

# DSG-CANUSA

A SHAWCOR COMPANY

INSULATE  
SEAL  
PROTECT

## ELECTRONIC PRODUCTS



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# CPX 100

INSULATE  
SEAL  
PROTECT

2:1  
SHRINK RATIO



## THIN WALL CROSS-LINKED POLYOLEFIN

FLEXIBLE, MULTI-PURPOSE HEAT SHRINK TUBING

### FEATURES AND BENEFITS

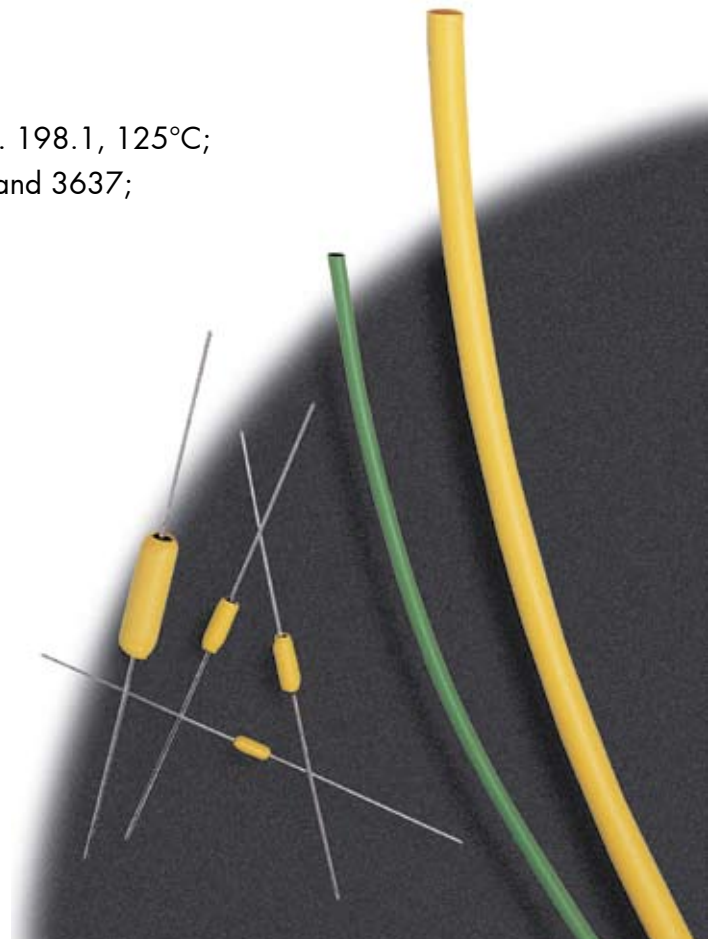
- 2:1 shrink ratio
- Flame retardant (colours only)
- Resistant to common fluids and solvents
- Economical mechanical protection for terminal strain relief and wire bundling
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 90°C

### 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

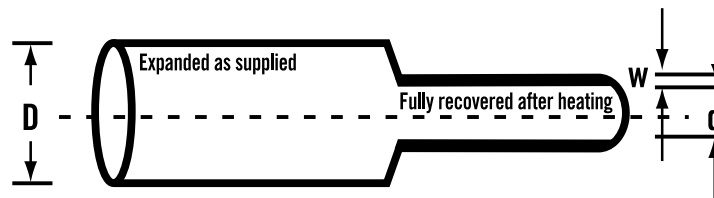
### TYPICAL APPLICATIONS

- 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

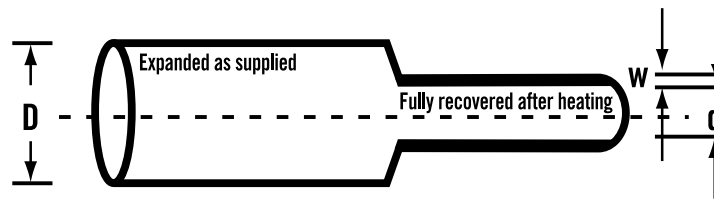
Automotive, Electronics, Electrical, Industrial OEM

### 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 300

INSULATE  
SEAL  
PROTECT

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

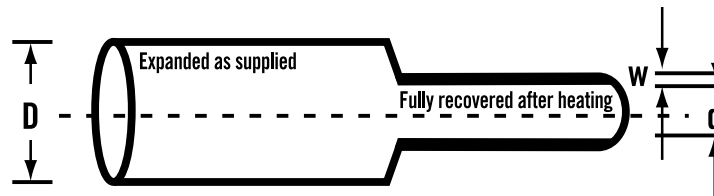
- Electrical insulation of in-line splices
- Strain relief of terminals
- Colour coding of electronic components



# 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

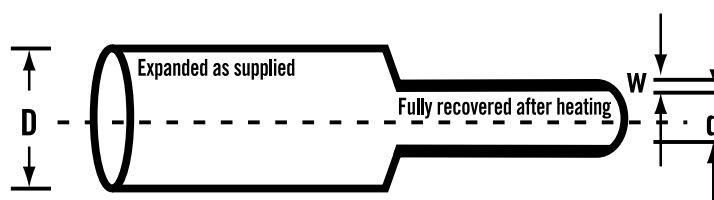


# THIN WALL HIGHLY FLAME RETARDANT CROSS-LINKED POLYOLEFIN

# 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	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.

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# DERAY® ITW

INSULATE  
SEAL  
PROTECT

>2:1  
SHRINK RATIO



## ULTRA THIN WALL CROSS-LINKED POLYOLEFIN

ULTRA THIN WALL, EXTREMELY FLEXIBLE POLYOLEFIN HEAT SHRINK TUBING DESIGNED FOR APPLICATIONS REQUIRING EXTREME FLEXIBILITY, QUICK SHRINK TIMES AND A THINNER PROFILE IN SPACE LIMITED APPLICATIONS

### FEATURES AND BENEFITS

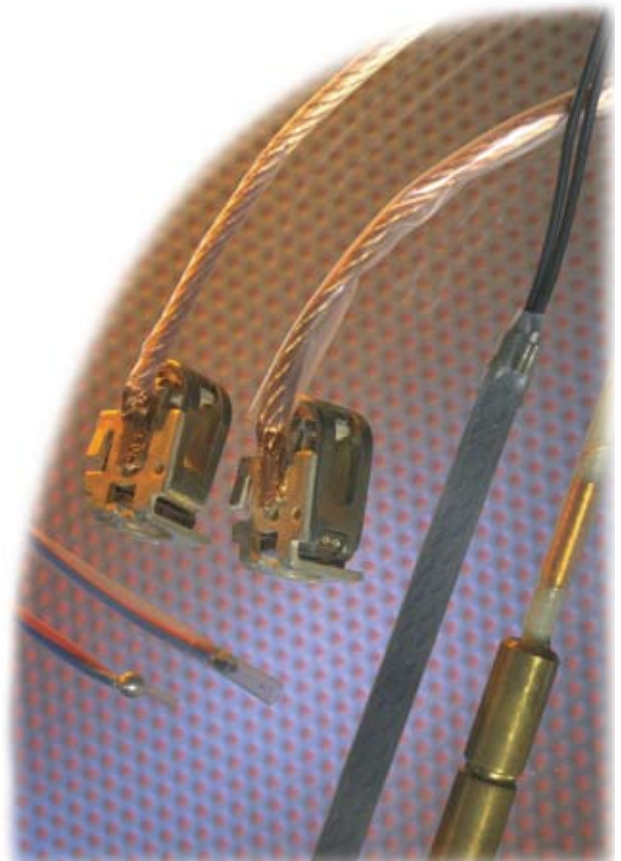
- >2:1 shrink ratio
- Ultra thin wall, flame retardant
- Ideal for space limited applications
- Thin wall provides quick shrinkage and allows tubing to conform better to the substrate
- Extremely flexible
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 90°C

### STANDARDS

- Meets ASTM D2671 flamability resistance requirements

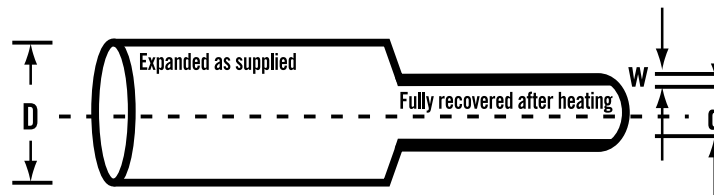
### TYPICAL APPLICATIONS

- Insulates and protects electronic components
- Strain relief on connectors



## 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
0098	2.5	0.098	0.8	.0314	0.30	0.012	300	984
0157	4.0	0.157	1.6	.0629	0.30	0.012	300	984
0220	5.6	0.220	2.4	.0944	0.30	0.012	300	984
0318	8.1	0.318	3.2	.1259	0.35	0.014	150	492
0433	11.0	0.433	4.8	.1889	0.35	0.014	150	492
0590	15.0	0.590	6.4	.2519	0.35	0.014	100	328
0787	20.0	0.787	9.5	.3740	0.45	0.018	50	164
1023	26.0	1.023	12.7	.5000	0.50	0.020	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: Clear (standard), Black (on request)
  - Printing: Printed or Unprinted
  - Length: Continuous reels
- Please specify the product name, order reference number and options you require
- Order Example: DERAY® ITW, 0157, black, unprinted, 984 ft length

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

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# CPA 100

INSULATE  
SEAL  
PROTECT

3:1  
SHRINK RATIO



## THIN WALL ADHESIVE LINED CROSS-LINKED POLYOLEFIN

ADHESIVE LINED HEAT SHRINK TUBING WITH ENVIRONMENTAL SEALING CAPABILITY IDEAL FOR A VARIETY OF APPLICATIONS INCLUDING AUTOMOTIVE AND MARINE WIRE HARNESS BUNDLES, INDUSTRIAL SPLICES, BREAKOUTS AND CONNECTOR TO CABLE TRANSITIONS

### FEATURES AND BENEFITS

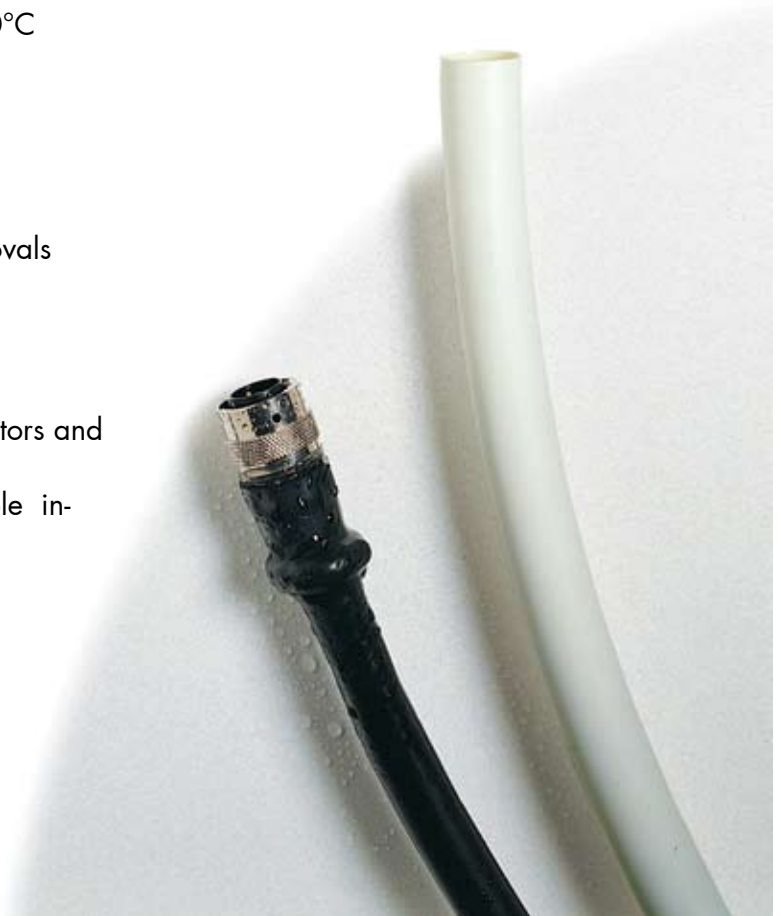
- 3:1 shrink ratio
- Flame retardant
- Superior sealing against water, moisture or other contaminants
- High shrink ratio allows for coverage of irregularly shaped connectors and components
- Inner adhesive bonds to plastics, rubber, neoprene, steel and polyethylene
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C

### STANDARDS

- Industrial, electronic and automotive OEM approvals

### TYPICAL APPLICATIONS

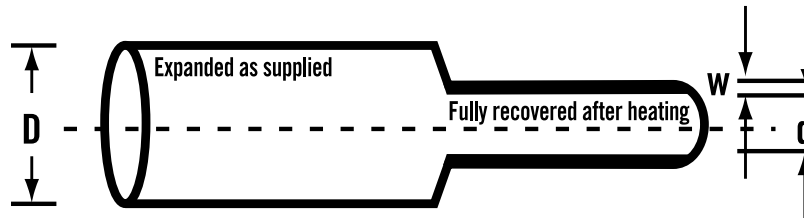
- Environmental sealing and strain relief of connectors and terminals
- Moisture sealing and electrical insulation of simple in-line splices
- Abrasion resistance for tubes and pipes
- Repair of damaged wire harnesses



# Thin Wall Adhesive Lined Cross-linked Polyolefin CPA 100

## 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
0312	7.9	5/16	2.5	0.100	1.3	0.050	0.7	0.027	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), Red (RD), Clear (CL), Blue (BL), White (WT), Yellow (YW)
  - Length: Standard Stick, Spool or custom length
- Please specify the product name, order reference number and options you require
- Order Example: CPA 100, 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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## ADHESIVE LINED, HIGH SHRINK RATIO (3:1), HEAT SHRINK TUBING THIN WALL ADHESIVE LINED CROSS-LINKED POLYOLEFIN

