2019

DSG-CANUSA PRODUCTS

HEAT AND COLD SHRINK PRODUCTS

SHAWCOR

SPECIALIST FOR HEAT SHRINK AND COLD-APPLIED TECHNOLOGY

For more than 45 years, DSG-Canusa is known for developing and producing high-quality heat shrink tubing and cold-applied accessories. Our growing portfolio of heat shrink products includes thin-, medium- and heavy wall products made of polyolefin, fluoropolymer and elastomer with or without adhesive. Our mission is to lead the industry in manufacturing superior heat and cold shrink products.

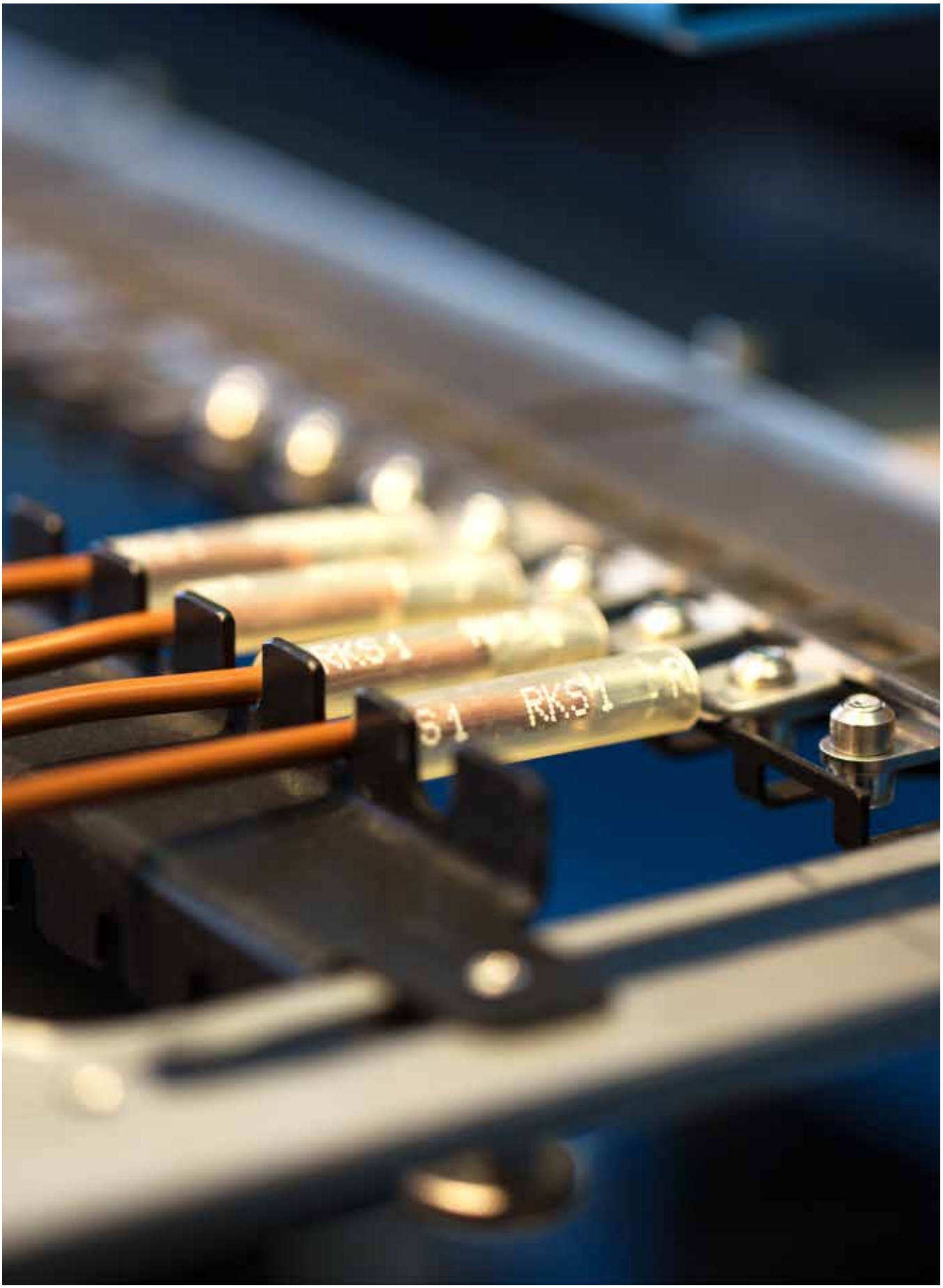
In addition to the heat and cold shrink tubing product lines, we provide a full range of technically advanced shrink appliances. Years of experience in processing heat shrink materials have resulted in the creation of a variety of processing devices, from a simple heat gun to customer specific, process integrated high-performance shrink equipment.

Being part of the energy services provider Shawcor with over 6,000 employees in over 20 countries, we combine the resources, expertise and technologies to maintain a reputation for excellence that stems from our unparalleled customer service and catalogue of top quality products.

OUR HSE STANDARD

Shawcor's vision is an Incident and Injury-Free (IIF) workplace, with no harm to people and no damage to the environment. We view Health, Safety and Environment (HSE) as a core value and an integral part of all business activities, and are committed to achieving HSE excellence at all of our locations around the world.

As a member of Shawcor, we share these values and promote safety awareness with a number of features and programs. Some of these activies are a monthly focus on a high-risk activity to contribute to a an incident and injury-free workplace, Advanced Safety Audits (ASA) to enhance the ability of managers and supervisors to engage in positive interactions with workers regarding safety and the Take 5 for Safety initiative to improve safety performance and to reduce incidents when performing non-routine tasks.


RKS1
RKS1

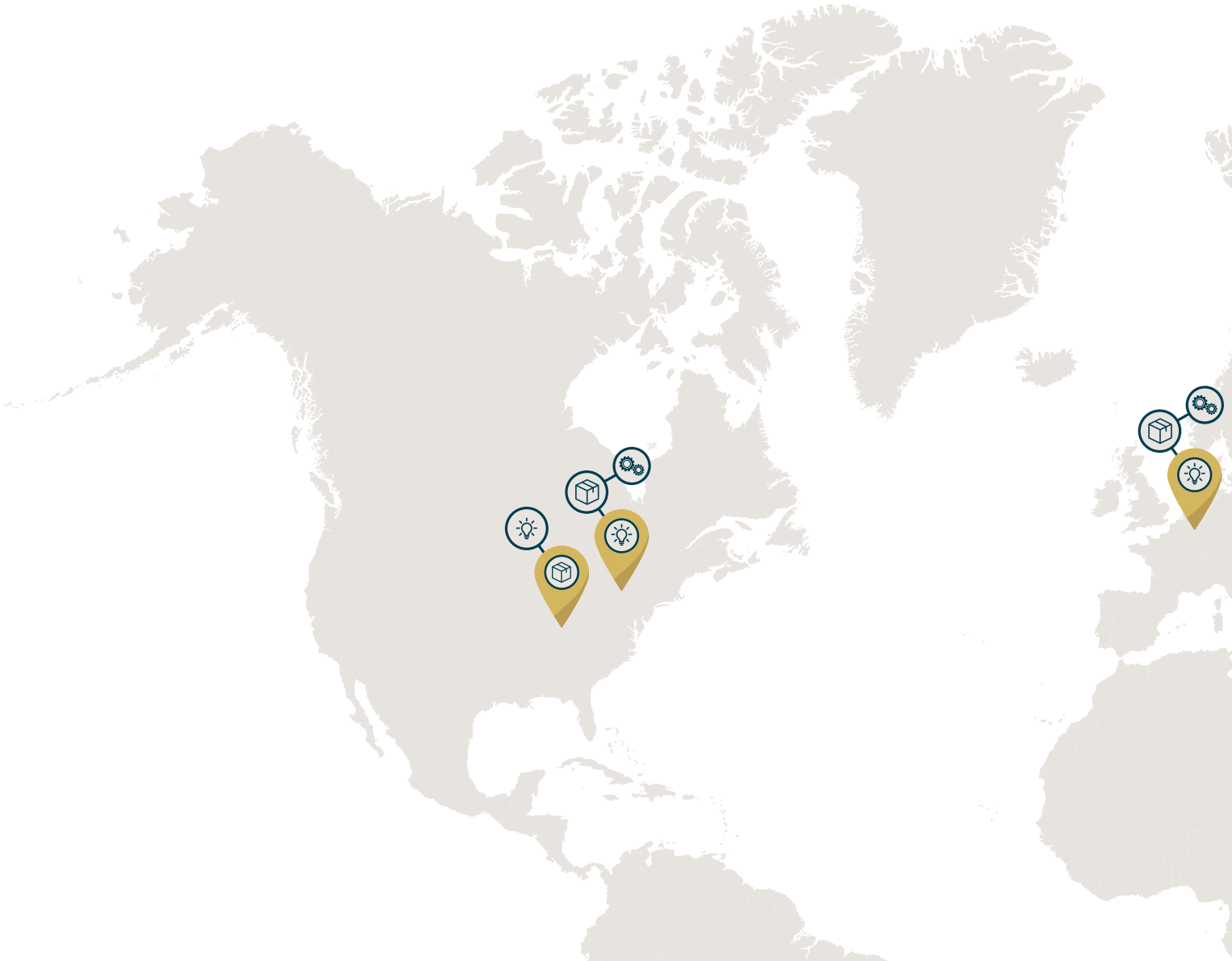
INTEGRATED SYSTEMS

We are more than just a supplier of standard heat and cold shrink products, as we also supply the tools and application equipment to reliably apply our products in your factory or at your work site.

Our focused teams on machine development, applications engineering, product engineering and research and development are dedicated professionals from electrical engineering to materials science. They have the skills and experience to design and execute technology and customer specific solutions from concept to commercial reality.

When these teams work side by side with you they can provide advanced integrated solutions using our superior heat shrink tubing and our high-performance application equipment

Working with our teams provides you with access to custom products, new materials, and application specific shrink devices for integrated systems that address your needs for efficiency, safety, quality and performance.



SERVING GLOBALLY

LOCAL PRODUCTION FOR LOCAL DEMAND.

To deliver the best performing products to all our customers on-time and to meeting their expectation, we are organized globally and have chosen our sites strategically. We produce locally to serve the local demand while optimizing lead times, transport time and costs.

Our global team utilizes ressources from our different locations to support every customer's need. We welcome customer driven supply chain development and consider their increasing expactations as our opportunity to rise above.

R&D, Application Engineering, Marketing

Production

Warehouse and Dispatch

CONTENT

SINGLE WALL TUBING

SERVING A VARIETY OF APPLICATIONS IN THE AUTOMOTIVE, ELECTRONICS, MILITARY AND AEROSPACE MARKETS

Our single wall heat shrink tubing portfolio offers insulation of electrical components, protects against mechanical damage and abrasion, provides strain relief and is available in a wide range of colours and sizes.

CPX 876 - THIN WALL CROSSLINKED POLYOLEFIN

Thin wall, highly flame retardant, crosslinked polyolefin

FEATURES AND BENEFITS

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

STANDARDS

- UL file # E107857
- CSA file # 265111
- SAE AMS-DTL-23053/5, Class 3

TYPICAL APPLICATIONS

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

2:1
SHRINK RATIO

-55°C to 135°C
(-67°F to 275°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Aerospace, Defense, Industrial, Consumer electronics

STANDARDS:

RoHS

MIL

Thin wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
0047	1.2	3/64	0.6	0.024	0.45	0.018	300	984
0063	1.6	1/16	0.8	0.031	0.45	0.018	300	984
0094	2.4	3/32	1.2	0.047	0.50	0.020	300	984
0125	3.2	1/8	1.6	0.063	0.50	0.020	300	984
0187	4.8	3/16	2.4	0.094	0.50	0.020	300	984
0250	6.4	1/4	3.2	0.126	0.65	0.026	300	984
0375	9.5	3/8	4.8	0.189	0.65	0.026	150	492
0500	12.7	1/2	6.4	0.252	0.65	0.026	100	328
0625	16.0	5/8	8.0	0.315	0.65	0.026	100	328
0750	19.0	3/4	9.5	0.374	0.75	0.030	50	164
1000	25.4	1	12.7	0.500	0.90	0.035	50	164
1250	31.8	1 1/4	15.9	0.626	0.90	0.035	50	164
1500	38.0	1 1/2	19.0	0.748	1.00	0.039	50	164
2000	51.0	2	25.4	1.000	1.15	0.045	50	164

ORDERING

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

- Select options:
  - Color: Black (BK), red (RD), white (WT), blue (BL), yellow (YL), green (GR) - all (except black) with MOQ
  - Printing: Printed or unprinted
- Please specify the product name, order number and options you require
- *Example:* CPX 876, 0125, black, unprinted, 300 m spool

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

Multi-purpose, flame retardant, flexible heat shrink tubing

FEATURES AND BENEFITS

- Self-extinguishing (colors only)
- Flexible
- Suitable for various applications
- Good resistance to common fluids and solvents
- High dielectric strength
- Shrink ratio: 2:1
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 110°C min.

STANDARDS

- UL file # E107857 (colors only)
- CSA file # 066150_0_000 (colors only)
- Approved to major automotive OEM specifications

TYPICAL APPLICATIONS

- Abrasion and mechanical protection
- Cable insulation, marking and bundling of electrical or mechanical components
- Strain relief
- Corrosion protection

2:1

SHRINK RATIO

-55°C to 135°C

(-67°F to 275°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Industrial

STANDARDS:

RoHS

Thin wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS				
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Mini-Spool*		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	M	FT	1.22 M / 48 IN
0047	1.2	3/64	0.6	0.024	0.40	0.016	300	984	150	492	25
0063	1.6	1/16	0.8	0.031	0.40	0.016	300	984	150	492	25
0094	2.4	3/32	1.2	0.047	0.50	0.020	300	984	150	492	25
0125	3.2	1/8	1.6	0.063	0.50	0.020	300	984	150	492	25
0187	4.8	3/16	2.4	0.094	0.50	0.020	300	984	75	246	25
0250	6.4	1/4	3.2	0.126	0.60	0.024	300	984	75	246	25
0375	9.5	3/8	4.8	0.189	0.60	0.024	150	492	75	246	25
0500	12.7	1/2	6.4	0.252	0.60	0.024	100	328	50	164	25
0625	16.0	5/8	8.0	0.315	0.60	0.024	100	328	50	164	10
0750	19.0	3/4	9.5	0.374	0.80	0.031	50	164	30	98	10
1000	25.4	1	12.7	0.500	0.90	0.035	50	164	30	98	10
1250	31.8	1 1/4	15.9	0.626	0.90	0.035	50	164	30	98	-
1500	38.0	1 1/2	19.0	0.748	1.00	0.039	50	164	30	98	-
2000	51.0	2	25.4	1.000	1.10	0.043	50	164	30	98	-
3000	76.0	3	38.0	1.496	1.30	0.051	25	82	15	49	-
4000	101.6	4	50.8	2.000	1.40	0.055	25	82	15	49	-

Clear items not UL or CSA listed.
*Black items only available on spools

ORDERING

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

- Select options:
  - Color: Black (BK), red (RD), white (WT), clear (CL), blue (BL), yellow (YL), green (GR), brown (BN), grey (GY)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-H, 0250 or 1/4 in, black

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

Halogen free, economical, heat shrink tubing

FEATURES AND BENEFITS

- Flexible
- Economical
- General Purpose
- Halogen free alternative to PVC
- Shrink ratio: 2:1
- Continuous operating temperature: -55°C to 125°C
- Shrink temperature: 110°C min.

TYPICAL APPLICATIONS

- Abrasion protection
- Insulation of electrical or mechanical components
- Protection against mechanical damage and corrosion

2:1
SHRINK RATIO

-55°C to 125°C
(-67°F to 257°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Automotive, Industrial

STANDARDS:

RoHS

Thin wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS			
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Mini-Spool	
	MM	IN	MM	IN	MM	IN	M	FT	M	FT
0063	1.6	1/16	0.8	0.031	0.40	0.016	300*	984*	150	492
0094	2.4	3/32	1.2	0.047	0.50	0.020	300*	984*	150	492
0125	3.2	1/8	1.6	0.063	0.50	0.020	300	984	150	492
0187	4.8	3/16	2.4	0.094	0.50	0.020	300	984	75	246
0250	6.4	1/4	3.2	0.126	0.60	0.024	300	984	75	246
0375	9.5	3/8	4.8	0.189	0.60	0.024	150	492	75	246
0500	12.7	1/2	6.4	0.252	0.60	0.024	100	328	50	164
0625	16.0	5/8	8.0	0.315	0.60	0.024	-	-	50	164
0750	19.0	3/4	9.5	0.374	0.80	0.031	50	164	30	98
1000	25.4	1	12.7	0.500	0.90	0.035	50	164	30	98
1500	38.0	1 1/2	19.0	0.748	1.00	0.039	50	164	30	98
2000	51.0	2	25.4	1.000	1.10	0.043	50	164	30	98

*Items only available in black

ORDERING

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

- Select options:
  - Color: Black (BK), clear (CL)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-HB, 0500 or 1/2 in, black

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

Universal heat shrink tubing with excellent physical and mechanical properties

FEATURES AND BENEFITS

- Self-extinguishing (colors only)
- Flexible
- Very good resistant to common fluids and solvents
- Excellent physical and electrical performance
- Shrink ratio: 2:1
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 90°C min.

STANDARDS

- UL file # E107857 (colors only)
- CSA file # 066150_0_000 (colors only)
- SAE-AMS-DTL-23053/5, Class 1 + 2
- DEF STAN 59-97 Type 2b, BS G198 Part 3 Type 11B
- VG95343 Part 5 Type A/B
- Approved to major automotive OEM specifications

TYPICAL APPLICATIONS

- Electrical insulation of wire splices and terminals
- Protection against chemical strength
- Strain relief of wire terminations
- Cable marking and bundling of electrical or mechanical components
- Secures components from abrasion and fluids

2:1

SHRINK RATIO

-55°C to 135°C
(-67°F to 275°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Automotive, Aerospace, Defense, Industrial OEM

STANDARDS:

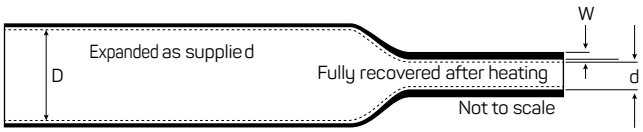
RoHS · CSA · UL · VDE · DEF STAN 59/97 · MIL · VG

Thin wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS				
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Mini-Spool*		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	M	FT	1.22 M / 48 IN
0047	1.2	3/64	0.6	0.024	0.40	0.016	300	984	150	492	25
0063	1.6	1/16	0.8	0.031	0.40	0.016	300	984	150	492	25
0094	2.4	3/32	1.2	0.047	0.50	0.020	300	984	150	492	25
0125	3.2	1/8	1.6	0.063	0.50	0.020	300	984	150	492	25
0187	4.8	3/16	2.4	0.094	0.50	0.020	300	984	75	246	25
0250	6.4	1/4	3.2	0.126	0.60	0.024	300	984	75	246	10
0375	9.5	3/8	4.8	0.189	0.60	0.024	150	492	75	246	10
0500	12.7	1/2	6.4	0.252	0.60	0.024	100	328	50	164	10
0625	16.0	5/8	8.0	0.315	0.60	0.024	100	328	50	164	10
0750	19.0	3/4	9.5	0.374	0.80	0.031	50	164	30	98	10
1000	25.4	1	12.7	0.500	0.90	0.035	50	164	30	98	10
1250	31.8	1 1/4	15.9	0.626	0.90	0.035	50	164	30	98	-
1500	38.0	1 1/2	19.0	0.748	1.00	0.039	50	164	30	98	-
2000	51.0	2	25.4	1.000	1.10	0.043	50	164	30	98	-
3000	76.0	3	38.0	1.496	1.30	0.051	25	82	15	49	-
4000	101.6	4	50.8	2.000	1.40	0.055	25	82	15	49	-

Clear items not UL or CSA listed.
*Black items only available on spools



ORDERING

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

- Select options:
  - Color: Black (BK), red (RD), white (WT), clear (CL), blue (BL), yellow (YL), green (GR), brown (BN), grey (GY)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-I, 0375 or 3/8 in, black

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

DERAY®-I 3000 – THIN WALL CROSSLINKED POLYOLEFIN

High shrink ratio, multiple specifications flexible heat shrink tubing with excellent physical and mechanical properties

FEATURES AND BENEFITS

- Self-extinguishing (colors only)
- Flexible
- High shrink ratio
- Resistant to common fluids and solvents
- Additionally available in RAL2003 orange color
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 90°C min.

STANDARDS

- UL file # E107857 (colors only)
- SAE-AMS-DTL-23053/5, Class 1 + 2
- DEF STAN 59-97 Type 2b, BS G198 Part 3 Type 11B
- VG95343 Part 5 Type A/B
- Approved to major Automotive OEM specifications

TYPICAL APPLICATIONS

- Electrical insulation of in-line splices
- Strain relief of terminals
- Color coding of electronic components
- Insulation and protection of objects with large diameter variations

3:1

SHRINK RATIO

-55°C to 135°C
(-67°F to 275°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Aerospace, Defense, Industrial OEM

STANDARDS:

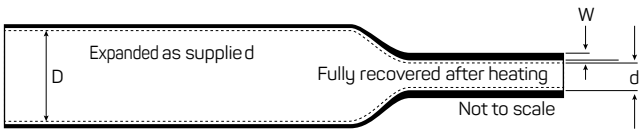
RoHS · MIL · DEF STAN 59/97 · VG

Thin wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS				
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Mini-Spool*		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	M	FT	1.22 M / 48 IN
0063	1.60	1/16	0.50	0.020	0.45	0.018	300	984	150	492	25
0125	3.20	1/8	1.00	0.039	0.55	0.022	300	984	150	492	25
0187	4.80	3/16	1.50	0.059	0.60	0.024	300	984	75	246	25
0250	6.40	1/4	2.00	0.079	0.65	0.026	300	984	75	246	10
0375	9.50	3/8	3.00	0.118	0.75	0.030	150	492	75	246	10
0500	12.70	1/2	4.00	0.157	0.75	0.030	100	328	50	164	10
0750	19.00	3/4	6.00	0.236	0.85	0.033	50	164	30	98	10
1000	25.40	1	8.00	0.315	1.00	0.039	50	164	30	98	10
1500	39.00	1 1/2	13.00	0.512	1.15	0.045	50	164	30	98	-

Clear items not UL listed.
*Black items only available on spools



ORDERING

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

- Select options:
  - Color: Black (BK), red (RD), white (WT), clear (CL), blue (BL), yellow (YL), orange (OE)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-I 3000, 0375 or 9/3 in, black

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

DERAY®-IGY – THIN WALL CROSSLINKED POLYOLEFIN

Yellow-green striped, quick shrinking heat shrink tubing with a high shrink ratio

FEATURES AND BENEFITS

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

STANDARDS

- DEF STAN 59-97 Type 2b, BS G198 Part 3 Type 11B

TYPICAL APPLICATIONS

- Insulating and marking of earthing conductors

3:1
SHRINK RATIO

-55°C to 135°C
(-67°F to 275°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Construction Projects, Industrial, Marine, Shipboard, Transit

STANDARDS:

RoHS

DEF STAN 59/97

Thin wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS		
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	1.22M / 48IN
0125	3.20	1/8	1.00	0.039	0.55	0.022	150	492	25
0187	4.80	3/16	1.50	0.059	0.60	0.024	75	246	25
0250	6.40	1/4	2.00	0.079	0.65	0.026	75	246	10
0375	9.50	3/8	3.00	0.118	0.75	0.030	75	246	10
0500	12.70	1/2	4.00	0.157	0.75	0.030	50	150	10
0750	19.00	3/4	6.00	0.236	0.85	0.033	30	96	10
1000	25.40	1	8.00	0.315	1.00	0.039	30	96	10
1535	39.00	1 1/2	13.00	0.512	1.15	0.045	30	96	-

ORDERING

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

- Select options:
  - Color: Green-yellow (GY)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-IGY 0750, green-yellow

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

DERAY®-LSB – THIN WALL CROSSLINKED POLYOLEFIN

Halogen free, low shrink temperature heat shrink tubing; ideal for covering sensitive electronic components

FEATURES AND BENEFITS

- Halogen free
- Highly flexible
- Ideal for high volume production lines
- Low shrink temperature allows for physical and electrical protection of heat sensitive components
- Shrink ratio: 2:1
- Continuous operating temperature: -45°C to 125°C
- Shrink temperature: 70°C min.

TYPICAL APPLICATIONS

- Protection of heat sensitive devices
- Insulation of electrical terminations
- Offers exceptionally fast recovery for maximum efficiency in high volume commercial and automotive applications
- Mechanical protection

2:1
SHRINK RATIO

-45°C to 125°C
(-49°F to 257°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Automotive, Industrial, Commercial

STANDARDS:

RoHS

Thin wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
0125	3.2	1/8	1.6	0.063	0.50	0.020	300	984
0187	4.8	3/16	2.4	0.094	0.50	0.020	300	984
0250	6.4	1/4	3.2	0.126	0.60	0.024	300	984
0375	9.5	3/8	4.8	0.189	0.60	0.024	150	492
0500	12.7	1/2	6.4	0.252	0.60	0.024	100	328
0625	16.0	5/8	8.0	0.315	0.60	0.024	100	328
0750	19.0	3/4	9.5	0.374	0.80	0.031	50	164
1000	25.4	1	12.7	0.500	0.90	0.035	50	164

ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-LSB, 0375 or 3/8 in, black

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

DERAY®-ZOH125 – HALOGEN FREE HEAT SHRINK TUBING

Halogen free flame retardant heat shrink tubing

Zero halogen & low smoke heat shrink tubing. The product complies with the stringent requirements of the European rail norm EN45545-2 and the HL3 R22/R23 classification and even exceeds those.
The material is suitable for use in all classes required for the construction of locomotives and rolling stock. It is also suitable for use in underground environments as well as marine, military and aerospace applications.

FEATURES AND BENEFITS

- 2:1 shrink ratio
- Low smoke generation - excellent fire safety characteristics
- Emissions of toxic fumes are well below the levels required to meet the relevant standards
- Flexible
- Flame retardant
- Good fluid resistance
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 120°C min.

STANDARDS

- EN45545-2 HL3 R22 & R23
- Meets LUL E 1042 A6, BS 6853 vehicle category 1a
- DIN 5510

TYPICAL APPLICATIONS

- Insulation of electrical components in mass transit applications
- Mechanical and environmental protection in the marine, military, aerospace and heavy industry
- General fire safety applications where there is a risk to people or equipment

2:1
SHRINK RATIO

-40°C to 125°C
(-40°F to 257°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Rail, Military, Aerospace, Offshore, Marine, Industrial, Commercial

STANDARDS:

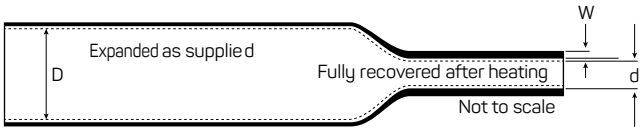
RoHS

EN 45545-2

Halogen free heat shrink tubing

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
0094	2.4	3/32	1.2	3/64	0.51	0.020	100	328
0125	3.2	1/8	1.6	1/16	0.51	0.020	100	328
0187	4.8	3/16	2.4	3/32	0.51	0.020	75	246
0250	6.4	1/4	3.2	1/8	0.64	0.025	75	246
0375	9.5	3/8	4.8	3/16	0.64	0.025	75	246
0500	12.7	1/2	6.4	1/4	0.64	0.025	50	164
0750	19.0	3/4	9.5	3/8	0.76	0.030	30	98
1000	25.4	1	12.7	1/2	0.89	0.035	30	98
1500	38.1	1 1/2	19.0	3/4	1.02	0.040	30	98

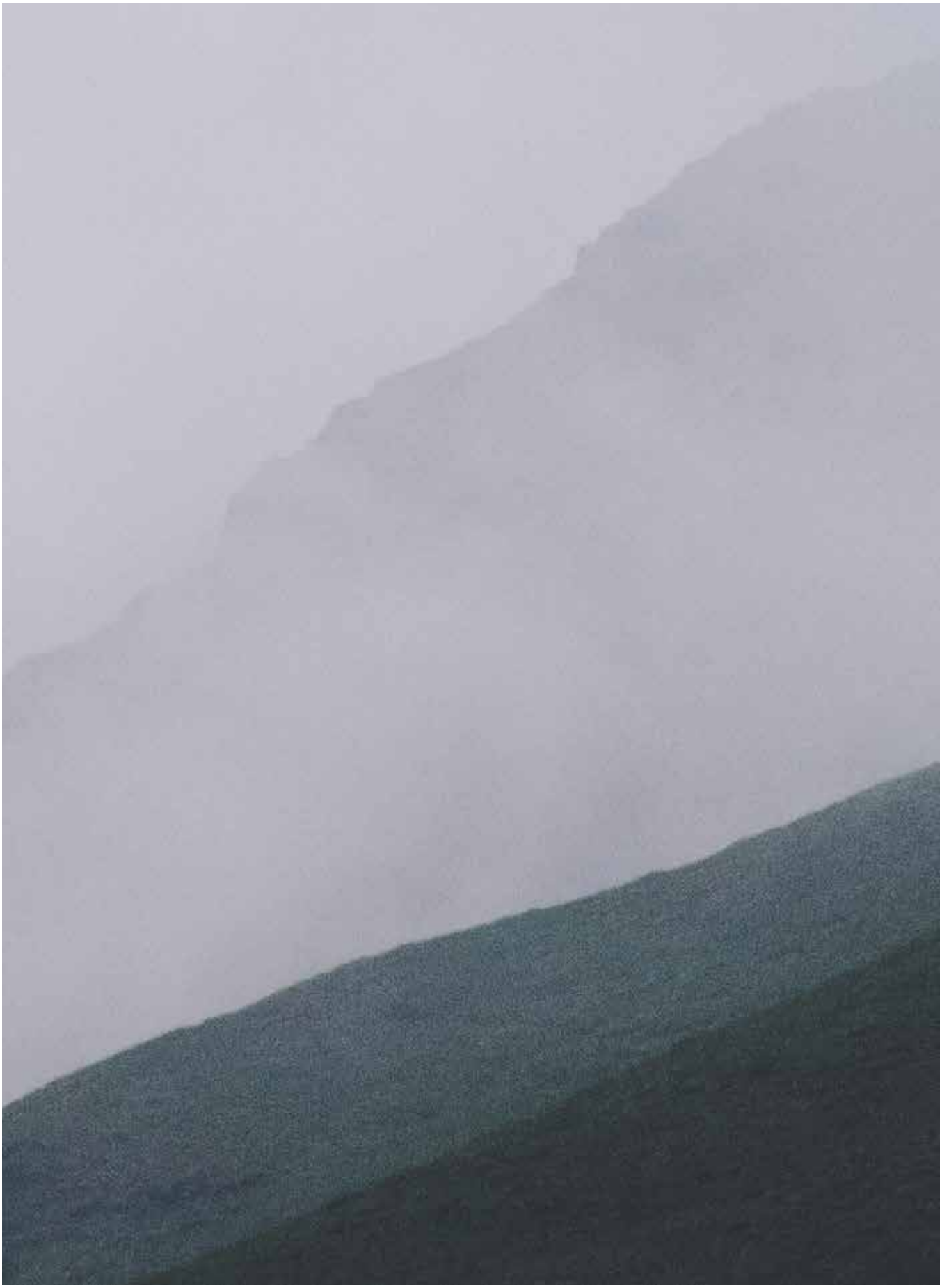


ORDERING

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

- Select options:
  - Color: Black (BK), yellow (YL), white (WT)
  - Printing: Printed or unprinted
  - Length: Continuous reels
- Please specify the product name, order number and options you require
- *Example:* DERAY®-ZoH125, 0125, BK, unprinted, 100 m reel

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



DUAL WALL TUBING

SEALING AND PROTECTING AGAINST MOISTURE AND CORROSION WITH HIGH-PERFORMANCE ADHESIVE LINED HEAT SHRINK TUBING

Adhesive lined heat shrink tubing is most frequently applied on terminals, connectors and splices to provide an environmental seal to prevent moisture ingress which can affect electrical performance and initiate corrosion.

