFW

PRODUCT DESCRIPTION

Heavy Wall, Flame Retardant, Heat Shrink Tube, optional liner

APPLICATION

- Suitable for insulating and protecting LV electrical connectors and terminal blocks
- Protects against corrosion from acid fumes in battery cable applications. Also protects against oil, fuel, water, salt, grease and other chemicals
- Identifies cable polarity (Red: positive, Black: negative); cables are easier to route and troubleshoot
- Ideal for jacketing cables where abrasion resistance and electrical protection are required
- Use of fire retardant materials can aid in rescue activities and prevent injury to those involved in fire and evacuation efforts

ADVANTAGE

- Offers maximum flame retardancy
- Protects against chemical corrosion
- Offers colour coding for cable identification
- Offers strain relief between cable and connector
- Offers abrasion resistance - prevents cable and jacket fatigue caused by vibration

MARKET SEGMENT

Electrical: Industrial OEM, Utility, Military and Transportation

OTHER POTENTIAL USERS

- Auto manufacturers
- OEM battery cable manufacturers
- Electric Utilities for cable splice protection

ADDITIONAL ATTRIBUTES

Offered with optional adhesive liner to provide complete environmental sealing and protection from moisture ingress

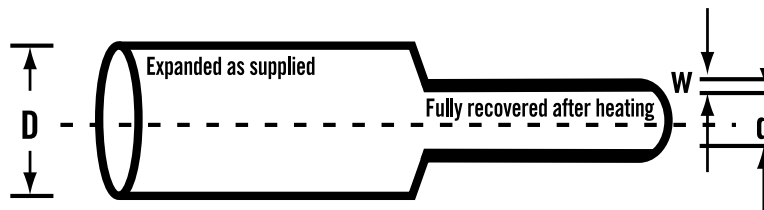
STANDARDS

UL 486D, CSA C22.2 No. 198.2, ANSI C119.1, Western Underground Guides No. 2.4 and 2.5, MIL-DTL-23053/15 Class 1, IEEE 383 Vertical Flame Test, ANSI C37.20.2, ICEA and NEMA Insulation Thickness Requirements

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		600/1000 V SINGLE CONDUCTOR SIZE	LENGTHS	
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) d		WALL THICKNESS (NOM) W						
	MM	IN	MM	IN	MM	IN	MM	IN	AWG/MCM	M	IN
0350**	8.9	0.35	3.0	0.12	1.8	0.07	3.5 - 8	.15 - .3	#14 - #10	1.2	48
0500**	13.0	0.51	4.1	0.16	2.4	0.08	4.5 - 11	.2 - .45	#8 - #6	1.2	48
0750	19.1	0.75	6.1	0.24	2.5	0.09	6.5 - 16.5	.25 - .65	#6 - #2	1.2	48
1100	27.9	1.10	8.9	0.35	3.0	0.12	10 - 24	.4 - .95	#1 - 3/0	1.2	48
1500	38.1	1.50	11.9	0.47	4.1	0.16	13 - 35	.5 - 1.4	2/0 - 350	1.2	48
2000	50.8	2.00	16.0	0.63	4.1	0.16	17.5 - 44	.7 - 1.75	250 - 500	1.2	48
2700	68.1	2.70	22.1	0.87	4.1	0.16	24 - 59	.95 - 2.3	600 - 1000	1.2	48
3500*	89.9	3.54	30.0	1.18	4.1	0.16	33 - 80	1.3 - 3.1	800 - 1250	1.2	48
4700*	119.9	4.72	39.9	1.57	4.2	0.17	44 - 104	1.75 - 4.1	1500 - 2500	1.2	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 resulting wall thickness will be less than specified.
- Select Options:
 - Colour: Black (BK) or Red (RD)
 - Printing: Printed or Unprinted
 - Adhesive Lining: Lined (D) or Unlined (U)
 - Lengths: 6, 9, 12 or 48 inches
- Please specify the product name, order reference number and options you require.
- Order Example: FCFW, 1500, black, unprinted, unlined, 48 in lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

EYELIT TERMINALS/BATTERY CABLES

ALLOWS COVERAGE OF IRREGULARLY SHOPED CONNECTORS AND COMPONENTS

FCFW, a heavy wall product, is commonly used in the heavy utility trucking industry such as construction and agriculture equipment manufactures.

PRODUCT NAME

FCFW

PRODUCT DESCRIPTION

Adhesive lined, flame retardant heat shrink tube with a high shrink ratio allowing for coverage of irregularly shaped connectors and components.