### PRODUCT NAME

CPA 100

### PRODUCT DESCRIPTION

Adhesive lined, high shrink ratio (3:1), heat shrink tubing



### APPLICATION

- Connectorized cable repair
- Water resistance and encapsulation of connectors, splices or other substrates
- Suitable for insulating and protection LV electrical connectors and terminal blocks
- Environment 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
- Coat pipes or other substrates to protect from mechanical damage caused by vibration or impact

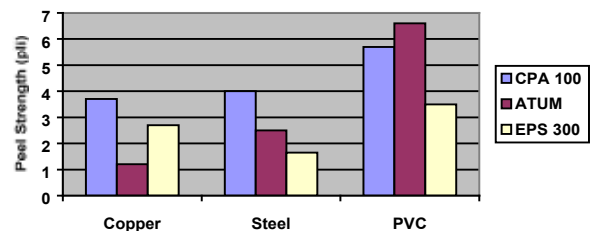
### ADVANTAGE

- CPA adhesive has industry best peel strength allowing more assurance of product reliability over time
- Low shrink temperature improves time of application and eliminates need for high temperature application that can damage wires
- High shrink ratio allows for coverage of irregularly shaped connectors and components
- 3:1 shrink ratio allows part rationalization when used to replace 2:1 ratio products
- DSG-Canusa technical and customer support

### ADDITIONAL ATTRIBUTES

- Available in sizes from 1/8 in up to 1.57 in
- Available in black, red, blue or clear colours

### PEEL STRENGTH COMPARISON



### MARKET SEGMENT

Automotive, Electrical, Industrial, OEM

### OTHER POTENTIAL USES

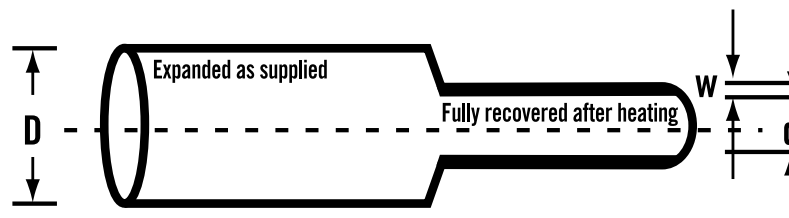
Auto manufacturers, OEM battery cable manufacturers, Electric Utilities for cable splice protection

# CPA 100

## THIN WALL ADHESIVE LINED CROSS-LINKED POLYOLEFIN

### DIMENSIONS

ORDER REFERENCE NUMBER	EXPANDED				RECOVERED				NOMINAL MELTABLE WALL THICKNESS		LENGTHS	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (NOM)		M	IN				
	MM	IN	MM	IN	MM	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		
0312	7.9	5/16	2.5	0.100	1.3	0.050	0.7	0.027	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	7.5	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	1 1/4	10.6	0.416	2.5	0.100	1.0	0.040	1.2	48		
1500	39.9	1.57	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.
- Please specify the product name plus the options you require.
- Example Order: CPA 100 0125
- Standard Product: Black, unprinted

### OPTIONS

- Colour: Red, Blue, Clear
- Printing: Printed

Please contact your Customer Service Representative for information on custom colours, sizes and lengths



## BRAKE LINE PROTECTION

### THIN WALL ADHESIVE LINED CROSS-LINKED POLYOLEFIN

**Problem:** A customer required heat shrink tubing for protecting brake lines from impact and abrasion. The product slides over hardware and is used under clips in an exposed area. Processing and finished dimension requirements demanded a custom solution.

**Solution:** An over-expanded CPA product was recommended to address the processing and dimensional requirements. Using samples of the brake lines and clips, a prototype was designed and manufactured. CPA 100 was selected as the base since strong adhesion to the brake line is required to hold it in place. It is the most cost effective dual wall product in our portfolio and satisfied the automotive cost target.

#### PRODUCT NAME

CPA 100

#### PRODUCT DESCRIPTION

Dual wall heat shrink tube with a high shrink ratio allowing for coverage of irregularly shaped connectors and components

#### ADVANTAGE

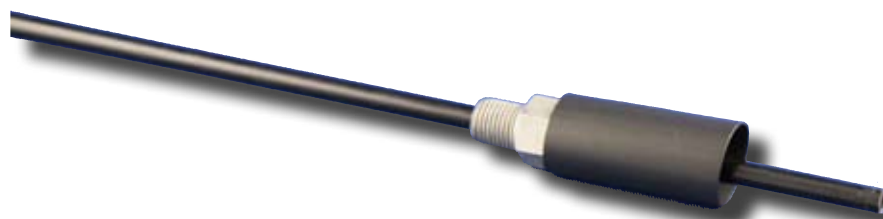
- Provides professional customer service and a custom solution
- A superior peel strength adhesive provides assurance of product reliability over time

#### OTHER POTENTIAL USES

Splice sealing, Terminal sealing, Connector sealing

#### ADDITIONAL ATTRIBUTES

- Cut to length services available
- Over-expand diameter available on request

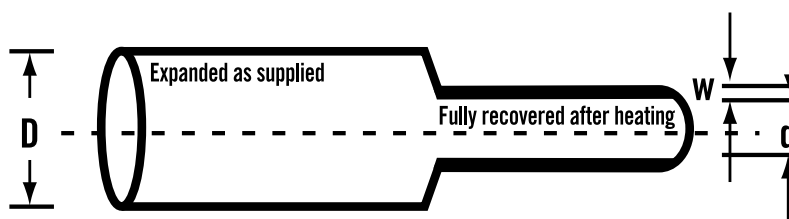


# CPA 100

## THIN WALL ADHESIVE LINED CROSS-LINKED POLYOLEFIN

### DIMENSIONS

ORDER REFERENCE NUMBER	EXPANDED		RECOVERED				NOMINAL MELTABLE WALL THICKNESS		LENGTHS	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (NOM)				M	IN
	MM	IN	MM	IN	MM	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
0312	7.9	5/16	2.5	0.100	1.3	0.050	0.7	0.027	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	7.5	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	1 1/4	10.6	0.416	2.5	0.100	1.0	0.040	1.2	48
1500	39.9	1.57	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.
- Please specify the product name plus the options you require.
- Example Order: CPA 100 0125
- Standard Product: Black, unprinted

### OPTIONS

- Colour: Red, Blue, Clear
- Printing: Printed

Please contact your Customer Service Representative for information on custom colours, sizes and lengths

# 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

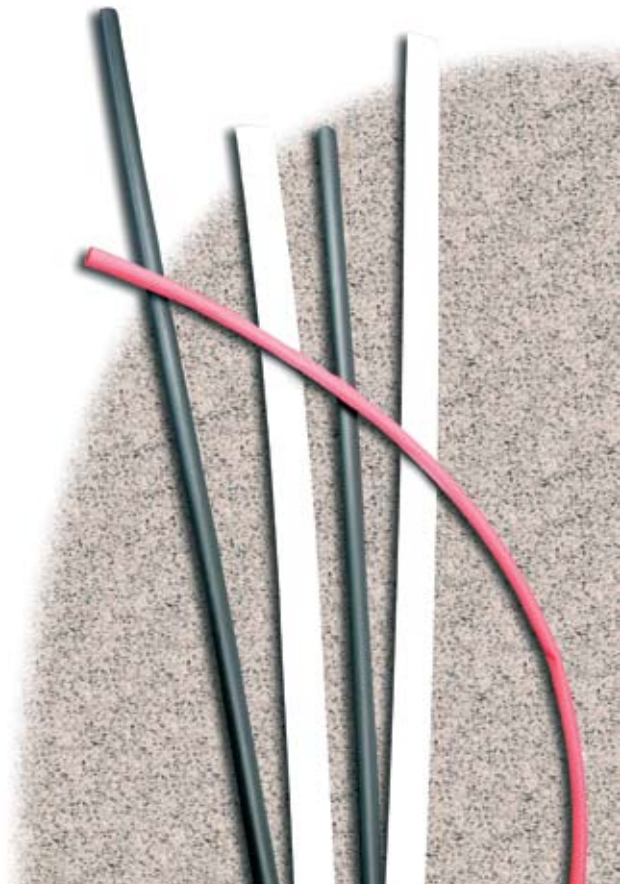
- 3:1 shrink ratio
- Highly flame retardant
- High shrink ratio allows for coverage of irregularly shaped connectors and components
- Adhesive liner bonds to plastics, rubber, neoprene, steel and polyethylene
- Superior sealing against water, moisture and other contaminants
- Superior protection for 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

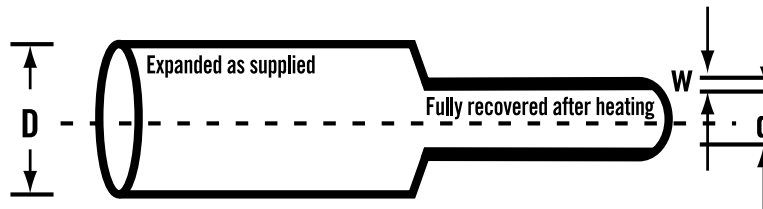
### TYPICAL APPLICATIONS

- 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.

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.



## 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

### ADDITIONAL ATTRIBUTES

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



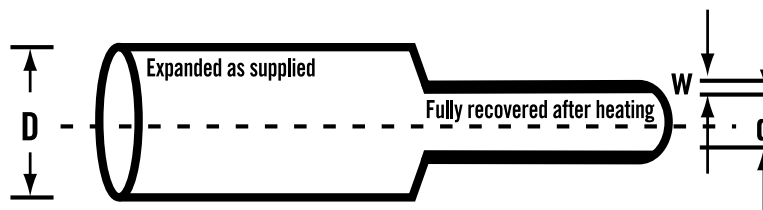
### OTHER POTENTIAL USES

- Splice sealing
- Eyleit terminals



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

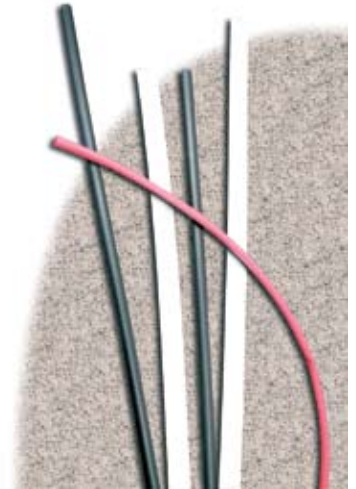
There is an increasing need to use thermally stable, flame retardant materials in electrical cable systems what will sustain extreme heat and emergency overload conditions. The requirement for flame retardancy is critical in operating environments where health and safety issues are of primary concern,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

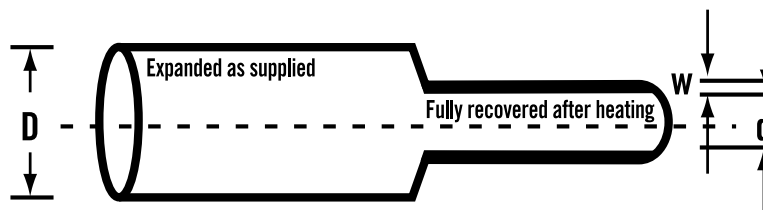
Automotive, Electrical, Industrial OEM

#### 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.

# DERAY® HXKT

INSULATE  
SEAL  
PROTECT

>2:1  
SHRINK RATIO



## THIN WALL ADHESIVE LINED CROSS-LINKED SEMI-RIGID POLYOLEFIN

SEMI-RIGID, ADHESIVE LINED, HEAT SHRINK TUBING IDEAL FOR HIGHER TEMPERATURE APPLICATIONS AND WHERE STRAIN RELIEF OR ABRASION RESISTANCE IS REQUIRED

### FEATURES AND BENEFITS

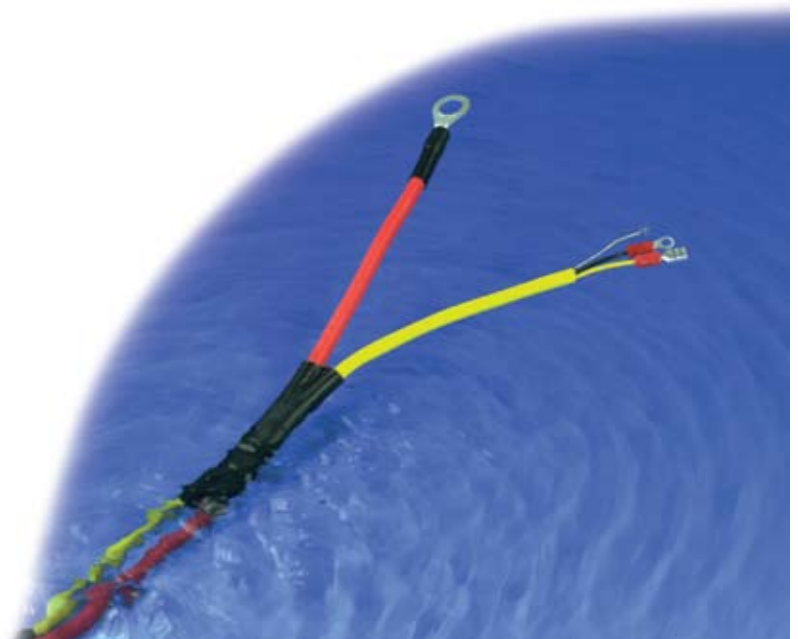
- >2:1 shrink ratio
- Thick adhesive liner ensures complete environmental protection
- Semi-rigid jacket for excellent strain relief
- Seals against water and other contaminants
- Inner adhesive bonds to plastics, rubbers and metals
- Controlled adhesive viscosity prevents excessive flow on terminals
- Continuous operating temperature: -55°C to 125°C
- Shrink temperature: 110°C

### STANDARDS

- Industrial and Automotive OEM Approvals

### TYPICAL APPLICATIONS

- Strain relief and sealing of terminals
- Corrosion protection of high temperature components and brazed joints
- Mechanical protection of wire leads

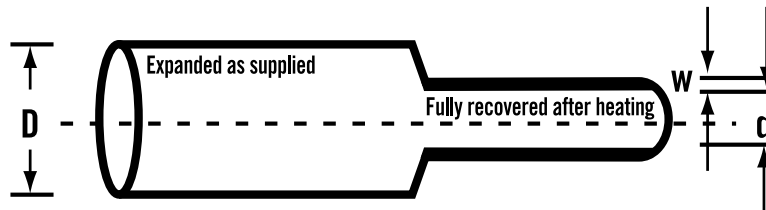


# THIN WALL ADHESIVE LINED CROSS-LINKED SEMI-RIGID POLYOLEFIN

# DERAY® HXKT

## DIMENSIONS

Order Number	Expanded		Recovered						Lengths	
	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	ft
0125	3.2	1/8	0.8	0.031	0.90	0.035	0.40	0.016	1.2	4
0187	4.8	3/16	1.5	0.059	1.40	0.055	0.80	0.032	1.2	4
0250	6.4	1/4	2.0	0.079	1.40	0.055	0.75	0.030	1.2	4
0375	9.5	3/8	3.4	0.134	1.65	0.065	1.00	0.039	1.2	4
0500	12.7	1/2	5.0	0.196	1.70	0.066	1.00	0.039	1.2	4
0750	19.0	3/4	8.0	0.315	1.95	0.076	1.20	0.047	1.2	4
1000	25.4	1	10.2	0.401	2.00	0.078	1.20	0.047	1.2	4



## 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
  - Length: Standard stick, spool or custom cut length
- Please specify the product name, order reference number and options you require
- Order Example: DERAY® HXKT, 0187, black, unprinted, 4 ft (1.2 m) 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.