Dual wall tubing is extruded with an inner layer of adhesive. Upon recovery, the inner layer of adhesive will melt and flow, encapsulating and bonding to the substrate, providing an environmental seal against moisture.

CHPA – ADHESIVE LINED CROSSLINKED POLYOLEFIN

Adhesive lined heat shrink specifically designed to insulate, seal and protect wire splices in under hood automotive wire harnesses and electronic assemblies with broad temperature range

FEATURES AND BENEFITS

- High shrink ratio to fit varying splice configurations and substrate profiles
- Seals and protects against water, moisture and chemicals
- Adhesive bonds readily to PVC, XLPE and PP-EPDM cable jackets
- Shrinks rapidly for quick installation
- Jacket and adhesive are flame retardant
- Shrink ratio: 4:1
- Continuous operating temperature: -40°C to 150°C
- Shrink temperature: 140°C min.

STANDARDS

- FCA: MS-DB-56 /MS:50107, CPN #5229
- GMW17136

TYPICAL APPLICATIONS

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

4:1

SHRINK RATIO

-40°C to 150°C

(-40°F to 302°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Industrial, Automotive

STANDARDS:

RoHS

Adhesive lined crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Cut Pieces	
	MM	IN	MM	IN	MM	IN	MM	IN
CHPA 0	4.0	0.157	1.0	0.039	1.0	0.039	50	1.969
CHPA 1	6.0	0.236	1.4	0.055	1.45	0.057	50	1.969
CHPA 2	8.0	0.315	1.6	0.063	1.75	0.069	50	1.969
CHPA 3	12.0	0.472	2.5	0.098	2.35	0.093	65	2.559
CHPA 3A	14.0	0.551	3.7	0.146	2.60	0.102	65	2.559
CHPA 4	18.0	0.709	4.5	0.177	2.65	0.104	75	2.953

ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* CHPA 3, 12.0 mm, black

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

CPA 300 - THIN WALL ADHESIVE LINED CROSSLINKED POLYOLEFIN

Adhesive lined heat shrink tubing ideal for applications where both exceptional flame retardancy and environmental sealing capabilites are required

FEATURES AND BENEFITS

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

STANDARDS

- UL file # E63390
- CSA C22.2 No.198.1 125°C
- AMS-DTL-23053/4, Class 3
- Approved to major automotive OEM specifications

TYPICAL APPLICATIONS

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

3:1

SHRINK RATIO

-55°C to 125°C

(-67°F to 257°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Aerospace, Defense, Industrial, Automotive

STANDARDS:

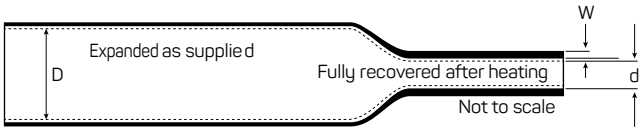
RoHS

VG

Thin wall adhesive lined crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED						DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Meltable Wall Thickness (nom)		Lengths
	MM	IN	MM	IN	MM	IN	MM	IN	1.22M / 48 IN
0125	3.2	1/8	1.0	0.040	1.0	0.040	0.5	0.020	25
0187	4.7	3/16	1.5	0.060	1.0	0.040	0.5	0.020	25
0250	6.4	1/4	2.0	0.080	1.0	0.040	0.5	0.020	25
0375	9.5	3/8	3.2	0.125	1.5	0.060	0.7	0.027	25
0500	12.7	1/2	4.1	0.160	1.8	0.070	0.8	0.030	25
0750	19.1	3/4	6.4	0.250	1.8	0.070	0.8	0.030	25
1000	25.4	1	8.1	0.320	2.5	0.100	1.0	0.040	25
1250	31.8	1¼	10.6	0.416	2.5	0.100	1.0	0.040	25
1500	39.9	1½	13.0	0.510	2.5	0.100	1.0	0.040	20



ORDERING

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

- Select options:
  - Color: Black (BK), white (WT), red (RD)
- Please specify the product name, order number and options you require
- *Example:* CPA 300, 0125, black, 48 in lengths

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

DERAY®-IAKT – THIN WALL ADHESIVE LINED POLYOLEFIN

Adhesive lined heat shrink tubing ideal for effective moisture-resistant insulation

FEATURES AND BENEFITS

- Flexible
- Adhesive bonds to plastics, rubber, steel polyethylene and other materials
- Shrink ratio: 3:1 & 4:1
- Continuous operating temperature of outer jacket: -55°C to 110°C
- Shrink temperature: 95°C min.

STANDARDS

- Industrial, electronic and automotive OEM specifications

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

3:1 & 4:1
SHRINK RATIO

-55°C to 110°C
(-67°F to 230°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Automotive, Industrial

STANDARDS:

RoHS

Thin wall adhesive lined crosslinked polyolefin

DIMENSIONS: SHRINK RATIO 3:1

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS		
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	1.22 M / 48 IN
3.0/1.0	3.0	0.118	1.0	0.039	1.00	0.039	300	984	25
4.5/1.5	4.5	0.177	1.5	0.059	1.10	0.043	300	984	25
6.0/2.0	6.0	0.236	2.0	0.079	1.20	0.047	300	984	10
9.0/3.0	9.0	0.354	3.0	0.118	1.40	0.055	150	492	10
12.0/4.0	12.0	0.472	4.0	0.157	1.70	0.067	100	328	10
19.0/6.0	19.0	0.748	6.0	0.236	2.10	0.083	50	164	10
24.0/8.0	24.0	0.945	8.0	0.315	2.40	0.094	50	164	10
40.0/13.0	40.0	1.575	13.0	0.512	2.40	0.094	30	98	10

DIMENSIONS: SHRINK RATIO 4:1

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS		
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	1.22 M / 48 IN
4.0/1.0	4.0	0.157	1.0	0.039	1.00	0.039	300	984	25
8.0/2.0	8.0	0.315	2.0	0.079	1.20	0.047	150	492	10
12.0/3.0	12.0	0.472	3.0	0.118	1.40	0.055	100	328	10
16.0/4.0*	16.0	0.630	4.0	0.157	1.70	0.067	50	164	10
24.0/6.0	24.0	0.945	6.0	0.236	2.10	0.083	50	164	10
32.0/8.0	32.0	1.260	8.0	0.315	2.40	0.094	50	164	10
52.0/13.0*	52.0	2.047	13.0	0.512	2.40	0.094	30	98	10

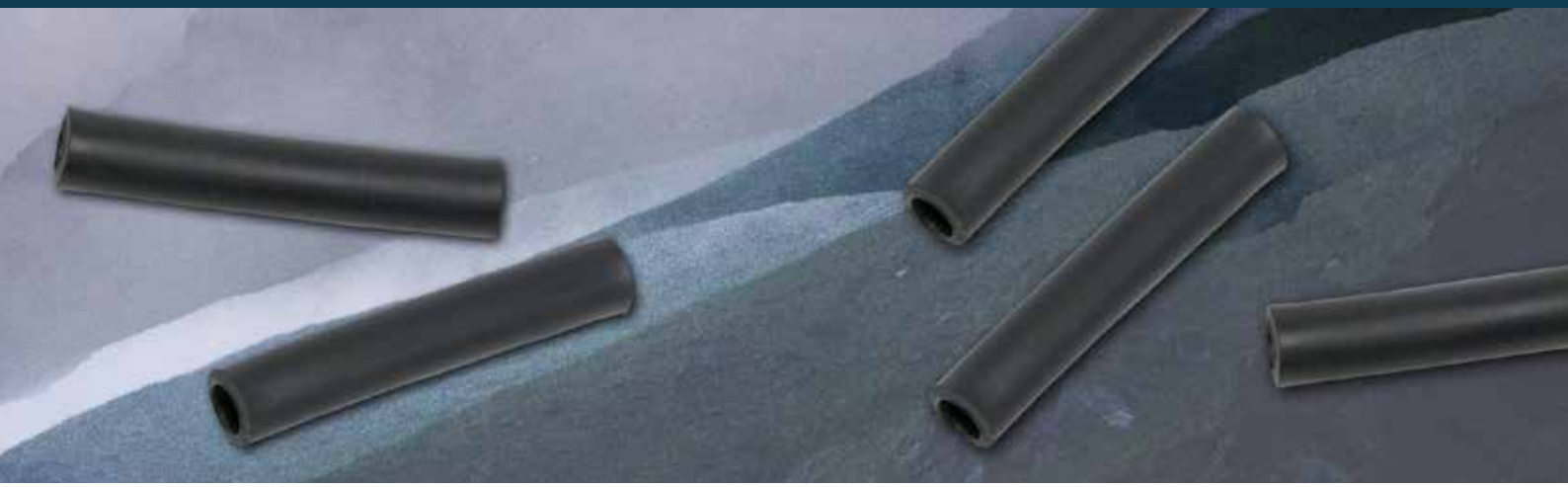
*IAKT 4:1 sizes 16.0/4.0 & 52.0/13.0 clear have different delivery units

ORDERING

- Select a dimension which will shrink snugly over the application to be covered. If recovery is restricted the resultant wall thickness will be less than specified.
- Select options:
  - Color: Black (BK), clear (CL)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-IAKT 3:1, 40.0/13.0, black

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

DERAY®-IHKT – THIN WALL ADHESIVE LINED 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

4:1
SHRINK RATIO

-55°C to 125°C
(-67°F to 257°F)
CONTINUOUS OPERATING TEMPERATURE

FEATURES AND BENEFITS

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

STANDARDS

- SAE-AMS-DTL-23053/4 Class 3
- Approved to major Automotive OEM specifications

TYPICAL APPLICATIONS

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

MARKETS:
Automotive, Industrial

STANDARDS:

RoHS VG

Thin wall adhesive lined crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS		
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	1.22m / 48in
0157	4.0	0.157	1.0	0.039	1.00	0.039	300	984	25
0315	8.0	0.315	2.0	0.079	1.20	0.047	150	492	10
0472	12.0	0.472	3.0	0.118	1.40	0.055	100	328	10
0630	16.0	0.630	4.0	0.157	1.70	0.067	50	164	10
0945	24.0	0.945	6.0	0.236	2.10	0.083	50	164	10
1260	32.0	1.260	8.0	0.315	2.40	0.094	50	164	10
2047	52.0	2.047	13.0	0.512	2.40	0.094	30	98	10

ORDERING

- Select a dimension which will shrink snugly over the application to be covered. If recovery is restricted the resultant wall thickness will be less than specified.
- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-IHKT, 0630 or 16.0/4.0, black

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

DERAY®-SPLICEMELT – ADHESIVE LINED CROSSLINKED POLYOLEFIN

Adhesive lined heat shrink specifically designed to insulate, seal and protect in-line splices in automotive wire harnesses and electronic assemblies.

FEATURES AND BENEFITS

- High shrink ratio to fit varying splice configurations
- Seals and protects against water, moisture and chemicals
- Adhesive bonds readily to PVC, XLPE and PP-EPDM cable jackets
- Quick installation due to rapid shrinkage
- Shrink ratio: 4:1
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 120°C min.

STANDARDS

- Approved to 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

4:1

SHRINK RATIO

-40°C to 125°C
(-40°F to 257°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Automotive, Industrial

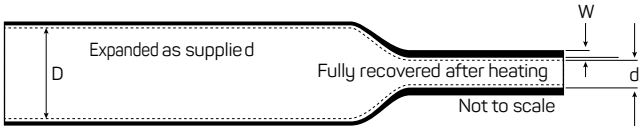
STANDARDS:

RoHS

Adhesive lined crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Cut Lenghts	
	MM	IN	MM	IN	MM	IN	MM	IN
1	6.0	0.236	1.4	0.055	1.45	0.057	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	2.35	0.093	65	2.56
4	18.0	0.709	4.5	0.177	2.65	0.104	75	2.955



ORDERING

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

- Select options:
  - Color: Black (BK), clear (CL)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-SpliceMelt, size 3, 65 mm, black

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

DERAY®-SPLICEMELT CAP – ADHESIVE LINED INSULATING CAPS

Adhesive lined, heat shrink insulating caps specifically designed to insulate, seal and protect end or stub splices in wiring harnesses and electronic assemblies.

FEATURES AND BENEFITS

- High shrink ratio allows fewer sizes to cover a wide range of profiles
- Seals and protects against water, moisture and chemicals
- Adhesive bonds readily to PVC, XLPE and PP-EPDM cable jackets
- Quick installation due to rapid shrinkage
- Shrink ratio: 4:1
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 125°C min.

STANDARDS

- Approved to major automotive OEM splice sealing specifications

TYPICAL APPLICATIONS

- Sealing & protection of end and stub splices

4:1

SHRINK RATIO

-40°C to 125°C

(-40°F to 257°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Industrial

STANDARDS:

RoHS

Adhesive lined insulating caps

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Cap Lengths	
	MM	IN	MM	IN	MM	IN	MM	IN
0	4.5	0.177	1.6	0.063	1.75	0.069	35	1.37
1	6.0	0.236	1.4	0.055	1.45	0.057	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	2.35	0.093	65	2.56
4*	18.0	0.709	4.5	0.177	2.65	0.104	70	2.76

*Cap tip open

ORDERING

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

- Select options:
  - Color: Black (BK), clear (CL)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-SpliceMelt Cap, size 3, 65mm, clear

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

MEDIUM AND HEAVY WALL TUBING

SEALING AND PROTECTING ELECTRICAL CONNECTIONS AND TERMINATIONS

Our specially designed medium and heavy wall heat shrink tubing provides excellent insulation, environmental sealing and impact & abrasion resistance. It is used in a variety of general purpose applications to seal electrical connections and terminations or provide mechanical protection.

DSG-Canusa medium and heavy wall heat shrink tubes set the industry standard in several markets including electrical utility and mass transport.

CCH – HEAVY WALL CROSSLINKED POLYOLEFIN

Heavy wall heat shrinkable tubing provides maximum reliability for insulating and protecting cable joints and terminations.

FEATURES AND BENEFITS

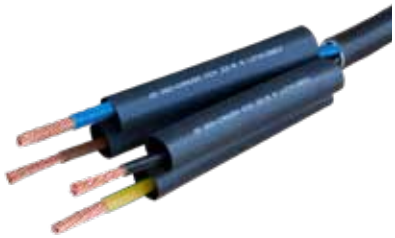
- Withstands severe mechanical requirements of U.R.D., submersible and direct burial installations
- Rated for 1000V, 90°C continuous use
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

STANDARDS

- DIN EN 60684-3-247
- DIN V 47640

TYPICAL APPLICATIONS

- Cable jacket repair
- Retrofit protection of connectors
- Low voltage cable splicing
- Conduit repair



3:1

SHRINK RATIO

-55°C to 110°C

(-67°F to 230°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Electrical Utility, Industrial, Commercial

STANDARDS:

RoHS

Heavy wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Lengths*	
	MM	IN	MM	IN	MM	IN	1.22 M / 48 IN	1 M / 39 IN
CCH 9/3	9.0	0.354	3.0	0.118	1.00	0.039	100	100
CCH 15/4	15.0	0.512	4.0	0.157	2.50	0.098	80	80
CCH 22/6	22.0	0.866	6.0	0.236	2.70	0.106	75	75
CCH 33/8	33.0	1.299	8.0	0.315	3.20	0.126	60	60
CCH 40/12	40.0	1.575	12.0	0.472	4.10	0.161	36	36
CCH 55/16	55.0	2.165	16.0	0.630	4.10	0.161	24	24
CCH 65/19	65.0	2.559	19.0	0.748	4.10	0.161	20	20
CCH 75/22	75.0	2.953	22.0	0.866	4.10	0.161	16	16
CCH 85/25	85.0	3.346	25.0	0.984	4.10	0.161	10	10
CCH 95/29	95.0	3.740	29.0	1.142	4.10	0.161	10	10
CCH 115/34	115.0	0.591	34.0	1.339	4.30	0.169	6	6
CCH 130/36	130.0	5.118	36.0	1.417	4.30	0.169	6	6
CCH 160/55	160.0	6.299	55.0	2.165	4.30	0.169	6	6
CCH 175/55	175.0	6.890	55.0	2.165	4.30	0.169	6	6
CCH 200/65	200.0	7.874	65.0	2.559	4.30	0.169	6	6

*Spools on request (unlined only)

ORDERING

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

- Select options:
  - Color: Black (BK)
  - Printing: Printed or Unprinted
  - Adhesive Lining: Lined (A) or Unlined (U)
- Please specify the product name, order number and options you require
- *Example:* CCH 65/19, A, black, unprinted, lined, 1.22m in length

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

CCM – MEDIUM WALL CROSSLINKED POLYOLEFIN

Medium wall heat shrinkable 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 protect cable splices and terminations
- High resistance to impact and abrasion
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

STANDARDS

- DIN EN 60684-3-247

TYPICAL APPLICATIONS

- Cable jacket repair
- Retrofit protection of connectors
- Low voltage cable splicing
- Conduit repair

3:1

SHRINK RATIO

-55°C to 110°C

(-67°F to 230°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Electrical Utility, Industrial, Commercial

STANDARDS:

RoHS

Medium wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Lengths*	
	MM	IN	MM	IN	MM	IN	1.22 M / 48 IN	1 M / 39 IN
CCM 12/3	12.0	0.472	3.0	0.118	2.00	0.079	80	80
CCM 16/5	16.0	0.630	5.0	0.197	2.20	0.087	80	80
CCM 22/6	22.0	0.866	6.0	0.236	2.50	0.098	75	75
CCM 28/6	28.0	1.102	6.0	0.236	2.50	0.098	75	75
CCM 33/8	33.0	1.300	8.0	0.315	2.50	0.098	60	60
CCM 40/12	40.0	1.575	12.0	0.472	2.70	0.106	36	36
CCM 55/16	55.0	2.165	16.0	0.630	2.70	0.106	24	24
CCM 65/19	65.0	2.559	19.0	0.748	3.00	0.118	20	20
CCM 75/22	75.0	2.953	22.0	0.866	3.00	0.118	16	16
CCM 85/25	85.0	3.346	25.0	0.984	3.00	0.118	10	10
CCM 95/25	95.0	3.740	25.0	0.984	3.00	0.118	10	10
CCM 115/34	115.0	4.528	34.0	1.339	3.00	0.118	6	6
CCM 140/42	140.0	5.512	42.0	1.654	3.00	0.118	6	6
CCM 160/50	160.0	6.300	50.0	1.969	3.00	0.118	6	6
CCM 175/58	175.0	6.890	58.0	2.283	3.50	0.138	6	6
CCM 200/65	200.0	7.874	65.0	2.559	3.50	0.138	6	6

*Spools on request (unlined only)

ORDERING

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

- Select options:
  - Color: Black (BK)
  - Printing: Printed or unprinted
  - Adhesive lining: Lined (A) or unlined (U)
- Please specify the product name, order number and options you require
- *Example:* CCM 65/19, A, black, unprinted, lined, 1.22m length

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

CFHR – HIGH SHRINK RATIO CROSSLINKED POLYOLEFIN

High shrink ratio heat shrink tubing accommodates extreme differences between cables, connectors and backshells.

FEATURES AND BENEFITS

- Flame retardant
- Accommodates a wide variety of connector shapes and configurations
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Shrink ratio: 6:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

STANDARDS

- Meets material properties of SAE-AMS-DTL 23053/15
- UL file # E132914
- IEC 60684-3-247

TYPICAL APPLICATIONS

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

6:1

SHRINK RATIO

-55°C to 110°C

(-67°F to 230°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Electrical Utility, Industrial, Commercial

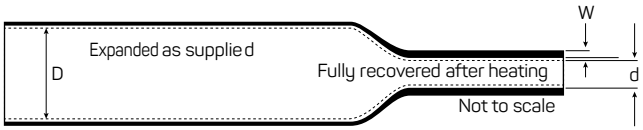
STANDARDS:

RoHS

High shrink ratio crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Lengths
	MM	IN	MM	IN	MM	IN	1.22 M / 48 IN
0750	19.0	0.750	3.2	0.125	3.2	0.123	35
1300	33.0	1.300	5.5	0.220	3.4	0.135	60
1750	44.4	1.750	7.4	0.290	3.6	0.140	40
2000	50.8	2.000	8.3	0.330	4.3	0.170	25
2750	69.8	2.750	11.7	0.460	4.8	0.190	15
3500	88.9	3.500	17.1	0.673	4.3	0.170	10
4700	119.4	4.700	22.9	0.900	4.8	0.190	5



ORDERING

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

- Select options:
  - Printing: Printed or Unprinted
  - Adhesive Lining: Lined (D) or unlined (U)
  - Lengths: 1.22 m or 7.62 m spool (unlined only)
- Please specify the product name, order number and options you require
- *Example:* CFHR, 0750, U, black, unprinted, 1.22 m length

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

CFM – MEDIUM WALL CROSSLINKED 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
- Rated for 1000 V, 90°C continuous use
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

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

3:1
SHRINK RATIO

-55°C to 110°C
(-67°F to 230°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Industrial, Commercial, Utility

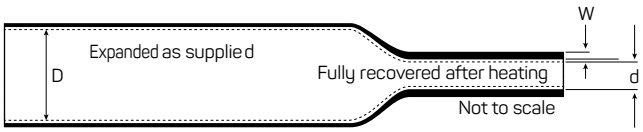
STANDARDS:

RoHS

Medium wall crosslinked polyolefin tubing

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE		DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		General use		Lengths
	MM	IN	MM	IN	MM	IN	MM	IN	1.22 M / 48 IN
0400	10.2	0.40	3.8	0.15	2.0	0.080	4.5-8.5	.18-.34	100
0750	19.1	0.75	5.6	0.22	2.0	0.080	6.0-16.5	.24-.65	75
1100	27.9	1.10	10.2	0.40	2.4	0.095	11.5-25	.45-1.0	35
1300	33.0	1.30	10.2	0.40	2.4	0.095	11.5-30	.45-1.2	75
1500	38.1	1.50	12.7	0.50	2.4	0.095	14.0-35	.55-1.4	40
1700	43.2	1.70	12.7	0.50	2.5	0.100	14.0-40	.55-1.6	25
2050	52.1	2.05	19.1	0.75	2.5	0.100	21.0-45	.82-1.8	15
2750	69.9	2.75	25.4	1.00	2.5	0.100	30.0-63	1.2-2.5	10
3500	88.9	3.50	29.9	1.18	2.5	0.100	33-83.8	1.3-3.3	5
4700	119.4	4.70	39.9	1.57	2.7	0.105	40.6-114	1.6-4.5	5
6000	152.4	6.00	50.8	2.00	3.0	0.120	53.3-147	2.1-5.8	5
6700	170.2	6.70	58.4	2.30	3.0	0.120	70.0-165	2.4-6.5	5
9000	228.6	9.00	77.0	3.00	3.3	0.130	71.0-220	2.8-8.7	12



ORDERING

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

- Select options:
  - Color: Black (BK)
  - Printing: Printed or unprinted
  - Adhesive lining: Lined (D) or unlined (U)
  - Lengths: 1 m or 1.22 m, or 7.62 m spool on request (only unlined)
- Please specify the product name, order number and options you require
- *Example:* CFM, 1100, U, black, unprinted, 1.22 m length

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

CFTV - HEAT SHRINK CABLE SLEEVE

Heat shrink tubing and adhesive liner combination that established the CATV industry standard for splice and connector protection

FEATURES AND BENEFITS

- Craft friendly installation
- Exceptional split resistance
- CFTV adhesive retains bond providing long term protection
- Selective strippability to meet CATV industry specifications
- Minimal heat required to produce error free installation without splitting
- Thermochromatic lines change color to signal waterproof seal
- Shrinks and seals in half the time of alternative products
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

TYPICAL APPLICATIONS

- Strain relief of coaxial connections
- Waterproof protection of CATV connectors

3:1
SHRINK RATIO

-55°C to 110°C
(-67°F to 230°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Industrial

STANDARDS:

RoHS

Heat shrink cable sleeve

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE		DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		General Use		Lengths
	MM	IN	MM	IN	MM	IN	MM	IN	1.22 M / 48 IN
0400	10.2	0.40	3.8	0.15	2	0.08	4.5 - 8.5	.18 - .34	75
0750	19.0	0.75	5.6	0.22	2	0.08	6.0 - 16.5	.24 - .65	35
1100	27.9	1.10	10.2	0.40	2	0.08	11.5 - 25.0	.45 - 1.0	75
1300	33.0	1.30	10.2	0.40	2	0.08	11.5 - 30.0	.45 - 1.2	60
1500	38.1	1.50	12.7	0.50	2	0.08	14.0 - 35.0	.55 - 1.4	40
1700	43.2	1.70	12.7	0.50	2	0.08	14.0 - 40.0	.55 - 1.6	40
2050	52.1	2.05	19.0	0.75	2	0.08	21.0 - 45.0	.82 - 1.8	25
2750	69.8	2.75	25.4	1.00	2	0.08	30.0 - 63.0	1.2 - 2.5	15

ORDERING

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

- Please specify the product name, order number and options you require
- *Example:* CFTV, 1700, lined

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

CFW – HEAVY WALL CROSSLINKED POLYOLEFIN

Heavy wall heat shrinkable tubing provides maximum reliability for insulating and protecting cable joints and terminations.

FEATURES AND BENEFITS

- Withstands severe mechanical requirements of U.R.D., submersible and direct burial installations
- High impact, abrasion, corrosion and chemical resistance
- Rated for 1000 V, 90°C continuous use
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

STANDARDS

- UL 486D - UL file # E132914
- 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
- DIN EN 60684-3-247

TYPICAL APPLICATIONS

- Strain relief and mechanical protection
- Insulation of primary low voltage cables

3:1

SHRINK RATIO

-55°C to 110°C

(-67°F to 230°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Industrial Construction, Automation, Mining, Transit, Utility, Power Distribution

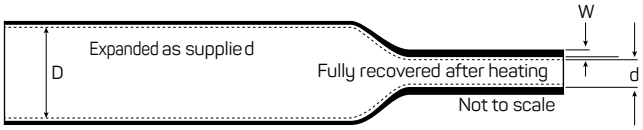
STANDARDS:

Heavy wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED						DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (min) W		Application Range		Lengths	
	MM	IN	MM	IN	MM	IN	MM	IN	1.22 M / 48 IN	1 M / 39 IN
0350	8.9	0.350	3.0	0.118	1.80	0.071	3.5 - 8	0.15 - 0.3	100	100
0500	13.0	0.512	4.1	0.161	2.40	0.094	4.5 - 11	0.2 - 0.45	75	75
0750	19.1	0.752	6.1	0.240	2.40	0.094	6.5 - 16.5	0.25 - 0.65	35	35
1100	27.9	1.098	8.9	0.350	3.00	0.118	10 - 24	0.4 - 0.95	75	75
1500	38.1	1.500	11.9	0.469	4.00	0.157	13 - 35	0.5 - 1.4	40	40
2000	50.8	2.000	16.0	0.630	4.10	0.161	17.5 - 44	0.7 - 1.75	25	25
2700	68.1	2.681	22.1	0.870	4.10	0.161	24 - 59	0.95 - 2.3	15	15
3500*	89.9	3.539	29.9	1.181	4.10	0.161	33 - 80	1.3 - 3.1	10	10
4700*	119.9	4.720	39.9	1.571	4.30	0.169	44 - 104	1.75 - 4.1	5	5
5100*	129.5	5.098	39.9	1.571	4.30	0.169	43 - 109	1.7 - 4.3	5	5
6000*	152.4	6.000	50.8	2.000	4.30	0.169	56 - 130	2.2 - 5.1	5	5
6700*	170.2	6.701	56.6	2.228	4.30	0.169	61 - 145	2.4 - 5.7	5	5

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



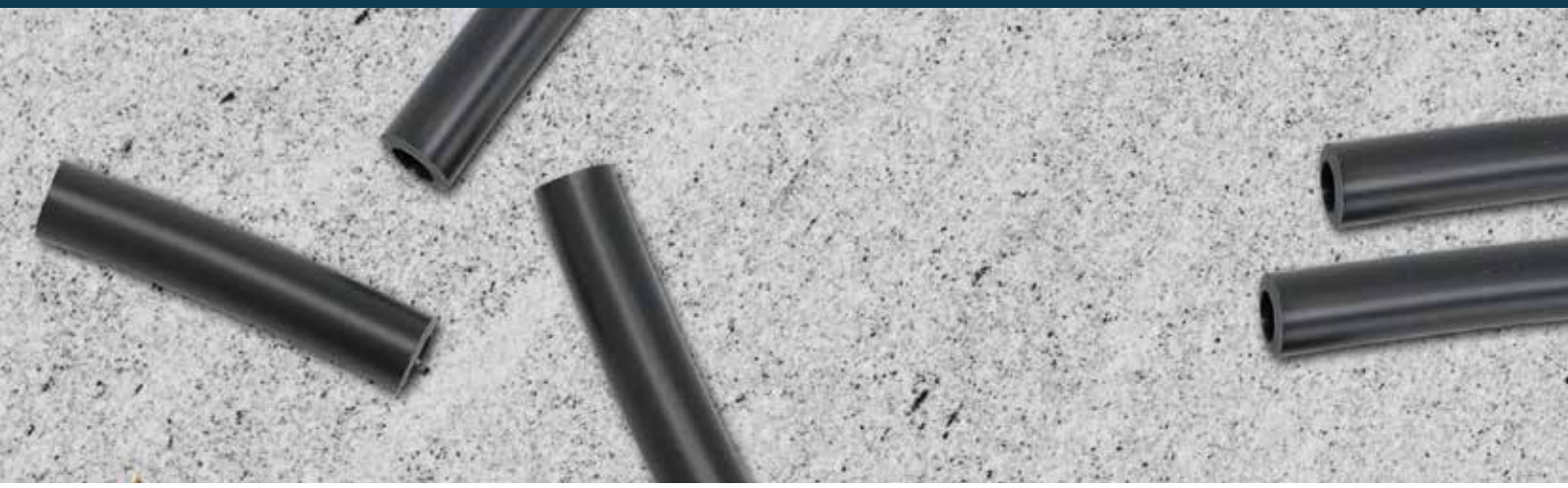
ORDERING

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

- Select options:
  - Color: Black (BK) or red (RD)
  - Printing: Printed or unprinted
  - Adhesive lining: Lined (D) or unlined (U)
  - Lengths: 1 m or 1.22 m or 7.62 m spool on request (unlined only)
- Please specify the product name, order number and options you require
- *Example:* CFW, 1500, U, black, unprinted, 1.22 m length

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

DERAY®-MC 225 – MEDIUM WALL CROSSLINKED POLYETHYLENE



Medium wall heat shrinkable tubing suitable for a variety of mechanical, electrical and thermal applications

FEATURES AND BENEFITS

- High resistance to impact and abrasion
- Shrink ratio: 3:1
- Continuous operating temperature: -40°C to 135°C
- Shrink temperature: 120°C min.