APPLICATION

- Provides mechanical strain relief to the cable
- Excellent electrical insulation
- Adhesive liner provides environmental seal for corrossions prevention
- Resistant to diesel, gasoline and other harsh chemicals

ADVANTAGE

- Available in black or red to identify cable polarity (Red: +ive, Black: -ive); cables are easier to route and troubleshoot
- Superior peel strength adhesive encapsulates terminal and prevents movement
- Better sealing efficiency ensuring no moisture ingress
- High shrink ratio allows for coverage of irregularly shaped connectors and components
- Non-tacky adhesive prevents sticking during cutting to improve cut quality
- Protects against mechanical abuse
- Coordination of the jacket recovery and adhesive flow ensures reliable application and minimizes adhesive flow onto the terminal

MARKET SEGMENT

Automotive, Electrical, Industrial OEM

OTHER POTENTIAL USERS

QuickCable, Noco, Textron, Autokabel

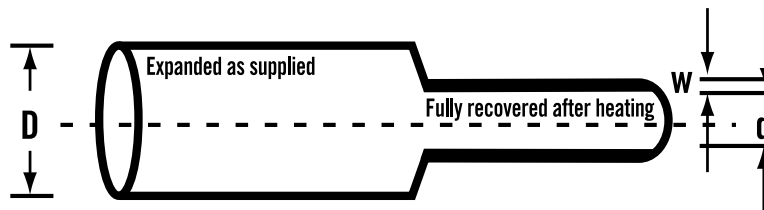
ADDITIONAL ATTRIBUTES

- Cut to length services available
- Colours and printing options for identification

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		600/1000 V SINGLE CONDUCTOR SIZE	LENGTHS	
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) d		WALL THICKNESS (NOM) W						
	MM	IN	MM	IN	MM	IN	MM	IN	AWG/MCM	M	IN
0350**	8.9	0.35	3.0	0.12	1.8	0.07	3.5 - 8	.15 - .3	#14 - #10	1.2	48
0500**	13.0	0.51	4.1	0.16	2.4	0.08	4.5 - 11	.2 - .45	#8 - #6	1.2	48
0750	19.1	0.75	6.1	0.24	2.5	0.09	6.5 - 16.5	.25 - .65	#6 - #2	1.2	48
1100	27.9	1.10	8.9	0.35	3.0	0.12	10 - 24	.4 - .95	#1 - 3/0	1.2	48
1500	38.1	1.50	11.9	0.47	4.1	0.16	13 - 35	.5 - 1.4	2/0 - 350	1.2	48
2000	50.8	2.00	16.0	0.63	4.1	0.16	17.5 - 44	.7 - 1.75	250 - 500	1.2	48
2700	68.1	2.70	22.1	0.87	4.1	0.16	24 - 59	.95 - 2.3	600 - 1000	1.2	48
3500*	89.9	3.54	30.0	1.18	4.1	0.16	33 - 80	1.3 - 3.1	800 - 1250	1.2	48
4700*	119.9	4.72	39.9	1.57	4.2	0.17	44 - 104	1.75 - 4.1	1500 - 2500	1.2	48

*FCFW 3500 and FCFW 4700 are not UL or CSA listed
 **Meets the material performance of MIL spec only



ORDERING

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- Select Options:
 - Colour: Black (BK) or Red (RD)
 - Printing: Printed or Unprinted
 - Adhesive Lining: Lined (D) or Unlined (U)
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CFHR

INSULATE
SEAL
PROTECT

6:1
SHRINK RATIO



HEAVY WALL, HIGH RATIO CROSS-LINKED POLYOLEFIN TUBING

HIGH RATIO HEAT SHRINK TUBING ACCOMMODATES EXTREME DIFFERENCES BETWEEN CABLES, CONNECTORS AND BACKSHELLS

FEATURES AND BENEFITS

- Up to 6:1 shrink ratio
- Accommodates a wide variety of connector shapes and configurations
- Available in semi-rigid or flexible material
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Available in 25 ft reels
- Flame retardant
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C

STANDARDS

- Meets material properties of SAE-AMS- DTL 23053/15
- Meets UL-4-V-O flame rating

TYPICAL APPLICATIONS

- Wire harnesses
- Abrasion and impact resistance
- Strain relief and protection of cables and connectors



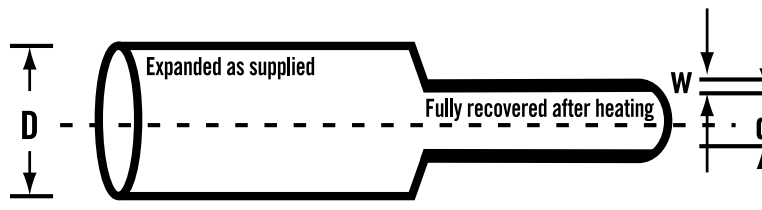
CFHR DIMENSIONS - SEMI-RIGID, FLAME RETARDANT MATERIAL

ORDER NUMBER	EXPANDED		RECOVERED				LENGTHS	
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) d		WALL THICKNESS (MIN) W			
	MM	IN	MM	IN	MM	IN	M	IN
0750	19.0	0.75	3.2	0.125	3.2	0.123	1.2	48
1300*	33.0	1.30	5.5	0.220	3.4	0.135	1.2	48
1750	44.4	1.75	7.4	0.290	3.6	0.140	1.2	48
2000	50.8	2.00	8.3	0.330	4.3	0.170	1.2	48
2750	69.8	2.75	11.7	0.460	4.8	0.190	1.2	48
3500	88.9	3.50	17.1	0.673	4.3	0.170	1.2	48
4700	119.4	4.70	22.9	0.900	4.8	0.190	1.2	48