### COPPER - ALUMINUM COUPLERS IN AIR CONDITIONING APPLICATIONS THIN WALL ADHESIVE LINED CROSS-LINKED SEMI-RIGID POLYOLEFIN

**Problem:** A customer needed a solution for insulating and waterproofing the inlet and outlet connections of an air conditioning heat exchanger during installation. Because of the difference in profile between the aluminum heat exchanger and the copper outlets/inlets, special tubing was required to cover the joint and be heat resistant to avoid slippage. Operating temperatures are expected to exceed 150°C and alternative products were not successful. At prolonged exposure to 150°C the alternative product adhesive would rot and the tubing would slide off or milk-off exposing the connection.

**Solution:** DSG-Canusa recommended DERAY® HXKT, a semi-rigid, unmeltable heat shrink sleeve with an adhesive inner lining and high shrink ratio. The adhesive liner has a high viscosity which guarantees high temperature resistance, moisture resistant sealing, bending protection and strain relief.

#### PRODUCT NAME

DERAY® HXKT

#### PRODUCT DESCRIPTION

Semi-rigid, adhesive lined heat shrink tube ideal for high temperature applications where strain relief and abrasion resistance is required

#### ADVANTAGE

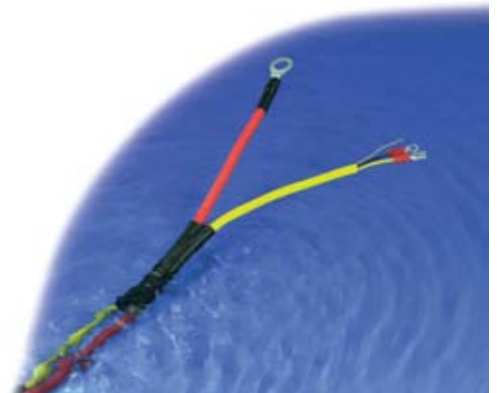
- Capability to provide professional customer service and custom solutions
- Temperature resistant adhesive liner ensures complete environmental protection
- Better sealing efficiency ensuring no moisture ingress or other contaminants
- Inner adhesive bonds to plastics, rubbers and metals

#### OTHER POTENTIAL USES

- Automotive Eyelit Terminals

#### ADDITIONAL ATTRIBUTES

- Temperature resistant adhesive liner ensures complete environmental protection

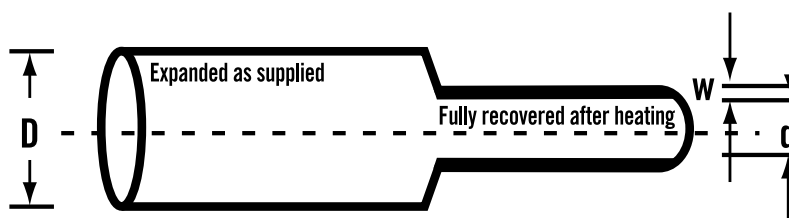


# DERAY® HXKT

## THIN WALL ADHESIVE LINED CROSS-LINKED SEMI-RIGID POLYOLEFIN

### DIMENSIONS

ORDER REFERENCE NUMBER	EXPANDED		RECOVERED				NOMINAL MELTABLE WALL THICKNESS		LENGTHS	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (NOM)				M	FT
	MM	IN	MM	IN	MM	IN				
0125	3.2	1/8	0.8	0.031	0.90	0.035	0.40	0.016	1.2	4
0187	4.8	3/16	1.5	0.059	1.40	0.055	0.80	0.032	1.2	4
0250	6.4	1/4	2.0	0.079	1.40	0.055	0.75	0.030	1.2	4
0375	9.5	3/8	3.4	0.134	1.65	0.065	1.00	0.039	1.2	4
0500	12.7	1/2	5.0	0.196	1.70	0.066	1.00	0.039	1.2	4
0750	19.0	3/4	8.0	0.315	1.95	0.076	1.20	0.047	1.2	4
1000	25.4	1	10.2	0.401	2.00	0.078	1.20	0.047	1.2	4



### 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.
- Please specify the product name plus the options you require.
- Example Order: DERAY® HXKT 0125
- Standard Product: Black, unprinted

### OPTIONS

- Printing: Printed

Please contact your Customer Service Representative for information on custom colours, sizes and lengths

# DERAY® IHKT

INSULATE  
SEAL  
PROTECT

4:1  
SHRINK RATIO



## THIN WALL ADHESIVE LINED CROSS-LINKED POLYOLEFIN

FLEXIBLE HEAT SHRINK TUBING WITH A TEMPERATURE RESISTANT POLYAMIDE ADHESIVE INNER LINING. IDEAL FOR PROTECTING COMPONENTS IN A WIDE RANGE OF ELECTRICAL AND MECHANICAL APPLICATIONS WHERE ADHESION TO CONNECTOR AND METAL SUBSTRATES IS CRITICAL

### FEATURES AND BENEFITS

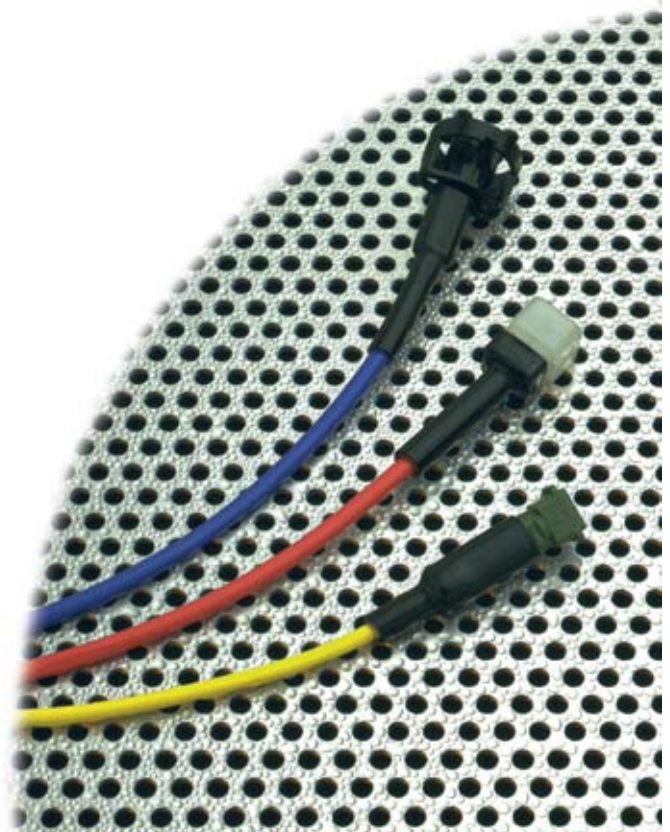
- 4:1 shrink ratio allows for coverage of irregularly shaped connectors and components
- Flame retardant
- Specially designed polyamide adhesive protects components at higher temperatures
- Superior sealing against water and other contaminants
- Inner adhesive bonds to plastics, rubbers and metals
- Continuous operating temperature: -55°C to 125°C
- Shrink temperature: 100°C

### STANDARDS

- Meets VG 95343, Part 12, Type D
- Automotive OEM approvals

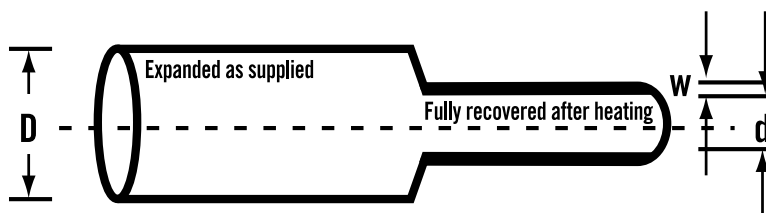
### TYPICAL APPLICATIONS

- Retrofit protection of connectors
- Repair of damaged wire harnesses
- Moisture sealing and strain relief at connectors and terminals



## DIMENSIONS

Order Number	Expanded		Recovered						Length	
	Internal Diameter (min.) D		Internal Diameter (max.) d		Total Wall Thickness (nom.) W		Adhesive Wall Thickness (nom.)			
	mm	in	mm	in	mm	in	mm	in	m	ft
0157	4.0	0.157	1.0	0.039	1.00	0.039	0.40	0.016	300	984
0315	8.0	0.315	2.0	0.080	1.20	0.045	0.40	0.016	150	492
0472	12.0	0.472	3.0	0.118	1.40	0.055	0.40	0.016	100	328
0630	16.0	0.630	4.0	0.160	1.70	0.066	0.60	0.023	50	164
0945	24.0	0.945	6.0	0.240	2.10	0.083	0.60	0.023	50	164
1260	32.0	1.260	8.0	0.315	2.40	0.094	0.70	0.027	50	164
2047	52.0	2.047	13.0	0.512	2.40	0.094	0.70	0.027	30	98



## 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) or Clear (CL)
- Please specify the product name plus the options you require
- Order Example: DERAY® IHKT, 0157, black, 984 ft lengths

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

# DERAY® SPLICEMELT

INSULATE  
SEAL  
PROTECT

4:1  
SHRINK RATIO



## ADHESIVE LINED CROSS-LINKED POLYOLEFIN

ADHESIVE LINED HEAT SHRINK SPECIFICALLY DESIGNED TO INSULATE, SEAL AND PROTECT IN-LINE SPLICES IN AUTOMOTIVE WIRE HARNESSSES AND ELECTRONIC ASSEMBLIES

### FEATURES AND BENEFITS

- 4:1 shrink ratio to fit varying splice configurations and substrate profiles
- Seals and protects against water, moisture and chemical ingress
- Adhesive bonds readily to PVC, XLPE and PP-EPDM cable jackets
- Shrinks rapidly for quick installation
- Use with DERAY® FST shrink ovens for best performance
- Continuous operating temperature: -55°C to 125°C
- Shrink temperature: 125°C

### STANDARDS

- Approved to all major Automotive OEM splice sealing specifications

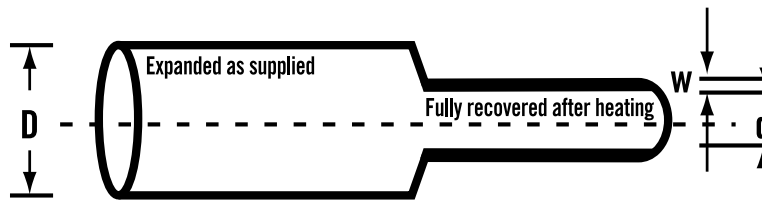
### TYPICAL APPLICATIONS

- Environmental sealing of in-line splices
- Sealing and strain relief of connectors and terminals
- Abrasion protection and electrical insulation of automotive wiring harness splices



## DIMENSIONS

Order Number	Expanded		Recovered				Cut Lengths	
	Internal Diameter (min.) D		Internal Diameter (min.) d		Total Wall Thickness (nom.) W			
	mm	in	mm	in	mm	in	mm	in
1	6.0	0.236	1.4	0.055	1.35	0.053	50	1.97
2	8.0	0.315	1.6	0.063	1.75	0.069	50	1.97
3	12.0	0.472	2.5	0.098	2.00	0.079	65	2.56
4	18.0	0.708	3.7	0.146	2.60	0.102	75	2.95



## INSTALLATION

- DSG-Canusa offers a comprehensive selection of technically advanced shrink appliances that ensure process stability and repeatability
- Minimum recovery temperature: 120°C
- Adhesive activation temperature: 110°C

## 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) or Clear (CL)
  - Length: Standard cut length, 4 ft stick or spool
- Please specify the product name plus the options you require
- Order Example: DERAY<sup>®</sup> Splicemelt, 3, black, 65 mm length

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

# CFRA

INSULATE  
SEAL  
PROTECT

4:1  
SHRINK RATIO



## HIGHLY FLAME RETARDANT HEAT SHRINK POLYOLEFIN TUBING

HIGHLY FLAME RETARDANT, SEMI-RIGID, CROSS-LINKED DUAL WALL HEAT SHRINK TUBING DESIGNED FOR SPLICE SEALING AND FUSE LINK PROTECTION