STANDARDS

- VG 95343 Part 5 Type G
- GMW 17136
- GS 95008-3-3

TYPICAL APPLICATIONS

- Shaping on battery cables
- Bundling

3:1

SHRINK RATIO

-40°C to 135°C

(-40°F to 275°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Electrical Utility, Power Distribution, Industrial, Commercial Construction Projects, Aerospace, Defense, Marine

STANDARDS:

RoHS VG

Medium wall heat shrink crosslinked modified polyethylene

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Lengths
	MM	IN	MM	IN	MM	IN	1.22 M / 48 IN
12/3	12.0	0.472	3.0	0.118	1.00	0.039	10
19/5	19.0	0.748	5.0	0.197	2.00	0.079	10
28/8	28.0	1.102	8.0	0.315	2.50	0.098	10
38/12	38.0	1.496	12.0	0.472	2.50	0.098	10
50/16	50.0	1.969	16.0	0.630	2.50	0.098	10
65/19	65.0	2.559	19.0	0.748	2.50	0.098	5
75/22	75.0	2.953	22.0	0.866	3.00	0.118	5
85/25	85.0	3.346	25.0	0.984	3.00	0.118	5
95/25	95.0	3.740	25.0	0.984	3.00	0.118	5

ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-MC 225, 50/16, black

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

FCFW – HEAVY WALL CROSSLINKED POLYOLEFIN

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

- 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 2 kV, 90°C continuous use
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

STANDARDS

- UL 486D - UL file # E132914
- UL94 V-0 - UL file # E167396
- 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 system

3:1

SHRINK RATIO

-55°C to 110°C

(-67°F to 230°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Railway, Electrical, Industrial

STANDARDS:

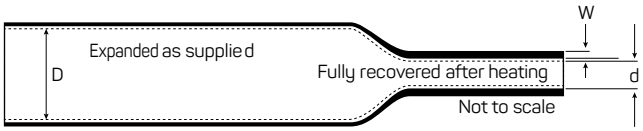
Heavy wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE		SINGLE CONDUCTOR SIZE	DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		General Use			Lengths
	MM	IN	MM	IN	MM	IN	MM	IN	AWG/MCM	1.22M / 48IN
0350**	8.9	0.35	3.0	0.12	1.8	0.07	3.5 - 8	.15 - .3	#14 - #10	100
0500**	13.0	0.51	4.1	0.16	2.4	0.08	4.5 - 11	.2 - .45	#8 - #6	75
0750	19.1	0.75	6.1	0.22	2.5	0.09	6.5 - 16.5	.25 - .65	#6 - #2	35
1100	27.9	1.10	8.9	0.35	3.0	0.12	10 - 24	.4 - .95	#1 - 3/0	75
1500	38.1	1.50	11.9	0.47	4.1	0.16	13 - 35	.5 - 1.4	2/0 - 350	40
2000	50.8	2.00	16.0	0.63	4.1	0.16	17.5 - 44	.7 - 1.75	250 - 500	25
2700	68.1	2.70	22.1	0.87	4.1	0.16	24 - 59	.95 - 2.3	600 - 1000	15
3500*	89.9	3.54	29.9	1.18	4.1	0.16	33 - 80	1.3 - 3.1	800 - 1250	10
4700*	119.9	4.72	39.9	1.57	4.2	0.17	44 - 104	1.75 - 4.1	1500 - 2500	5

*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 application to be covered. If recovery is restricted the resultant wall thickness will be less than specified.

- Select options:
  - Colour: Black (BK), red (RD)
  - Printing: Printed or unprinted
  - Adhesive Lining: Lined (D) or unlined (U)
- Please specify the product name, order number and options you require
- *Example:* FCFW, 1500, U, black, unprinted, 1.22 m lengths

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

FCFW-N – HEAVY WALL FLAME RETARDANT HEAT SHRINK TUBE

Heavy wall flame retardant heat shrinkable tubing suitable for use in a nuclear environment, insulates and protects electrical splices and terminations

FEATURES AND BENEFITS

- Functional after 850 kGy cumulative dose
- High resistance to impact and abrasion, lined with thermoplastic adhesive
- Rated for 600/1000V
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

STANDARDS

- UL 94 V-0 - UL file # E167396
- IEEE 383
- IEC 60684-3-247
- NF M 64-001
- IEC 60068
- LOCA/POSTLOCA in accordance with RCC-E 2007 NF M64-001

TYPICAL APPLICATIONS

- Continous use in a nuclear environment, strain relief, sealing, insulable protection on LV cable
- The sleeves according NF M 64-001, are qualified for use in zones K1, K2 and K3

3:1

SHRINK RATIO

-55°C to 110°C

(-67°F to 230°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Electrical, Nuclear Power Generation

STANDARDS:

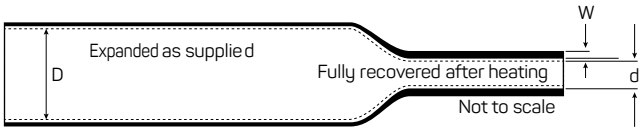
Heavy wall flame retarded heat shrink tube

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				APPLICATION RANGE		600 / 1000 V SINGLE CONDUCTOR SIZE	DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		General Use			Lengths
	MM	IN	MM	IN	MM	IN	MM	IN	AWG/MCM	1.22M / 48IN
0350**	8.9	0.35	3.0	0.12	1.8	0.07	3.5 - 8	.15 - .3	#14 - #10	100
0500**	13.0	0.51	4.1	0.16	2.4	0.08	4.5 - 11	.2 - .45	#8 - #6	75
0750	19.1	0.75	6.1	0.22	2.5	0.09	6.5 - 16.5	.25 - .65	#6 - #2	35
1100	27.9	1.10	8.9	0.35	3.0	0.12	10 - 24	.4 - .95	#1 - 3/0	75
1500	38.1	1.50	11.9	0.47	4.1	0.16	13 - 35	.5 - 1.4	2/0 - 350	40
2000	50.8	2.00	16.0	0.63	4.1	0.16	17.5 - 44	.7 - 1.75	250 - 500	25
2700	68.1	2.70	22.1	0.87	4.1	0.16	24 - 59	.95 - 2.3	600 - 1000	15
3500*	89.9	3.54	29.9	1.18	4.1	0.16	33 - 80	1.3 - 3.1	800 - 1250	10
4700*	119.9	4.72	39.9	1.57	4.2	0.17	44 - 104	1.75 - 4.1	1500 - 2500	5

*FCFW-N 3500 and FCFW-N 4700 are not UL or CSA listed

**Meets the material performance of MIL spec only

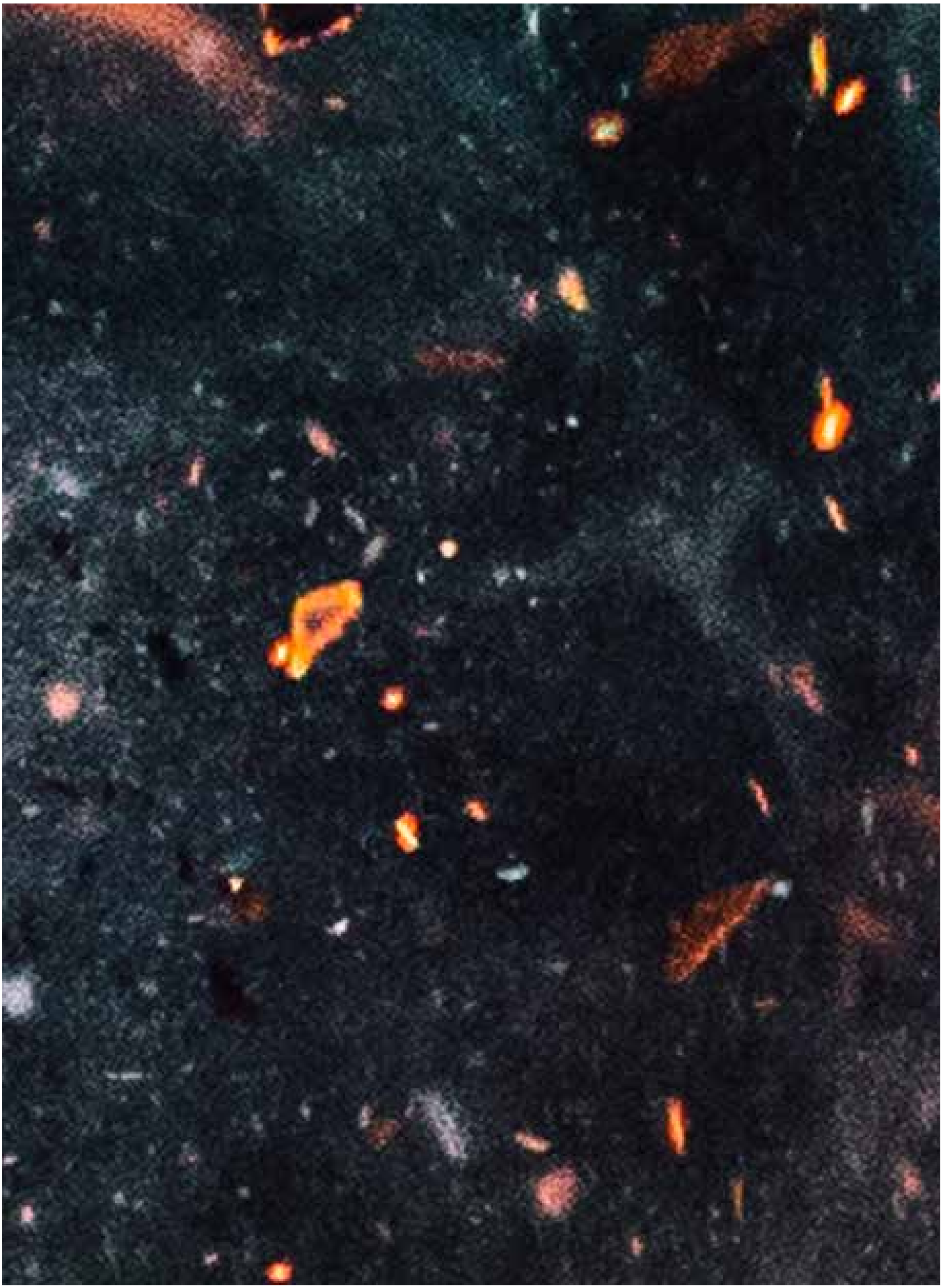


ORDERING

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

- Select options:
  - Colors: Black (BK), red (RD)
  - Adhesive Lining: Lined (D) or unlined (U)
- Please specify the product name, order number and options you require
- *Example:* FCFW-N 0350, D, black, 200 pieces, 1.22 m lengths

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



HIGH TEMPERATURE PRODUCTS

SEALING AND PROTECTING CABLE CONNECTIONS, WIRE HARNESSES, ELECTRONIC SYSTEMS AND BUS BARS WITH HEAT SHRINK TUBING

With the increasing electric content in vehicles, wire and cable sensors are being exposed to higher temperatures in the engine department, emissions systems, commercial vehicle applications and electric vehicles.

Traditionally temperatures in the engine department have been less than 135°C, but now industrial applications are more frequently requiring temperatures above 150°C. Also areas of application such as renewable energies require products that can be exposed to higher temperature ranges.

Our products provide special materials for these demanding applications. These products, made of materials ranging from elastomers to fluoropolymers, offer increased protection against extreme temperatures and harsh operating environments. The temperature range includes 175°C and 190°C-rated PVDF materials and goes up up to 220°C and even 260°C.

DERAY®-KY 175 – SEMI-RIGID THIN WALL KYNAR®

Clear, thin wall Kynar® heat shrink tubing ideal for electronic, automotive and military applications requiring protection and see through inspection in aggressive environments

FEATURES AND BENEFITS

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

STANDARDS

- UL file # E107857
- CSA file # 066150_0_000
- SAE-AMS-DTL 23053/8
- DEF STAN 59-97 Type 3, BS G198 Part 4 Type 20
- VG 95343 Part 5 Type F
- PAN 6491
- VW 60360-3

TYPICAL APPLICATIONS

- Strain relief and insulation of high temperature wires
- Excellently suitable for applications where high chemical and abrasion resistance is required
- All areas where outstanding electrical insulation is required

2:1

SHRINK RATIO

-55°C to 175°C

(-67°F to 347°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Industrial, Aerospace, Defense

STANDARDS:

RoHS · MIL · DEF STAN 59/97 · VG · PAN

Semi-rigid thin wall Kynar®

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS		
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	1.22 M / 48 IN
0047	1.2	3/64	0.6	0.024	0.24	0.009	300	984	25
0063	1.6	1/16	0.8	0.031	0.24	0.009	300	984	25
0094	2.4	3/32	1.2	0.047	0.24	0.009	300	984	25
0125	3.2	1/8	1.6	0.063	0.24	0.009	300	984	25
0187	4.8	3/16	2.4	0.094	0.24	0.009	300	984	25
0250	6.4	1/4	3.2	0.126	0.30	0.012	300	984	25
0375	9.5	3/8	4.8	0.189	0.30	0.012	150	492	10
0500	12.7	1/2	6.4	0.252	0.30	0.012	100	328	10
0750	19.0	3/4	9.5	0.374	0.40	0.016	50	164	10
1000	25.4	1	12.7	0.500	0.50	0.020	50	164	10

ORDERING

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

- Select options:
  - Color: Clear (CL)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-KY 175, 0125 or 1/8 in, clear

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

DERAY®-KYF 190 – FLEXIBLE THIN WALL KYNAR®

High temperature Kynar® thin wall heat shrink tubing, with extreme chemical resistance ideal for protection of components in a wide range of severe temperature and harsh environments

FEATURES AND BENEFITS

- Highly flame retardant
- Flexible
- High temperature resistance
- Excellent chemical and solvent resistance
- Additionally available in RAL2003 orange color
- Shrink ratio: 2:1
- Continuous operating temperature: -55°C to 190°C
- Shrink temperature: 175°C min.

STANDARDS

- SAE-AMS-DTL-23053/18 Class 2
- VW 60360-3

TYPICAL APPLICATIONS

- High temperature performance that meets or exceeds military, industrial and automotive standards
- Provides excellent electrical insulation
- High flexible and abrasion resistance requiring applications
- Protective see through covering for high temperature and aggressive chemical applications
- Protecting component for connectors and HV cable-lugs in electric vehicles

2:1

SHRINK RATIO

-55°C to 190°C

(-67°F to 374°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Industrial, Defense

STANDARDS:

RoHS

Kynar® is a registered trademark of ATOFINA

Flexible thin wall Kynar®

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS		
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool		Lengths
	MM	IN	MM	IN	MM	IN	M	FT	1.22M / 48IN
0047	1.2	3/64	0.6	0.024	0.24	0.009	300	984	25
0063	1.6	1/16	0.8	0.031	0.24	0.009	300	984	25
0094	2.4	3/32	1.2	0.047	0.24	0.009	300	984	25
0125	3.2	1/8	1.6	0.063	0.24	0.009	300	984	25
0187	4.8	3/16	2.4	0.094	0.24	0.009	300	984	25
0250	6.4	1/4	3.2	0.126	0.30	0.012	300	984	10
0375	9.5	3/8	4.8	0.189	0.30	0.012	150	492	10
0500	12.7	1/2	6.4	0.252	0.30	0.012	100	328	10
0591*	15.0	0.591	6.4	0.252	0.80	0.031	100	328	-

*Size 0591 in black and clear against MOQ

ORDERING

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

- Select options:
  - Color: Clear (CL), black (BK) & orange (OE)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-KYF 190, 0125 or 1/8 in, clear

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

High shrink ratio Teflon® heat shrink tubing specially designed for protecting applications in extreme electrical, chemical and thermal environments

FEATURES AND BENEFITS

- Highly flame retardant
- Semi-rigid
- High shrink ratio
- Chemically inert
- Shrink ratio: 4:1
- Continuous operating temperature: -65°C to 260°C
- Shrink temperature: 340°C min.

STANDARDS

- SAE-AMS-DTL-23053/12 Class 5

TYPICAL APPLICATIONS

- Extremely suitable for insulating and protecting objects from thermal load and chemical influence
- PTFE's excellent dielectric properties make this an ideal material for covering, protecting, and insulating wire harnesses and other bundled electrical cables
- Areas where an extreme low coefficient of friction is required
- Used to cover hydraulic hose and couplings to prevent contamination and corrosion

4:1

SHRINK RATIO

-65°C to 260°C

(-85°F to 500°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Industrial, Aerospace, Defense

STANDARDS:

RoHS MIL

Modified crosslinked fluoropolymer

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Lengths
	MM	IN	MM	IN	MM	IN	1.22M / 48IN
0078	1.98	5/64	0.64	0.025	0.23	0.009	25
0094	2.36	3/32	0.80	0.031	0.25	0.010	25
0125	3.18	1/8	0.94	0.037	0.31	0.012	25
0187	4.76	3/16	1.27	0.050	0.31	0.012	25
0250	6.35	1/4	1.60	0.063	0.31	0.012	10
0375	9.52	3/8	2.44	0.096	0.31	0.012	10
0500	12.70	1/2	3.66	0.144	0.38	0.015	10
0625	15.88	5/8	4.52	0.178	0.38	0.015	10
0750	19.05	3/4	5.69	0.224	0.38	0.015	10
1000	25.40	1	7.06	0.278	0.38	0.015	10
1250	31.75	1 1/4	8.81	0.347	0.38	0.015	10

ORDERING

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

- Select options:
  - Color: Clear (CL), black (BK) against MOQ
- Please specify the product name, order number and options you require
- *Example:* DERAY®-PTFE 4:1, 0250 or 6.35/1.6, clear

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

DERAY®-PTFE AWG – MODIFIED CROSSLINKED FLUOROPOLYMER

High shrink ratio Teflon® heat shrink tubing specially designed for protecting applications in extreme electrical, chemical and thermal environments

FEATURES AND BENEFITS

- Highly flame retardant
- Semi-rigid
- High shrink ratio
- Chemically inert
- Shrink ratio: 2:1 (AWG sizes)
- Continuous operating temperature: -65°C to 260°C
- Shrink temperature: 340°C min.

TYPICAL APPLICATIONS

- Extremely suitable for insulating and protecting objects from thermal load and chemical influence
- PTFE's excellent dielectric properties make this an ideal material for covering, protecting, and insulating wire harnesses and other bundled electrical cables
- Areas where an extreme low coefficient of friction is required
- Used to cover hydraulic hose and couplings to prevent contamination and corrosion

2:1

SHRINK RATIO

-65°C to 260°C

(-85°F to 500°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Industrial, Aerospace, Defense

STANDARDS:

RoHS

Teflon® is a registered trademark of du Pont de Nemours and Co. Inc.

Modified crosslinked fluoropolymer

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED		DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d	Total Wall Thickness (nom) W	Lengths
	AWG	MM	MM	MM	1.22M / 48IN
AWG 30	30	0.86	0.38	0.23	25
AWG 28	28	0.97	0.46	0.23	25
AWG 26	26	1.17	0.56	0.23	25
AWG 24	24	1.27	0.64	0.25	25
AWG 22	22	1.40	0.80	0.25	25
AWG 20	20	1.52	0.97	0.30	25
AWG 18	18	1.93	1.17	0.30	25
AWG 16	16	2.36	1.45	0.30	25
AWG 14	14	3.05	1.82	0.30	25
AWG 12	12	3.81	2.26	0.30	25
AWG 10	10	4.85	2.80	0.30	25
AWG 8	8	6.10	3.55	0.38	10
AWG 6	6	7.67	4.40	0.38	10
AWG 4	4	9.40	5.45	0.38	10
AWG 2	2	10.92	6.90	0.38	10
AWG 0	0	11.94	8.56	0.38	10

ORDERING

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

- Select options:
  - Color: Clear (CL), black (BK) against MOQ
- Please specify the product name, order number and options you require
- *Example:* DERAY®-PTFE AWG 2:1, AWG 30, clear

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

DERAY®-V25 / V25 TW – CROSSLINKED ELASTOMER

Flexible, thin wall, diesel resistant, elastomeric heat shrink tubing, especially suited for mechanical, thermal and chemical protection of sensitive components

FEATURES AND BENEFITS

- Shrink ratio: 2:1
- Flame retardant
- Flexible
- High abrasion and cut resistance
- Resistant to diesel, hydraulic fluids and chemicals
- Continuous operating temperature: -75°C to 150°C
- Shrink temperature: 150°C min.

STANDARDS

- DEF STAN 59-97 Type 6b, BS G198 Part 3 Type 10A
- SAE-AMS-DTL-23053/16
- VG 95343 Part 5 Type D
- PAN 6480K

TYPICAL APPLICATIONS

- Developed for rugged demands with view to high fuel, chemical and insulation requirements
- Suitable to use in rough environments where an optimum high-temperature fluid resistance, and long term heat resistance is required
- Military, aerospace and automotive cables and harnessing
- Insulation of windmill generator bus bars

2:1

SHRINK RATIO

-75°C to 150°C

(-103°F to 302°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Industrial, Aerospace Defense, Transit, Utility, Renewables/Wind

STANDARDS:

RoHS · MIL · VDE · DEF STAN 59/97 · VG · PAN

Modified crosslinked elastomer

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED						DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W				Spool	
					V25		V25 TW			
	MM	IN	MM	IN	MM	IN	MM	IN	M	FT
0094	2.4	3/32	1.2	0.047	-	-	0.55	0.022	50	164
0125	3.2	1/8	1.6	0.063	0.80	0.031	0.55	0.022	50	164
0187	4.8	3/16	2.4	0.094	0.90	0.035	0.55	0.022	50	164
0250	6.4	1/4	3.2	0.126	1.00	0.039	0.65	0.026	50	164
0375	9.5	3/8	4.8	0.189	1.10	0.043	0.65	0.026	50	164
0500	12.7	1/2	6.4	0.252	1.30	0.051	0.65	0.026	30	98
0750	19.0	3/4	9.5	0.374	1.50	0.059	0.85	0.033	30	98
1000	25.4	1	12.7	0.500	1.90	0.075	0.95	0.037	30	98
1250	31.8	1 1/4	15.9	0.626	-	-	1.05	0.041	30	98
1500	38.0	1 1/2	19.0	0.748	2.50	0.098	1.05	0.041	15	49
2000	51.0	2	25.4	1.000	3.10	0.122	1.05	0.041	-	-
3000	76.0	3	38.0	1.496	3.30	0.130	1.05	0.041	-	-

ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-V 25, 0750 or 3/4 in, black

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

DERAY®-VT 220 – CROSSLINKED VITON®

Fluoroelastomer heat shrink tubing suitable for use in electronic systems and components in military, aerospace, automotive, and industrial applications requiring outstanding heat and fluid resistance

FEATURES AND BENEFITS

- Flame retardant
- Flexible
- Highly abrasion resistant
- High withstand to corrosive fluids in extreme temperatures up to 220°C
- Shrink ratio: 2:1
- Continuous operating temperature: -55°C to 220°C
- Shrink temperature: 160°C min.

STANDARDS

- DEF STAN 59-97 Type 4a, BS G198 Part 3 Type 12A
- VG95343 Typ E
- PAN6480L
- GS 95008-3-3

TYPICAL APPLICATIONS

- Bundling and strain relief of wire harnesses in high temperature applications and environments
- Excellently suitable for applications where severe chemical and thermal requirements are crucial
- Highly cut through resistant
- Commonly used for protection of cables against contamination by nearly all commercial hydraulic fluids, minerals and synthetic oils
- Widely used in hydraulic equipment, aerospace and ship building applications

2:1

SHRINK RATIO

-55°C to 220°C

(-67°F to 428°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Defense, Aerospace, Automotive, Industrial, Shipboard, Utility, Renewables / Wind

STANDARDS:

RoHS PAN DEF STAN 59/97 VG

Viton® is a registered trademark of du Pont de Nemours and Co. Inc.

Crosslinked Viton®

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
0125	3.20	1/8	1.60	0.063	0.80	0.031	50	164
0187	4.80	3/16	2.40	0.094	0.90	0.035	50	164
0250	6.40	1/4	3.20	0.126	0.90	0.035	50	164
0375	9.50	3/8	4.80	0.189	1.00	0.039	50	164
0500	12.70	1/2	6.40	0.252	1.20	0.047	30	98
0750	19.00	3/4	9.50	0.374	1.40	0.055	30	98
1000	25.40	1	12.70	0.500	1.80	0.071	30	98
1500	38.00	1 1/2	19.00	0.748	2.40	0.094	15	49
2000	50.80	2	25.40	1.000	2.80	0.110	15	49
3000	76.00	3	38.00	1.496	1.80	0.071	15	49

ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-VT 220, 0375 or 3/8 in, black

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

DERAY®-VT 220 TW – THIN WALL CROSSLINKED VITON®

Thin wall very flexible fluoroelastomer heat shrink tubing suitable for use in electronic systems and components in military, aerospace, automotive and industrial applications requiring outstanding heat and fluid resistance

FEATURES AND BENEFITS

- Flame retardant
- Very flexible
- Highly abrasion resistant
- High withstand to corrosive fluids in extreme temperatures up to 220°C
- Shrink ratio: 2:1
- Continuous operating temperature: -55°C to 220°C
- Shrink temperature: 160°C min.

STANDARDS

- AMS-DTL 23053/13

TYPICAL APPLICATIONS

- Bundling and strain relief of wire harnesses in high temperature applications and environments
- Excellently suitable for applications where severe chemical and thermal requirements are crucial
- Highly cut through resistant
- Commonly used for protection of cables against contamination by nearly all commercial hydraulic fluids, minerals and synthetic oils
- Widely used in hydraulic equipment, aerospace and ship building applications

2:1

SHRINK RATIO

-55°C to 220°C

(-67°F to 392°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Defense, Aerospace, Automotive, Hose & Pipe Protection, Industrial, Shipboard, Utility, Renewables

STANDARDS:

RoHS MIL

Viton® is a registered trademark of du Pont de Nemours and Co. Inc. for the raw material

Thin wall crosslinked Viton®

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
0125	3.2	1/8	1.6	0.063	0.80	0.031	50	164
0187	4.7	3/16	2.4	0.094	0.90	0.035	50	164
0250	6.4	1/4	3.2	0.126	0.90	0.035	50	164
0375	9.5	3/8	4.7	0.189	0.90	0.035	50	164
0500	12.7	1/2	6.4	0.252	0.90	0.035	30	98
0625*	15.9	5/8	7.9	0.315	1.10	0.043	30	98
0750	19.1	3/4	9.5	0.374	1.10	0.043	30	98
0875*	22.2	7/8	11.1	0.437	1.20	0.047	30	98
1000	25.4	1	12.7	0.500	1.20	0.047	30	98
1250*	31.8	1 1/4	15.9	0.626	1.40	0.055	30	98
1500	38.1	1 1/2	19.1	0.748	1.40	0.055	15	49

*Sizes 5/8 in, 7/8 in, 1 1/4 in are MOQ items

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:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-VT 220 TW, 0375 or 3/8 in, black

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

IDENTIFICATION SLEEVES

RELIABLE AND PERSISTENT PRODUCTS THAT ENSURE PERMANENT CABLE MARKING

Our identification sleeve portfolio helps to keep track of both new installations and maintenance, thus reducing errors and effort.

In many industries, such as mass transit, aerospace, military or the electronics industry, the clear identification of every single wire is an essential task during installation. Even after years of use, cable and wire identification must remain legible to avoid potentially costly errors during maintenance or repair.

DERAY®-ZHF125 – HEAT SHRINK IDENTIFICATION SLEEVE

Halogen free, flame retardant heat shrink identification sleeve

Zero halogen & low smoke heat shrink identification sleeve. The product complies with the stringent requirements of the European rail norm EN45545-2 and the HL3 R22/R23 classification and even exceeds those.
The material is suitable for use in all classes required for the construction of locomotives and rolling stock. It is also suitable for use in underground environments as well as marine, military and aerospace applications.

FEATURES AND BENEFITS

- Low smoke generation - excellent fire safety characteristics
- Emissions of toxic fumes are well below the levels required to meet the relevant standards
- Flexible
- Flame retardant
- Good fluid resistance
- Soft surface finish supports good printability
- Shrink ratio: 2:1
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 120°C min.

STANDARDS

- EN45545-2 HL3 R22/R23
- Meets LUL E 1042 A6 & BS 6853 vehicle category 1a
- DIN 5510
- EN 50343*
- SAE AS81531 4.6.2*
- MIL-STD-202G Method 215*

TYPICAL APPLICATIONS

- Cable identification

2:1
SHRINK RATIO

-40°C to 125°C
(-40°F to 257°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Rail, Military, Aerospace, Offshore, Marine, Industrial

STANDARDS:

RoHS

EN 45545-2

*hardware used "XD4" printer from CAB and "RBZ11DR" ribbon from DSG-Canusa

Halogen free heat shrink identification sleeve

DIMENSIONS

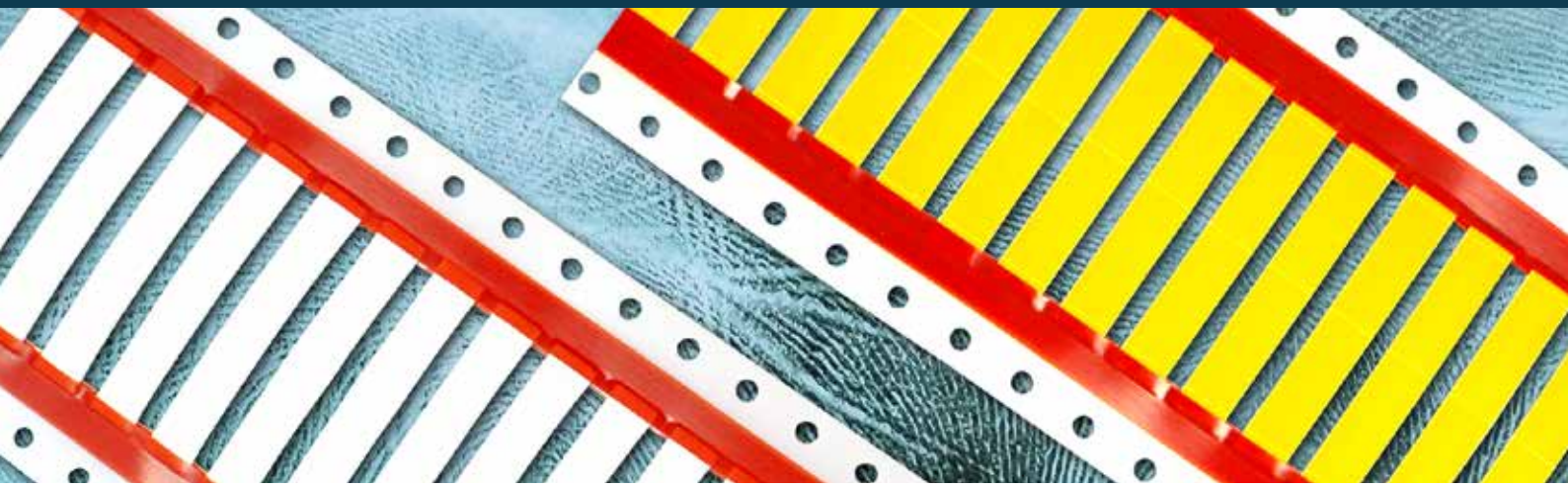
ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
2.4	2.4	3/32	1.2	3/64	0.51	0.020	100	328
3.2	3.2	1/8	1.6	1/16	0.51	0.020	100	328
4.8	4.8	3/16	2.4	3/32	0.51	0.020	75	246
6.4	6.4	1/4	3.2	1/8	0.64	0.025	75	246
9.5	9.5	3/8	4.8	3/16	0.64	0.025	75	246
12.7	12.7	1/2	6.4	1/4	0.64	0.025	50	164
19.0	19.0	3/4	9.5	3/8	0.76	0.030	30	98
25.4	25.4	1	12.7	1/2	0.89	0.035	30	98
38.1	38.1	1 1/2	19.0	3/4	1.02	0.040	30	98

ORDERING

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

- Select options:
  - Color: Yellow (YL), white (WT)
  - Printing: Printed or unprinted
  - Length: Continuous reels
- Please specify the product name, order number and options you require
- *Example:* DERAY®-ZHF125, 2.4, WT, printed, 100 m spool

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



Halogen free flame retardant heat shrink identification sleeve

Zero halogen & low smoke heat shrink identification sleeve. The product complies with the stringent requirements of the European rail norm EN45545-2 and the HL3 R22/R23 classification and even exceeds those.
The material is suitable for use in all classes required for the construction of locomotives and rolling stock. It is also suitable for use in underground environments as well as marine, military and aerospace applications.

