

Heat Shrink Technology



Welcome to DSG-Canusa – Leading in Heat Shrink Technology

You will find inside a full package of DSG-Canusa product information. There's a Selection Chart for a quick overview of all products and key specifications followed by individual product data-sheets for a more comprehensive outline of the technical data.

Our dedicated Sales & Service team will be happy to address your needs. For a list of office locations please see the back cover. Please also, visit us at www.dsg-canusa.de for the latest news.

DSG-Canusa – A division of ShawCor

DSG-Canusa is a division of ShawCor Ltd., a publicly traded, growth oriented energy services company with revenues approaching one billion Canadian dollars.

ShawCor operates globally through seven divisions to provide products and services to the exploration & production, pipeline and petrochemical & industrial market segments.

ShawCor has manufacturing and service facilities throughout the world.

DSG-Canusa – A Global Success

DSG-Canusa provides electrical and mechanical insulation solutions for the Automotive, Electrical/Utility, Electronics and Communications markets. Founded in 1972, DSG-Canusa has emerged to become one of the largest heat shrink manufacturers in the world.

Manufacturing & Distribution

- Germany
- Poland
- Canada
- United States
- United Kingdom

Research & Development

- Germany
- Canada

Unique Solutions for Customer Applications

DSG-Canusa is the complete source for heat shrink products and related technology. Our product offering includes polyolefin, fluoropolymer, elastomer and PVC heat shrink based materials in thin, medium and heavy wall tubing as well as heat shrink accessories and equipment. New products are continuously being developed to meet industry requirements. Moreover, a commitment to develop unique solutions for customer applications has earned DSG-Canusa a reputation for excellence in customer satisfaction.

There's no end to what we cover

Heat Shrink Technology EMAR Catalogue

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Single Wall Tubing

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE °C		TYPICAL APPLICATIONS	SHRINK TEMPERATURE °C	FLAME RATING	SPECIFICATIONS	SIZES mm	FEATURES	PAGE
			MAX	MIN							
DERAY® HB	2:1	Economical, General Purpose, Flexible Polyolefin	105	-55	Abrasion protection, insulation of electrical or mechanical components	125	Non Flame Retardant	-	1,2 - 50,8	Flexible, Halogen Free alternative to PVC	14-15
DERAY® LSB	2:1	Very Low Shrink Temperature, Flexible Polyolefin	105	-45	Thermally sensitive electronic components, High volume production lines	80	Non Flame Retardant	-	3,2 - 25,4	Low 80°C shrink temperature	16-17
DERAY® H	2:1	Multipurpose tubing, Flexible Polyolefin	125	-55	Cable insulating, marking and bundling, mechanical protection	110	Flame Retardant (except clear)	UL, CSA	1,2 - 50,8	Flexible, suitable for various applications	18-19
DERAY® I	2:1	Multipurpose tubing, Flexible Polyolefin	135	-55	Insulation, corrosion and mechanical protection, bundling, marking, bending protection, strain relief	90	Flame Retardant (except clear)	UL, CSA, MIL, VG, DEF STAN, VDE	1,2 - 101,6	Flexible, Flame Retardant, multiple specifications, 135°C operating temp.	20-21
DERAY® ITW	2:1	Ultra Thin Wall, Very Flexible Polyolefin	135	-55	Insulation & protection of splices in very flexible cables, High volume production lines	90	Clear: Non Flame Retardant, Black: Flame Retardant	-	2,5 - 8,1	Very flexible, Ultra Thin	22-23
DERAY® I3000	3:1	High Shrink Ratio, Flexible Polyolefin	135	-55	Insulation & protection of objects with large diameter variations	90	Flame Retardant (except clear)	UL, MIL, VG, DEF STAN, VDE	1,6 - 39,0	Flexible, High shrink ratio	24-25
DERAY® IGY	3:1	Striped Green & Yellow, High Shrink Ratio, Flexible Polyolefin	135	-55	Insulation & marking of earthing conductors	90	Flame Retardant	DEF STAN	3,2 - 39,0	Flexible, High shrink ratio	26-27
CZT	2:1	Zero Halogen, Flexible Polyolefin	105	-40	Low smoke generation for use in confined areas such as underground transportation systems, military & aerospace applications	120	Flame Retardant	DEF STAN	1,6 - 101,6	Zero Halogen	28-29
BEX 100	2:1	Marker Tubing, Flexible Polyolefin	135	-55	Marking & printing purposes	120	Flame Retardant	-	2,4 - 38,1	Very suitable to print on	30-31
CPX876	2:1	High Performance, Flexible Polyolefin	135	-55	Industrial, military, aerospace & automotive applications requiring low recovery temperature & high flame retardancy	125	Highly Flame Retardant	UL-VW1, CSA, MIL, DEF STAN	1,2 - 101,6	Highly Flame Retardant, Multiple Spec. Approvals	32-33