### FEATURES AND BENEFITS

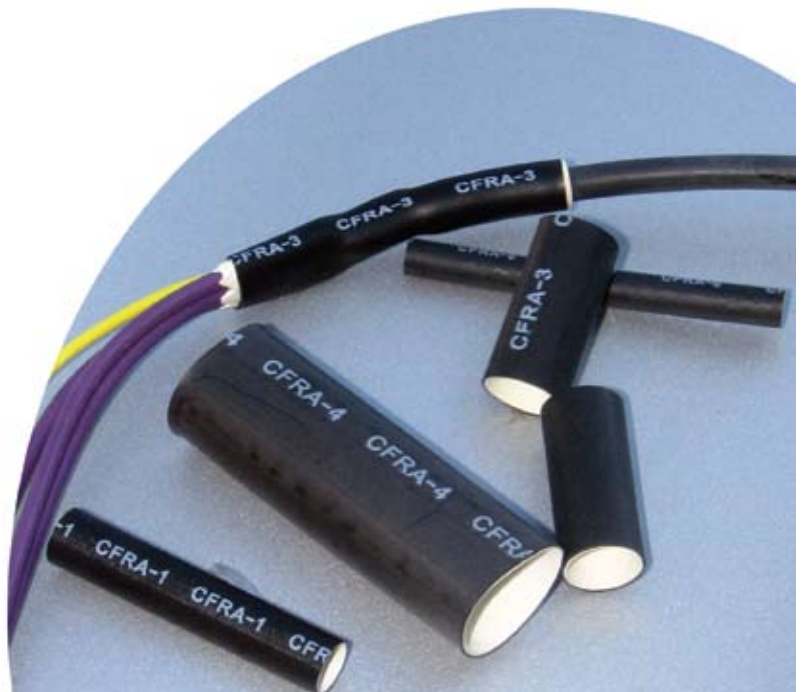
- 4:1 shrink ratio to cover varying splice configurations and substrate profiles
- Jacket and adhesive are exceptionally flame retardant
- Economical way to environmentally seal and protect automotive fuse-links, splices and terminals
- Highly resistant to common automotive fluids and solvents
- Semi-rigid and mechanically tough outer jacket provides added strain relief and excellent abrasion protection
- Thick adhesive liner forms an effective barrier against fluids and moisture penetration
- Continuous operating temperature: -55°C to 125°C
- Shrink temperature: 125°C

### STANDARDS

- Approved to Delphi M3552 and Ford WSS- M99D56-A4

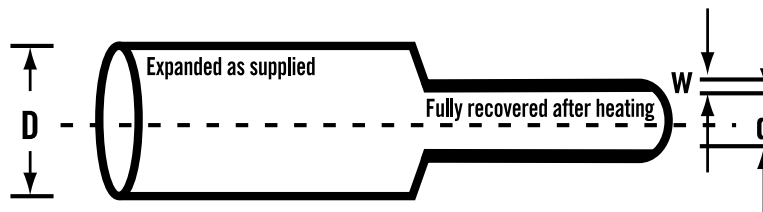
### TYPICAL APPLICATIONS

- Automotive wire harness splice sealing and strain relief
- Insulation and environmental protection of terminals, connectors, splices and fuse links



## DIMENSIONS

Size	Expanded		Recovered					
	Internal Diameter (min) D		Internal Diameter (max) d		Wall Thickness (nom) W		Adhesive Wall Thickness	
	mm	in	mm	in	mm	in	mm	in
No. 0	5.08	0.200	1.27	0.050	1.40	0.055	0.635	0.025
No. 1	7.62	0.300	1.65	0.065	1.52	0.060	0.762	0.030
No. 2	9.02	0.355	2.29	0.090	1.52	0.060	0.762	0.030
No. 3	11.56	0.455	2.54	0.100	2.29	0.090	1.270	0.055
No. 4	17.78	0.700	4.45	0.175	2.54	0.100	1.524	0.060



## INSTALLATION

- DSG-Canusa offers a comprehensive selection of technically advanced shrink appliances that ensure process stability and repeatability
- Minimum recovery temperature 120°C
- Adhesive activation temperature 110°C

## 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.
- CFRA is cut to length on request.
- Please specify the product name, order reference number and options you require
- Order Example: CFRA, No. 0, black, 65 mm length

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

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# CVN 105

INSULATE  
SEAL  
PROTECT

2:1  
SHRINK RATIO



## THIN WALL PVC

FLEXIBLE PVC HEAT SHRINK TUBING SUITABLE FOR INDUSTRIAL AND ELECTRONIC APPLICATIONS

### FEATURES AND BENEFITS

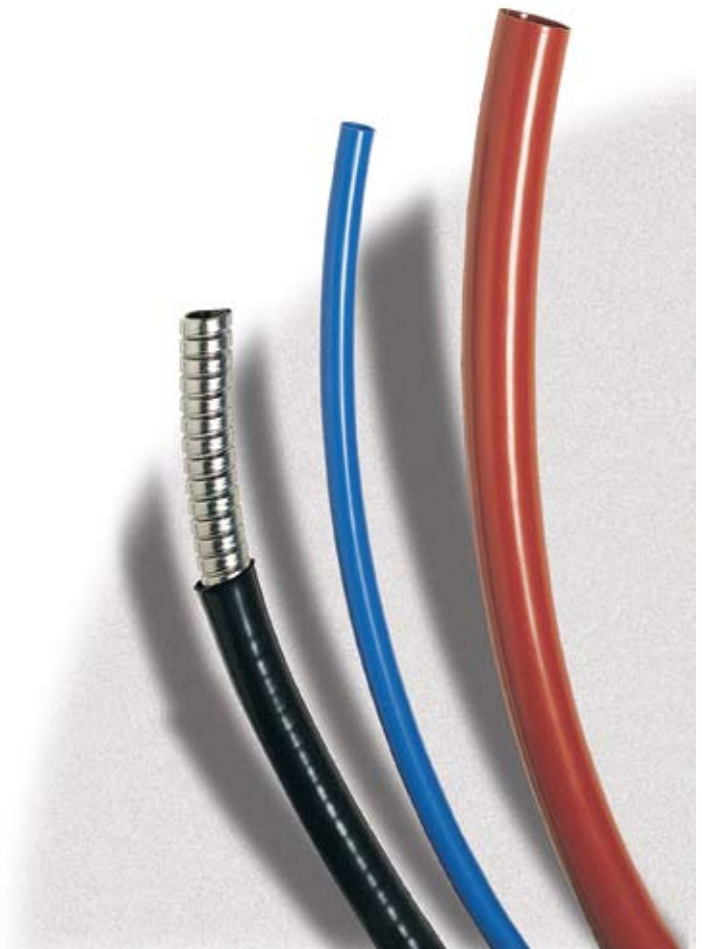
- 2:1 shrink ratio
- General purpose tubing
- Highly flame retardant
- Seven standard colours
- Flexible
- Continuous operating temperature: -30°C to 105°C
- Shrink temperature: 110°C

### STANDARDS

- Meets UL 224 VW-1
- CSA C22.2 No. 198.1, OFT

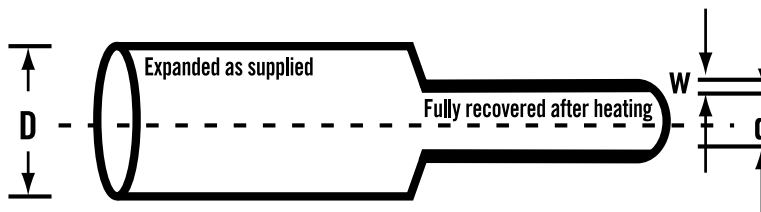
### TYPICAL APPLICATIONS

- Protective layer for various substrates
- Harness covering



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	0.64	0.025	300	1,000
0187	4.8	3/16	2.4	3/32	0.64	0.025	300	1,000
0250	6.4	1/4	3.2	1/8	0.64	0.025	300	1,000
0375	9.5	3/8	4.8	3/16	0.76	0.030	152	500
0500	12.7	1/2	6.4	1/4	0.76	0.030	76	250
0625	16.0	5/8	8.0	5/16	0.76	0.030	76	250
0750	19.0	3/4	9.5	3/8	0.89	0.035	76	250
1000	25.4	1	12.7	1/2	1.02	0.040	76	250
1250	32.0	1 1/4	16.0	5/8	1.02	0.040	76	250
1500	38.1	1 1/2	19.0	3/4	1.14	0.045	30	100
2000	50.8	2	25.4	1	1.27	0.050	30	100
3000	76.2	3	38.1	1 1/2	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), Blue (BL), Yellow (YL), Green (GR), Clear (CL)
  - Printing: Printed or Unprinted
- Please specify the product name, order reference number and options you require
- Order Example: CVN 105, 0125, black, unprinted, 1,000 ft lengths

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

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# DERAY<sup>®</sup> 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

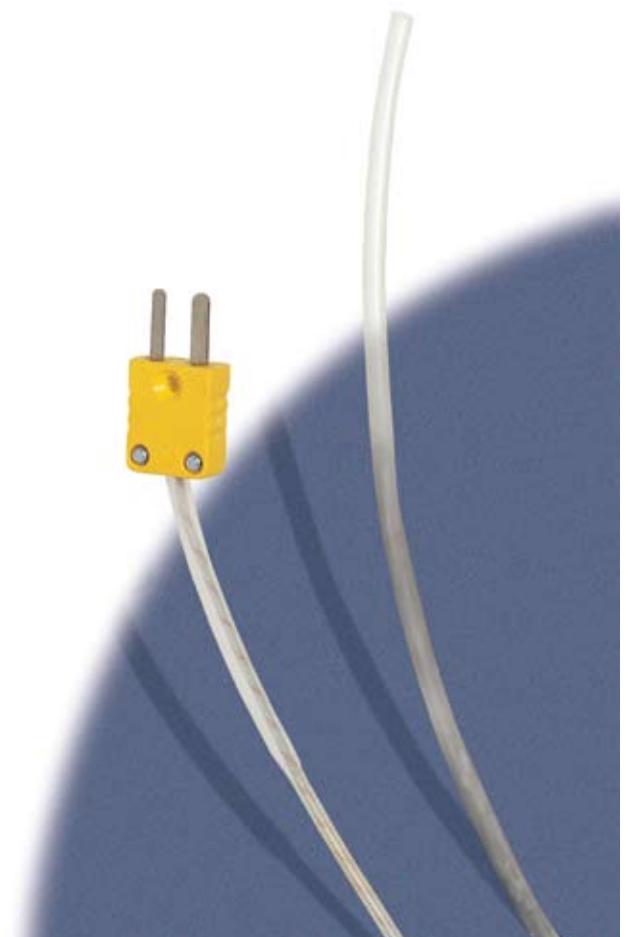
- 2:1 shrink ratio
- Highly flame retardant
- High withstand to abrasion and cut-through
- Excellent chemical and solvent resistance
- Semi-rigid
- Continuous operating temperature: -55°C to 175°C
- Shrink temperature: 175°C

## STANDARDS

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

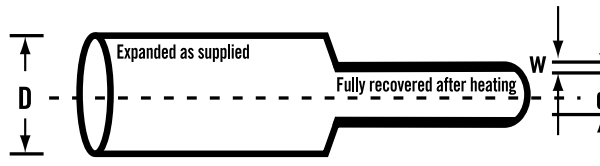
## TYPICAL APPLICATIONS

- 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® KYF 190

INSULATE  
SEAL  
PROTECT

2:1  
SHRINK RATIO



## THIN WALL MODIFIED CROSS-LINKED FLUOROPOLYMER

FLEXIBLE, HIGH TEMPERATURE PVDF THIN WALL HEAT SHRINK TUBING WITH EXTREME CHEMICAL RESISTANCE  
IDEAL FOR PROTECTION OF COMPONENTS IN A WIDE RANGE OF SEVERE TEMPERATURE AND CHEMICAL ENVIRONMENTS

### FEATURES AND BENEFITS

- 2:1 shrink ratio
- Flexible
- Highly flame retardant
- High temperature resistance
- Excellent chemical and solvent resistance
- Continuous operating temperature: -55°C to 190°C
- Shrink temperature: 175°C

### STANDARDS

- Approved to UL 224 VW-1
- SAE-AMS-DTL-23053/18 Class 2

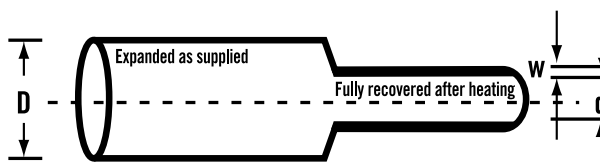
### TYPICAL APPLICATIONS

- Protective see through covering for high temperature and aggressive chemical applications



## DIMENSIONS

Order Number	Expanded		Recovered				Length	
	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	0.023	0.24	0.009	300	984
063	1.6	1/16	0.8	1/32	0.24	0.009	300	984
0094	2.4	3/32	1.2	3/64	0.24	0.009	300	984
0125	3.2	1/8	1.6	1/16	0.24	0.009	300	984
0187	4.8	3/16	2.4	3/32	0.24	0.009	300	984
0250	6.4	1/4	3.2	1/8	0.30	0.012	300	984
0375	9.5	3/8	4.8	3/16	0.30	0.012	150	492
0500	12.7	1/2	6.4	1/4	0.30	0.012	100	328



## 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
- Please specify the product name, order reference number and options you require
- Order Example: DERAY® KYF 190, 0047, black, unprinted, 984 ft lengths

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

# 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

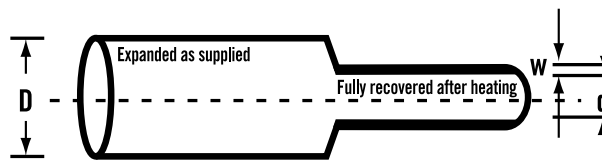
## TYPICAL APPLICATIONS

- 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

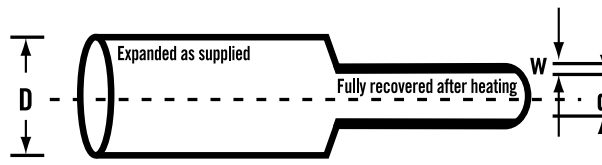
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## DIMENSIONS

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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# CGEL

INSULATE  
SEAL  
PROTECT



## DROP SPLICE ENCLOSURE

GEL FILLED CLOSURES ARE A SIMPLE, FAST AND EFFECTIVE METHOD FOR PROVIDING COMPLETE ENVIRONMENTAL PROTECTION FOR COAXIAL DROP SPLICES

### FEATURES AND BENEFITS

- Single piece, clam shell design, requires no additional tools for installation
- Gel filled for complete waterproof protection
- Expansion chambers prevent Gel overflow
- Accommodates a wide range of environmentally sealed coaxial connectors and cable types including quad shielded cable
- Available in two sizes:
  - CE 596 for 59 and 6 series cable
  - CE 711 for 7 and 11 series cable
- Channel provided to retain messenger cable
- Fully re-enterable
- Tough outer shell withstands impacts to 5 ft-lb
- Withstands extreme temperatures (-45°C to 90°C)

### STANDARDS

- Meets SCTE IPS-TP-013 (ANSI/SCTE 60 2004) requirements for water immersion and temperature cycling

### TYPICAL APPLICATIONS

- Environmental protection of cable splices



## DIMENSIONS

ORDER NUMBER	NOMINAL DIAMETER		LENGTHS	
	MM	IN	MM	IN
CE 596	25.4	1.0	116	4.6
CE 711	31.0	1.2	165	6.5

## APPLICABLE CABLES

Cables: All 59 and 6 series coaxial cables including quad shield with messengers  
 All 7 and 11 series coaxial cables including quad shield with messengers

## CONNECTORS

	59 AND 6 SERIES	7 AND 11 SERIES
DIGCON	D2 Type II and S	D2, S and RG 11
T & B	F Series SNS Series	SNS Series
Corning GILBERT	GF Type AHS, Ultra Ease and Ultra Range	GAF AHS, Ultra Ease and Ultra Range
PPC	CMP, EX and AquaTight EX	EX and AquaTight EX
Others	F-Conn, Stirling	F-Conn, Stirling

## ORDERING

- Please specify the product name plus the options you require.
- Order Example: CGEL, CE 596
- Packaging: 12 pieces per box

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.