FEATURES AND BENEFITS

- Low smoke generation - excellent fire safety characteristics
- Emissions of toxic fumes are well below the levels required to meet the relevant standards
- Special packing enables immediate installation on the application
- Flexible
- Flame retardant
- Good fluid resistance
- Soft surface finish supports good printability
- Shrink ratio: 2:1
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 120°C min.

STANDARDS

- EN45545-2 HL3 R22/R23
- Meets LUL E 1042 A6 & BS 6853 vehicle category 1a
- DIN 5510
- EN 50343*
- SAE AS81531 4.6.2*
- MIL-STD-202G Method 215*

TYPICAL APPLICATIONS

- Cable identification

2:1
SHRINK RATIO

-40°C to 125°C
(-40°F to 257°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Rail, Military, Aerospace, Offshore, Marine, Industrial

STANDARDS:

RoHS

EN 45545-2

*hardware used "XD4" printer from CAB and "RBZ11DR" ribbon from DSG-Canusa

Halogen free heat shrink identification sleeve

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Pieces per reel
	MM	IN	MM	IN	MM	IN	
2.4	2.4	3/32	1.2	3/64	0.51	0.020	2,500
3.2	3.2	1/8	1.6	1/16	0.51	0.020	2,500
4.8	4.8	3/16	2.4	3/32	0.51	0.020	1,000
6.4	6.4	1/4	3.2	1/8	0.64	0.025	1,000
9.5	9.5	3/8	4.8	3/16	0.64	0.025	1,000
12.7	12.7	1/2	6.4	1/4	0.64	0.025	500
19.0	19.0	3/4	9.5	3/8	0.76	0.030	500
25.4	25.4	1	12.7	1/2	0.89	0.035	500
38.1	38.1	1 1/2	19.0	3/4	1.02	0.040	500

ORDERING

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

- Select options:
  - Color: Yellow (YL), white (WT)
  - Perforation: no perforation (P0), 1 perforation (P1), 2 perforations (P2), 3 perforations (P3)
- Please specify the product name, order number and options you require
- *Example:* DMS NH, P1 , 4.8, yellow, 1,000 pieces

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

WILDLIFE MITIGATION

PROTECTING SUBSTATIONS AND OVERHEAD LINES FROM UNEXPECTED INTERACTION WITH WILDLIFE

DSG-Canusa brand wildlife mitigation products help to prevent electrical outages by protecting against flash-over or direct contact with bare-metal components.

The wildlife mitigation product range comprises preformed covers, line covers, heat shrinkable tubing and sheets which ensure durable protection of customer assets. The products are easy-to-install solutions for conductors, bushings and insulators, switches and cut-outs, arresters and bus bars and help to prevent wildlife electrocutions and mortality.

Medium voltage protective covers for insulators, bushings, surge arresters, cut-outs and clamps

The protective covers CCAPU, CFIN, CCONEC, CCOF, CCDE and CMVBP are available in different designs and sizes. They offer an effective encapsulation against accidental phase-to-phase or phase-to-ground fault caused by fauna and flora.

FEATURES AND BENEFITS

- Excellent anti-tracking material characteristic
- Voltage rating up to 36kV
- UV resistant
- Suitable for polymeric / ceramic / hybrid insulators and suspension clamps
- Designed to protect problem span areas
- Cost-effective and variable design on particular application situations
- Easy to install
- Plastic rivets included
- Additional rivets available on request
- Continuous operating Temperature: -40 to 105°C

STANDARDS

- DIN VDE V 0212-490:2014
- VDE-AR-N 4210-11:2011-08
- IEC 60060-1:2010
- EN 60243-1

TYPICAL APPLICATIONS

- Protection of pole mounted substations
- Protection of air insulated substations

≤36 kV

VOLTAGE RATING

UV RESISTANT

EXCELLENT ANTI-TRACKING MATERIAL CHARACTERISTIC

MARKETS:

Electrical Utility, Industrial

STANDARDS:

RoHS

Covers: CCAPU / CFIN / CCONEC / CCOF / CCDE / CMVBP

ELECTRICAL PROPERTIES

TECHNICAL DATA	CURRENT VALUES	TEST METHODS
Dielectric strength	≤36 kV	EN 60243-1
AC withstand (dry) 1 minute	15 kV / 25 kV; no breakdown or flashover	DIN VDE V 0212-490
AC withstand (wet) 1 minute	15 kV / 25 kV; no breakdown or flashover	DIN VDE V 0212-490
AC long term withstand (dry) 4 hours	8,6 kV / 15 kV; no breakdown or flashover	DIN VDE V 0212-490

CCAPU

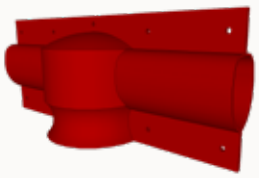
DIMENSIONS OF BUSHING COVER

ORDER NUMBER	SHED DIAMETER		COVERAGE AREA		DELIVERY UNITS
	Maximum		Maximum		Set of 3
	MM	IN	MM	IN	
CCAPU 10	105	4.134	180	7.087	3
CCAPU 12	120	4.724	150	5.906	3
CCAPU 15	150	5.906	225	8.858	3
CCAPU GR	140	5.512	200	7.874	3

CFIN

DIMENSIONS OF STANDOFF INSULATOR COVER

ORDER NUMBER	SHED DIAMETER		COVERAGE AREA		DELIVERY UNITS
	Maximum		Maximum		Set of 3
	MM	IN	MM	IN	
CFIN 10	100	3.937	300	11.811	3



CCONEC

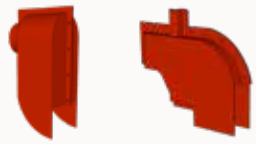
DIMENSIONS OF CONDUCTOR COVER

ORDER NUMBER	SHED DIAMETER		COVERAGE AREA		DELIVERY UNITS
	Maximum		Maximum		Set of 3
	MM	IN	MM	IN	
CCONEC 8	85	3.346	89	3.504	3
CCONEC 9	95	3.740	395	15.551	3
CCONEC 14	145	5.709	395	15.551	3
CCONEC 17	145	5.709	179	7.047	3

CCOF

DIMENSIONS OF CUT-OUT FUSE COVER

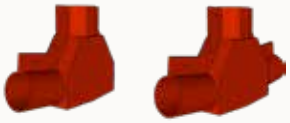
ORDER NUMBER	WIDTH		HEIGTH		DELIVERY UNITS
	Maximum		Maximum		Set of 3
	MM	IN	MM	IN	
CCOF-P1	75	2.952	250 x 130	9.84 x 5.12	3
CCOF-P2	75	2.952	320 x 150	12.60 x 5.91	3
CCOF-C	110 / 160	4.33 x 6.30	140 x 400	12.60 x 5.91	3



CCDE

DIMENSIONS OF CONDUCTOR TO DEAD END COVER

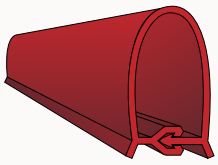
ORDER NUMBER	WIDTH		HEIGHT		DELIVERY UNITS
	Maximum		Maximum		Set of 3
	MM	IN	MM	IN	
CCDE-1 ex	53 / 61	2.09 / 2.40	135 x 95	5.31 x 3.74	3
CCDE-2 ex	53 / 61	2.09 / 2.40	135 x 95	5.31 x 3.74	3



CMVBP

DIMENSIONS OF BARE CONDUCTOR COVER

ODER NUMBER	CONDUCTOR SIZE		VOLTAGE RATING	DELIVERY UNITS	
	Maximum		Maximum	Bundle	
	MM	IN	KV	M	FT
CMVBP 18	18	0.709	15	30	98
CMVBP 18 M	18	0.709	25 (mastic lined closure)	30	98
CMVBP 38	38	0,150	15	7,5	24,6



ORDERING

Select options:

- Color: Red-brown (RD-BN)
- Dimensions: Customization to different accessories on request

- Please specify the product name, order number and options you require
- *Example*: CCONEC 14, red-brown, 4 sets of 3 (12 pieces)

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

Additional Products: CMVBT, CMVIS, CBTM / CBTH

CMVBT: ANTITRACKING TAPE

ORDER NUMBER	WIDTH		WALL THICKNESS		DELIVERY UNITS
			Minimum		Spool
	MM	IN	MM	IN	M
CMVBT-1	25.4	1	1.06	0.042	7.62
CMVBT-2	50.8	2	1.06	0.042	7.62
CMVBT-4	101.6	4	1.06	0.042	7.62

CMVIS: SHRINKABLE INSULATION SHEET

ORDER NUMBER	ADHESIVE	WALL THICKNESS		DELIVERY UNITS
	Optional	Minimum		Spool
		MM	IN	M
CMVIS-660-10	without hotmelt	2	0.079	10
CMVIS-660-10-D	lined with hotmelt	2	0.079	10

CBTM / CBTH: ANTITRACKING HEATSHRINKABLE SLEEVE

ORDER NUMBER	DIAMETER		WALL THICKNESS		DELIVERY UNITS	
	Expanded		Minimum		Mini Spool	Spool
	MM	IN	MM	IN	M	M
CBTM	19.0 - 228.6	0.75 - 9	2.7 - 3.3	0.11 - 0.13	10 - 50	100 - 250
CBTH	27.9 - 167.6	1.1 - 65.9	3.9 - 4.2	0.15 - 0.17	10 - 50	75 - 150

ORDERING

Select options:

- Color: Red-brown (RD-BN)
- Please specify the product name, order number and options you require
- *Example:* CMVIS-660-10, without hotmelt, 10m

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

Medium voltage protection covers for insulators, suspension clamps and conductors

The protective covers CTSC, CCTI, CASC and CMVBP are available in different designs and sizes. They offer an effective encapsulation against accidental phase-to-phase or phase-to-ground contact caused by fauna and flora.

FEATURES AND BENEFITS

- Excellent anti-tracking material characteristic
- Voltage rating up to 36kV
- UV resistant
- Suitable for polymeric / ceramic / hybrid insulators and suspension clamps
- Designed to protect problem span areas
- Cost-effective and variable design on particular application situations
- Easy to install
- Plastic rivets included
- Additional rivets available on request
- Continuous operating Temperature: -40°C to 105°C

STANDARDS

- DIN VDE V 0212-490:2014
- VDE-AR-N 4210-11:2011-08
- IEC 60060-1:2010
- EN 60243-1

TYPICAL APPLICATIONS

- Protection of overhead lines
- Protection of pole-down installations

≤36 kV

VOLTAGE RATING

UV RESISTANT

EXCELLENT ANTI-TRACKING MATERIAL CHARACTERISTIC

MARKETS:

Electrical Utility, Industrial

STANDARDS:

RoHS

CTSC / CCTI / CASC / CMVBP

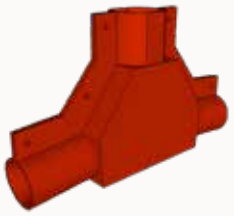
ELECTRICAL PROPERTIES

TECHNICAL DATA	CURRENT VALUES	TEST METHODS
Dielectric strength	≤36 kV	EN 60243-1
AC withstand (dry) 1 minute	15 kV / 25 kV; no breakdown or flashover	DIN VDE V 0212-490
AC withstand (wet) 1 minute	15 kV / 25 kV; no breakdown or flashover	DIN VDE V 0212-490
AC long term withstand (dry) 4 hours	8,6 kV / 15 kV; no breakdown or flashover	DIN VDE V 0212-490

CTSC

DIMENSIONS OF T-SHAPED SUSPENSION CLAMP

ODER NUMBER	WIDTH		HEIGTH		DELIVERY UNITS
	Maximum		Maximum		Set of 3
	MM	IN	MM	IN	
CTSC 31/116	130	5.118	100	3.937	3
CTSC 116/180	190	7.480	150	5.906	3



CCTI

DIMENSIONS OF CONDUCTOR TO TENSION INSULATOR

ODER NUMBER	WIDTH		HEIGTH		DELIVERY UNITS
	Maximum		Maximum		Set of 3
	MM	IN	MM	IN	
CCTI 31/116	245	9.646	250	9.843	3
CCTI 116/180	280	11.024	330	12.992	3

CASC

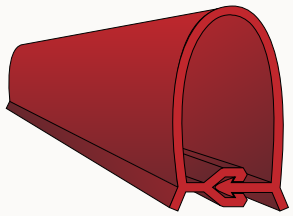
DIMENSIONS OF ANGLED SUSPENSION CLAMP

ODER NUMBER	WIDTH		HEIGTH		DELIVERY UNITS
	Maximum		Maximum		Set of 3
	MM	IN	MM	IN	
CASC 1	350	13.780	160	6.299	3
CASC 2	330	12.992	80	3.150	3

CMVBP

DIMENSIONS OF BARE CONDUCTOR COVER

ODER NUMBER	CONDUCTOR SIZE		VOLTAGE RATING	DELIVERY UNITS	
	Maximum		Maximum	Bundle	
	MM	IN	KV	M	FT
CMVBP 18	18	0.709	15	30	98
CMVBP 18 M	18	0.709	25 (mastic lined closure)	30	98
CMVBP 38	38	0.150	15	7.5	24.6



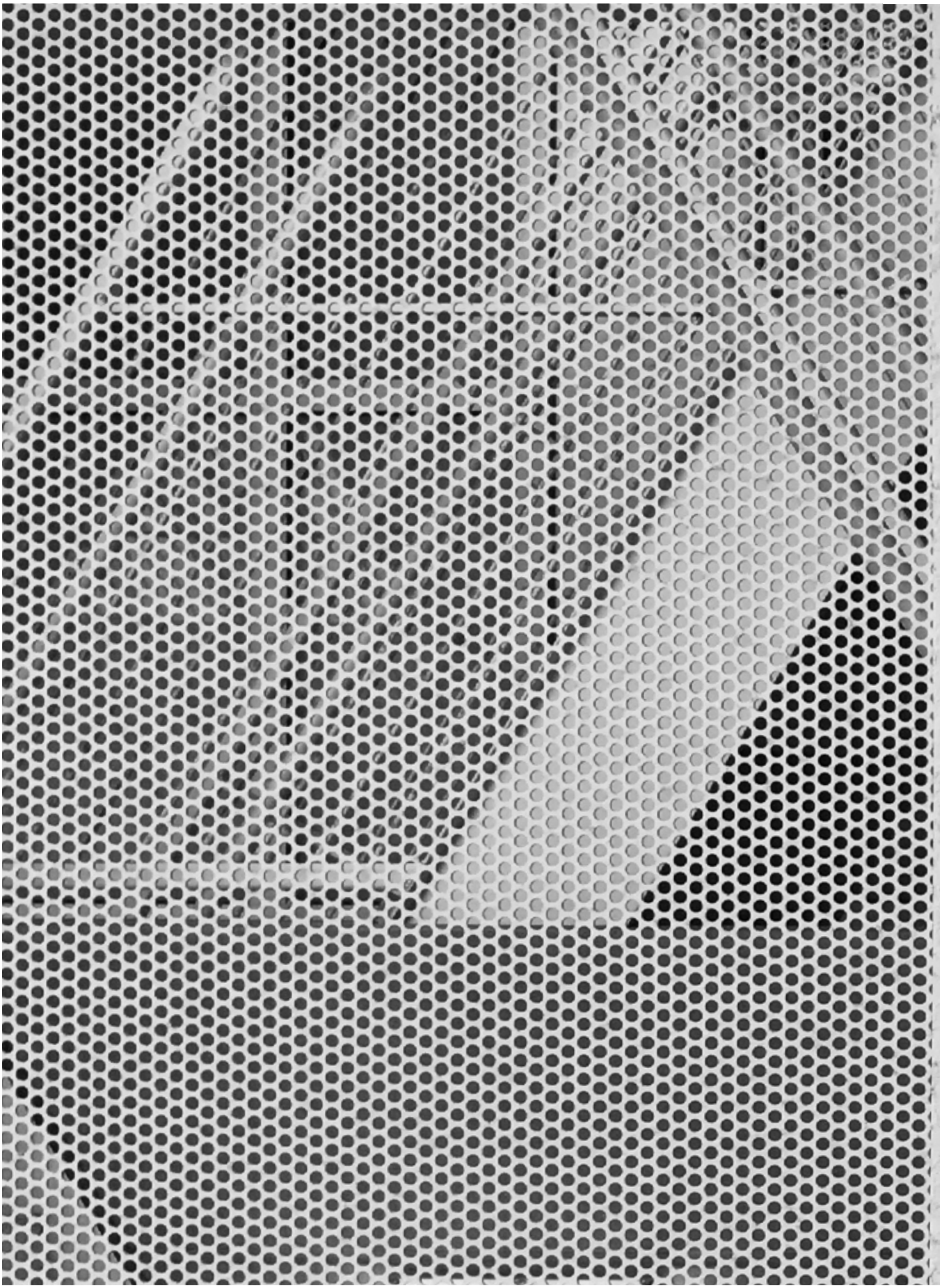
ORDERING

Select options:

- Color: Red-brown (RD-BN)
- Dimensions: Customization to different accessories on request

- Please specify the product name, order number and options you require
- *Example:* CTSC 31/116, red-brown, 30 m, 4 sets of 3 (12 pieces)

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



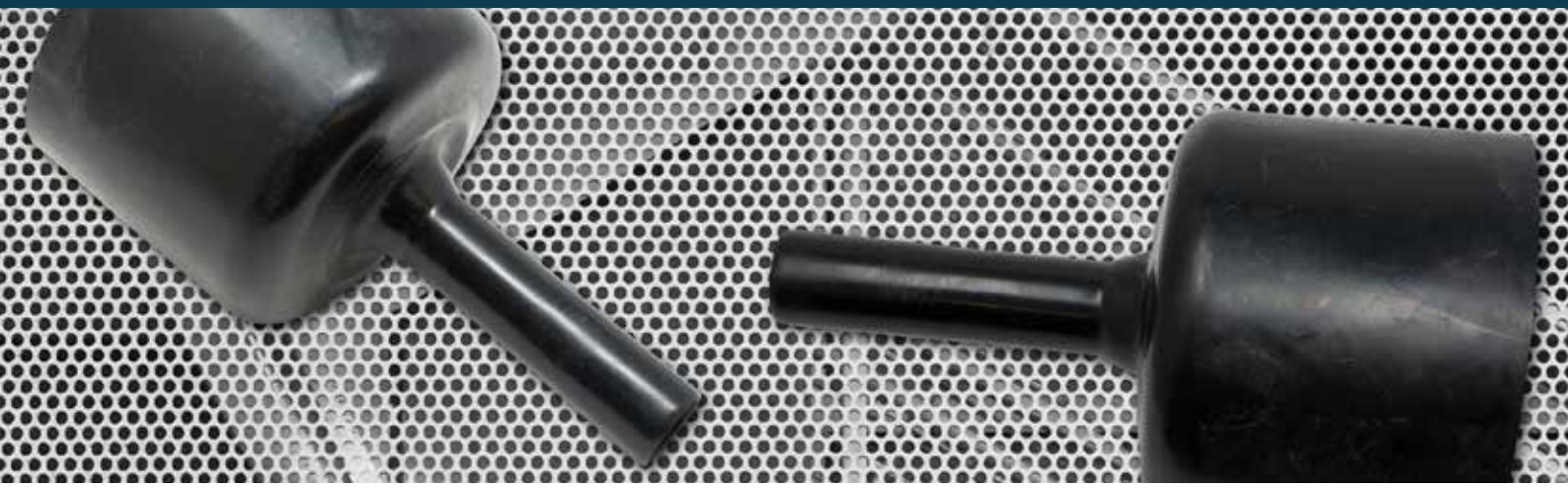
ELECTRICAL PRODUCTS

UNIQUE SOLUTIONS FOR LOW AND MEDIUM VOLTAGE APPLICATIONS

Electrical utilities and power distribution systems are critically dependant on reliable equipment to deliver uninterrupted electricity used by industry. Our products are therefore engineered with well-proven polyolefin materials that include a comprehensive line of high performance cable accessories designed for insulation and connection of low and medium voltage cables, electrical equipment and retrofit applications.

We provide solutions that offer superior performance, reliability, lower installation costs and ease of installation.

CANC – HEATSHRINKABLE ANODE CAP



The tight fitting, heat-shrinkable anode caps provide stress relief, moisture proofing and electrical insulation at the lead wire point. It is the ideal solution to premature system failure.

FEATURES AND BENEFITS

- Specially designed adhesive to adhere to anode materials and wire installations
- Highly stabilized polyolefin material
- Water tight encapsulation
- Flexible
- Continuous operating temperature: -55°C to 100°C
- Shrink temperature: 120°C min.

TYPICAL APPLICATIONS

- Impressed Current Cathodic Protection (ICCP) for pipeline corrosion protection
- Cathodic protection on ships and boats
- Corrosion protection on all metal works used in water pipes, water storage tanks and water heating systems
- Corrosion protection on large structures like motorway, bridges and dock yards

-55°C to 100°C
(-67°F to 212°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Industrial, Electrical, Marine

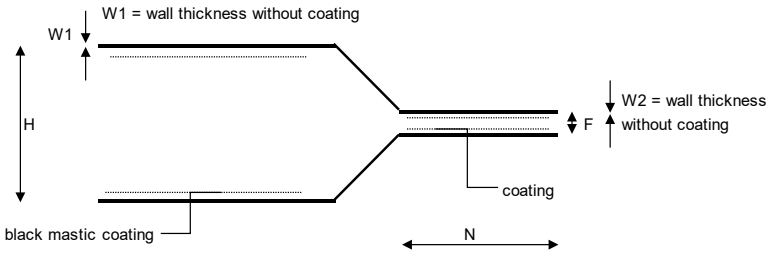
STANDARDS:

RoHS

Heatshrinkable anode cap

DIMENSIONS

ORDER NUMBER	MAIN DIAMETER				FINGER DIAMETER				WALL THICK-NESS W1 / W2		LENGTH		FINGER LENGTH N		DELIVERY UNITS
	Expanded (min) H		Recovered (max) H		Expanded (min) F		Recovered (max) F		Recovered (nom)						Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	
CANC 40/13	40	1.57	21	0.83	13	0.51	5	0.20	3.5 / 2.5	1.4 / 1.0	135	5.31	75	2.95	50
CANC 50/13	50	1.87	21	0.83	13	0.51	5	0.20	3.5 / 2.5	1.4 / 1.0	135	5.31	75	2.95	50
CANC 82/15	82	3.23	40	1.57	15	0.59	5	0.20	4.5 / 3.5	1.8 / 1.4	180	7.09	80	3.15	30
CANC 108/20	108	4.25	50	1.87	20	0.79	6	0.24	4.5 /4.5	1.8 /1.8	250	9.84	135	5.31	20



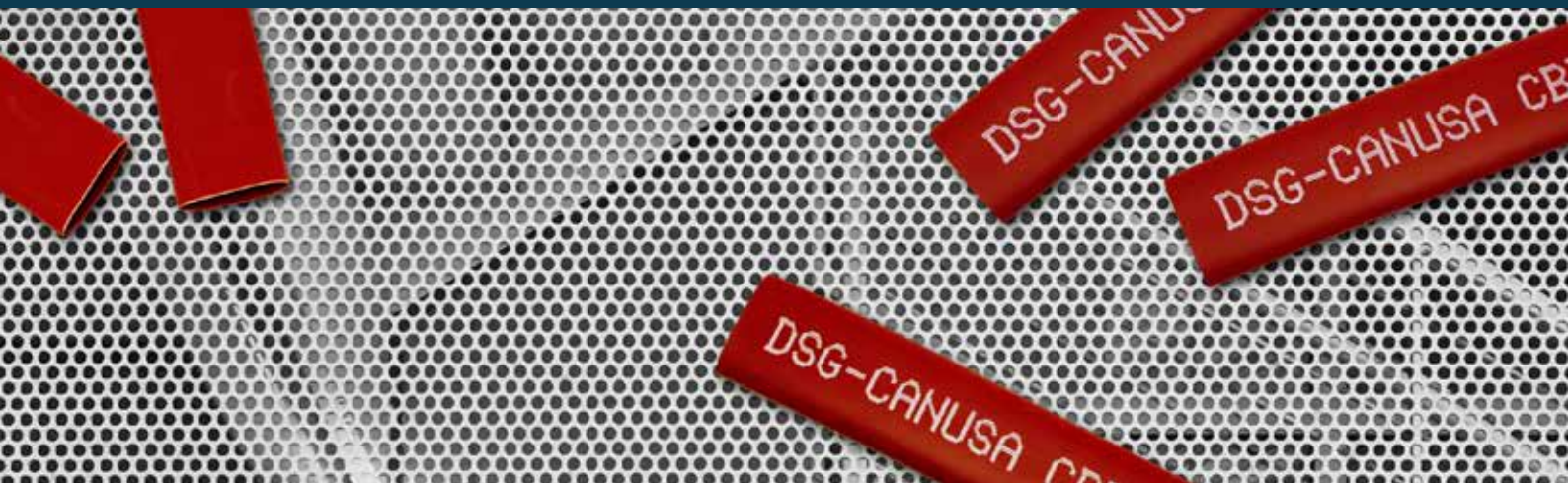
ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* CANC 82/15, black

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

CBTH – HEAVY WALL CROSSLINKED POLYOLEFIN BUS BAR TUBING



Heavy wall anti-track heat shrinkable tubing specifically designed for insulating medium voltage bus bars

FEATURES AND BENEFITS

- Halogen free and flame retardant
- Reduces bus bar clearance requirements
- Protects against accidental flashover
- Anti-track
- Rated to 36 kV
- Shrink ratio: 3:1
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 120°C min.

STANDARDS

- ANSI C37.20.2
- ANSI C37.20.3
- UL file # E205844

TYPICAL APPLICATIONS

- Insulation of medium voltage bus bars in switchgear equipment, transformers and generators

3:1

SHRINK RATIO

-40°C to 125°C

(-40°F to 257°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Industrial OEM, Utility, Power Distribution

STANDARDS:

Heavy wall crosslinked polyolefin bus bar tubing

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
1100	27.9	1.098	8.9	0.350	3.90	0.154	15.24	50
2000	50.8	2.000	16.0	0.630	4.10	0.161	15.24	50
2700	68.0	2.677	22.1	0.870	4.10	0.161	15.24	50
3500	89.9	3.539	29.9	1.177	4.20	0.165	15.24	50
4700	119.9	4.720	39.9	1.571	4.20	0.165	15.24	50
6600	167.6	6.598	65.0	2.559	4.20	0.106	15.24	50

APPLICATION RANGES

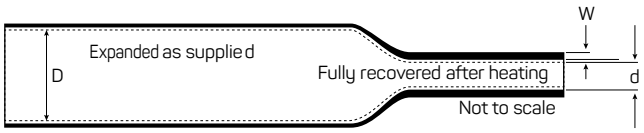
ORDER NUMBER	RECTANGULAR BUS BARS				ROUND BUS BARS	
	Minimum		Maximum		Minimum - Maximum	
	MM	IN	MM	IN	MM	IN
1100	9.5 x 6.4	0.374 x 0.252	12.7 x 15.9	0.500 x 0.626	10.6 - 17.7	0.417 - 0.697
2000	25.4 x 6.4	1.000 x 0.252	34.9 x 15.9	1.374 x 0.626	19.3 - 33.0	0.760 - 1.299
2700	34.9 x 6.4	1.374 x 0.252	40.8 x 15.9	1.606 x 0.626	26.1 - 43.1	1.028 - 1.697
3500	50.8 x 6.4	2.000 x 0.252	76.2 x 15.9	3.000 x 0.626	35.8 - 58.4	1.409 - 2.299
4700	69.8 x 6.4	2.748 x 0.252	111.1 x 15.9	4.374 x 0.626	47.7 - 81.2	1.878 - 3.197
6600	107.9 x 6.4	4.248 x 0.252	177.8 x 15.9	7.000 x 0.626	69.5 - 124.4	2.736 - 4.898

Application ranges noted above selected to obtain minimum insulation thickness required to meet ANSI C37.20.2 withstands requirements at bus bar spacing noted below. These spacings were determined from a limited number of test configurations. Due to the wide variety of bus bar configurations, these spacings should not be employed without actual testing by the user.

CLEARANCES WITH INSULATION

SYSTEM VOLTAGE	BIL KV	CBTH HEAVY WALL TUBING			
		P to P		P to G	
		MM	IN	MM	IN
5 kV	95.0	55.0	2.165	66.0	2.598
25 kV	125.0	71.0	2.795	101.0	3.976
36 kV	150.0	142.0	5.591	190.0	7.480

P to P: Phase to Phase orientation
P to G: Phase to Ground orientation
Spacing based on metal to metal dimension prior to insulation. Spacing based on insulation wall thickness per application range of above table.



ORDERING

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

- Select options:
  - Color: Red-brown (RD-BN)
- Please specify the product name, order number and options you require
- *Example*: CBTH, 2700, 68.0/22.1, red-brown

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

CBTM – MEDIUM WALL CROSSLINKED POLYOLEFIN BUS BAR TUBING

Medium wall anti-track heat shrinkable tubing specially designed for insulating medium voltage bus bars

FEATURES AND BENEFITS

- Halogen free
- Reduces bus bar clearance requirements
- Protects against accidental flashover
- Anti-track
- CBTM medium wall tubing rated to 25 kV
- Shrink ratio: 3:1
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 120°C min.

STANDARDS

- ANSI C37.20.2
- ANSI C37.20.3
- UL file # E205844

TYPICAL APPLICATIONS

- Insulation of medium voltage bus bars in switchgear equipment, transformers and generators

3:1
SHRINK RATIO

-40°C to 125°C
(-40°F to 257°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Industrial, Industrial OEM, Utility, Power Distribution

STANDARDS:

Medium wall crosslinked polyolefin bus bar tubing

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
0750	19.0	0.748	5.5	0.217	2.70	0.106	15.24	50
1300	33.0	1.299	10.1	0.398	3.00	0.118	15.24	50
2050	52.0	2.047	19.0	0.748	2.80	0.110	15.24	50
2750	69.8	2.748	25.4	1.000	2.90	0.114	15.24	50
3500	88.9	3.500	29.9	1.177	3.10	0.122	15.24	50
4700	119.3	4.697	39.9	1.571	3.20	0.126	15.24	50
6700	170.1	6.697	58.4	2.299	3.20	0.126	15.24	50
European Dimensions								
19/6	19.0	0.748	6.0	0.236	2.00	0.079	50.00	164
33/10	33.0	1.299	10.0	0.394	2.50	0.098	50.00	164
52/19	52.0	2.047	19.0	0.748	2.50	0.098	25.00	82
76/30	76.0	2.992	30.0	1.181	2.50	0.098	15.00	49
100/40	100.0	3.937	40.0	1.575	2.50	0.098	15.00	49

APPLICATION RANGES

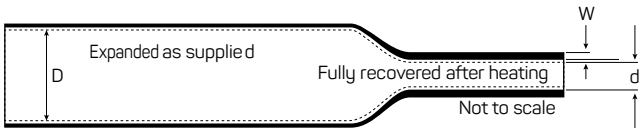
ORDER NUMBER	RECTANGULAR BUS BARS				ROUND BUS BARS	
	Minimum		Maximum		Minimum - Maximum	
	MM	IN	MM	IN	MM	IN
0750 and 19/6	6.4 x 6.4	0.252 x 0.252	6.4 x 15.9	0.252 x 0.626	6.8 - 15.2	0.268 - 0.598
1300 and 33/10	12.7 x 6.4	0.500 x 0.252	28.5 x 15.9	1.122 x 0.626	12.4 - 27.9	0.488 - 1.098
2050 and 52/19	31.5 x 6.4	1.240 x 0.252	50.8 x 15.9	2.000 x 0.626	22.3 - 43.1	0.878 - 1.697
2750	44.4 x 6.4	1.748 x 0.252	76.2 x 15.9	3.000 x 0.626	29.7 - 58.4	1.169 - 2.299
76/30	63.9 x 6.4	2.520 x 0.252	90.1 x 15.9	3.547 x 0.626	45.0 - 68.0	1.772 - 2.677
3500	57.1 x 6.4	2.248 x 0.252	101.6 x 15.9	4.000 x 0.626	35.8 - 73.6	1.409 - 2.898
100/40	103.6 x 6.4	4.079 x 0.252	114.1 x 15.9	4.492 x 0.626	70.0 - 83.0	2.756 - 3.268
4700	73.0 x 6.4	2.874 x 0.252	142.8 x 15.9	5.622 x 0.626	47.7 - 101.6	1.878 - 4.000
6700	114.3 x 6.4	4.500 x 0.252	203.2 x 15.9	8.000 x 0.626	69.5 - 144.7	2.736 - 5.697

Application ranges noted above selected to obtain minimum insulation thickness required to meet ANSI C37.20.2 withstands requirements at bus bar spacing noted below. These spacings were determined from a limited number of test configurations. Due to the wide variety of bus bar configurations, these spacings should not be employed without actual testing by the user.