*stock material is non-flame retardant and does not meet MIL spec.; flame retardant material is available and can be ordered as CFHR-FR 1300

CFHR-FR DIMENSIONS - FLEXIBLE, FLAME RETARDANT MATERIAL

1250	31.8	1.25	5.6	0.220	1.5	0.060	1.2	48
1750	44.4	1.75	8.0	0.315	2.4	0.095	1.2	48
2500	63.5	2.50	12.7	0.500	3.0	0.120	1.2	48
3000	76.2	3.20	19.1	0.750	3.6	0.140	1.2	48



ORDERING

- Select a dimension which will shrink snugly over the component to be covered. If recovery is restricted the resulting wall thickness will be less than specified.
- Select Options:
 - Printing: Printed or Unprinted
 - Adhesive Lining: Lined (D) or Unlined (U)
 - Lengths: 6, 12 or 48 inches, or 25 ft spools (unlined only)
- Please specify the product name, order reference number and options you require.
- Order Example: CFHR, 0750, black, unprinted, unlined, 25 ft lengths

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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HIGH RATIO 6:1 HEAT SHRINKABLE TUBING

ACCOMMODATES EXTREME DIFFERENCES BETWEEN CABLES, CONNECTORS AND BACKSHELLS

CFHR is an ideal solution for dealing with different diameter connectors, piping and components because of its ability to shrink to 1/6th of its size. Installation is easy for diameter sizes of up to 4.7 inches. Slide the tube over the various sized objects and shrink, easily covering size extremes.

CFHR is very cost effective, reducing the number of steps required for installation. Rather than using multiple low shrink ratio tubes (3:1) as fillers, installers can reduce their labour and material costs by using just one piece of the CFHR tube over the different figurations.

An optional feature with adhesive lining gives added protection and excellent seal to the joint.



PRODUCT NAME

CFHR

PRODUCT DESCRIPTION

High ratio heat shrinkable tubing

ADVANTAGE

- High shrink ratio of 6:1 allows the tube to follow the contour of the shape.
- Reduces the number of stock items in inventory.
- Provides excellent mechanical protection for cable joints.
- Provides complete environmental protection and is resistant to impact and abrasion.
- A thermoplastic adhesive lining provides a watertight seal.
- Available in 4 ft sticks, cut pieces or 25 ft spools (unlined only)
- Exceeds the material requirements of SAE- AMS-DTL-23053/15
- Flame retardant

ADDITIONAL ATTRIBUTES

- CFHR has superior adhesive bonding characteristics. The adhesive is applied at the last step in the manufacturing process without radiation from electron beams thus retaining all original bonding properties.

MARKET SEGMENT

Military, Electrical, Industrial, OEM and Transportation

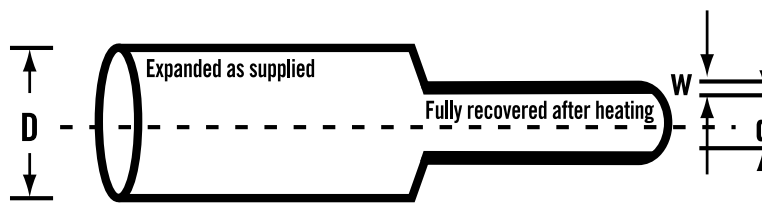
CFHR DIMENSIONS - SEMI-RIGID, FLAME RETARDANT MATERIAL

ORDER NUMBER	EXPANDED		RECOVERED				LENGTHS	
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) d		WALL THICKNESS (MIN) W			
	MM	IN	MM	IN	MM	IN	M	IN
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CFHR-FR DIMENSIONS - FLEXIBLE, FLAME RETARDANT MATERIAL

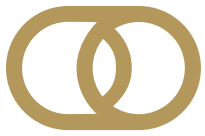
1250	31.8	1.25	5.6	0.220	1.5	0.060	1.2	48
1750	44.4	1.75	8.0	0.315	2.4	0.095	1.2	48
2500	63.5	2.50	12.7	0.500	3.0	0.120	1.2	48
3000	76.2	3.20	19.1	0.750	3.6	0.140	1.2	48



ORDERING

- Select a dimension which will shrink snugly over the component to be covered. If recovery is restricted the resulting wall thickness will be less than specified.
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