# CTB-15

INSULATE  
SEAL  
PROTECT

## SELF FUSING TAPE

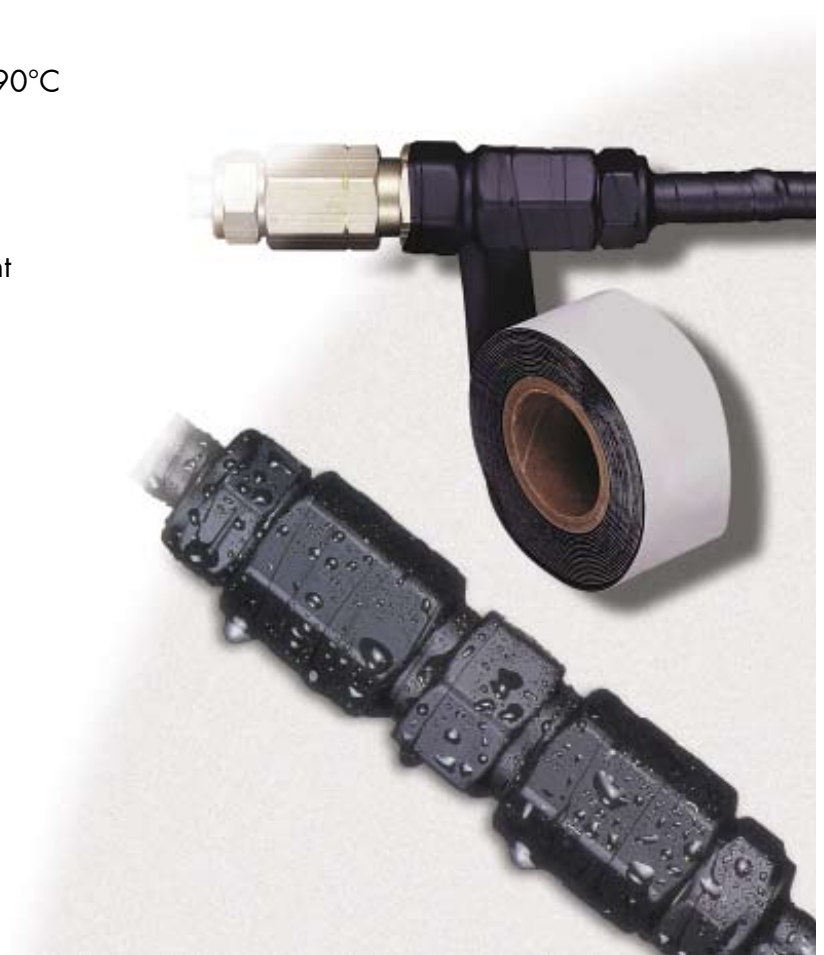
EPR BASED SELF FUSING TAPE DESIGNED FOR THE COMMUNICATIONS INDUSTRY

### FEATURES AND BENEFITS

- Provides protection where heat/flame is prohibited
- Covers any shape including high transition areas and elbows
- Clean strippable
- Layers fuse together to form a boot that provides complete environmental protection and insulation
- UV and ozone resistant
- Proven long term protection
- Continuous operating temperature: -40°C to 90°C

### TYPICAL APPLICATIONS

- Environmental protection of connectors in tight locations or when torch is not permitted
- Protect connectors in Cable TV, Wireless and Telecom applications



## DIMENSIONS

ORDER NUMBER	WIDTH		THICKNESS		ROLL LENGTH	
	MM	IN	MM	IN	M	FT
CTB-15	38.1	1.5	0.76	0.03	4.57	15

## APPLICATION INSTRUCTIONS

- The surface of cable and connector should be clean.
- Start the tape on cable approximately two inches from connector.
- Make sure the tape is stretched during application.
- While stretching the tape, make one wrap on cable ensuring the tape is wrapped onto itself as it will only adhere to itself. Continue wrapping the cable and connector using half overlap layers.
- To terminate, wrap the tape onto itself and place your thumb at the termination point and stretch the tape until it breaks.
- Two layers are recommended
- The loose end of the termination should be thumbed down.

## ORDERING

- Please specify the product name plus the options you require.
- Order Example: CTB-15

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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



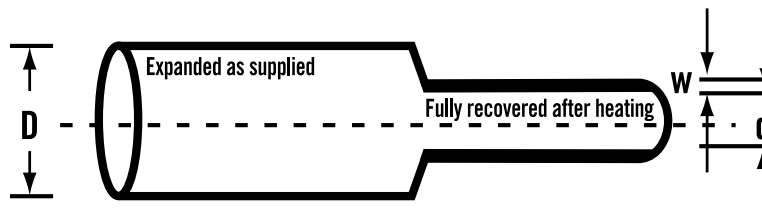
## CFHR DIMENSIONS - SEMI-RIGID, FLAME RETARDANT MATERIAL

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 SHRINK 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 1/6<sup>th</sup> 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

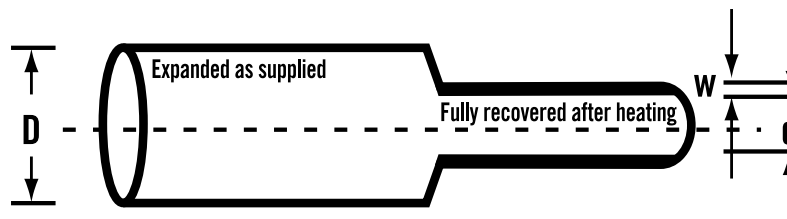
Military, Electrical, Industrial, OEM and Transportation

# CFHR

## HEAVY WALL, HIGH RATIO CROSS-LINKED POLYOLEFIN TUBING

### DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				LENGTHS	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (MIN)			
	MM	IN	MM	IN	MM	IN	METRIC	IMPERIAL
0750	19.0	0.750	3.2	0.125	3.2	0.123	15 cm, 30 cm, 121 cm, 7.6 m	6 in, 12 in, 48 in, 25 ft
1300	33.0	1.300	5.5	0.220	3.4	0.135	15 cm, 30 cm, 121 cm, 7.6 m	6 in, 12 in, 48 in, 25 ft
1750	44.4	1.750	7.4	0.290	3.6	0.140	15 cm, 30 cm, 121 cm, 7.6 m	6 in, 12 in, 48 in, 25 ft
2000	50.8	2.000	8.3	0.330	4.3	0.170	15 cm, 30 cm, 121 cm, 7.6 m	6 in, 12 in, 48 in, 25 ft
2750	69.8	2.750	11.7	0.460	4.8	0.190	15 cm, 30 cm, 121 cm, 7.6 m	6 in, 12 in, 48 in, 25 ft
3500	88.9	3.500	17.1	0.673	4.3	0.170	15 cm, 30 cm, 121 cm, 7.6 m	6 in, 12 in, 48 in, 25 ft
4700	119.4	4.700	22.9	0.900	4.8	0.190	15 cm, 30 cm, 121 cm, 7.6 m	6 in, 12 in, 48 in, 25 ft



### 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.
- Please specify the product name plus the options you require.
- Standard Product: CFHR, 1300, black, unprinted, unlined, 25 ft lengths

### OPTIONS

- Printing: Printed
- Lining: Unlined

Please contact your Customer Service Representative for information on custom colours, sizes and lengths

## MEDIUM WALL CROSS-LINKED POLYOLEFIN

MEDIUM WALL HEAT SHRINK TUBING SUITABLE FOR A VARIETY OF LOW VOLTAGE ELECTRICAL AND MECHANICAL APPLICATIONS WHERE LIGHTER WEIGHT AND GREATER FLEXIBILITY ARE IMPORTANT

### FEATURES AND BENEFITS

- Seals and protects cable splices and terminations
- Rugged mechanical protection
- Complete moisture sealing
- Strain relief for delicate wire connections
- High resistance to impact and abrasion
- Optional Thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C

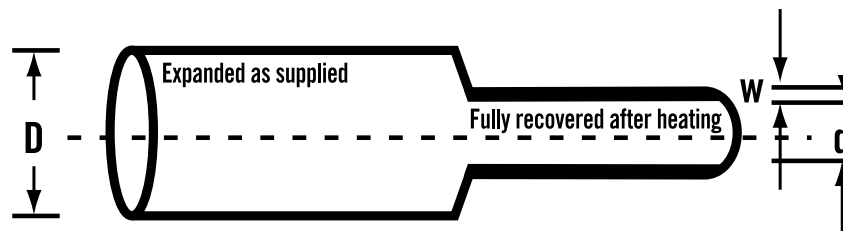
### TYPICAL APPLICATIONS

- Strain relief and environmental protection
- Splice covers for electrical cables
- HVAC systems for pipes and ducts
- Insulation cover or jacket repair on low voltage cables



## DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		LENGTHS	
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) d		WALL THICKNESS (NOM) W					
	MM	IN	MM	IN	MM	IN	MM	IN	M	IN
0400	10.2	0.40	3.8	0.15	2.0	0.080	4.5 - 8.5	.18 - .34	1.2	48
0750	19.1	0.75	5.6	0.22	2.0	0.080	6.0 - 16.5	.24 - .65	1.2	48
1100	27.9	1.10	10.2	0.40	2.4	0.095	11.5 - 25	.45 - 1.0	1.2	48
1300	33.0	1.30	10.2	0.40	2.4	0.095	11.5 - 30	.45 - 1.2	1.2	48
1500	38.1	1.50	12.7	0.50	2.4	0.095	14.0 - 35	.55 - 1.4	1.2	48
1700	43.2	1.70	12.7	0.50	2.5	0.100	14.0 - 40	.55 - 1.6	1.2	48
2050	52.1	2.05	19.1	0.75	2.5	0.100	21.0 - 45	.82 - 1.8	1.2	48
2750	69.9	2.75	25.4	1.00	2.5	0.100	30.0 - 63	1.2 - 2.5	1.2	48
3500	88.9	3.50	30.0	1.18	2.5	0.100	33 - 83.8	1.3 - 3.3	1.2	48
4700	119.4	4.70	39.9	1.57	2.7	0.105	40.6 - 114	1.6 - 4.5	1.2	48
6000	152.4	6.00	50.8	2.00	3.0	0.120	53.3 - 147	2.1 - 5.8	1.2	48
6700	170.2	6.70	58.4	2.30	3.0	0.120	70.0 - 165	2.4 - 6.5	1.2	48
9000	228.6	9.00	77.0	3.00	3.3	0.130	71.0 - 220	2.8 - 8.7	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:
  - Colour: Black (BK), Red (RD), Clear (CL)
  - Printing: Printed or Unprinted
  - Adhesive Lining: Lined (D) or Unlined (U)
  - Lengths: 6, 12, 24 or 48 inch, or 25 ft spools (unlined only)
- Please specify the product name, order reference number and options you require
- Order Example: CFM, 1100, black, unprinted, unlined, 48 in lengths

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

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## WIRELESS CELL TOWERS

### LIGHTER WEIGHT AND GREATER FLEXIBILITY

Wireless carriers use cell towers for transmitting and receiving signals. Cell towers are the main base for transmitting a strong and good communication signal. A cell phone tower is typically a steel or lattice structure that rises hundreds of feet into the air with communication equipment (box) at the base of the tower. The box houses radio transmitters and receivers and enables connectivity with the land line phone network. The radio connects with the antenna on the tower through a set of cables and connectors. These connectors need to be protected from moisture to eliminate corrosion and disturbance in the signals. To help achieve this objective CFM tubes are employed in these harsh environmental conditions because of their excellent sealing properties as the hot melt adhesive enables full encapsulation of cables and connectors at the junction and prevents moisture ingress by providing a moisture proof seal. Using CFM tube in this outdoor application has helped wireless carriers to reduce both the direct costs (system down time for repair and upgrade) and indirect costs (customer complaints). A major advantage of CFM tubes is that they can also assist in identifying different settings or phase by employing a colour coding strategy.