CLEARANCES WITH INSULATION

SYSTEM VOLTAGE	BIL KV	CBTM MEDIUM WALL TUBING			
		P to P		P to G	
		MM	IN	MM	IN
5 kV	95.0	86.0	3.386	106.0	4.173
25 kV	125.0	114.0	4.488	152.0	5.984
36 kV	150.0	165.0	6.496	203.0	7.992

P to P: Phase to Phase orientation
P to G: Phase to Ground orientation
Spacing based on metal to metal dimension prior to insulation. Spacing based on insulation wall thickness per application range of above table.



ORDERING

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

- Select options:
  - Color: Red-brown (RD-BN)
- Please specify the product name, order number and options you require
- *Example:* CBTM, 2050, red-brown, or CBTM, 76/30, red-brown

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

CCB – CROSSLINKED POLYOLEFIN CABLE BREAKOUT BOOTS

Heat shrink boots seal and protect multi-conductor cable and conduit breakouts.

FEATURES AND BENEFITS

- Boots for 2, 3, 4, 5 and 6 way cable breakouts
- Strain relief and mechanical protection
- Resistant to fluids and solvents
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- Anti-track medium voltage breakouts and semi-conductive breakouts available on request
- Shrink ratio: 3:1
- Continuous operating temperature: -40°C to 100°C
- Shrink temperature: 125°C min.

STANDARDS

- IEC 62677
- ESI 09-11

TYPICAL APPLICATIONS

- Strain relief for multi-core cables
- Moisture sealing and environmental protection
- Sealing and protecting wire connections in eletrical vehicles

3:1

SHRINK RATIO

-40°C to 100°C

(-40°F to 212°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Renewables, Industrial, Power Distribution, Utility

STANDARDS:

RoHS

Crosslinked polyolefin cable breakout boots

CCB2 - TWO CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER				FINGER DIAMETER				DELIVERY UNITS
	Minimum		Maximum		Minimum		Maximum		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	
CCB2 33/14	33.0	1.299	10.0	0.394	14.0	0.551	3.0	0.118	50
CCB2 50/21	50.0	1.969	22.0	0.866	21.0	0.827	6.7	0.264	20
CCB2 70/30	70.0	2.756	35.0	1.378	30.0	1.185	7.0	0.276	20

CCB3 - THREE CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER				FINGER DIAMETER				DELIVERY UNITS
	Minimum		Maximum		Minimum		Maximum		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	
CCB3 38/11	38.0	1.496	14.0	0.551	11.0	0.433	4.0	0.157	50
CCB3 60/24	60.0	2.362	22.0	0.866	24.0	0.945	8.0	0.315	20
CCB3 80/36	80.0	3.150	33.0	1.299	36.0	1.417	16.0	0.630	20
CCB3 110/48	110.0	4.331	47.0	1.850	48.0	1.890	20.0	0.787	10
CCB3 125/55	125.0	4.921	47.0	1.850	55.0	2.165	20.0	0.787	10
CCB3 140/62	140.0	5.512	54.0	2.126	62.0	2.441	27.0	1.063	10

CCB4 - FOUR CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER				FINGER DIAMETER				DELIVERY UNITS
	Minimum		Maximum		Minimum		Maximum		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	
CCB4 38/15	38.0	1.496	14.0	0.551	15.0	0.591	3.0	0.118	50
CCB4 55/20	55.0	2.165	25.0	0.984	20.0	0.787	6.0	0.236	20
CCB4 72/25	72.0	2.835	22.0	0.866	25.0	0.984	8.5	0.335	20
CCB4 100/35	100.0	3.937	33.0	1.299	35.0	1.378	14.0	0.551	10
CCB4 125/45	125.0	4.921	47.0	1.850	45.0	1.772	22.0	0.866	10

CCB5 - FIVE CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER				FINGER DIAMETER				DELIVERY UNITS
	Minimum		Maximum		Minimum		Maximum		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	
CCB5 80/26	80.0	3.150	30.0	1.181	26.0	1.024	7.5	0.295	20
CCB5 100/34	100.0	3.937	33.0	1.299	34.0	1.339	9.0	0.354	20

CCB6 - SIX CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER				FINGER DIAMETER				DELIVERY UNITS
	Minimum		Maximum		Minimum		Maximum		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	
CCB6 85/25	85.0	3.346	35.0	1.378	25.0	0.984	6.0	0.236	20

ORDERING

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

- Select options:
  - Finger: 2, 3, 4, 5 or 6
  - Printing: Printed or unprinted
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* CCB3 38/11, black, unprinted, 350 pcs

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

CCBA – ANTI-TRACK CABLE BREAKOUT BOOTS

CCBA, anti-track medium voltage breakout boots, seal and protect multi-conductor cable and conduit breakouts.

FEATURES AND BENEFITS

- Boots for 3 way cable breakouts
- Strain relief and mechanical protection
- Resistant to common fluids and solvents
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- Shrink ratio: >2:1
- Continuous operating temperature: -40°C to 100°C
- Shrink temperature: 125°C min.

STANDARDS

- IEC 62677
- ESI 09-13

TYPICAL APPLICATIONS

- Strain relief for multi-core cables
- Moisture sealing and environmental protection

>2:1

SHRINK RATIO

-40°C to 100°C

(-40°F to 212°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Industrial, Power Distribution, Utility

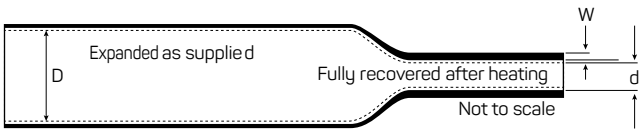
STANDARDS:

RoHS

Anti-track cable breakout boots

DIMENSIONS

ORDER NUMBER	EXPANDED				RECOVERED								DELIVERY UNITS
	Breakout Main Diameter (min)		Finger Diameter (min)		Breakout Main Diameter (max)		Finger Diameter (max)		Full Length +- 10 %		Finger Length +- 10 %		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	
CCBA 60/24	60.0	2.36	24.0	0.95	22.0	0.87	8.0	0.31	185.0	7.28	45.0	1.77	30
CCBA 80/36	80.0	3.15	36.0	1.42	33.0	1.30	16.0	0.63	210.0	8.27	50.0	1.97	20
CCBA 110/48	110.0	4.33	48.0	1.89	47.0	1.85	20.0	0.79	260.0	10.24	75.0	2.95	20
CCBA 125/55	125.0	4.92	55.0	2.17	47.0	1.85	20.0	0.79	260.0	10.24	75.0	2.95	10



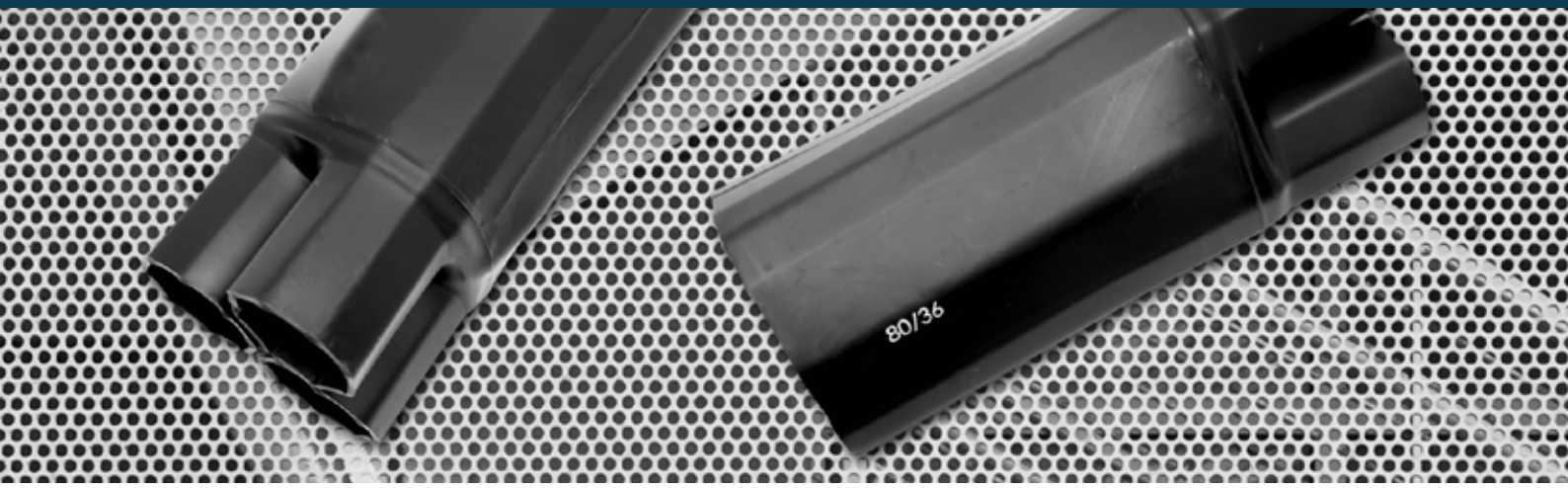
ORDERING

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

- Select options:
  - Printing: Printed or unprinted
- Please specify the product name, order number and options you require
- *Example:* CCBA 60/24, red-brown, unprinted, 2.000 pcs

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

CCB-CON – CONDUCTIVE CABLE BREAKOUT BOOTS



CCB-CON, conductive breakout boots, seal and protect multi-conductor cable and conduit breakouts.

FEATURES AND BENEFITS

- Boots for 3 way cable breakouts
- Strain relief and mechanical protection
- Resistant to common fluids and solvents
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- Shrink ratio: >2:1
- Continuous operating temperature: -40°C to 100°C
- Shrink temperature: 125°C min.

STANDARDS

- IEC 62677
- ESI 09-13

TYPICAL APPLICATIONS

- Strain relief for multi-core cables
- Moisture sealing and environmental protection

>2:1

SHRINK RATIO

-40°C to 100°C

(-40°F to 212°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Industrial, Power Distribution, Utility

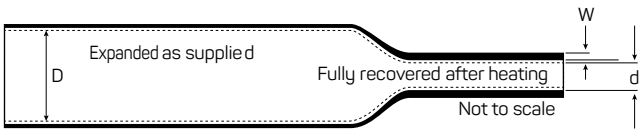
STANDARDS:

RoHS

Conductive cable breakout boots

DIMENSIONS

ORDER NUMBER	EXPANDED				RECOVERED								DELIVERY UNITS
	Breakout Main Diameter (min)		Finger Diameter (min)		Breakout Main Diameter (max)		Finger Diameter (max)		Full Length +- 10 %		Finger Length +- 10 %		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	
CCB-CON 60/24	60.0	2.36	24.0	0.95	22.0	0.87	8.0	0.31	185.0	7.28	45.0	1.77	30
CCB-CON 80/36	80.0	3.15	36.0	1.42	33.0	1.30	16.0	0.63	210.0	8.27	50.0	1.97	20
CCB-CON 110/48	110.0	4.33	48.0	1.89	47.0	1.85	20.0	0.79	260.0	10.24	75.0	2.95	20
CCB-CON 125/55	125.0	4.92	55.0	2.17	47.0	1.85	20.0	0.79	260.0	10.24	75.0	2.95	10



ORDERING

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

- Select options:
  - Printing: Printed or unprinted
- Please specify the product name, order number and options you require
- *Example:* CCB-CON 60/24, black, unprinted, 2.000 pcs

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

CCB-N – HEAT SHRINKABLE BOOTS FOR NUCLEAR ENVIRONMENT

Heat shrinkable boots, suitable for use in a nuclear environment, insulate and protect electrical splices and termination on multi core cables.

FEATURES AND BENEFITS

- Functional after 850 kGy cumulative dose
- Rated for 600/1000V
- High resistance to impact and abrasion, lined with thermoplastic adhesive
- Boots for 2, 3, 4 and 5 way breakouts
- Shrink ratio: 3:1
- Continuous operating temperature: -40°C to 100°C
- Shrink Temperature: 125°C min.

STANDARDS

- IEEE 383
- IEC 62677-3-101
- NF M 64-001
- IEC 60068
- LOCA/POST LOCA in accordance with RCC-E 2007 NF M64-001

TYPICAL APPLICATIONS

- Continous use in a nuclear environment for strain relief, sealing, insulable protection on LV cable
- Boots are qualified for for use in zones K1, K2 and K3 according to NF M 64-001

3:1

SHRINK RATIO

-40°C to 100°C

(-40°F to 212°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Electrical, Nuclear Power Generation

STANDARDS:

RoHS

Heat shrinkable boots for nuclear environment

CCB-N - TWO CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER		FINGER DIAMETER		RECOVERED FULL LENGTH +/- 10%	
	Expanded (Min)	Recovered (Max)	Expanded (Min)	Recovered (Max)		
	MM	MM	MM	MM	MM	MM
CCB-N2 33/14	33.0	10.0	14.0	3.00	90.00	20.00
CCB-N2 50/21	50.0	22.0	21.0	6.70	119.00	35.00

CCB-N - THREE CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER		FINGER DIAMETER		RECOVERED FULL LENGTH +/- 10%	
	Expanded (Min)	Recovered (Max)	Expanded (Min)	Recovered (Max)		
	MM	MM	MM	MM	MM	MM
CCB-N3 28/10	28.00	8.50	12.00	2.50	70.00	20.00
CCB-N3 38/11	38.00	14.00	11.00	4.00	110.00	20.00
CCB-N3 60/24	60.00	22.00	24.00	8.00	185.00	45.00
CCB-N3 80/36	80.00	33.00	36.00	16.00	210.00	50.00
CCB-N3 110/48	110.00	47.00	48.00	20.00	260.00	75.00
CCB-N3 125/55	125.00	47.00	55.00	20.00	260.00	75.00
CCB-N3 140/62	140.00	54.00	62.00	27.00	250.00	65.00

CCB-N - FOUR CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER		FINGER DIAMETER		RECOVERED FULL LENGTH +/- 10%	
	Expanded (Min)	Recovered (Max)	Expanded (Min)	Recovered (Max)		
	MM	MM	MM	MM	MM	MM
CCB-N4 28/10	28.00	8.50	10.00	1.80	70.00	20.00
CCB-N4 38/15	8.00	14.00	15.00	3.00	105.00	20.00
CCB-N4 55/20	55.00	25.00	20.00	6.00	180.00	45.00
CCB-N4 72/25	72.00	22.00	25.00	8.50	190.00	45.00
CCB-N4 100/35	100.00	33.00	35.00	14.00	215.00	50.00
CCB-N4 125/45	125.00	47.00	45.00	22.00	245.00	72.00

CCB-N - FIVE CORE BREAKOUTS

ORDER NUMBER	BREAKOUT MAIN DIAMETER		FINGER DIAMETER		RECOVERED FULL LENGTH +/- 10%	
	Expanded (Min)	Recovered (Max)	Expanded (Min)	Recovered (Max)		
	MM	MM	MM	MM	MM	MM
CCB-N5 80/26	80.00	33.00	26.00	9.00	215.00	30.00
CCB-N5 100/34	100.0	33.00	34.00	9.00	215.00	40.00

ORDERING

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

- Please specify the product name, order number and options you require
- *Example:* CCB-N4 55/20, 100 pieces, lined

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

CCRDW – HEAT SHRINKABLE CABLE REPAIR SLEEVE

Adhesive-lined, heat shrinkable wraparound sleeve with a flexible stainless steel locking channel; used for general re-jacketing and sealing applications, protection of damaged cable or as outer jacket on XLPE copper telecom cable joints from 10 pair to 2000 pair cable

5:1
SHRINK RATIO

-35°C to 100°C
(-31°F to 212°F)
CONTINUOUS OPERATING TEMPERATURE

FEATURES AND BENEFITS

- Provides water tight seal upon recovery
- Excellent mechanical strength
- Application procedure is quick, simple and clean
- Thermochromatic paint that changes color upon correct shrink temperature available on request
- Sleeve can be cut to suit shorter application requirements
- Stainless steel channel provides permanent closure system
- Reinforced version available for high impact requirements or special direct burial installations
- Easy to install in situ over live cable without cutting the cable or shutting down power
- Shrink ratio: 5:1
- Continuous operating temperature: -35°C to 100°C
- Shrink temperature: 120°C min.

TYPICAL APPLICATIONS

- Electrical insulation of in-line splices
- Cable jacket repair
- Re-jacketing cover for power cables

MARKETS:
Civil Construction Projects, Industrial, Power Distribution, Utility

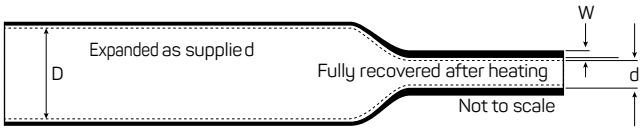
STANDARDS:

RoHS

Heat shrinkable cable repair sleeve

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Lengths
	MM	IN	MM	IN	MM	IN	1 M / 39 IN
50/10	50.0	1.969	10.0	0.394	2.30	0.091	10
75/15	75.0	2.953	15.0	0.591	2.40	0.094	10
105/30	105.0	4.134	30.0	1.181	2.40	0.094	10
137/34	137.0	5.394	34.0	1.339	2.50	0.098	5
160/42	160.0	6.299	42.0	1.654	2.50	0.098	5
200/48	200.0	7.874	48.0	1.890	2.70	0.106	5
240/65	240.0	9.449	65.0	2.559	2.90	0.114	5



ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* CCRDW, 105/30, black, 1.000 pcs

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

CEC – CROSSLINKED POLYOLEFIN END CAP

Adhesive-lined heat shrinkable end cap which enables easy protection and sealing of cables terminations from environmental effects.

FEATURES AND BENEFITS

- UV stabilized
- Good chemical and solvent resistance
- Thermoplastic liner provides complete environmental seal
- Shrink ratio: >2:1
- Continuous operating temperature: -40°C to 100°C
- Shrink temperature: 125°C min.

STANDARDS

- IEC 62677
- ESI 09-11

TYPICAL APPLICATIONS

- Sealing of cables against moisture
- Rated to 1000V for stop ends under load

>2:1

SHRINK RATIO

-40°C to 100°C

(-40°F to 212°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Renewables, Industrial, Power Distribution, Utility

STANDARDS:

RoHS

Crosslinked polyolefin end cap

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED								DELIVERY UNITS
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Length (min)		Recommended Diameter Range		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	
CEC 10/4	10.0	0.394	4.0	0.157	2.00	0.079	35	1.378	4.5-8.0	0.18-0.31	200
CEC 15/4.5	15.0	0.591	4.5	0.177	2.00	0.079	45	1.772	5.0-12.0	0.20-0.47	150
CEC 20/6	20.0	0.787	6.0	0.236	2.70	0.106	60	2.362	7.0-17.5	0.28-0.69	150
CEC 25/9	25.0	0.984	9.0	0.354	2.70	0.106	70	2.756	10.0-22.0	0.39-0.87	100
CEC 36/15	36.0	1.417	15.0	0.591	2.80	0.110	95	3.740	17.0-30.0	0.67-1.18	100
CEC 63/24	63.0	2.480	24.0	0.945	3.60	0.142	110	4.331	28.0-55.0	1.10-2.17	50
CEC 80/40	80.0	3.150	40.0	1.575	3.60	0.142	130	5.118	45.0-70.0	1.77-2.76	30
CEC 102/60	102.0	4.016	60.0	2.362	3.60	0.142	152	5.984	68.0-90.0	2.68-3.54	20
CEC 124/60	124.0	4.882	60.0	2.362	3.60	0.142	152	5.984	75.0-110.0	2.95-4.33	20
CEC 148/57	148.0	5.827	57.0	2.244	4.50	0.177	152	5.984	80.0-135.0	3.15-5.31	10

ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* CEC 36/15, black, 1.000 pcs

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

Medium wall heat shrinkable non tracking tubing for use in MV joints & terminations up to 36kV

FEATURES AND BENEFITS

- Non-tracking
- UV stabilised
- Flame retardant
- Exceptional electrical and weathering properties
- Suitable for outdoor & indoor terminations
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 125°C
- Shrink temperature: 120°C min.

STANDARDS

- HD 629.1 S2
- IEC 60502-4
- IEC 60055-1
- IEEE 48-1996
- Salt fog test IEC 1109

TYPICAL APPLICATIONS

- Medium voltage joints and terminations up to 36kV
- Bus bar outdoor application
- Bus bars in harsh enviromments, e.g. nuclear application

3:1
SHRINK RATIO

-55°C to 125°C
(-67°F to 257°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Industrial Construction, Automation, Mining, Transit, Utility, Power Distribution

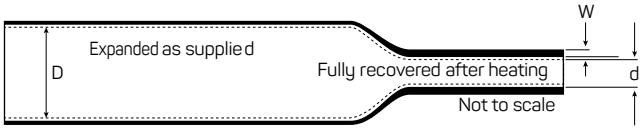
STANDARDS:

RoHS

Medium Voltage Crosslinked Polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Lengths	
	MM	IN	MM	IN	MM	IN	M	FT
CNTT 33/10	33.0	1.299	10.0	0.394	2.80	0.110	15	50
CNTT 45/15	45.0	1.772	15.0	0.591	2.80	0.110	15	50
CNTT 60/19	60.0	2.362	19.0	0.748	3.10	0.122	15	50
CNTT 80/25	80.0	3.150	25.0	0.984	2.90	0.114	15	50



ORDERING

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

- Select options:
  - Color: Red-brown (RD-BN)
- Please specify the product name, order number and options you require
- *Example:* CNTT 45/15, red-brown, 150m

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

CRLS – HEAT SHRINK CABLE REPAIR SLEEVE

A superior wraparound insulation product that easily installs in repair and splice applications providing excellent insulation and protection for cable jackets.

FEATURES AND BENEFITS

- Shut down of system not required for repair
- High shrink ratio covers even irregular shapes
- Better split resistance than competitive products
- Simple RAIL-LESS® installation with clamshell design
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- For insulation or rejacketing purposes rated for 1kV
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C min.

STANDARDS

- Meets ICEA and NEMA insulation thickness specifications

TYPICAL APPLICATIONS

- Cable jacket repair
- Retrofit protection of connectors
- Low voltage cable splicing
- Conduit repair

3:1

SHRINK RATIO

-55°C to 110°C

(-67°F to 230°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Construction Projects, Industrial, Power Distribution, Transit, Marine, Utility, Oil & Gas

STANDARDS:

RoHS

Heat shrink cable repair sleeve

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				SINGLE CONDUCTOR SIZE	DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		600/1000V	Lengths	
	MM	IN	MM	IN	MM	IN	AWG/MCM	MM	IN
1	30	1.20	12	0.47	2	0.08	#1 - 3/0	152, 203, 305, 610, 914	6, 8, 12, 24, 36
2	46	1.80	14	0.60	2	0.08	2/0 - 400	203, 305, 610, 914	8, 12, 24, 36
3	68	2.70	24	0.95	2	0.08	400 - 1000	203, 305, 610, 914	8, 12, 24, 36
4	91	3.60	33	1.30	2	0.08	1000 - 2000	203, 305, 610, 914	8, 12, 24, 36
5	126	4.95	47	1.65	2	0.08	Multiple Conductor	203, 305, 610, 914	8, 12, 24, 36
6	171	6.75	67	2.50	2	0.08	Multiple Conductor	203, 305, 610, 914	8, 12, 24, 36

ORDERING

Select a dimension which will shrink snugly over the application to be covered. Allow for minimum of 76 mm (3 in) length overlap beyond each end of the area to be covered.

- Please specify the product name, order number and options you require
- *Example:* CRLS, 3, 68/24, 203 mm, black, 100 pieces

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

CRSA – NON-TRACKING RAIN SHEDS

Rain sheds are used as creepage extenders on medium voltage cable termination and insulators in outdoor applications. The recommended number of sheds to be used varies according to the voltage rating of the cable.

FEATURES AND BENEFITS

- Non-tracking
- UV stabilised
- Flame retardant
- Rubber based red sealant seals the shed to the cable
- Exceptional electrical and weathering properties
- Suitable for outdoor & indoor terminations
- Shrink ratio: 3:1
- Continuous operating temperature: -40°C to 100°C
- Shrink temperature: 125°C min.

STANDARDS

- HD 629.1 S2
- IEC 60502-4
- IEC 60055-1

TYPICAL APPLICATIONS

- Creepage extension on medium voltage terminations up to 36kV
- Improved tracking resistance in harsh environments
- Suitable for the complete range of electrical cables with XPLE or PILC insulation

3:1

SHRINK RATIO

-40°C to 100°C

(-40°F to 212°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Renewables/Wind, Industrial, Power Distribution, Utility

STANDARDS:

RoHS

Non-tracking rain sheds

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED						DELIVERY UNITS
	Shed Diameter (min)		Shed Diameter (max)		Skirt Diameter		Length of Neck		Pieces
	MM	IN	MM	IN	MM	IN	MM	IN	
37/16	37.0	1.46	16.0	0.63	90.0	3.54	25.0	0.98	30
57/16	57.0	2.24	16.0	0.63	115.0	4.53	25.0	0.98	30
75/35	75.0	2.95	35.0	1.38	145.0	5.71	35.0	1.38	15

ORDERING

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

- Select options:
  - Color: Red-brown (RD-BN)
- Please specify the product name, order number and options you require
- *Example:* CRSA 37/16, red-brown

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

CSEC – COLD SHRINK END CAPS

CSEC Series cold shrink end caps are designed to provide a reliable, moisture proof method of sealing exposed cable ends without the use of additional tools, tapes or mastics. Made of EPDM rubber, the end caps are pre-expanded over a rip core that are simple and easy to install.

FEATURES AND BENEFITS

- Quick and easy installation
- Accommodates a wide range of electrical cables, pipes and conduits in four different sizes
- Excellent insulation, sealing and abrasion resistance
- No tapes, mastics or heat source required
- Protects cables and pipes from exposure to moisture, contamination and corrosion
- UV, ozone and water resistant
- Easily removable
- Continuous operating temperature: -20°C to 105°C

2:1

SHRINK RATIO

-20°C to 105°C

(-4°F to 221°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Industrial, Utility

STANDARDS:

RoHS

Cold shrink end caps

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS
	Application Range Use		Application Range Use		Lengths		Pieces
	MM	IN	MM	IN	MM	IN	
CSEC-1	20.9	0.82	11.6	0.46	50.8	2	20
CSEC-2	30.1	1.18	15.9	0.63	57.15	2.25	15
CSEC-3	49.2	1.94	26.0	1.02	69.85	2.5	10
CSEC-4	84.3	3.32	45.5	1.79	88.9	3.5	10

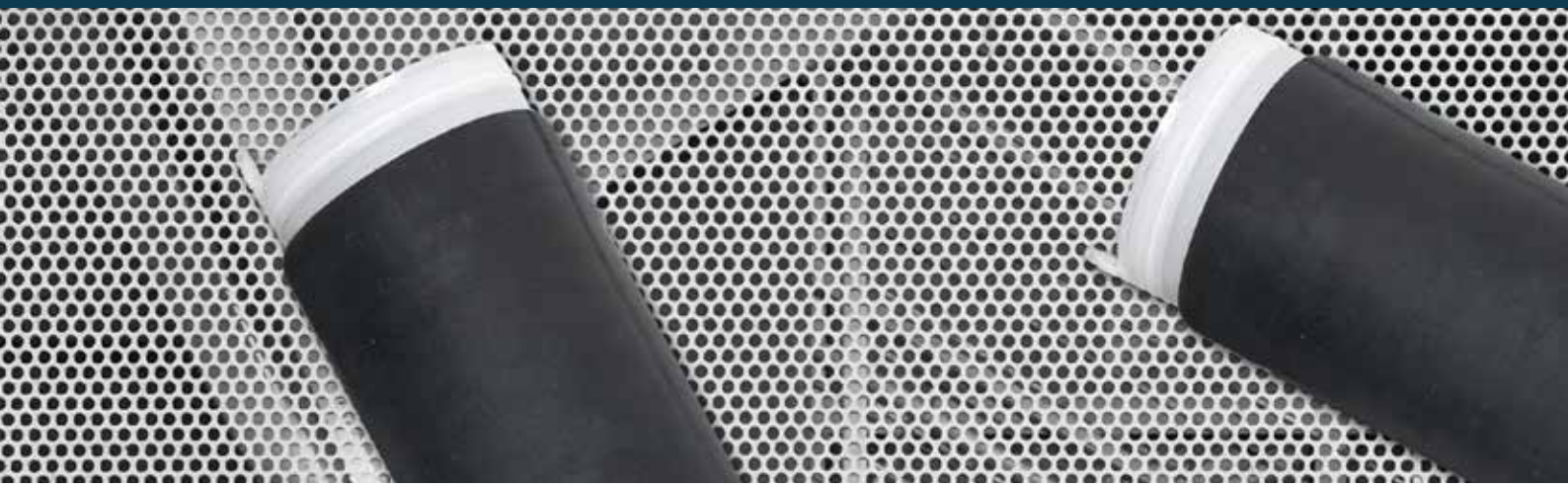
ORDERING

Select a dimension which will shrink snugly over the application to be covered.

- Please specify the product name, order number and options you require
- *Example:* CSEC-1, black, 20 Stück

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

CSS-EP – COLD SHRINK SPLICE KITS



CSS-EP Series cold shrink splice kits are designed to provide a reliable, moisture proof method of sealing and protecting in- line cable connections without the use of additional tools, tapes or mastics.

Made of EPDM rubber, the cold shrink tubes are pre-expanded over a rip core that are simple and easy to install.