#### PRODUCT NAME

CFM

#### PRODUCT DESCRIPTION

Medium wall heat shrink tubing with high resistance to impact and abrasion suitable for low voltage electrical and mechanical applications.



#### ADVANTAGE

- Superior jacket tear resistance and elastomer characteristic allowing better conformance over irregular contours without splitting.
- Provides mechanical protection and better abrasion resistance in harsh environments, e.g. tube rubbing against sharp objects or in constant friction.
- Provides good strain relief.
- After recovery provides an excellent outer cover for sealing and protection.
- Expanded tube diameters up to 9 in with high 3:1 shrink ratio can help rationalize stock requirements.
- Excellent sealing efficiency ensuring no moisture ingress as the hot melt adhesive enables full encapsulation of cables and connectors.

#### ADDITIONAL ATTRIBUTES

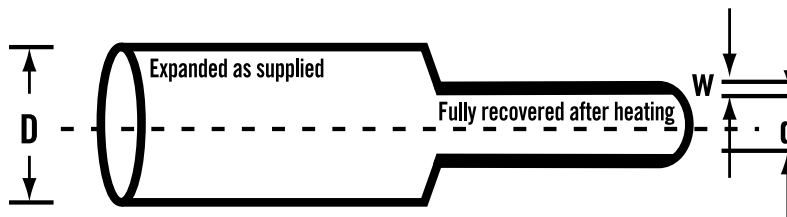
- CFM has superior adhesive bonding characteristics. The adhesive is applied at the last step in the manufacturing process without radiation to electron beams, thus retaining all original bonding properties.

#### MARKET SEGMENT

Electrical, Communications, Off-shore, Industrial  
Oil and Gas, Utilities

### DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		LENGTHS	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (NOM)		MM	IN	M	IN
	MM	IN	MM	IN	MM	IN				
0400	10.2	0.40	3.8	0.15	2.0	0.080	4.5 - 8.5	.18 - .34	1.2	6, 48
0750	19.1	0.75	5.6	0.22	2.0	0.080	6.0 - 16.5	.24 - .65	1.2	12, 48
1100	27.9	1.10	10.2	0.40	2.0	0.080	11.5 - 25.0	.45 - 1.0	1.2	12, 48
1300	33.0	1.30	10.2	0.40	2.0	0.080	11.5 - 30.0	.45 - 1.2	1.2	12, 48
1500	38.1	1.50	12.7	0.50	2.0	0.080	14.0 - 35.0	.55 - 1.4	1.2	12, 48
1700	43.2	1.70	12.7	0.50	2.0	0.080	14.0 - 40.0	.55 - 1.6	1.2	12, 48
2050	52.1	2.05	19.1	0.75	2.0	0.080	21.0 - 45.0	.82 - 1.8	1.2	12, 48
2750	69.9	2.75	25.4	1.00	2.0	0.080	30.0 - 63.0	1.2 - 2.5	1.2	12, 48
3500	88.9	3.50	30.0	1.18	2.4	0.095	33.0 - 83.8	1.3 - 3.3	1.2	24, 48
4700	119.4	4.70	39.9	1.57	2.7	0.105	40.6 - 114	1.6 - 4.5	1.2	24, 48
6700	170.2	6.70	58.4	2.30	2.8	0.110	70.0 - 165	2.4 - 6.5	1.2	24, 48
9000	228.6	9.00	77.0	3.00	3.0	0.118	71.0 - 220	2.8 - 8.7	1.2	24, 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.
- Please specify the product name plus the options you require.
- Standard Product: CFM, 1500, red, unprinted, lined, 48 in lengths

### OPTIONS

- Colour: Black, Clear
- Printing: Printed
- Lining: Unlined

Please contact your Customer Service Representative for information on custom colours, sizes and lengths

## HVAC SYSTEMS

### LIGHTER WEIGHT AND GREATER FLEXIBILITY

Semi-conductor chip fabrication or food packaging industries have cleanroom facilities where the air in the enclosed area is purified to a defined particle limit. In these rooms the air is under constant pressure at all times and is supplied through HVAC (Heating, Ventilation and Air Conditioning) systems. The HVAC systems use conduit or pipes which have multiple joints. For the suction or vacuum process to work efficiently it is essential that there is no leakage at the joints. DSG-Canusa's CFM tubes play an important role in this application by providing a strong and air tight connection when joining hose and pipe fittings.

CFM tube can be applied in four quick steps:

1. Flash the joint lightly with torch to remove excess foreign matter then place shrink sleeve on tubing or fitting.
2. Join tubing and fitting together. Centre shrink sleeve over joint.
3. Heat shrink sleeve with wide billowy flame. DO NOT use pin point flame. Work flame around joint evenly.
4. At 250°F shrink sleeve will tighten around tube and adhesive will appear from sides. Remove flame and allow to cool. Joint is complete.

#### PRODUCT NAME

CFM

#### PRODUCT DESCRIPTION

Medium wall heat shrink tubing with high resistance to impact and abrasion suitable for low voltage electrical and mechanical applications.

#### ADVANTAGE

- Superior jacket tear resistance and elastomer characteristic allowing better conformance over irregular contours without splitting.
- Provides mechanical protection and better abrasion resistance in harsh environments, e.g. tube rubbing against sharp objects or in constant friction.
- Provides good strain relief.
- After recovery provides an excellent outer cover for sealing and mechanical protection.
- Expanded tube diameters up to 9 in with high 3:1 shrink ratio can help rationalize stock requirements.
- Excellent sealing efficiency ensuring no moisture ingress as the hot melt adhesive enables full encapsulation of cables and connectors.

#### Additional Attributes

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

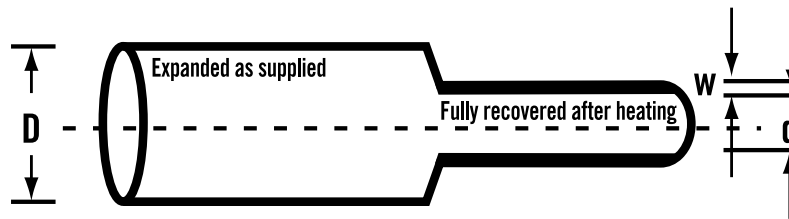
#### MARKET SEGMENT

Electrical, Industrial, Offshore, Oil and Gas, Utilities



### DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		LENGTHS	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (NOM)		MM	IN	M	IN
	MM	IN	MM	IN	MM	IN				
0400	10.2	0.40	3.8	0.15	2.0	0.080	4.5 - 8.5	.18 - .34	1.2	6, 48
0750	19.1	0.75	5.6	0.22	2.0	0.080	6.0 - 16.5	.24 - .65	1.2	12, 48
1100	27.9	1.10	10.2	0.40	2.0	0.080	11.5 - 25.0	.45 - 1.0	1.2	12, 48
1300	33.0	1.30	10.2	0.40	2.0	0.080	11.5 - 30.0	.45 - 1.2	1.2	12, 48
1500	38.1	1.50	12.7	0.50	2.0	0.080	14.0 - 35.0	.55 - 1.4	1.2	12, 48
1700	43.2	1.70	12.7	0.50	2.0	0.080	14.0 - 40.0	.55 - 1.6	1.2	12, 48
2050	52.1	2.05	19.1	0.75	2.0	0.080	21.0 - 45.0	.82 - 1.8	1.2	12, 48
2750	69.9	2.75	25.4	1.00	2.0	0.080	30.0 - 63.0	1.2 - 2.5	1.2	12, 48
3500	88.9	3.50	30.0	1.18	2.4	0.095	33.0 - 83.8	1.3 - 3.3	1.2	24, 48
4700	119.4	4.70	39.9	1.57	2.7	0.105	40.6 - 114	1.6 - 4.5	1.2	24, 48
6700	170.2	6.70	58.4	2.30	2.8	0.110	70.0 - 165	2.4 - 6.5	1.2	24, 48
9000	228.6	9.00	77.0	3.00	3.0	0.118	71.0 - 220	2.8 - 8.7	1.2	24, 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.
- Please specify the product name plus the options you require.
- Standard Product: CFM, 1500, red, unprinted, lined, 48 in lengths

### OPTIONS

- Colour: Black, Clear
- Printing: Printed
- Lining: Unlined

Please contact your Customer Service Representative for information on custom colours, sizes and lengths

## PRE-MOLDED SPLICES

### LIGHTER WEIGHT AND GREATER FLEXIBILITY

CFM is used as a re-jacketing cover to protect pre-molded splices against moisture ingress and to provide a complete environmental seal. Application of heat during the recovery process causes an adhesive liner to melt and as the tubing shrinks it forms an intimate contact with all underlying surfaces and eliminates voids. This yields a water-tight seal suitable for above grade and underground applications of electric power cable joints and accessories.

Since CFM tubing has a 3:1 shrink ratio, the tube shrinks not only over the maximum diameter of the splice but also recovers to the cable jacket O.D. with the same piece of tube. The adhesive has excellent encapsulation and bonding characteristics on PE/PVC jackets to ensure long term reliability of the complete joint system.

CFM also offers excellent mechanical protection and abrasion resistance. After installation of the splice, the cable is normally buried underground and has to withstand the harsh environment, i.e. rock, moisture and rodent intrusion.

#### PRODUCT NAME

CFM

#### PRODUCT DESCRIPTION

Medium wall heat shrink tubing with high resistance to impact and abrasion suitable for low voltage electrical and mechanical applications.

#### ADVANTAGE

- Superior jacket tear resistance and elastomer characteristic allowing better conformance over irregular contours without splitting.
- Provides mechanical protection and better abrasion resistance in harsh environments, e.g. tube rubbing against sharp objects or in constant friction.
- Provides good strain relief and vibration resistance.
- After recovery provides an excellent outer cover for protection.
- Expanded tube diameters up to 9 in with high 3:1 shrink ratio can help rationalize inventory requirements.
- Excellent sealing efficiency ensuring no moisture ingress as the hot melt adhesive enables full encapsulation of cables and connectors.

#### ADDITIONAL ATTRIBUTES

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

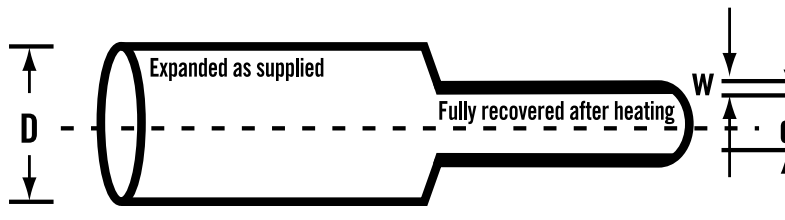
#### MARKET SEGMENT

Electrical, Industrial, Offshore, Oil and Gas, Utilities



### DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		LENGTHS	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (NOM)		MM	IN	M	IN
	MM	IN	MM	IN	MM	IN				
0400	10.2	0.40	3.8	0.15	2.0	0.080	4.5 - 8.5	.18 - .34	1.2	6, 48
0750	19.1	0.75	5.6	0.22	2.0	0.080	6.0 - 16.5	.24 - .65	1.2	12, 48
1100	27.9	1.10	10.2	0.40	2.0	0.080	11.5 - 25.0	.45 - 1.0	1.2	12, 48
1300	33.0	1.30	10.2	0.40	2.0	0.080	11.5 - 30.0	.45 - 1.2	1.2	12, 48
1500	38.1	1.50	12.7	0.50	2.0	0.080	14.0 - 35.0	.55 - 1.4	1.2	12, 48
1700	43.2	1.70	12.7	0.50	2.0	0.080	14.0 - 40.0	.55 - 1.6	1.2	12, 48
2050	52.1	2.05	19.1	0.75	2.0	0.080	21.0 - 45.0	.82 - 1.8	1.2	12, 48
2750	69.9	2.75	25.4	1.00	2.0	0.080	30.0 - 63.0	1.2 - 2.5	1.2	12, 48
3500	88.9	3.50	30.0	1.18	2.4	0.095	33.0 - 83.8	1.3 - 3.3	1.2	24, 48
4700	119.4	4.70	39.9	1.57	2.7	0.105	40.6 - 114	1.6 - 4.5	1.2	24, 48
6700	170.2	6.70	58.4	2.30	2.8	0.110	70.0 - 165	2.4 - 6.5	1.2	24, 48
9000	228.6	9.00	77.0	3.00	3.0	0.118	71.0 - 220	2.8 - 8.7	1.2	24, 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.
- Please specify the product name plus the options you require.
- Standard Product: CFM, 1500, red, unprinted, lined, 48 in lengths

### OPTIONS

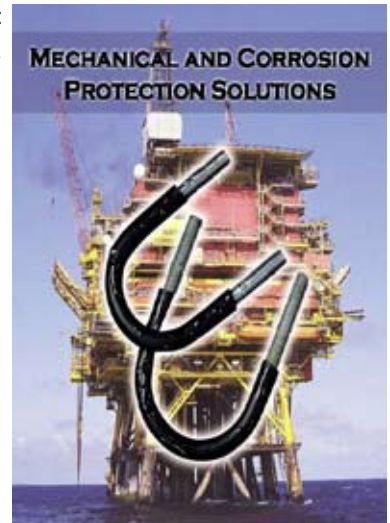
- Colour: Black, Clear
- Printing: Printed
- Lining: Unlined

Please contact your Customer Service Representative for information on custom colours, sizes and lengths



## CORROSION PROTECTION BETWEEN U-BOLTS AND PIPES

Pipes running through refineries, chemical plants and offshore platforms are rested on, or secured to, a structural beam support member using U-bolts. Over time the contact area between the uncoated U-bolts and pipe erodes and starts deteriorating the material in the presence of moisture. This excessive corrosion at the pipe support point is the leading cause of process pipe failure and it eventually develops into pinhole leaks. Polyolefin based CFM U-Bolt heat shrink sleeves are designed to solve this problem. It is smooth, durable and shrunk over the shank of the U-bolt. This helps reduce the risk of cracking the paint film around the pipe as the bolt is torqued down. The polyolefin material provides the right combination of hardness and durability to protect the pipe paint but avoids setting up a capillary crevice around the circumference of the pipe. CFM U-Bolt is available in 750 and 1100 sizes and can be applied to several sizes of U-bolts.