FEATURES AND BENEFITS

- Quick and easy installation
- Accommodates a wide range of electrical cable sizes
- Excellent insulation, sealing and abrasion resistance
- No tapes, mastics or heat souce required
- Protects cables and pipes from exposure to moisture, contamination and corrosion
- UV, Ozone and water resistant
- 1000V rating as a primary insulation cover
- Removed easily
- Continuous operating temperature: -20°C to 105°C

STANDARDS

- ANSI C119.1-2011

TYPICAL APPLICATIONS

- Submersible or direct buried cable connections
- In-line connector covers
- Suitable for indoor and outdoor application
- Cable jacket repairs

2:1

SHRINK RATIO

-20°C to 105°C

(-4°F to 221°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Electrical Utility, Industrial, Renewables

STANDARDS:

RoHS

EPDM Cold shrink splice kits

DIMENSIONS

ORDER NUMBER	APPLICATION USE RANGE		CONDUCTOR SIZE RANGE		RECOVERED TUBE LENGTH	
	Minimum - Maximum		(AWG-KCMIL)		Nominal	
	MM	IN	Minimum	Maximum	MM	IN
CSS-EP 0750-6	7.8-14.3	0.31-0.56	#6	#4	152	6
CSS-EP 1000-8	9.9-20.9	0.39-0.82	#2	1/10	203	8
CSS-EP 1300-9	13.9-30.1	0.55-1.18	2/0	300	229	9
CSS-EP 1300-11	13.9-30.1	0.55-1.18	2/0	300	279	11
CSS-EP 1500-6*	17.5-35.1	0.69-1.38	-	-	152	6
CSS-EP 1500-12	17.5-35.1	0.69-1.38	250	250	305	12
CSS-EP 1500-16	24.0-49.3	0.69-1.38	250	250	406	16
CSS-EP 2000-6*	24.0-49.3	0.95-1.94	-	-	152	6
CSS-EP 2000-12	24.0-49.3	0.95-1.94	500	800	305	12
CSS-EP 2000-18	32.2 - 66.0	0.95-1.94	500	800	457	18
CSS-EP 2750-6*	32.2 - 66.0	1.27-2.60	-	-	152	6
CSS-EP 2750-9	32.2 - 66.0	1.27-2.60	900	1000	229	9
CSS-EP 2750-12	32.2 - 66.0	1.27-2.60	900	1000	305	12
CSS-EP 2750-15	32.2 - 66.0	1.27-2.60	900	1000	381	15
CSS-EP 2750-18	32.2 - 66.0	1.27-2.60	900	1000	457	18
CSS-EP 4000-9*	42.6-93.7	42.6-93.7	-	-	229	9
CSS-EP 4000-18	42.6-93.7	42.6-93.7	1250	2000	457	18

*Recommended for use in terminal lug sealing
Confirm minimum and maximum cable insulation/jacket and connector dimension are within range.

INSTALLATION NOTE

- Allow a minimum of 50 mm coverage on either side of connector during installation of sleeve
- Tube length dimensions are nominal

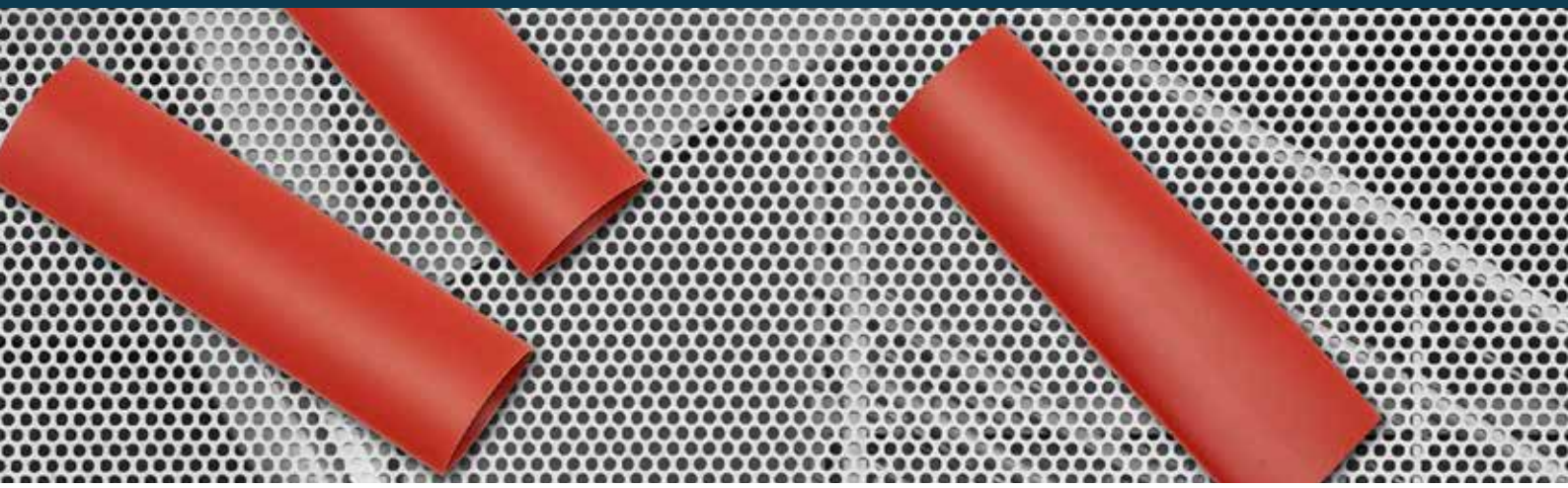
ORDERING

Select a dimension which will shrink snugly over the application to be covered.

- Please specify the product name, order number and options you require.
- *Example:* CSS-EP 0750-6"

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

DERAY®-KSF – MEDIUM & HEAVY WALL BUS BAR TUBING



Medium and heavy wall anti-track heat shrinkable tubing specifically designed for insulating medium voltage bus bars in switchgear equipment rated to 36kV

FEATURES AND BENEFITS

- Halogen free
- Reduces bus bar clearance requirements
- Protects against accidental flash-over
- Anti-track
- Shrink ratio: 3:1
- Continuous operating temperature: -40°C to 135°C
- Shrink temperature: 125°C min.

STANDARDS

- IEC 60684

TYPICAL APPLICATIONS

- Insulation of medium voltage bus bars in switchgear equipment, transformers and generators

3:1

SHRINK RATIO

-40°C to 135°C

(-40°F to 275°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Industrial, OEM, Utility, Power Distribution

STANDARDS:

RoHS

Medium & heavy wall bus bar tubing

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
19/6	19.0	0.748	6.0	0.236	2.00	0.079	50	164
25/10	25.0	0.984	10.0	0.394	4.10	0.161	50	164
32/12	32.0	1.260	12.0	0.472	2.80	0.110	50	164
38/12	38.0	1.496	12.0	0.472	2.80	0.110	50	164
43/19	43.0	1.693	19.0	0.748	3.50	0.138	25	82
45/16	45.0	1.772	16.0	0.630	4.10	0.161	25	82
52/19	52.0	2.047	19.0	0.748	3.50	0.138	25	82
58/19	58.0	2.283	19.0	0.748	3.50	0.138	25	82
68/25	68.0	2.677	25.0	0.984	3.50	0.138	25	82
76/32	76.0	2.992	32.0	1.260	3.50	0.138	25	82
100/40	100.0	3.937	40.0	1.575	4.10	0.161	10	33

ORDERING

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

- Select options:
  - Color: Red-brown (RD-BN)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-KSF, 19/6, red-brown

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

LVJUAC, LVJUAM and LVJUAS are perfectly suitable for joining multi-core, polymeric insulated energy cables in the low voltage range.

- LVJUAM: Range-taking joint sleeve for screw connectors
- LVJUAC: Range-taking joint sleeve for crimp connectors
- LVJUAS: Joint kits for screened polymeric cable
- CJK/CTK: Joint and termination kits for armoured cables

FEATURES AND BENEFITS

- Quick, simple installation
- Exceptionally good electrical insulation
- Good mechanical load-bearing ability
- No maintenance time necessary
- Usable immediately

STANDARDS

- DIN EN 50393 (VDE 0278-393):2006-11
- DIN V 47640:2008-10
- HD 623

TYPICAL APPLICATIONS

- Low voltage joints, transition joints and terminations

STANDARD CONTENT

- 1 outer sleeve
- 3, 4 or 5 inner sleeves
- Cleaning cloth
- Abrasive strip
- Installation instructions
- Screen continuity where applicable

On request the sleeves can also be supplied in different lengths and/or diameters.

1 kV

VOLTAGE RATING

MARKETS:
Industrial Construction/ Automation, Power Distribution, Utility

STANDARDS:

RoHS

Heat shrinkable cable joints

JOINT KITS FOR PLASTIC-INSULATED 0.6/1KV CABLES

ORDER NUMBER	CROSS SECTION RANGE	CABLE TYPE E.G.
	For Screw Connectors	
LVJUAM 4 x 1.5 - 4 x 16	4 x 1.5 - 4 x 16	NYY, NXY, NYX, NXX with round (r) or sectorial (s), solid (e) or stranded (m), aluminum (al) or copper (cu) conductors
LVJUAM 5 x 1.5 - 5 x 16	5 x 1.5 - 5 x 16	
LVJUAM 4 x 6 - 4 x 25	4 x 6 - 4 x 25	
LVJUAM 4 x 16 - 4 x 50	4 x 16 - 4 x 50	
LVJUAM 5 x 16 - 5 x 50	5 x 16 - 5 x 50	
LVJUAM 4 x 25 - 4 x 95	4 x 25 - 4 x 95	
LVJUAM 4 x 35 - 4 x 150	4 x 35 - 4 x 150	
LVJUAM 4 x 95 - 4 x 300	4 x 95 - 4 x 300	

JOINT KITS FOR PLASTIC-INSULATED 0.6/1KV CABLES

ORDER NUMBER	CROSS SECTION RANGE	CABLE TYPE E.G.
	For Crimp Connectors	
LVJUAC 4 x 2.5 - 4 x 16	4 x 2.5 - 4 x 16	NYY, NXY, NYX, NXX with round (r) or sectorial (s), solid (e) or stranded (m), aluminum (al) or copper (cu) conductors
LVJUAC 5 x 2.5 - 5 x 16	5 x 2.5 - 5 x 16	
LVJUAC 4 x 6 - 4 x 35	4 x 6 - 4 x 35	
LVJUAC 5 x 6 - 5 x 35	5 x 6 - 5 x 35	
LVJUAC 4 x 16 - 4 x 50	4 x 16 - 4 x 50	
LVJUAC 4 x 35 - 4 x 150	4 x 35 - 4 x 150	
LVJUAC 4 x 120 - 4 x 240	4 x 120 - 4 x 240	
LVJUAC 4 x 185 - 4 x 300	4 x 185 - 4 x 300	

JOINT KITS FOR SCREENED-INSULATED 0.6/1KV CABLES

ORDER NUMBER	CROSS SECTION RANGE	CABLE TYPE E.G.
	For Crimp or Screw Connectors	
LVJUAS 4 x 2.5 - 4 x 16	4 x 2.5 - 4 x 16	NYCY, NYCWY, NHXH with round (r) or sectorial (s), solid (e) or stranded (m), aluminum (al) or copper (cu) conductors
LVJUAS 5 x 2.5 - 5 x 16	5 x 2.5 - 5 x 16	
LVJUAS 4 x 6 - 4 x 35	4 x 6 - 4 x 35	
LVJUAS 5 x 6 - 5 x 35	5 x 6 - 5 x 35	
LVJUAS 4 x 16 - 4 x 50	4 x 16 - 4 x 50	
LVJUAS 4 x 35 - 4 x 150	4 x 35 - 4 x 150	
LVJUAS 4 x 120 - 4 x 240	4 x 120 - 4 x 240	
LVJUAS 4 x 185 - 4 x 300	4 x 185 - 4 x 300	

Heat shrinkable cable joints

JOINT KIT FOR ARMOURED CABLES

CODE	CROSS SECTION RANGE
CJK 4	4 x 1.5 - 4 mm²
CJK 16	4 x 6 - 16 mm²
CJK 50	4 x 25 - 50 mm²
CJK 95	4 x 70 - 120 mm²
CJK 240	4 x 150 - 240 mm²

TERMINATION KIT FOR ARMOURED CABLES

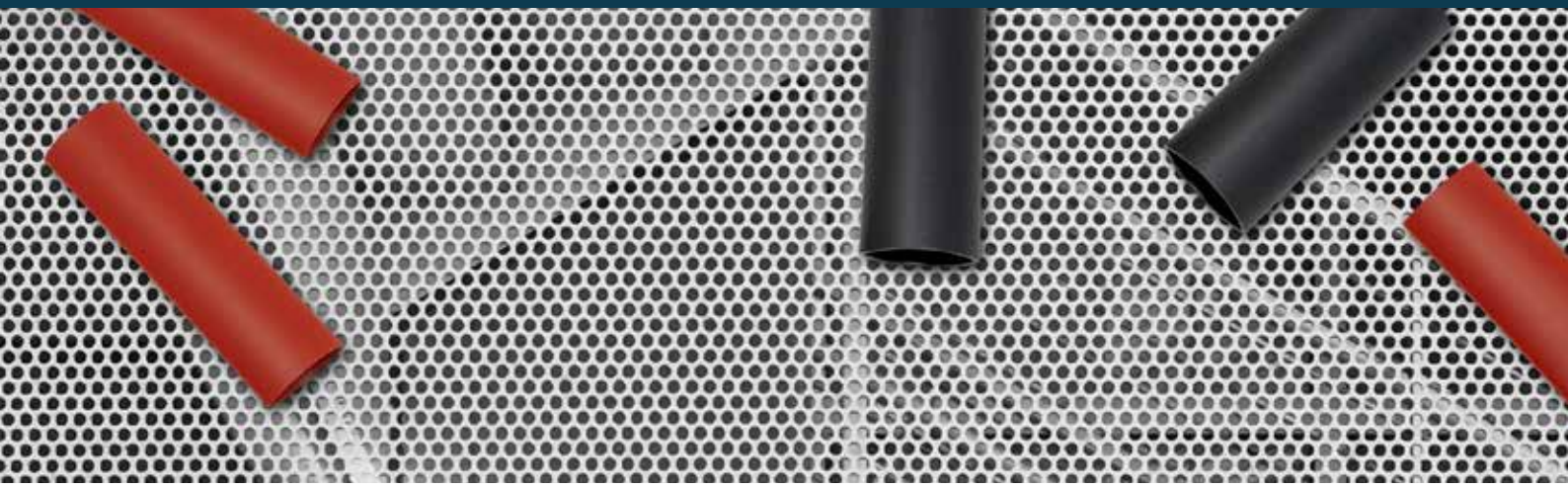
CODE	CROSS SECTION RANGE
CTK 16	4 x 6 - 16 mm²
CTK 50	4 x 25 - 50 mm²
CTK 95	4 x 70 - 120 mm²
CTK 240	4 x 150 - 240 mm²

ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* LVJUAM 4 x 6 - 4 x 25

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



Heat shrinkable power cable joints kits consist of selected quality products to ensure the best possible protection.

The medium voltage joints consist of high voltage insulation tubing, stress control to smooth on the electrical field over the connector and screen cuts, a conductive heat shrink sleeve to ensure a flawless bond between insulation and screen, copper mesh to ensure continuity of the shield, and an outer sealing jacket consisting of a heavy wall heat shrinkable sleeve, internally coated with adhesive resulting in a moisture and corrosion proof barrier on the cable oversheath.

FEATURES AND BENEFITS

- Rebuild each layer of the cable at the connector and screen cutback
- Electrical stress control
- Insulation layer
- Semi-conductive layer
- Shielding and grounding
- Environmental sealing
- Mechanical protection

STANDARDS

- HD 629.1 S2
- IEC 60502-4
- IEC 60055-1

TYPICAL APPLICATIONS

- Single core or three-core medium voltage heat shrinkable joints for XLPE, PE, PVC, PILC power cable rated up to 24kV

≤24 kV

VOLTAGE RATING

UNSURPASSED RELIABILITY AND PERFORMANCE IN POLLUTED ENVIRONMENTS

MARKETS:
Industrial Construction/ Automation, Power Distribution

STANDARDS:

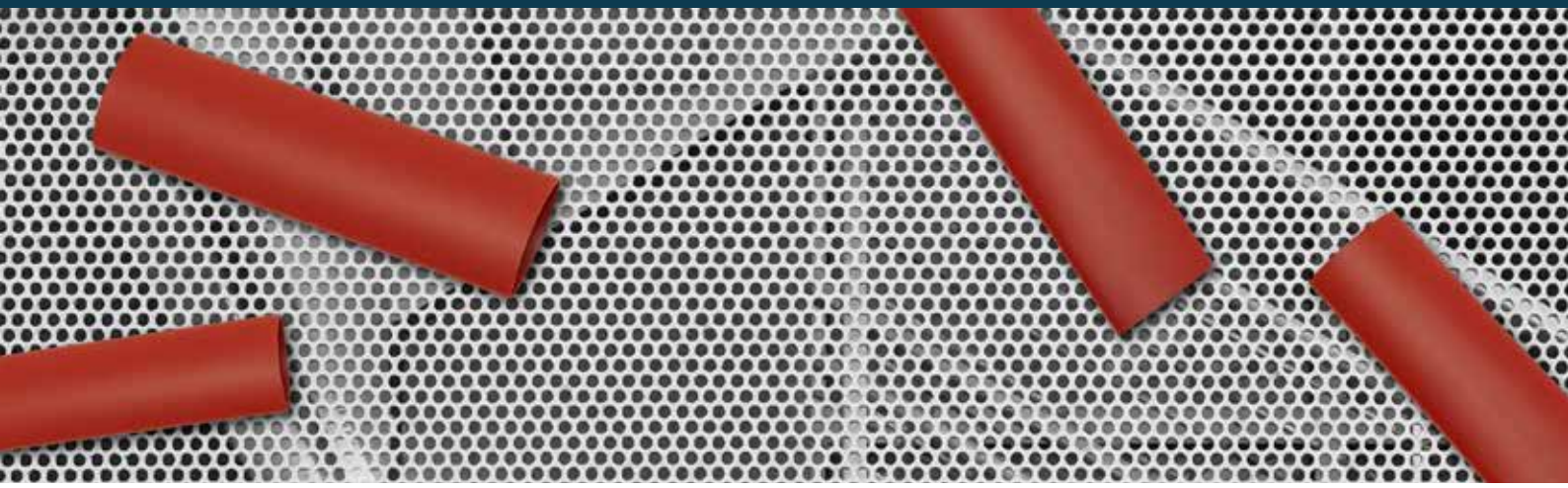
RoHS

Heat shrinkable power cable joints

1. Sealant - Internal moisture seal prevents migration of moisture
2. Heat shrinkable adhesive lined tube - Adhesive lining provides moisture seal between the cable and splice; Provides impact- and abrasion-resistance
3. Insulation layer - Delivers consistent insulation thickness without field measurement, in a factory-engineered system; Insulation thickness should meet or exceed that of the cable
4. Heat shrinkable stress control tubing - Reduces electrical stress to safe operating levels
5. Stress relief material - Minimizes stress around the connector and the shield cutback
6. Grounding and shielding - Ground braid provides continuity across the splice; Ground clamp provide secure grounding without soldering; Shielding mesh surrounds the splice for personnel protection
7. Semi-conductive layer - Reconstructs the cable insulation shield

ORDERING

Please contact your Customer Service Representative for information on available solutions selected by voltage class, crosssection, application, cable type and required hardware.



Medium voltage terminations make use of heat shrink technology to provide a solution for both indoor and outdoor applications.

Suitable for both single and three core cable they combine different grades of heat shrink tubing and mastics to completely restore the integrity of the cable after the cable has been terminated. The control of the electrical field being essential for the safe operation of medium voltage devices.

FEATURES & BENEFITS

- Suitable for 1 and 3 core cable
- Range includes kits for XLPE, PE, PVC and PILC cables for a wide range of conductor cross sections
- Kits are available for both armoured and unarmoured cable
- Indoor & outdoor applications
- Excellent stress control properties
- Excellent moisture sealing
- Exceptional insulation characteristics
- Very high tracking resistance, good long term weather performance
- Easy to install, even at low temperatures
- Simple cable preparation - no sanding, no grease

STANDARDS

- HD 629.1 S2
- IEC 60502-4
- IEC 60055-1

TYPICAL APPLICATION

- Single core and three-core medium voltage heat shrinkable terminations for XLPE, PE, PVC, PILC power cable rated up to 24kV

≤24 kV

VOLTAGE RATING

UNSURPASSED RELIABILITY AND PERFORMANCE IN POLLUTED ENVIRONMENTS

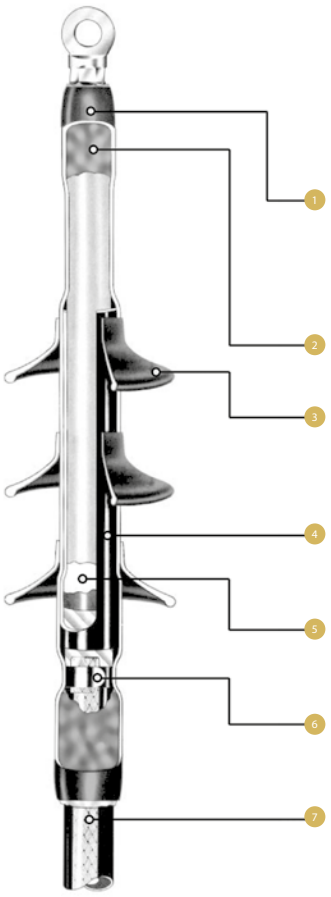
MARKETS:

Industrial Construction/ Automation, Mining, Transit, Utility, Power Distribution

STANDARDS:

RoHS

Heat shrinkable power cable terminations



1. Non-tracking, heat shrinkable outer insulation tubing - Provides excellent UV stability; Withstands polluted environments; Is proven to withstand severe applications
2. Non-tracking, high voltage sealant - Provides watertight seal over cable lugs
3. Additional heat shrinkable creepage extenders for outdoor applications - Increase surface creepage distance; Easy to adapt indoor terminations to outdoor conditions
4. Heat shrinkable stress control tubing - Reduces electrical stress gradient at the end of the cable shield to safe operating levels
5. Stress relief material - Minimizes stress at the shield cutback; Acts as a moisture seal
6. Ground clamp - Has a constant force roll spring, which provides secure grounding without soldering
7. Shielding and solderless grounding with ground braid - Provides shield continuity

ORDERING

Please contact your Customer Service Representative for information on available solutions selected by voltage class, crosssection, application, cable type and required hardware.

CSK-B signal kits are particularly suitable for connecting screened signal cables in industry, rail and mass transit.

Three kits cover the complete size range thus reducing inventory butis customizable for specific projects.

FEATURES AND BENEFITS

- Quick and easy installation
- Exceptionally good electrical insulation
- Good mechanical load-bearing ability
- No maintenance time necessary
- Usable immediately
- Include components for continuing electrical earth and shield
- Various connection options
  - Crimpseal II - crimp connector
  - Dual wall heat shrink tubing with crimp connector

STANDARDS

- SNCF Standard

STANDARD CONTENT

- CFW - high shrink ratio tubing with high performance adhesive provides excellent mechanical and environmental protection
- Braid - tinned copper non-corroding for continuation of screen
- Roll spring - gives good mechanical and electrical contact with no insulation damage
- CSAT - mastic tape designed to perform even during flexing and vibration
- DERAY®-I 3000 - heat shrink tubing to replace inner insulation layer
- DERAY®-IAKT - to continue waterproof seal

1 kV

VOLTAGE RATING

MARKETS:

Industrial, Mass transit, Rail

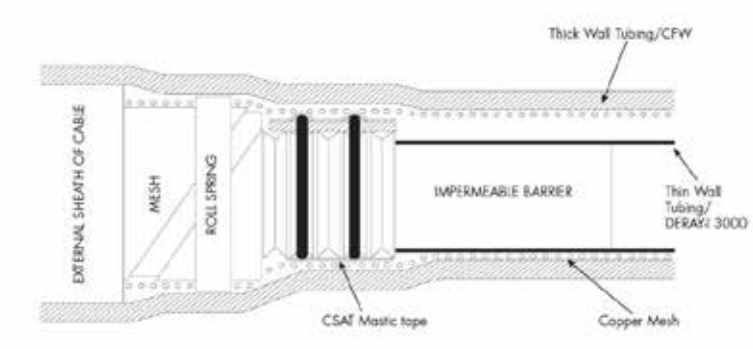
STANDARDS:

RoHS

Signal cable joints

SIGNAL CABLE JOINTS FOR 0,6/1KV CABLES

ORDER NUMBER	CABLE RANGE	CABLE TYPE E.G.
	Number of pairs	
CSKB-1	4 - 7	YSLCY, LSYCvY, ZPFU, SZRNtk VM-J with copper conductors 1,5-2,5 mm²
CSKB-2	10 - 22	
CSKB-3	28 - 32	



ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* CSKB-2

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

Cold shrink indoor cable terminations for single or three core, 11kV, 24kV and 35kV XLPE and EPR copper wire screened power cables

FEATURES AND BENEFITS

- All-in-one integrated body incorporating stress control and sealant mastics
- Coldshrink boot to seal crutch for three core cables
- Coldshrink tubes to seal and protect cores – can be cut to suit cable box
- Patent pending stress control system based on microvaristor (ZnO) technology that delivers exceptional discharge and impulse performance
- Quick and easy installation. Offering fewest number of steps to install
- Improved spiral rip core assembly uses smooth edges for simpler installation with less effort. Heat tacked spiral core prevents unravelling during shipping and handling
- Excellent UV Resistance and hydrophobic characteristics
- Silicone rubber provides excellent track and erosion resistance

STANDARDS

- Tested to latest requirements of IEEE-48-2009, Class 1 standards
- Tested at an independent accredited laboratory to ISO/IEC 17025 standards

TYPICAL APPLICATIONS

- Suitable for indoor use
- Suitable for mechanical or compression lugs

≤105°C

CONTINUOUS OPERATING TEMPERATURE

EXCELLENT TRACK AND EROSION RESISTANCE

QUICK AND EASY INSTALLATION

MARKETS:
Power Supply, Industrial, Rail

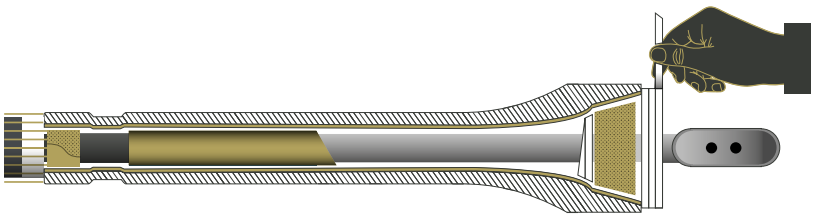
STANDARDS:

RoHS

Indoor cold shrink terminations

DIMENSIONS

ORDER NUMBER	CONDUCTOR SIZE RANGE		INSULATION	JACKET AND LUG BARREL	DELIVERY UNITS
	Minimum	Maximum	Diameter	Diameter (max)	Kits/Box
INDOOR + 3C MOD KIT	MM^2	MM^2	MM	MM	
11 kV					
Titan Z 151 CWSI + MODB1	35	95	14.5-23	28	3
Titan Z 152 CWSI + MODB2	70	240	18-32	38	3
Titan Z 153 CWSI + MODB3	120	400	21-34	42	3
Titan Z 154 CWSI + MODB3	240	500	26.5-39	50	3
Titan Z 155 CWSI + MODB4	500	1000	34-55.5	72	3
24 kV					
TITAN Z 252 CWSI + MODB1	35	120	18-32	38	3
TITAN Z 253 CWSI + MODB3	95	240	21-34	42	3
TITAN Z 254 CWSI + MODB4	185	400	26.5-39	50	3
TITAN Z 255 CWSI + MODB5	400	1000	34-55.5	72	3
35 kV					
TITAN Z 354 CWSI + MODB3	50	150	26.5-41.4	58	3
TITAN Z 355 CWSI + MODB5	150	630	34-59.1	72	3



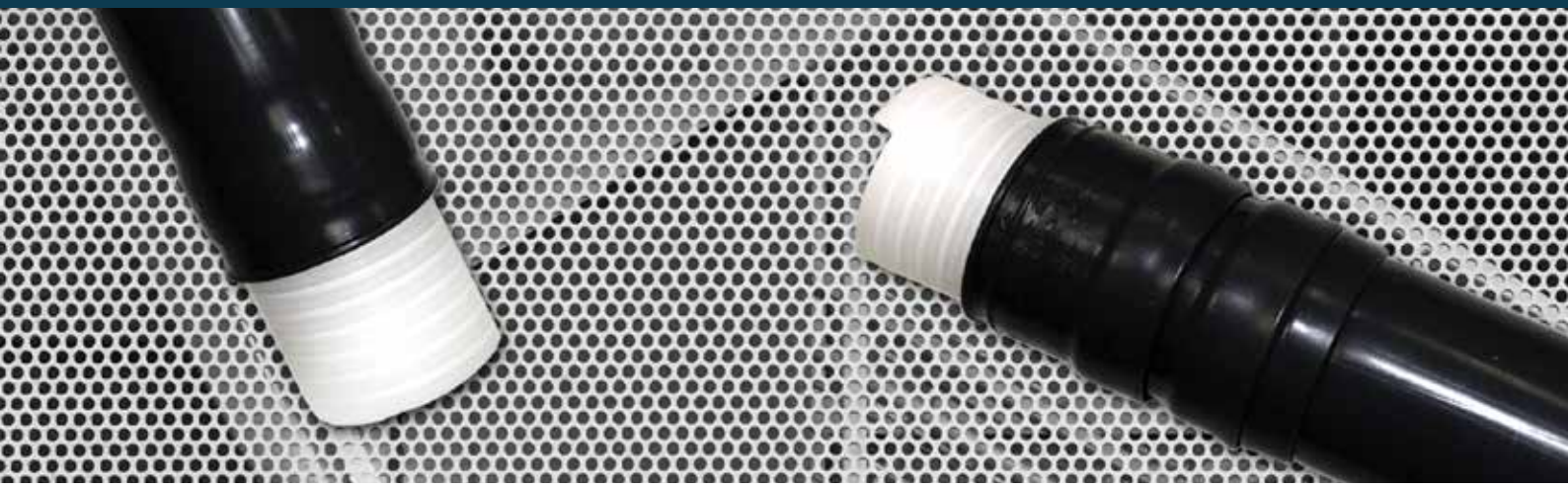
ORDERING

Check kit selection to ensure that you are installing the proper kit on the cable(s) to be terminated. If using the termination on the smallest or largest conductor size compare the cable dimensions to those of the kit. For three core cables add the appropriate MOD kit in the table above.

Standard single core indoor kit contains 3 coldshrink bodies and mastic seals. MOD kit for 3 core cables contains coldshrink boot and phase tube and mastic seals. Earthing kits for other cable types and lugs available on request, please enquire if required.

- Select options:
  - Voltage rating: 11 kV, 24 kV, 35 kV
- Please specify the product name, order number and options you require
- *Example:* Titan Z 151 CWSI + MODB1, 11 kV

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



Cold shrink outdoor cable terminations for single or three core, 11kV, 24kV and 35kV XLPE and EPR copper wire screened power cables

FEATURES AND BENEFITS

- All-in-one integrated body incorporating stress control and sealant mastics
- Coldshrink boot to seal crutch for three core cables
- Coldshrink tubes to seal and protect cores – can be cut to suit cable box or pole top bracket
- Patent pending stress control system based on microvaristor (ZnO) technology that delivers exceptional discharge and impulse performance
- Quick and easy installation. Offering fewest number of steps to install
- Improved spiral rip core assembly uses smooth edges for simpler installation with less effort. Heat tacked spiral core prevents unravelling during shipping and handling
- Silicone rubber provides excellent track and erosion resistance
- Excellent UV Resistance and hydrophobic characteristics

STANDARDS

- Tested to latest requirements of IEEE-48-2009, Class 1 standards
- Tested at an independent accredited laboratory to ISO/IEC 17025 standards

TYPICAL APPLICATIONS

- Suitable for outdoor use
- Suitable for mechanical or compression lugs

≤105°C

CONTINUOUS OPERATING TEMPERATURE

EXCELLENT TRACK AND EROSION RESISTANCE

QUICK AND EASY INSTALLATION

MARKETS:
Power Supply, Industrial, Rail

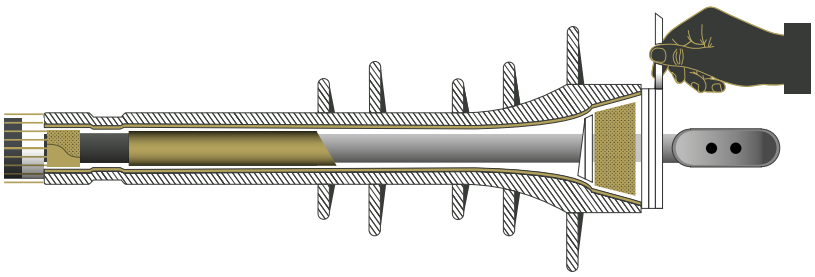
STANDARDS:

RoHS

Outdoor cold shrink terminations

DIMENSIONS

ORDER NUMBER	CONDUCTOR SIZE RANGE		INSULATION	JACKET AND LUG BARREL	DELIVERY UNITS
	Minimum	Maximum	Diameter	Diameter (max)	Kits/Box
OUTDOOR + 3C MOD KIT	MM^2	MM^2	MM	MM	
11 kV					
Titan Z 151 CWSO + MODB1	35	95	14.5-23	28	3
Titan Z 152 CWSO + MODB2	70	240	18-32	38	3
Titan Z 153 CWSO + MODB3	120	400	21-34	42	3
Titan Z 154 CWSO + MODB3	240	500	26.5-39	50	3
Titan Z 155 CWSO + MODB4	500	1000	34-55.5	72	3
24 kV					
TITAN Z 252 CWSO + MODB1	35	120	18-32	38	3
TITAN Z 253 CWSO + MODB3	95	240	21-34	42	3
TITAN Z 254 CWSO + MODB4	185	400	26.5-39	50	3
TITAN Z 255 CWSO + MODB5	400	1000	34-55.5	72	3
35 kV					
TITAN Z 354 CWSO + MODB3	50	150	26.5-41.4	58	3
TITAN Z 355 CWSO + MODB5	150	630	34-59.1	72	3



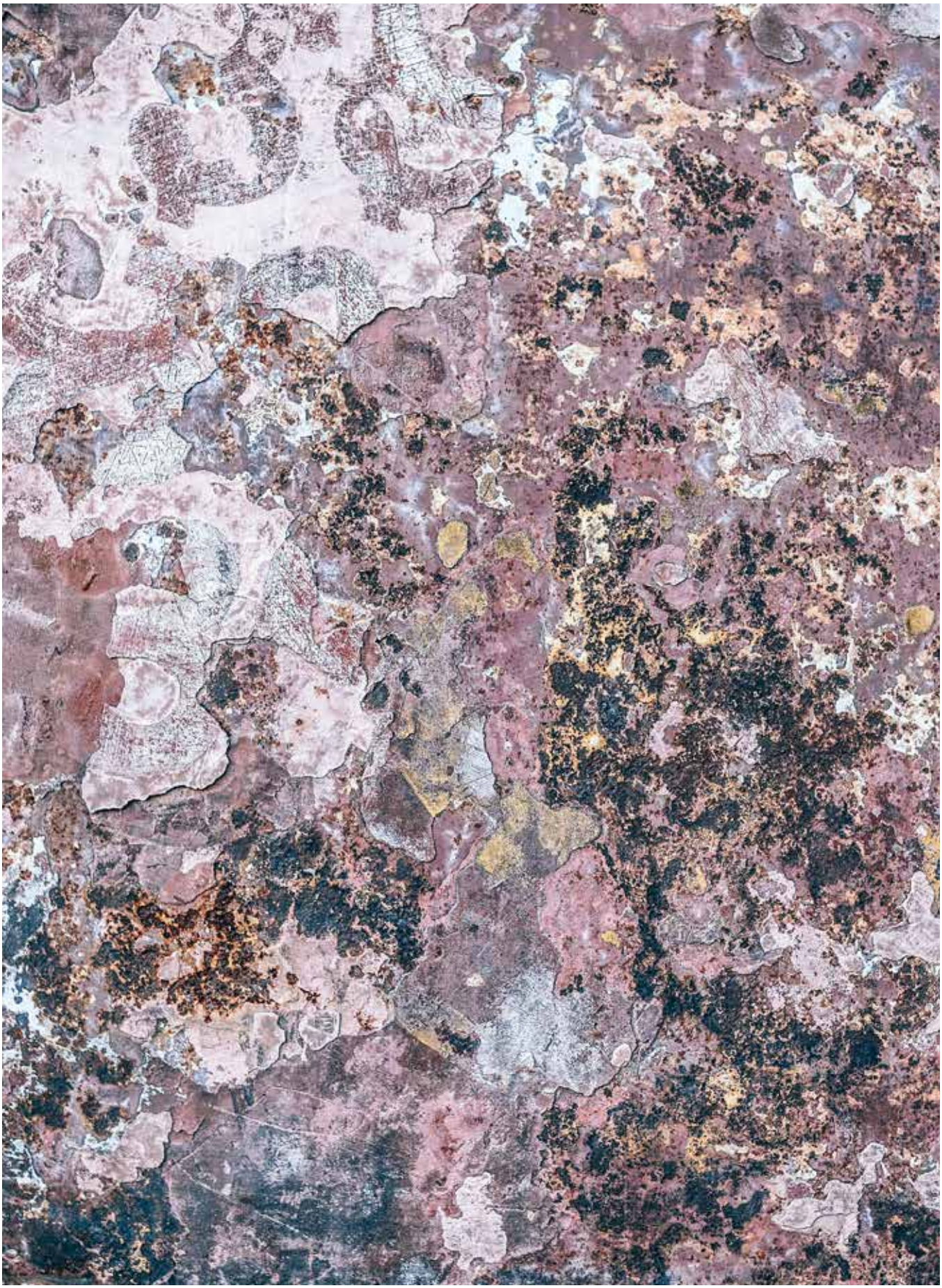
ORDERING

Check kit selection to ensure that you are installing the proper kit on the cable(s) to be terminated. If using the termination on the smallest or largest conductor size compare the cable dimensions to those of the kit. For three core cables add the appropriate MOD kit in the table above.

Standard single core outdoor kit contains 3 coldshrink bodies and mastic seals. MOD kit for 3 core cables contains coldshrink boot and phase tube and mastic seals. Earthing kits for other cable types and lugs available on request, please enquire if required.

- Select options:
  - Voltage rating: 11 kV, 24 kV, 35 kV
- Please specify the product name, order number and options you require
- *Example:* Titan Z 151 CWSO + MODB1, 11 kV

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



MARKET SPECIFIC PRODUCTS

PROVIDING SPECIALTY PRODUCT SOLUTIONS TO OUR KEY MARKETS.

We commit to being a full service and product supplier with our market specific product portfolio.

Among others, our market specific products include braided sleeves for hose & pipe protection in the automotive market, a halogen free heat shrink tubing with outstanding low smoke features for rolling stock, a semi-conductive tube for the electrostatic discharge of fuel lines and non-shrinkable caps for electrical insulation of end splices.

CANUFLEX PBT V0 – FLAME RETARDANT BRAIDED SLEEVE

Flame retardant polyester PBT braided sleeve for protecting, strengthening or bundling of cables, wires, pipes and hoses such as electrical harnesses, fluid pipes, air conditioning pipes, flexible technical hoses

FEATURES AND BENEFITS

- Flame retardant PBT monofilaments
- Particularly chemical and abrasion resistant
- Easy installation due to push-back effect and high flexibility
- Fits well to the application shape
- No emergence of condensation water
- Continuous operating temperature: -50°C to 150°C

TYPICAL APPLICATIONS

- Cable bundling and protection
- Noise reduction
- Protection against abrasion

-50°C to 150°C
(-58°F to 302°F)
CONTINUOUS OPERATING TEMPERATURE

FLAME RETARDANT

PARTICULARLY CHEMICAL AND ABRASION RESISTANT

MARKETS:
Automotive, Industrial

STANDARDS:

RoHS

Flame retardant braided sleeve

DIMENSIONS

ORDER NUMBER	NOMINAL		EXPANDED		DELIVERY UNITS			
	Internal Diameter		Internal Diameter		Spool		Mini-Spool	
	MM	IN	MM	IN	M	FT	M	FT
03	2.0	0.079	6.0	0.236	500	1640	100	328
04	4.5	0.177	8.0	0.315	500	1640	100	328
05	5.0	0.197	10.0	0.394	500	1640	100	328
08	6.5	0.256	14.0	0.551	300	984	100	328
10	8.8	0.346	18.0	0.709	300	984	100	328
12	9.2	0.362	21.0	0.827	300	984	50	164
15	10.3	0.406	25.0	0.984	300	984	50	164
20	12.5	0.492	29.0	1.142	200	656	50	164
25	13.3	0.524	36.0	1.417	200	656	25	82
30	23.0	0.906	45.0	1.772	150	492	25	82
40	27.0	1.063	64.0	2.520	100	328	25	82
50	32.0	1.260	75.0	2.953	100	328	25	82

ORDERING

- Select options:
  - Color: Black (BK) with grey tracer yarn
- Please specify the product name, order number and options you require
- *Example:* Canuflex PBT V0, 08, black

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

CANUFLEX PE-HB – BRAIDED SLEEVE

Multipurpose economic braided sleeve from polyester monofilaments for protection or bundling of cable, wires, pipes and hoses such as electrical harnesses, fluid pipes, air conditioning pipes

FEATURES AND BENEFITS

- Very flexible
- Highly expandable
- Lightweight but tough polyester monofilaments
- Push-back effect enables an easy application
- Resistant against chemicals and abrasion
- Self-extinguishing due to braided construction
- Continuous operating temperature: -40°C to 150°C

STANDARDS

- Automotive OEM specifications

TYPICAL APPLICATIONS

- Cable bundling and protection
- Noise reduction
- Protection against abrasion

-40°C to 150°C
(-40°F to 302°F)
CONTINUOUS OPERATING TEMPERATURE

HIGHLY EXPANDABLE

SELF-EXTINGUISHING DUE TO BRAIDED CONSTRUCTION

MARKETS:
Automotive, Industrial

STANDARDS:

RoHS

Braided sleeve from polyester monofilaments

DIMENSIONS

ORDER NUMBER	NOMINAL		EXPANDED		DELIVERY UNITS			
	Internal Diameter		Internal Diameter		Spool		Mini-Spool	
	MM	IN	MM	IN	M	FT	M	FT
03	2.0	0.079	6.0	0.236	500	1640	100	328
05	5.0	0.197	10.0	0.394	500	1640	100	328
08	6.5	0.256	14.0	0.551	300	984	100	328
10	8.8	0.346	18.0	0.709	300	984	100	328
12	9.2	0.362	21.0	0.827	300	984	50	164
15	10.3	0.406	25.0	0.984	300	984	50	164
20	12.5	0.492	29.0	1.142	200	656	50	164
25	13.3	0.524	36.0	1.417	200	656	25	82
30	23.0	0.906	45.0	1.772	150	492	25	82
40	27.0	1.063	64.0	2.520	100	328	25	82
50	32.0	1.260	75.0	2.953	100	328	25	82

ORDERING

- Select options:
  - Color: Black (BK), orange (OE), grey (GY)
- Please specify the product name, order number and options you require
- *Example:* Canuflex PE-HB, 08, black

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

CANUROUND – SELF-CLOSING WRAPAROUND PROTECTIVE SLEEVE

Self-closing wraparound protective sleeve for wires, cables, pipes, hoses and foam insulation to avoid mechanical degradation arising from exposure to tough conditions

FEATURES AND BENEFITS

- Easy and quick installation
- Retrofit
- Self-closing due to spring-back effect
- Excellent abrasion resistance
- Noise absorbing
- Continuous operating temperature: -50°C to 150°C

STANDARDS

- Automotive OEM specifications

TYPICAL APPLICATIONS

- Cable bundling and protection
- Noise reduction
- Protection against abrasion

-50°C to 150°C
(-58°F to 302°F)
CONTINUOUS OPERATING TEMPERATURE

EASY AND QUICK INSTALLATION

SELF-CLOSING DUE TO SPRING-BACK EFFECT

MARKETS:
Automotive, Industrial

STANDARDS:

RoHS

Self-closing wraparound protective sleeve

DIMENSIONS

ORDER NUMBER	NOMINAL		DELIVERY UNITS	
	Internal Diameter		Spool	
	MM	IN	M	FT
05	5.0	0.197	50	164
09	8.0	0.315	50	164
13	12.0	0.472	50	164
18	20.0	0.787	50	164
25	25.0	0.984	25	82
29*	29.0	1.142	25	82
35	35.0	1.378	25	82
50	50.0	1.969	10	32

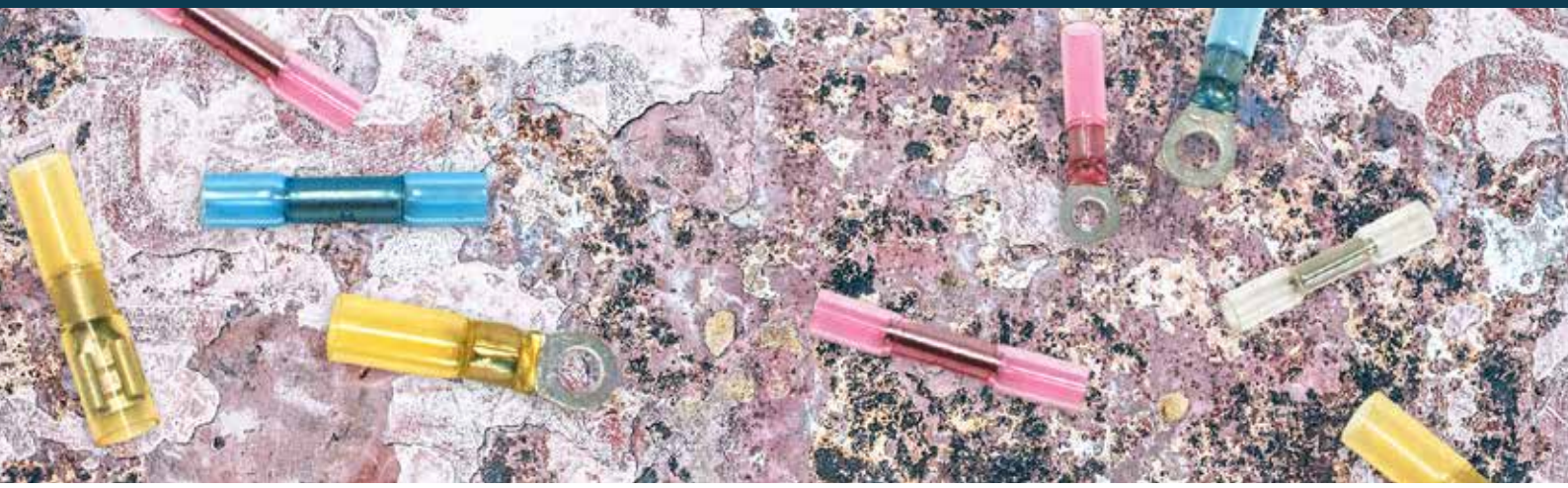
*against MOQ

ORDERING

- Select options:
  - Color: Black (BK)
  - Non-standard color: Orange (OR)
- Please specify the product name, order number and options you require
- *Example:* CanuRound PET, 09, black

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

DERAY®-CRIMPSEAL II – HEAT SHRINK INSULATED CONNECTORS



Crystal clear, semi-rigid, adhesive lined tubing with integral solderless splice connector

FEATURES AND BENEFITS

- Halogen-free
- Exceptional clarity for visual confirmation of seal
- Seals & protects against water, corrosive compounds, moisture & contaminants
- Tough, durable heat shrink tubing resists abrasion, crimp tool damage & splitting
- Shrinks 40% faster than nylon, preventing wire damage
- Inner adhesive bonds to plastics, rubbers & metals
- Voltage max. 600V
- Continuous operating temperature: -55 to 125°C
- Shrink temperature: 100°C min.

STANDARDS

- UL file # E470828
- Meets & conforms to OEM wiring specifications for installation & repairs

TYPICAL APPLICATIONS

- Wire to wire splicing
- Environmental protection for crimp-connections & terminals
- Automotive / trucking repair and maintenance
- Commercial, electronics & appliance wiring
- Marine electronics & fleet maintenance

3:1

SHRINK RATIO

-55°C to 125°C
(-67°F to 257°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive Aftermarket, Military, Aerospace, Industrial, Commercial, Automatic Feed Equipment

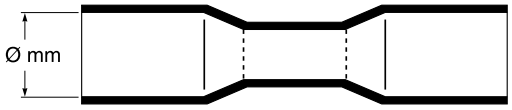
STANDARDS:

RoHS

Butt connector

DIMENSIONS

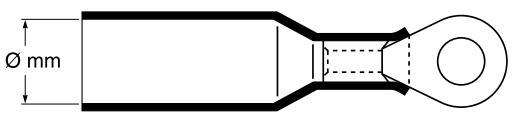
COLOUR	WIRE RANGE		STUD SIZE		TUBE DIAMETER	
	AWG	MM²	IN	MM	EXPANDED MM	RECOVERED MM
Clear	28-22	0.1-0.5	n/a	n/a	3.7	1.0
Red	22-18	0.5-1.5	n/a	n/a	4.3	1.4
Blue	16-14	1.5-2.5	n/a	n/a	5.0	1.8
Yellow	12-10	4-6	n/a	n/a	6.5	2.2



Ring connector

DIMENSIONS

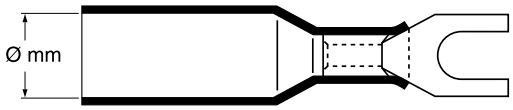
COLOUR	WIRE RANGE		STUD SIZE		TUBE DIAMETER	
	AWG	MM²	IN	MM	EXPANDED MM	RECOVERED MM
Red	22-18	0.5-1.5	#8	4	4.3	1.4
Red	22-18	0.5-1.5	#10	5	4.3	1.4
Red	22-18	0.5-1.5	1/4	6	4.3	1.4
Red	22-18	0.5-1.5	5/16	8	4.3	1.4
Red	22-18	0.5-1.5	3/8	10	4.3	1.4
Blue	16-14	1.5-2.5	#8	4	5.0	1.8
Blue	16-14	1.5-2.5	#10	5	5.0	1.8
Blue	16-14	1.5-2.5	1/4	6	5.0	1.8
Blue	16-14	1.5-2.5	5/16	8	5.0	1.8
Blue	16-14	1.5-2.5	3/8	10	5.0	1.8
Yellow	12-10	4-6	#8	4	6.5	2.2
Yellow	12-10	4-6	#10	5	6.5	2.2
Yellow	12-10	4-6	1/4	6	6.5	2.2
Yellow	12-10	4-6	5/16	8	6.5	2.2
Yellow	12-10	4-6	3/8	10	6.5	2.2



Fork connector

DIMENSIONS

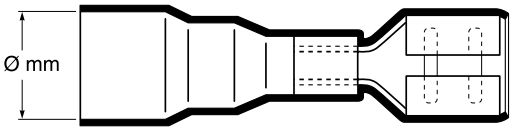
COLOUR	WIRE RANGE		STUD SIZE		TUBE DIAMETER	
	AWG	MM²	IN	MM	EXPANDED MM	RECOVERED MM
Red	22-18	0.5-1.5	#8	4	4.3	1.4
Red	22-18	0.5-1.5	#10	5	4.3	1.4
Blue	16-14	1.5-2.5	#8	4	5.0	1.8
Blue	16-14	1.5-2.5	#10	5	5.0	1.8
Yellow	12-10	4-6	#8	4	6.5	2.2
Yellow	12-10	4-6	#10	5	6.5	2.2



Push connector

DIMENSIONS

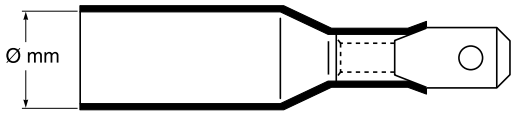
COLOUR	WIRE RANGE		STUD SIZE		TUBE DIAMETER	
	AWG	MM²	IN	MM	EXPANDED MM	RECOVERED MM
Red	22-18	0.5-1.5	n/a	n/a	4.3	1.4
Blue	16-14	1.5-2.5	n/a	n/a	5.0	1.8
Yellow	12-10	4-6	n/a	n/a	6.5	2.2



Tab connector

DIMENSIONS

COLOUR	WIRE RANGE		STUD SIZE		TUBE DIAMETER	
	AWG	MM²	IN	MM	EXPANDED MM	RECOVERED MM
Red	22-18	0.5-1.5	n/a	n/a	4.3	1.4
Blue	16-14	1.5-2.5	n/a	n/a	5.0	1.8
Yellow	12-10	4-6	n/a	n/a	6.5	2.2



ORDERING

- Determine the wire gauge size that you require
- Select the most appropriate connector for your application
- Please specify the product by: name, insulation color & code Order
- Order example: DERAY®-CrimpSeal II, butt connector, 22-18 AWG, red

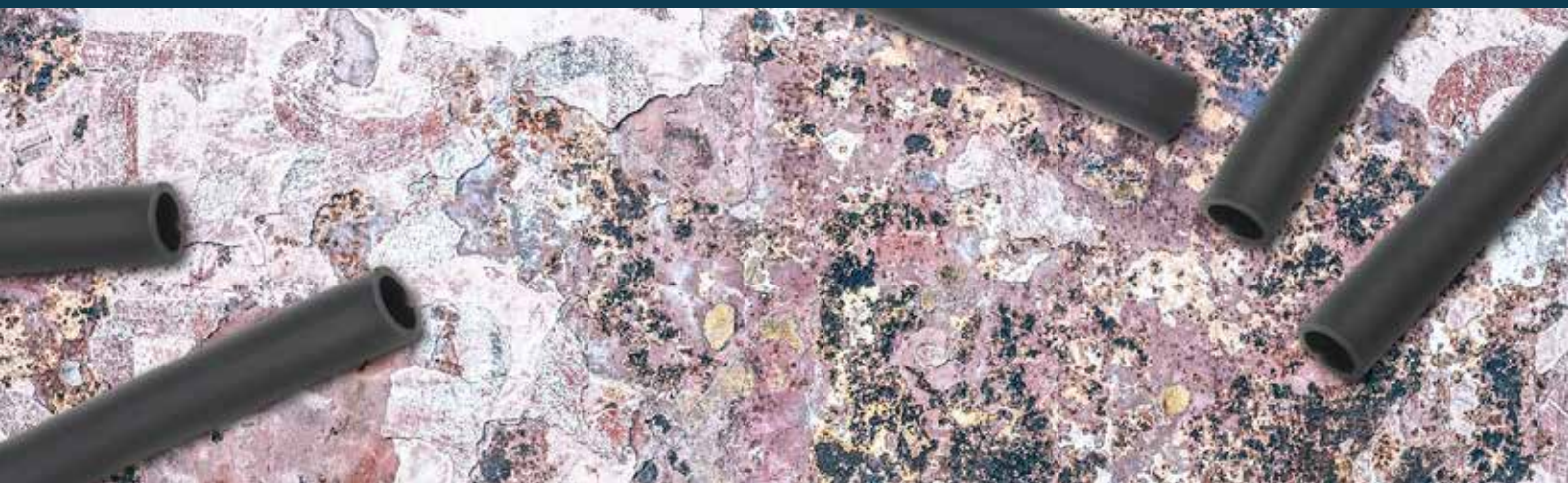
Please contact your Customer Service Representative for information on custom colors, sizes, lengths and material data sheet.

APPLICATION NOTES

- Strip wires min 7.5 mm & insert into the crimp barrel. Crimp with a DSG-Canusa (or equivalent) hand tool.
- Heat the shrink tube along the entire length, working from the centre out to the edges until a water tight seal is formed.
- Allow to cool before inspection for splice integrity.
- All splice assemblies will conform to most OEM & repair requirements and specifications.

Please also refer to working instructions VSPZ 056.

DERAY®-HDP – MEDIUM WALL CROSSLINKED POLYOLEFIN



Halogen free, high density heat shrink tubing specially designed to meet the form stable demands in automotive battery cable and ground strap areas

FEATURES AND BENEFITS

- Rigid
- Halogen free
- Form stable
- Highly abrasion resistant
- Shrink ratio: >2:1
- Continuous operating temperature: -40°C to 135°C
- Shrink temperature: 120°C min.

STANDARDS

- VW 60360-3
- GS 95008-3-3

TYPICAL APPLICATIONS

- Insulation of battery cables and ground straps
- Protection against mechanical damage and corrosion in industrial applications, e.g. tools
- Strain relief and abrasion protection

>2:1

SHRINK RATIO

-40°C to 135°C

(-40°F to 275°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Automotive, Industrial

STANDARDS:

RoHS

Medium wall crosslinked polyolefin

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
15.0/6.5	15.0	0.591	6.5	0.256	1.25	0.049	250	820
20.0/6.5	20.0	0.787	6.5	0.256	2.00	0.079	100	328

ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-HDP, 15.0/6.5, black

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

DERAY®-IB CON – SEMICONDUCTING ADHESIVE LINED SHRINK TUBE

Adhesive lined semi-conductive heat shrinkable tube; ideal for the electrostatic discharge of fuel lines

FEATURES AND BENEFITS

- Specially designed for electrostatic discharge of fuel lines
- Continuously printed with "Ω"
- Semi-conductive
- Specific surface resistivity < 1000 k-ohm at 125 V
- Inner adhesive bounds to metals
- Shrink ratio: >3:1
- Continuous operating temperature: -30°C to 105°C
- Shrink temperature: 110°C min.

STANDARDS

- Fullfills automotive fuel line specifications

TYPICAL APPLICATIONS

- Electrostatic discharge of fuel lines

>3:1
SHRINK RATIO

-30°C to 105°C
(-22°F to 221°F)
CONTINUOUS OPERATING TEMPERATURE

MARKETS:
Automotive, Safety Systems, Industrial

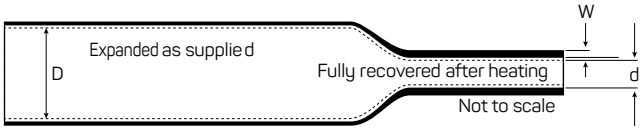
STANDARDS:

RoHS

Semiconducting adhesive lined shrink tube

DIMENSIONS

ORDER NUMBER	EXPANDED		RECOVERED				DELIVERY UNITS	
	Internal Diameter (min) D		Internal Diameter (max) d		Total Wall Thickness (nom) W		Spool	
	MM	IN	MM	IN	MM	IN	M	FT
13.5/4.0	13.5	0.531	4.0	0.157	1.20	0.047	100	328
17.5/4.0	17.5	0.689	4.0	0.157	1.20	0.047	100	328



ORDERING

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

- Select options:
  - Color: Black (BK)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-IB CON, 13.5/4.0, black

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

DERAY®-IOK – SOFT PVC INSULATION CAP

Non-shrinkable insulation cap made of soft PVC for reliable electrical protection

FEATURES AND BENEFITS

- Ensures 100 % electrical insulation
- Easy and low-cost installation without processing appliances
- Various colors available on request
- Continuous operating temperature: -35°C to 85°C

STANDARDS

- Approved to major automotive OEM specifications

TYPICAL APPLICATIONS

- Insulation of ultrasonically welded end splices
- Mechanical protection

-35°C to 85°C
(-31°F to 185°F)
CONTINUOUS OPERATING TEMPERATURE

EASY AND LOW-COST INSTALLATION

MARKETS:
Automotive, Industrial

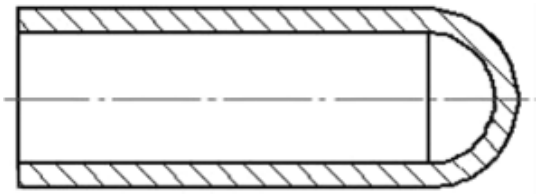
STANDARDS:

RoHS

Soft PVC insulation cap

DIMENSIONS

ORDER NUMBER	DIMENSION				DELIVERY UNITS			
	Internal Diameter (min) D		Total Wall Thickness (nom) W		Cut Lengths		Color	Pieces
	MM	IN	MM	IN	MM	IN		(Packed in Bags)
9915300700	3.0	0.118	0.75	0.030	15.0	0.59	grey	10,000
9915400100	4.0	0.157	1.00	0.039	20.0	0.79	yellow	5,000
9915500500	5.0	0.197	1.00	0.039	20.0	0.79	blue	5,000
9915600950	6.0	0.236	1.00	0.039	25.0	0.98	black	4,000
9915750100	7.5	0.295	1.25	0.049	25.0	0.98	yellow	2,000
9915950900	9.5	0.374	1.25	0.049	35.0	1.38	white	2,000
9911200300	12.0	0.472	1.25	0.049	35.0	1.38	red	2,000
9911450700	14.0	0.551	2.00	0.079	50.0	1.97	grey	1,000
9911610700	16.0	0.630	1.50	0.059	50.0	1.97	grey	500



ORDERING

- Select options:
  - Color: Black (BK), red (RD), white (WT), clear (CL), blue (BL), yellow (YL), green (GR), grey (GY)
- Please specify the product name, order number and options you require
- *Example:* DERAY®-IOK, 9915500500 or 5.0x20 mm, blue

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

Reducing field installation time and improving effectiveness

DSG-Canusa brand kits combine a variety of different sizes, diameters and colours of our specially designed heat shrink tubing. Our sets are a convinient solution for distributors and craftsmen.

FEATURES AND BENEFITS

- Great selection of different diameters and colors suitable for various applications
- Refillable compartments
- Universal flame retardant flexible thin wall heat shrink
- Ready-to-use sections
- Customized sets available on request
- Shrink ratio: 2:1
- Continuous operating temperature: -55°C to 135°C
- Shrink temperature: 110°C min.

STANDARDS

- UL224

TYPICAL APPLICATIONS

- Electrical repair and maintenance
- Strain relief
- Insulation

2:1 & 3:1

SHRINK RATIO

-55°C to 135°C

(-67°F to 275°F)

CONTINUOUS OPERATING TEMPERATURE

MARKETS:

Industrial, Commercial

STANDARDS:

RoHS

DERAY®-SET SIX

DESCRIPTION

Small assortment box with flame retardant thin wall heat shrinkable tubing in different diameter and colors which allows use for various application.

STANDARD CONTENT

Ø 1.2-0.6 L: 50 mm 60 pcs blue, gray, black, brown	Ø 2.4-1.2 L: 50 mm 30 pcs blue, gray, black, brown	Ø 4.8-2.4 L: 50 mm 16 pcs blue, gray, black, brown	Ø 9.5-4.8 L: 50 mm 8 pcs blue, gray, black, brown	Ø 19.0-9.5 L: 50 mm 4 pcs blue, gray, black, brown	Ø 38.0-19.0 L: 50 mm, 1 pcs yellow-green

DERAY®-SET 2000

DESCRIPTION

Big assortment box with flame retardant thin wall heat shrinkable tubing in different diameter and colors which allows use for various application.

STANDARD CONTENT

Ø 1.2-0.6 L: 40 mm 125 pcs black, yellow, white, red, blue	Ø 1.6-0.8 L: 40 mm 125 pcs black, yellow, white, red, blue	Ø 2.4-1.2 L: 40 mm 125 pcs black, yellow, white, red, blue	Ø 3.2-1.6 L: 40 mm 80 pcs black, yellow, white, red, blue	Ø 4.8-2.4 L: 40 mm 40 pcs black, yellow, white, red, blue	Ø 6.4-3.2 L: 40 mm 20 pcs black, yellow, white, red, blue
Ø 1.2-0.6, L: 250 mm, 5 pcs, blue Ø 1.6-0.8, L: 250 mm, 5 pcs, red Ø 3.2-1.6, L: 250 mm, 5 pcs, blue			Ø 4.8-2.4 L: 250 mm, 5 pcs, yellow Ø 6.4-3.2, L: 250 mm, 5 pcs, black Ø 9.5-4.8, L: 250 mm, 5 pcs, black		
Ø 9.5-4.8, L: 250 mm, 4 pcs, yellow Ø 9.5-4.8, L: 250 mm, 4 pcs, red Ø 9.5-4.8, L: 250 mm, 4 pcs, blue			Ø 12.5-6.4, L: 250 mm, 3 pcs, yellow Ø 12.5-6.4, L: 250 mm, 3 pcs, red Ø 12.5-6.4, L: 250 mm, 3 pcs, blue		

DERAY®-SET 5000

DESCRIPTION

Assortment box with crimp connectors and flame retardant thin wall heat shrink tubing with shrink ratios 2:1 and 3:1.