### PRODUCT NAME

CFM U-Bolt

### PRODUCT DESCRIPTION

Medium wall heat shrink tubing with high resistance to impact and abrasion suitable for corrosion and mechanical protection.

### ADVANTAGE

- Has superior jacket tear resistance and elastomeric characteristics allowing better conformance over irregular contours without splitting
- Unique design provides smooth recovery over U-bolts without creases or wrinkles
- Provides mechanical protection and better abrasion resistance in harsh environments, e.g. tube rubbing against sharp objects or in constant friction
- Provides good strain relief and vibration resistance
- Expanded tube diameters of 0.75 in and 1.1 in with high 3:1 shrink ratio can help rationalize stock requirements
- After recovery, provides an excellent outer cover for protection
- Highly reliable as it is unaffected by heat, ultra-violet rays, vibration, sandblasting or other conditions pertaining to an industrial and marine environment

### ADDITIONAL ATTRIBUTES

- CFM U-Bolt has a 3:1 shrink ratio to provide a greater application range.

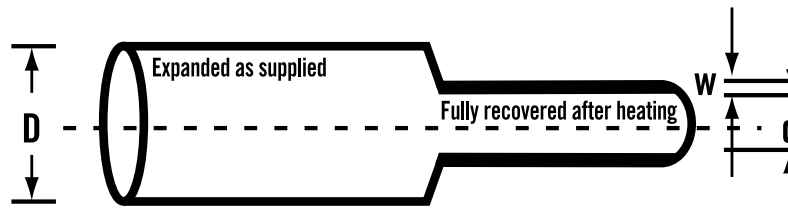


### MARKET SEGMENT

Electrical, Offshore, Marine, Industrial Oil and Gas, Utilities

### DIMENSIONS

ORDER REFERENCE NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		LENGTHS	
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) d		WALL THICKNESS (NOM) W		MM	IN	M	FT
	MM	IN	MM	IN	MM	IN				
0750	19.1	0.75	5.6	0.22	2.0	0.080	6.0 - 16.5	.24 - .65	15.24	50
1100	27.9	1.10	10.2	0.40	2.4	0.095	11.5 - 25.0	.45 - 1.0	15.24	50



### 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.
- Standard product is black, unprinted, unlined, 50 ft lengths
- Please specify the product name and order reference number
- Order Example: CFM U-Bolt, 1100

Please contact your Customer Service Representative for material data sheets

## HEAVY WALL CROSS-LINKED POLYOLEFIN TUBING

HEAVY WALL HEAT SHRINK TUBING PROVIDES MAXIMUM RELIABILITY FOR INSULATING AND PROTECTING CABLE JOINTS AND TERMINATIONS

### FEATURES AND BENEFITS

- 3:1 shrink ratio
- Withstands severe mechanical requirements of U.R.D., submersible and direct burial installations
- High impact, abrasion, corrosion and chemical resistance
- Rated for 1 kV, 90°C continuous use
- Optional thermoplastic adhesive liner provides complete environmental protection and insulation
- 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 Guide Numbers 2.4 and 2.5; ICEA and NEMA insulation thickness requirements
- DNV Type approval

### TYPICAL APPLICATIONS

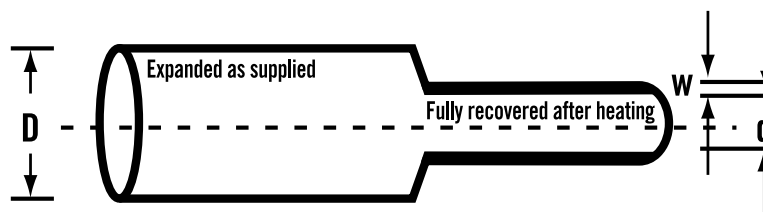
- Electrical/Utility
- Industrial
- Strain relief and mechanical protection
- Insulation of primary low voltage cables



## 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	2.0	0.08	4.5 - 11	.2 - .45	#8 - #6	1.2	48
0750	19.1	0.75	6.1	0.24	3.0	0.12	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	3.6	0.14	13 - 35	.5 - 1.4	2/0 - 350	1.2	48
2000	50.8	2.00	16.0	0.63	3.6	0.14	17.5 - 44	.7 - 1.75	250 - 500	1.2	48
2700	68.1	2.70	22.1	0.87	3.8	0.15	24 - 59	.95 - 2.3	600 - 1000	1.2	48
3500*	89.9	3.54	30.0	1.18	3.8	0.15	33 - 80	1.3 - 3.1	800 - 1250	1.2	48
4700*	119.9	4.72	39.9	1.57	3.8	0.15	44 - 104	1.75 - 4.1	1500 - 2500	1.2	48
5100*	129.5	5.10	39.9	1.57	3.8	0.15	43 - 109	1.7 - 4.3		1.2	48
6000*	152.4	6.00	50.8	2.00	3.8	0.15	56 - 130	2.2 - 5.1		1.2	48
6700*	170.2	6.70	56.6	2.23	3.8	0.15	61 - 145	2.4 - 5.7		1.2	48

\*CFW sizes 3500 to 6700 are not UL or CSA listed



## 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, 24 or 48 inches
- Please specify the product name, order reference number and options you require.
- Order Example: CFW, 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.

## INSULATING AND PROTECTING CABLE JOINTS AND TERMINATIONS

### COST EFFECTIVE - MAXIMUM RELIABILITY

CFW is an ideal and cost effective solution for sealing electrical connections and low voltage splices on electrical circuits. Because of its high dielectric strength it provides excellent electrical resistance properties.

When low voltage distribution cables are run from transformers to a home, several joints may often be required. CFW can be effectively used to protect the splice as it is rated for 1 kV. It also protects the connection from severe environmental conditions and provides mechanical strength. The adhesive liner provides superior sealing properties and a strong bond ensures product reliability over time.

CFW is UL listed and CSA certified for direct burial installations.

#### PRODUCT NAME

CFW

#### PRODUCT DESCRIPTION

Heavy wall heat shrink tubing provides maximum reliability for insulating and protection cable joints and terminations.

#### APPLICATION

- Suitable for insulating and protection of LV electrical connectors and terminal blocks.
- Ideal for jacketing cables where abrasion resistance and electrical protection are required.
- Can be used to seal in-line URD splices and termination connections up to 1000 V.

#### ADDITIONAL ATTRIBUTES

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

#### ADVANTAGE

- CFW tube provides excellent mechanical protection and high impact/abrasion resistance.
- Withstands severe mechanical requirements of URD, submersible and direct burial installations.
- Provides good strain relief.
- Has superior corrosion and chemical resistance and withstands corrosion to commonly used metal substrates.
- Reduces number of stock items in inventory.

#### MARKET SEGMENT

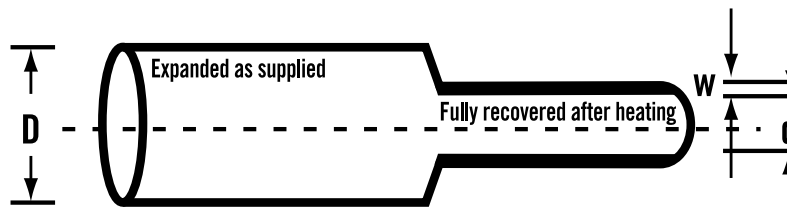
- Military, Electrical, Utilities, OEM



### DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE FOR GENERAL USE		600/ 1000 V SINGLE CONDUCTOR SIZE	LENGTHS	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (NOM)		MM	IN	AWG/MCM	M	FT
	MM	IN	MM	IN	MM	IN	MM	IN			
0350	8.9	0.35	3.0	0.12	1.8	0.07	3.5 - 8	.15 - .3	#14 - #10	1.2	6,48
0500	13.0	0.51	4.1	0.16	2.4	0.09	4.5 - 11	.2 - .45	#8 - #6	1.2	6,48
0750	19.1	0.75	6.1	0.24	2.4	0.09	6.5 - 16.5	.25 - .65	#6 - #2	1.2	6,9,12,48
1100	27.9	1.10	8.9	0.35	3.0	0.12	10 - 24	.4 - .95	#1 - 3/0	1.2	6,9,12,48
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
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
2700	68.1	2.70	22.1	0.87	4.1	0.16	24 - 59	.95 - 2.3	600 - 1000	1.2	12,24,48
3500*	89.9	3.54	30.0	1.18	4.1	0.16	33 - 80	1.3 - 3.1	800 - 1250	1.2	12,24,48
4700*	119.9	4.72	39.9	1.57	4.3	0.17	44-104	1.75 - 4.1	1500 - 2500	1.2	12,24,48

\*CFW 3500 and CFW 4700 are not UL or CSA listed



### STANDARDS

- UL 486D, CSA C22.2 No. 198.2, ANSI C119.1, Western Underground Guide No. 2.4 and 2.5

### 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.
- Please specify the product name plus the options you require.
- Standard Product: CFW, 1500, black, unprinted, unlined, 48 in lengths

### OPTIONS

- Colour: Red
- Printing: Printed
- Lining: Lined

Please contact your Customer Service Representative for information on custom colours, sizes and lengths

# 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

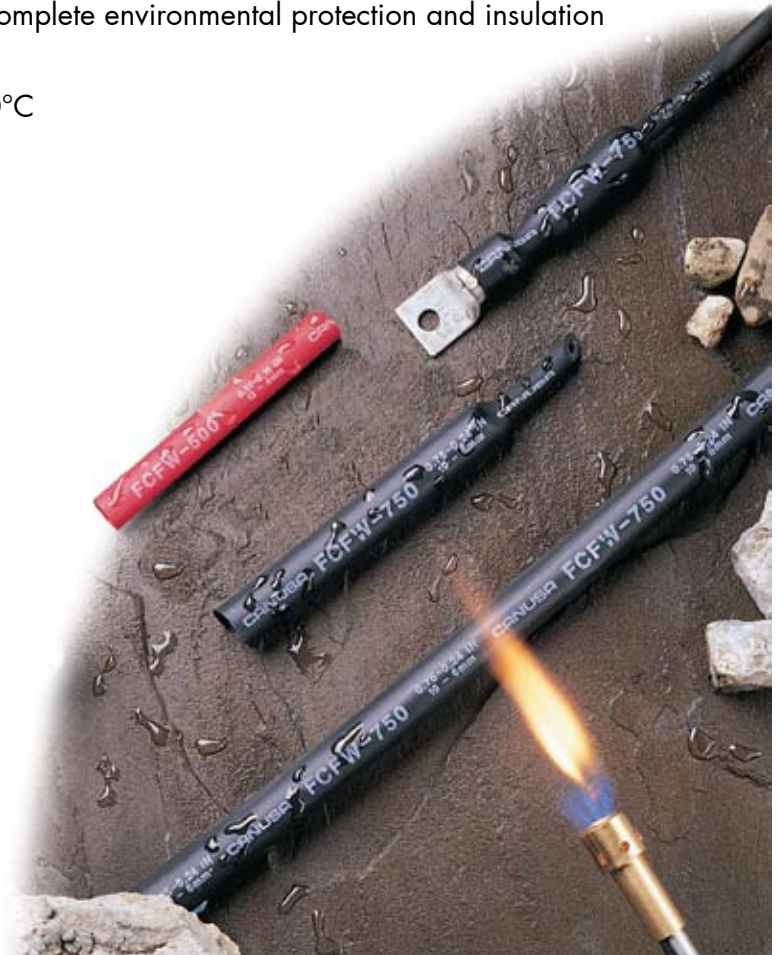
- 3:1 shrink ratio
- Flame retardant
- High impact and abrasion resistance - capable of withstanding severe mechanical abuse of U.R.D., submersible and direct burial installations
- FCFW tubing will not split or rupture during installation, even when overheated
- Optional thermoplastic adhesive liner 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

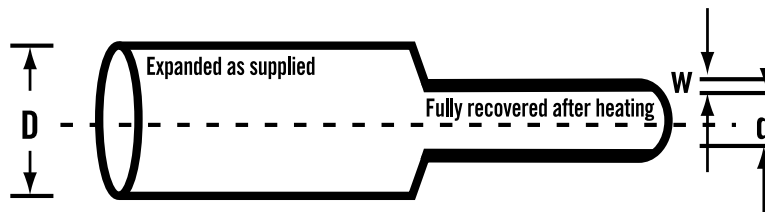
- Insulation of low voltage cables
- Battery cable protection
- Flame retardant systems



## 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

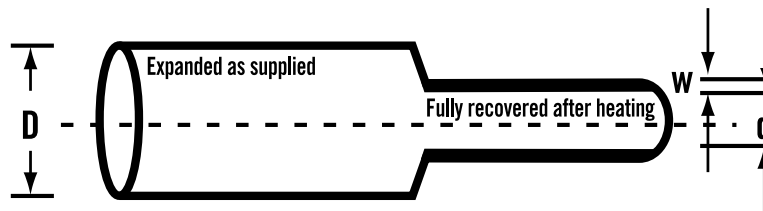
#### STANDARDS

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

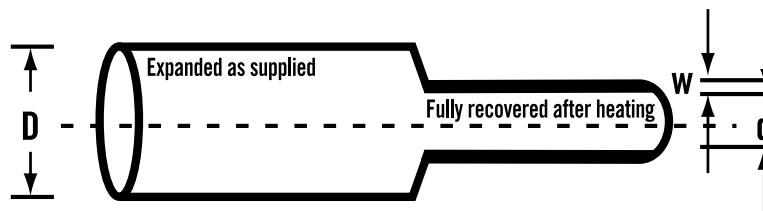
### ADDITIONAL ATTRIBUTES

- 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

- 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.