STANDARD CONTENT

Crimp connector red - AWG 22-18 / 0.5-1.5mm² - 20 pieces Crimp connector blue - AWG 16-14 / 1.5-2.5mm² - 20 pieces Crimp connector yellow - AWG 12-10 / 4-6mm² - 5 pieces Crimp connector clear - AWG 28-22 / 0.1-0.5mm² - 5 pieces					
Ø 1.6-0.8 L: 70 mm 28 pcs blue, gray, black, brown	Ø 2.4-1.2 L: 70 mm 28 pcs blue, gray, black, brown	Ø 3.2-1.6 L: 70 mm 20 pcs blue, gray, black, brown	Ø 4.8-2.4 L: 70 mm 16 pcs blue, gray, black, brown	Ø 6.4-3.2 L: 70 mm 12 pcs blue, gray, black, brown	Ø 6.4-2.0 L: 70 mm, 5 pcs Ø 3.2-1.0 L:70 mm 5 pcs yellow-green

Tapes made of vinyl or elastomer for easy application in the field that provide insulation, protection and identification for various applications

FEATURES AND BENEFITS

- Highly elastic
- Cold and weather resistant
- High dielectric strength
- Highly resistant to sun, water, oil, acids, alkalies, corrosive chemicals
- Flame retardant
- Abrasion resistant

STANDARDS

- ASTM D 3005, Type I
- ASTM D 1000
- HH-I-595C/A-A-55809A
- EN 60454-3-1, Type 11
- UL 510
- CSA C22.2 no.197
- Federal Specification L-T-1512A

TYPICAL APPLICATIONS

- Insulation and jacketing of splices
- Wrapping of wire harnesses
- Insulation of degaussing coils
- Quick identification of e.g. electrical phases, circuits, feeders and branches
- Corrosion protection
- Fire protection of cable conduits

≤30 mm

THICKNESS

EASY TO APPLY

MARKETS:
Industrial, Utility, Power Distribution, Automotive

STANDARDS:

RoHS

The information given is not generally valid for all DSG-Canusa brand tapes, but reflects a selection of characteristics of the product range.

CET33
PROFESSIONAL GRADE VINYL ELECTRICAL TAPE

All-weather, professional grade, pressure sensitive vinyl tape which applies easily and gives excellent performance over a wide range of temperatures. Cold resistant and weatherproof. Flame retardant. CET33 can be used as primary insulation for splices up to 600 volts. Used as protective outer jacket over splices and for all low temperature applications.

CET35
PROFESSIONAL GRADE COLOR CODING VINYL ELECTRICAL TAPE

All-weather, professional grade, pressure sensitive vinyl tape that is available in nine colors for color coding and insulating. Cold resistant and weatherproof. Flame retardant. Used for quick identification of electrical circuits, containers, and conduit systems, as well as primary insulation for splices at not more than 600 volts.

CET50
PIPE WRAP TAPE

A corrosion protection, pressure sesitive vinyl tape giving complete environmental, mechanical and electrical protection for all types of pipewrapping applications. UV, bacteria and fungus resistant. CET50 tape can be used for both overhead and direct burial applications.

CET77
ARC & FIRE PROOFING TAPE

An unsupported, linerless elastomeric tape for arc and fire proofing high voltage & communication cables and splices. The unsupported construction offers excellent flexibility and conformability for easy application. When subjected to severe flame conditions, CET77 will generate a thermally insulating residue for cable protection.

CET88
HEAVY DUTY VINYL ELECTRICAL TAPE

All-weather, heavy duty grade, pressure sensitive vinyl tape that provides heavier thickness for added mechanical and electrical protection. Cold resistant and weatherproof. Flame retardant. CET88 can be used as primary insulation for splices up to 600 volts. Excellent protective jacket over all types of splices. Excellent cold weather performance.

CET130C
LINERLESS EPR HIGH VOLTAGE INSULATING AND JACKETING TAPE

EPR, self bonding, high voltage tape for insulating and jacketing splices through 69kV. The linerless feature permits much quicker taping speeds than tape with a liner and yield a uniform, void-free build-up. CET130C is compatible with all extruded cable insulations and the excellent stretch allows conformance to the most complex shapes and contours.

APPLICATION EQUIPMENT PRODUCTS

ENGINEERING AND BUILDING HIGH-PERFORMANCE HEAT SHRINK APPLIANCES IN-HOUSE FOR STANDARD MACHINES AS WELL AS UNIQUE APPLICATIONS

In addition to the standard heat shrink tubing product line, we provide a full range of technically advanced shrink appliances. Years of experience in processing heat shrink materials have resulted in the creation of a variety of processing devices, from a simple heat gun to high-performance shrink equipment. Beyond the numerous standard machines, our Machine Technology Center (MTC) designs and constructs custom machines for unique applications.

DERAY®-SPLICEMAN IR

DESCRIPTION

DERAY®-SpliceMan IR is a semiautomatic unit with infrared heating elements designed to seal and insulate ultrasonically welded- and crimped splice joints.

FEATURES AND BENEFITS

- Up to 125 data sets storable
- Adjustable process time
- Data connection with ultrasonic welding machine

DERAY®-BOARD-WORKMAN TP ADE

DESCRIPTION

DERAY®-Board-Workman TP ADE is a mobile shrink machine which is used on the cable board with a balancer. It has been designed to seal and insulate ultrasonically welded and crimped end splices on stationary and mobile cable boards in transfer lines.

FEATURES AND BENEFITS

- Automatic outer diameter detection system and assignment of shrinkage parameters

DERAY®-LEAKAGE TESTER

DESCRIPTION

The DERAY®-Leakage testing device is built in a desktop version and is especially designed for the leaking test of crimped and welded wire applications assembled with heat shrink tubes.

FEATURES AND BENEFITS

- The testable wire cross sections are 0.13 mm^2 - 10 mm^2
- Testing of up to 20 lines for leaks
- Pressure monitoring in each test chamber

DERAY®-DOCKMAN JUNIOR ENDSPLICE

DESCRIPTION

The DERAY®-DockMan Junior Endsplice is a semi-automatic hot air shrink appliance for processing heat shrinking tubing in wiring systems. It is primarily used for mobile, manual use on the cable board with a balancer.

FEATURES AND BENEFITS

- High flexibility as the appliance can be docked to any position on the forming board

DERAY®-FST 750-S

DESCRIPTION

The DERAY®-FST 750-S is a semi-automatic shrink tunnel with infrared heating elements. The shrink device is designed to process heat shrinking products to seal and insulate ultrasonically welded- and crimped splice joints.

FEATURES AND BENEFITS

- Up to 10 mm² cable cross section
- 190 mm integrated cooling zone

DERAY®-PSP 240-S

DESCRIPTION

The DERAY®-PSP 240-S shrinking machine is a semiautomatic unit designed to install and shrink splice sealing products with a maximum of 5 splices in one work operation onto ultrasonically welded or crimped splice joints.

FEATURES AND BENEFITS

- Adjustable process time
- 10 k hrs long life heating elements

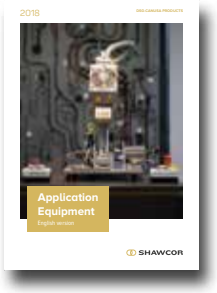
DERAY®-SHUTTLE 240 / 60

DESCRIPTION

The DERAY®-Shuttle 240 / 60 is a single table-top workstation and a semiautomatic shrinking device for sealing and insulating ultrasonically welded- and crimped ring cable lugs, tubular cable lugs and end splices.

FEATURES AND BENEFITS

- Up to 20 applications per cycle
- Up to 85 mm² cable cross sections processable
- Two independent frames



For more information on our DSG-Canusa Shrink Appliances, please ask your Sales Representative for a copy of our Application Equipment Catalog.

PRODUCT SELECTION CHART

SINGLE WALL TUBING

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE	
			MIN	MAX
CPX 876	2:1	High performance, flexible polyolefin	-55 °C	135 °C
DERAY®-H	2:1	Multipurpose tubing, flexible polyolefin	-55 °C	135 °C
DERAY®-HB	2:1	Economical, general purpose, halogen free, flexible polyolefin	-55 °C	125 °C
DERAY®-I	2:1	Multipurpose tubing, flexible polyolefin	-55 °C	135 °C
DERAY®-I 3000	3:1	High shrink ratio, flexible polyolefin	-55 °C	135 °C
DERAY®-IGY	3:1	Striped green & yellow, high shrink ratio, flexible polyolefin	-55 °C	135 °C
DERAY®-LSB	2:1	Very low shrink temperature, flexible polyolefin	-45 °C	125 °C
DERAY®-ZoH 125	2:1	Halogen free , flame retardant, low smoke generation polyolefin	-40°C	125°C

DUAL WALL TUBING

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE	
			MIN	MAX
CHPA	4:1	Adhesive lined, elevated temperature Polyolefin	-40°C	150°C
CPA 300	3:1	High spec. flexible polyolefin, adhesive-lined	-55 °C	125 °C
DERAY®-IAKT 3:1 / 4:1	3:1 / 4:1	Adhesive lined, moisture-resistant	-55 °C	110 °C
DERAY®-IHKT	4:1	Adhesive lined, superior sealing against water and moisture, high shrink ratio	-55 °C	125 °C
DERAY®-SpliceMelt	4:1	Adhesive lined, moisture-resistant, splice sealing	-40 °C	125 °C
DERAY®-SpliceMelt Cap	4:1	Adhesive lined, moisture-resistant end cap, stub splice sealing	-40 °C	125 °C

MEDIUM/HEAVY WALL TUBING

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE	
			MIN	MAX
CCH	3:1	Heavy wall polyolefin, optionally adhesive-lined	-55 °C	110 °C
CCM	3:1	Medium wall polyolefin, flexible, optionally adhesive-lined	-55 °C	110 °C
CFHR	6:1	Very high shrink ratio, flexible polyolefin	-55 °C	110 °C
CFM	3:1	Medium wall polyolefin, optionally adhesive-lined	-55 °C	110 °C
CFTV	3:1	Flexible polyolefin, adhesive-lined, with heat indicating lines	-55 °C	110 °C
CFW	3:1	Heavy wall polyolefin, optionally adhesive-lined	-55 °C	110 °C
DERAY®-MC 225	3:1	High resistance to impact and abrasion	-40 °C	135 °C
FCFW	3:1	Heavy wall polyolefin, flame retardant, optionally adhesive-lined	-55 °C	110 °C
FCFW-N	3:1	Heavy wall polyolefin, flame retardant, optionally adhesive-lined	-55°C	110°C

FLAME RATING	STANDARDS	SIZES	PAGES
		MM	
UL 224 VW-1, CSA OFT	SAE AMS-DTL-23053/5, Class 3, UL file # E107857, CSA file # 265111	1.2 - 101.6	14-15
Colors: UL 224 ATF, CSA OFT, clear: FMVSS 302	UL file # E107857, CSA file # 066150_0_000	1.2 - 101.6	16-17
FMVSS 302	-	1.6 - 51.0	18-20
Colors: UL 224 ATF, CSA OFT, clear: FMVSS 302	SAE-AMS-DTL-23053/5 Class 1 + 2, DEF STAN 59-97 Type 2b, BS G198 Part 3 Type 11B, VG95343 Part 5 Type A/B, UL file # E107857, CSA file # 066150_0_000	1.2 - 101.6	20-21
Colors: UL 224 ATF, clear: FMVSS 302	SAE-AMS-DTL-23053/5 Class 1 + 2, DEF STAN 59-97 Type 2b, BS G198 Part 3 Type 11B, VG95343 Part 5 Type A/B, UL file # E107857	1.6 - 39.0	22-23
UL 224 AFT	DEF STAN 59-97 Type 2b, BS G198 Part 3 Type 11B	3.2 - 39.0	24-25
FMVSS 302	-	3.2 - 25.4	26-27
EN45545-2 HL3 R22/R23	LUL E 1042 A6, BS 6853 vehicle category 1a, DIN5510, EN 50343, SAE AS81531 4.6.2, MIL-STD-202G Methode 215	2.4 - 38.1	28-29

FLAME RATING	STANDARDS	SIZES	PAGES
		MM	
ASTM-D876	FCA: MS-DB-56 / MS:50107, CPN #5229; GMW17136	4.0 - 18.0	32-33
Colors: UL 224 ATF, CSA OFT	AMS-DTL-23053/4, Class 3, UL file # E63390	3.2 - 39.9	34-35
Colors: ASTM-D876, clear: FMVSS 302	Industrial, electronic and automotive OEM specifications	3.0 - 52.0	36-37
Colors: ASTM-D876, clear: FMVSS 302	SAE-AMS-DTL-23053/4 Class 3	4.0 - 52.0	38-39
Colors: ASTM-D876, clear: FMVSS 302	Automotive OEM specifications	6.0 - 18.0	40-41
Colors: ASTM-D876, clear: FMVSS 302	Automotive OEM specifications	4.5 - 18.0	42-43

FLAME RATING	STANDARDS	SIZES	PAGES
		MM	
FMVSS 302	DIN EN 60684-3-247, DIN V 47640	9.0 - 200.0	46-47
FMVSS 302	DIN EN 60684-3-247	12.0 - 200.0	48-49
ASTM-D2671	SAE-AMS-DTL 23053/15, IEC 60684-3-247, UL 486D - UL file# E132914	19.0 - 119.4	50-51
FMVSS 302	-	10.2 - 228.6	52-53
FMVSS 302	-	10.2 - 69.8	54-55
FMVSS 302	ANSI C119-1, Western Underground Guide Numbers 2.4 and 2.5, ICEA and NEMA insulation thickness requirements, DNV Type approval, DIN EN 60684-3-247, UL 486D, UL File # E132914, CSA C 22.2 No. 198.2	8.9 - 170.2	56-57
FMVSS 302	VG 95343 Part 5 Type G, GMW 17136, GS 95008-3-3	12.0 - 95.0	58-59
UL94 V-0	IEEE 383, ANSI C119-1, Western Underground Guides No. 2.4 and 2.5, ANSI C37.20.2, ICEA S-19-8 and NEMA insulation thickness requirements, SAE-AMS-DTL-23053/15 Class 1, IEC60684-3-247, UL 486D - UL File # E132914, UL94 V-0 - UL file # E167396, CSA C 22.2 No. 198.2	8.9 - 119.9	60-61
ASTM-D2671	IEEE 383, IEC 60684-3-247, NF M 64-001, IEC 60068, LOCA/POST LOCA in accordance with RCC-E 2007 NF M64-001, UL file # E132914	8.9 - 119.9	62-64

HIGH TEMPERATURE PRODUCTS

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE	
			MIN	MAX
DERAY®-KY 175	2:1	Semi-rigid thin wall Kynar® heat shrink tubing, excellent chemical/solvent resistance	-55 °C	175 °C
DERAY®-KYF 190	2:1	High temp., flexible thin wall Kynar® heat shrink tubing, extreme chemical/solvent resistance	-55 °C	190 °C
DERAY®-PTFE	4:1	Teflon® based heat shrink tubing, chemically inert, high shrink ratio	-65 °C	260 °C
DERAY®-PTFE AWG	2:1	Teflon® based heat shrink tubing, chemically inert, AWG sizes	-65 °C	260 °C
DERAY®-V25 / V25 TW	2:1	Resistant to diesel, oil, hydraulic fluids and other chemicals	-75 °C	150 °C
DERAY®-VT 220	2:1	High temp. fluoroelastomer, abrasion resistant, withstand to corrosive fluids in extreme temp.	-55 °C	220 °C
DERAY®-VT 220 TW	2:1	Highly abrasion resistant, very flexible	-55 °C	220 °C

IDENTIFICATION SLEEVES

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE	
			MIN	MAX
DERAY®-ZHF125	2:1	Flattened, halogen free , flame retardant, low smoke generation polyolefin	-40°C	125°C
DMS NH	2:1	Ladder style, flattened, halogen free , flame retardant, low smoke generation polyolefin	-40°C	125°C

* hardware used "XD4" printer from CAB and "RBZ11DR" ribbon from DSG-Canusa

WILDLIFE MITIGATION

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE	
			MIN	MAX
Substations	-	Medium voltage protective covers for insulators, bushings, surge arresters, cut-outs and clamps	-40°C	105°C
Overhead Lines	-	Medium voltage protection covers for insulators, suspension clamps and conductors.	-40°C	105°C

FLAME RATING	STANDARDS	SIZES	PAGES
		MM	
UL 224 VW-1, CSA OFT	SAE-AMS-DTL 23053/8, DEF STAN 59-97 Type 3, BS G198 Part 4 Type 20, VG 95343 Part 5 Type F, PAN 6491, VW 60360-3, UL file # E107857, CSA file # 066150_0_000	1.2 - 25.4	66-67
UL 224 VW-1	SAE-AMS-DTL-23053/18 Class 2, VW 60360-3	1.2 - 15.0	68-69
UL 224 VW-1	SAE-AMS-DTL-23053/12 Class 5	1.98 - 31.75	70-71
UL 224 VW-1	-	0.86 - 11.94	72-73
UL 224 ATF	DEF STAN 59-97 Type 6b, BS G198 Part 3 Type 10A, SAE-AMS-DTL-23053/16, VG 95343 Part 5 Type D, PAN 6480K, GS 95008-3-3	2.4 - 76.0	74-75
UL 224 VW-1	DEF STAN 59-97 Type 4a, BS G198 Part 3 Type 12A, VG95343 Typ E, PAN6480L, GS 95008-3-3	3.2 - 76.0	76-77
UL 224 VW-1	AMS-DTL 23053/13	3.2 - 38.1	78-79

FLAME RATING	STANDARDS	SIZES	PAGES
		MM	
EN45545-2 HL3 R22/R23	LUL E 1042 A6, BS 6853 vehicle category 1a, DIN5510, EN 50343*, SAE AS81531 4.6.2*, MIL-STD-202G Methode 215*	2.4 - 38.1	82-83
EN45545-2 HL3 R22/R23	LUL E 1042 A6, BS 6853 vehicle category 1a, DIN5510, EN 50343*, SAE AS81531 4.6.2*, MIL-STD-202G Methode 215*	2.4 - 38.1	84-85

FLAME RATING	STANDARDS	SIZES	PAGES
		MM	
EN 60695-2-11	DIN VDE V 0212-490:2014, VDE-AR-N 4210-11:2011-08, IEC 60060-1:2010, EN 60243-1	-	88-91
EN 60695-2-11	DIN VDE V 0212-490:2014, VDE-AR-N 4210-11:2011-08, IEC 60060-1:2010, EN 60243-1	-	92-95

ELECTRICAL PRODUCTS

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE	
			MIN	MAX
CANC	>2:1	Tight fitting, flexible, heat shrinkable anode cap	-55°C	100°C
CBTH	3:1	Heavy wall, anti-track, halogen free	-40°C	125°C
CBTM	3:1	Medium wall, anti-track, halogen free	-40°C	125°C
CCB	>2.5:1	Heat shrinkable boot for 2, 3, 4, 5, 6-way cable breakouts	-55°C	100°C
CCBA	>2:1	Medium voltage heat shrinkable break-out 3-core, antitracking	-50°C	100°C
CCB-CON	>2:1	Medium voltage heat shrinkable break-out 3-core, semiconductive	-50°C	100°C
CCB-N	>2.5:1	Flame retardant, heat shrink boots for nuclear environment	-55°C	100°C
CCRDW	>3:1	Water tight, heat shrinkable sleeve with flexible stainless steel locking channel	-35°C	100°C
CEC	>2:1	Adhesive lined, heat shrinkable end cap	-55°C	100°C
CNTT	3:1	Medium wall, non-tracking, halogenfree, for outdoor use	-55°C	125°C
CRLS	3:1	Adhesive lined, wraparound repair sleeve	-55°C	110°C
CRSA	>2:1	Non-tracking heat shrinkable rain shed	-55°C	100°C
CSEC	2:1	Cold shrink end cap, UV, ozone and water resistant	-20°C	105°C
CSS-EP	>2:1	UV resistant, 1000V rating. cold applied splice sealing products	-20°C	105°C
DERAY®-KSF	<3:1	Medium or heavy wall, halogen free, anti-track, protects against accidental flash-over	-40 °C	135 °C
LV Kits	-	Low voltage, LVJUAC, LVJUAM and LVJUAS connecting (cable-jointing) sleeves	-40 °C	100°C
MV Joints	-	Medium voltage, heat shrinkable power cable joints	-40 °C	100°C
MV Terminations	-	Medium voltage, heat shrinkable power cable joints, indoor and outdoor	-40 °C	100°C
Signal Kits	-	Low voltage signal cable joints up to 32 pairs	-40 °C	100°C
Titan Z Indoor	-	Medium voltage cold-shrink silicone indoor termination, ZnO stress-control system, single or three-core	-40 °C	105°C
Titan Z Outdoor	-	Medium voltage cold-shrink silicone outdoor termination, ZnO stress-control system, single or three-core	-40 °C	105°C

MARKET SPECIFIC PRODUCTS

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE	
			MIN	MAX
Canuflex PBT V0	-	Chemical and abrasion resistant braided sleeve	-50 °C	150 °C
Canuflex PE-HB	-	Highly expandable, multipurpose economic braided sleeve	-40 °C	150 °C
Canuround	-	Retrofit and noise absorbing, abrasion resistance wrap around sleeve	-50 °C	150 °C
DERAY®-Crimpseal II	3:1	Halogen free, crystal clear and adhesive lined tubing with integral solderless splice connector	-55 °C	125 °C
DERAY®-HDP	>2:1	Halogen free, high density heat shrink tubing	-40 °C	135 °C
DERAY®-IBCON	3:1	Semiconducting, adhesive lined shrink tube	-30 °C	105 °C
DERAY®-IOK	-	Soft PVC, 100% electrical insulation, mechanical protection	-35 °C	85 °C
DERAY®-Sets	2:1 & 3:1	Assortment boxes with heat shrink tubing and crimp connectors	-55 °C	135°C
Tapes	-	Tapes made of vinyl or elastomer	-	-

FLAME RATING	STANDARDS	SIZES	PAGES
		MM	
-	-	40.0 - 108.0	98-99
ASTM-D2671	ANSI C 37.20.2, ANSI C37.20.3, UL file# E205844	27.9 - 167.6	100-103
ASTM-D2671	ANSI C 37.20.2, ANSI C37.20.3, UL file# E205844	19.0 - 170.1	104-107
FMVSS 302	IEC 62677, ESI 09-11	33.0 - 140.0	108-111
FMVSS 302	IEC 62677, ESI 09-13	60.0 - 125.0	112-113
FMVSS 302	IEC 62677, ESI 09-13	60.0 - 125.0	114-115
IEC 62329-2	IEEE 383, IEC 62677-3-101, NF M 64-001, IEC 60068; LOCA/POST LOCA in accordance with RCC-E 2007 NF M64-001	28.0 - 140.0	116-117
FMVSS 302	-	50.0 - 240.0	118-119
FMVSS 302	IEC 62677, ESI 09-11	10.0 - 148.0	120-121
ASTM-D 2671	HD 629.1 S1, IEEE 48-1996, salt fog test IEC 1109, IEC 60502-4, IEC 60055-1	33.0 - 80.0	122-123
FMVSS 302	ICEA and NEMA insulation thickness specifications	30.0 - 171.0	124-125
FMVSS 302	-	37.0 - 75.0	126-127
FMVSS 302	-	20.9 - 84.3	128-129
FMVSS 302	ANSI C119.1-1986	9.4 - 93.2	130-131
FMVSS 302	IEC 60684	19.0 - 100.0	132-133
-	DIN EN 50393 (VDE 0278-393):2006-11, DIN V 47640:2008-10, HD 623	-	134-137
-	HD 629.1 S2, IEC 60502-4, IEC 60055-1	-	138-139
-	HD 629.1 S2, IEC 60502-4, IEC 60055-1	-	140-141
-	SNCF Standard	-	142-143
-	IEEE-48-2009, Class 1, ISO/IEC 17025	14.5 - 59.1	144-145
-	IEEE-48-2009, Class 1, ISO/IEC 17025	14.5 - 59.1	146-147

FLAME RATING	STANDARDS	SIZES	PAGES
		MM	
UL 94 V0	-	2.0 - 32.0	150-151
FMVSS 302	Automotive OEM specifications	2.0 - 32.0	152-153
FMVSS 302	Automotive OEM specifications	5.0 - 50.0	154-155
FMVSS 302	UL file# E470828	3.7 - 6.5	156-159
FMVSS 302	VW 60360-3, GS 95003-3-3	15.0 - 20.0	160-161
-	Automotive fuel line specifications	13.5 - 17.5	162-163
FMVSS 302	Automotive OEM specifications	3.0 - 16.0	164-165
UL224	-	1.2 - 19.0	166-167
-	ASTM D 3005, Type I, ASTM D 1000, HH-I-595C/A-A-55809A, EN 60454-3-1, Type 11, UL 510, CSA C22.2 no.197, Federal Specification L-T-1512A	-	168-169

PRODUCT INDEX

Visit our Website for more information about Shawcor's Connections Systems Group including DSG-Canusa and Shawflex:

www.shawcor.com/connections-systems

PROCESSING INFORMATION

TUBING SELECTION AND PROCESSING INFORMATION

Easy processing makes heat shrink tubing an economical and functional solution. Please keep the following processing notes in mind:

- The inner diameter of the heat shrink tubing should be selected so that after free shrinkage it is approx. 20% smaller than the object to be covered.
- If necessary, cut the shrink tubing to the desired length. Please make sure to have a smooth cut edge.
- Slide the tubing over the object to be sealed.
- Shrink the tubing onto the object, starting at one end. Use a heating appliance for this process, e.g. a heat gun or a shrink device.
- The optimal shrink temperature of the selected material is vital to assure a short shrink period. Please make sure to use the appointed shrink temperature for each product.
- Ensure even heat distribtuion to prevent overheating. Overheating the material may cause bubbles, discolouration or damage to the tube.
- During shrinking of adhesive lined heat shrink tubing the adhesive may slightly flow out the end.

If you have any further questions, our application engineers will be happy to assist you.

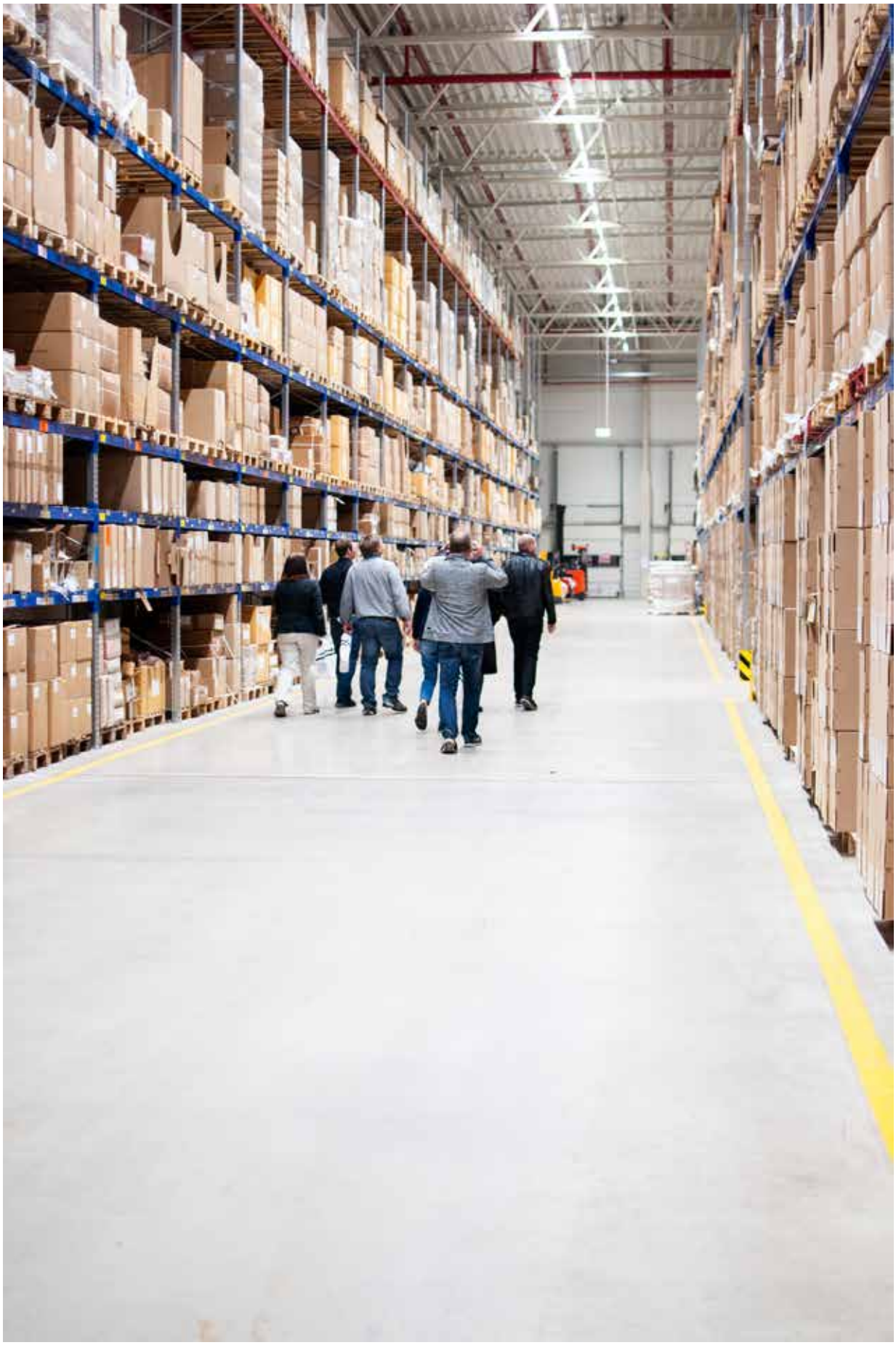
ORDERING INFORMATION

When ordering, please specify for each item the following information:

- Name and/or Order number
- Dimension
- Options, if available: e.g. Colour
- Quantity: Length, Cut-Length or Pieces

Example: **DERAY®-H, 0250 or 1/4", black, 300 m**

Please contact your Customer Service Representative for information on custom colors, sizes, lengths and material data sheet via phone or e-mail you'll find at the back of this catalog.



We advise that customers should separately evaluate the suitability of our products for their particular application. Our responsibilities are only those listed in our Standard Terms and Conditions of Sale for these products. Please ask for the latest version of this catalog. Subject to modification without prior notice.

Version: 01 2019/MAR/19

DSG-Canusa Locations

Asia-Pacific

Suzhou DSG-Canusa Polymer Technologies CO.,LTD.
428 Xinglong Street, Suzhou Industrial Park
Suzhou, Jiangsu Province, China
Postal Code: 215126

Phone: +86 512 82280099
Fax: +86 512 82280022
Mail: asiapacific@dsgcanusa.com

Canada

DSG-Canusa
25 Bethridge Road
Toronto, Ontario M9W 1M7

Phone: +1 (416) 743-7111
Fax: +1 (416) 743-7752
Mail: sales@dsgcanusa.com

Germany

DSG-Canusa GmbH
Boschstraße 17
53359 Rheinbach
Germany

Phone: +49 (0) 22 26 90 47-0
Fax: +49 (0) 22 26 90 47-499
Mail: info-de@dsgcanusa.com

United States

DSG-Canusa
173 Commerce Boulevard
Loveland, Ohio 45140

Phone: +1 513 683-7800
Fax: +1 513 683-7809
Mail: sales@dsgcanusa.com

SHAWCOR