# FCFW QUICKWRAP

INSULATE  
SEAL  
PROTECT

3:1  
SHRINK RATIO



## HEAT SHRINK WRAPAROUND SLEEVE

HEAVY WALL, FLAME RETARDANT, HEAT SHRINK WRAPAROUND SLEEVE WITH ADHESIVE FOR COMPLETE ENVIRONMENTAL SEALING WITHOUT THE NEED FOR DISCONNECTION. IDEAL FOR RETROFIT PROTECTION OF EXPOSED CONNECTORS AND THE REPAIR OF DAMAGED CABLE

## FEATURES AND BENEFITS

- 3:1 shrink ratio
- Fast and simple installation without interruption of service
- Repair damaged cable jackets
- Suitable for low voltage electrical and mechanical applications
- Proven thermoplastic adhesive ensures an absolutely waterproof seal
- High impact and abrasion resistance
- Flame retardant
- FCFW QuickWrap can be cut to size in field to suit application
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C

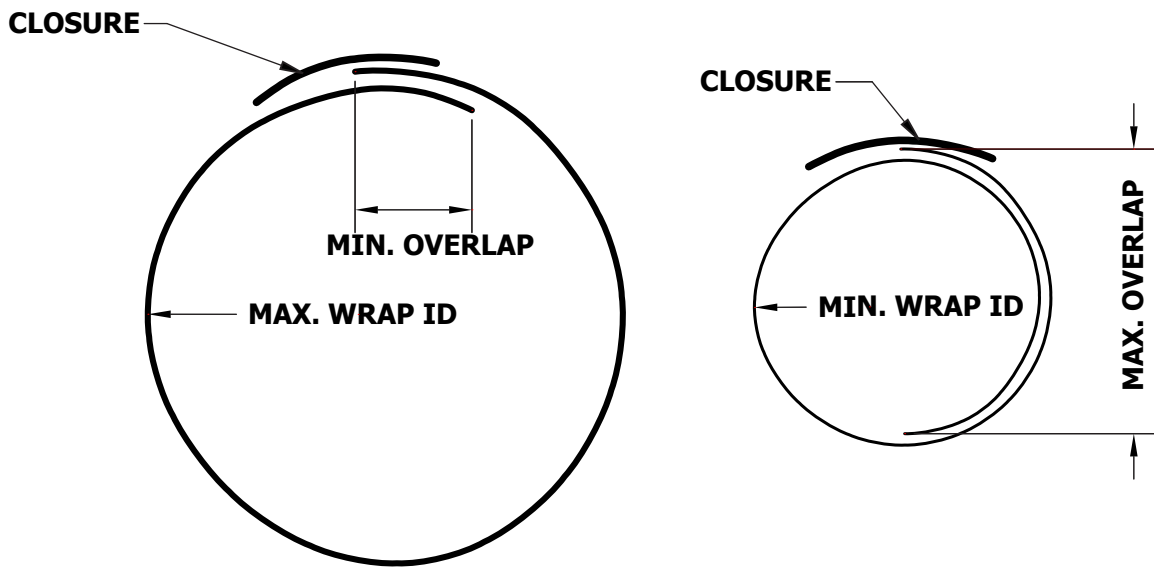
## TYPICAL APPLICATIONS

- Connectorized cable repair
- Retrofit protection of connectors
- Cable jacket repairs



DIMENSIONS

ORDER NUMBER	LENGTH		WIDTH		RECOMMENDED OVERLAP				EXPANDED SLEEVE I.D. WITH OVERLAP				APPLICATION RANGE (MIN. - MAX.)		CONDUCTOR SIZE
	IN	MM	IN	MM	IN (MIN.)	MM (MIN.)	IN (MAX.)	MM (MAX.)	IN (MIN.)	MM (MIN.)	IN (MAX.)	MM (MAX.)	IN	MM	AWG/MCM 600/1000 V
1500	12	305	5.7	145	1.13	28.6	2.36	59.8	0.75	19.1	1.14	29.0	0.50 - 1.00	13 - 25	#2/0 - 350
2000	12	305	7.3	185	1.13	28.6	3.14	79.8	1.00	25.4	1.64	41.7	0.70 - 1.50	18 - 38	250 - 500
2700	12	305	9.5	241	1.20	30.5	4.24	107.7	1.35	34.3	2.32	58.9	1.00 - 2.00	25 - 58	600 - 1000



INSTALLATION NOTES

- FCFW QuickWrap is a one size fits all solution that can accommodate all sizes of cable and connectors. QuickWrap sleeves can be cut to length and width in the field to fit the specific application. Simply wrap the sleeve around the cable or connector, ensuring adequate overlap (allow for a minimum of 3 in or 76 mm), and then firmly apply the closure to hold FCFW QuickWrap together during the heat shrinking process. Please refer to the installation instructions included with each FCFW QuickWrap for more detailed information.

ORDERING

- Please specify the product name plus the options you require
- Order Example: FCFW QuickWrap 1500, 12 in length

Please contact your Customer Service Representative for information on custom 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.



## ADHESIVE LINED HEAT SHRINK WRAPAROUND SLEEVE DESIGNED FOR REPAIR OF DETERIORATED SPLICES

**PROBLEM:** Customers in the Utility sector were looking for a new and improved solution for eliminating service interruptions when repairing damaged cable jackets or retrofit protection of exposed connectors on secondary service cables.

**SOLUTION:** FCFW QuickWrap was presented as an adhesive lined, flame retardant wraparound heat shrink sleeve that can be easily applied without the need for disconnection. The heavy wall FCFW QuickWrap provides superior environmental sealing, rugged mechanical protection and high performance electrical insulation.

### PRODUCT NAME

FCFW QuickWrap

### PRODUCT DESCRIPTION

Heavy wall, flame retardant heat shrink wrap-around sleeve with hot-melt adhesive lining for complete environmental sealing without the need for power disconnection



### APPLICATION

- Connectorized cable repair
- Water resistance and encapsulation
- Repair of damaged cable jackets
- Retrofit protection of connections
- Used in confined spaces underground and ideal for protection of defrayed cable/ connectors
- Cable/conduit transitions
- Cable/wire/rope bundles

### ADVANTAGE

- Operators can reduce total labour and installed costs by 80% while avoiding performance critical service disruptions
- Eliminates system downtime when choosing not to disconnect and re-apply insulating tubes
- Industry leading adhesive performance ensures an absolutely waterproof seal
- Thick coating of hot-melt adhesive encapsulates entire splice to prevent moisture ingress and risk of connector and conductor corrosion and eventual failure
- Significant protection advantages over insulating tape
- Unbeatable combination of DSG-Canusa's split resistant medium and heavy wall materials, superior adhesive performance and innovative closure mechanism

### MARKET SEGMENT

Communications, Electrical, Utility, Industrial, Shipboard

### OTHER POTENTIAL USES

- Wire and Cable
- Offshore
- Oil and Gas
- Marine

### ADDITIONAL ATTRIBUTES

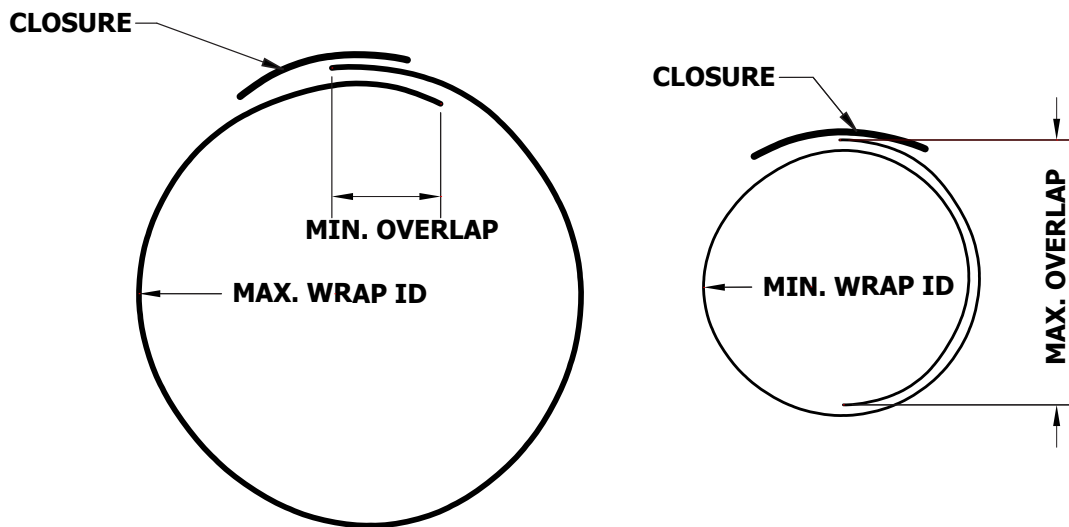
- Sleeve can be cut to size in field to suit application
- Can also be offered in optional medium and heavy wall versions: CFM QuickWrap, CFW QuickWrap

# FCFW QuickWrap

## ADHESIVE LINED HEAT SHRINK WRAPAROUND SLEEVE

### DIMENSIONS

ORDER NUMBER	LENGTH		WIDTH		RECOMMENDED OVERLAP				EXPANDED SLEEVE I.D. WITH OVERLAP				APPLICATION RANGE (MIN. - MAX.)		CONDUCTOR SIZE
	IN	MM	IN	MM	IN (MIN.)	MM (MIN.)	IN (MAX.)	MM (MAX.)	IN (MIN.)	MM (MIN.)	IN (MAX.)	MM (MAX.)	IN	MM	AWG/MCM 600/1000 V
1500	12	305	5.7	145	1.13	28.6	2.36	59.8	0.75	19.1	1.14	29.0	0.50 - 1.00	13 - 25	#2/0 - 350
2000	12	305	7.3	185	1.13	28.6	3.14	79.8	1.00	25.4	1.64	41.7	0.70 - 1.50	18 - 38	250 - 500
2700	12	305	9.5	241	1.20	30.5	4.24	107.7	1.35	34.3	2.32	58.9	1.00 - 2.00	25 - 58	600 - 1000



### INSTALLATION NOTES

- FCFW QuickWrap is a one size fits all solution that can accommodate all sizes of cable and connectors. QuickWrap sleeves can be cut to length and width in the field to fit the specific application. Simply wrap the sleeve around the cable or connector, ensuring adequate overlap (allow for a minimum of 3 in or 76 mm), and then firmly apply the closure to hold FCFW QuickWrap together during the heat shrinking process. Please refer to the installation instructions included with each FCFW QuickWrap for more detailed information.

### ORDERING

- Please specify the product name plus the options you require.
- Order Example: FCFW QuickWrap 1500, 12 in length

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

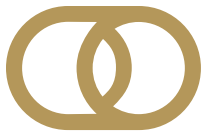
# PRODUCT CROSS REFERENCE CHART

INSULATE  
SEAL  
PROTECT

	DSG-CANUSA	RAYCHEM	SUMITOMO	ALPHA	3M	LG
THIN WALL	CHM 140	RT-3, CRN	B8, Sumitube D	FIT295	SR350	GSHS-1635S
	CPX 100	RNF-100	B2, A2	FIT221	FP301(1)	GSHS-1635F
	CPX 201	DCPT	B2(Y/G)	FIT260	GYS	GSHS-1635Y/G
	CPX 300	RNF-3000	B2(3X), A2(3X)	FIT321V	SFTW-203	GSHS-3635
	CPX 876	VERSAFIT	B2(Z), F2	FIT221V	VPP876	GSHS-1625LT
	CZM 200	ZHTM				
	CZT 200	ZH-100	Sumitube-NH			
	DERAY® ITW	VERSAFIT V4	F3(Z), F32			GSHS-1625T
	DERAY® LSB	LSTT				
DUAL WALL	CPA 100	TAT, DWP-125	O2B2	FIT321	EPS200/300	2690W, 1625W
	CPA 300	ATUM3:1, DWP-125	W3B2	FIT321	EPS300	GSHS-3635W
	DERAY® HXKT	SCL	W5O2	FIT306	MW	GSHS-3625WS
	DERAY® IHKT	ATUM4:1	W3B2(4X)		EPS400	
	DERAY® MDKT					
	DERAY® Splicement	ES-2000	SA2	FIT421	EPS400, SMS	
	CWWT 450					
	CFRA	FL2500				
	DERAY® ColdMelt	LMX				
	DERAY® DuoMelt	Rayblock				
	DERAY® PressMelt	Rayblock				
	DERAY® SpliceMelt Caps	ES/PD Caps				

# PRODUCT CROSS REFERENCE CHART

	DSG-CANUSA	RAYCHEM	SUMITOMO	ALPHA	3M	LG
MEDIUM/HEAVY WALL	CFHR	HRSR, HRHF		FIT621		
	CFM	MWTM, SST-M			IMCSN	LG-PMWT
	CFW	WCSM, SST, RHW		FIT700	ITCSN	LG-PHWT
	FCFW	BSTSFR, SSTFR, FCSM			HDT, ITCSF	
	FCFW QuickWrap					
	CFTV	TCS2			CCT	LG-CATV
	CCAP-RL	SSC,ESC		FIT Cap	ICEC	
	CCAP-FR/RL	SSC-FR			SKE	
	CCB	CBR			HDBB	
	CRDW	CRSM			HDCW	
	CRLS			FIT Wrap		
	CBTM	BPTM			BBI	
	CBTH	BBIT			BBI	LG-BBHV
COMMUNICATIONS	CFSP	SMOUV	FSP-1			
	CFTV QuickSeal					
	CTB-15					
	Drop Tubing					
	Gel Drop Splice Enclosure	CERTI SEAL				
NON POLYOLEFIN	CNP 200 Neoprene	NT	R10	FIT600	NST	LG-CRFR
	CTFE 250	TFE	TPE CP			
	CVN 105			FIT105		
	DERAY® KY 175	RW-175	K	FIT350	Kynar	GSHS-1675
	DERAY® KYF 190	RT-375	K2			
	DERAY® V25	DR25	R120			LG-DRET
	DERAY® VT 220	RW200, Viton®	FE3, KH 200	FIT650	Viton	GSHS-1650F



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