Dual Wall Tubing

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE °C		TYPICAL APPLICATIONS	SHRINK TEMPERATURE °C	FLAME RATING	SPECIFICATIONS	SIZES mm	FEATURES	PAGE
			MAX	MIN							
DERAY® IAKT 3:1	3:1	High Shrink Ratio, Flexible Polyolefin, adhesive-lined	110*	-55	Ideal for effective moisture-resistant insulation of electrical connections, splices and other components	95	Black: Flame Retardant, Clear: Non Flame Retardant Adhesive: Non Flame Retardant	-	3,0 - 40,0	Adhesive bonds to plastics, rubber, neoprene, steel and polyethylene	36-37
DERAY® IAKT 4:1	4:1	Very High Shrink Ratio, Flexible Polyolefin, adhesive-lined	110*	-55	Ideal for effective moisture-resistant insulation of electrical connections, splices and other components, very suitable for objects with large diameter variation	95	Black: Flame Retardant, Clear: Non Flame Retardant Adhesive: Non Flame Retardant	-	4,0 - 52,0	Ideal for coverage of irregularly shaped connectors and components	36-37
CPA 300	3:1	High Spec. Flexible Polyolefin, adhesive-lined	125	-55	Ideal for applications where both exceptional flame retardancy and environmental sealing capabilities are required	120	Flame Retardant	UL, MIL	3,2 - 39,9	Superior sealing against water, moisture or other contaminants	38-39
DERAY® IHKT	4:1	Very High Shrink Ratio, Flexible Polyolefin, adhesive-lined	125*	-55	Offers reliable protection against short-circuits or malfunctions in electrical assembly components and connections	100	Black: Flame Retardant Adhesive: Non Flame Retardant	VG, VDE	4,0 - 52,0	Specially designed polyamide adhesive protects components at higher temperatures	40-41
CBK	4:1	Very High Shrink Ratio, Semi-rigid Polyolefin, adhesive-lined	125	-55	Designed to insulate and environmentally protect electronic wire harness assemblies	120	Black: Flame Retardant Adhesive: Non Flame Retardant	-	6,0 - 18,0	Easy assembly over large or irregularly shaped connectors, special adhesive flows readily on installation to fill voids	42-43

*Outer Jacket

Medium/Heavy Wall Tubing

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE °C		TYPICAL APPLICATIONS	SHRINK TEMPERATURE °C	FLAME RATING	SPECIFICATIONS	SIZES mm	FEATURES	PAGE
			MAX	MIN							
CFM	3:1	Medium Wall Polyolefin, optionally adhesive-lined	110	-55	Splice, Termination & Cable Insulation, Mechanical Protection, Environmental Sealing	120	Non Flame Retardant	-	10,2 - 228,6	High resistance against abrasion, corrosion, optional adhesive lined or sealant	46-47
CFW	3:1	Heavy Wall Polyolefin, optionally adhesive-lined	110	-55	Splice, Termination & Cable Applications including Direct Burial, URD and Submersible	120	Non Flame Retardant	UL, CSA	8,9 - 119,9	Rated for 600 V/ 90 C service, excellent insulating & mechanical durability	48-49
CFTV	3:1	Flexible Polyolefin, adhesive-lined, with heat indicating lines	110	-55	Cable TV & Communication Industries, waterproof sealing & mechanical protection for cable connections	120	Non Flame Retardant	-	10,2 - 69,8	Excellent sealing & mechanical protection, easy installation & easy reutilisation of the connection	50-51
CFHR	6:1	Very High Shrink Ratio, Flexible Polyolefin	110	-55	Support & Insulation of Military, Electronic & Transportation Wiring Applications	120	Non Flame Retardant	-	19,0 - 119,4	High ratio to accommodate extreme dimensional differences in connector & wire assemblies	52-53

Non Polyolefin

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE °C		TYPICAL APPLICATIONS	SHRINK TEMPERATURE °C	FLAME RATING	SPECIFICATIONS	SIZES mm	FEATURES	PAGE
			MAX	MIN							
CHT	2:1	Thin Wall Rigid PVC	85	-20	Covering & insulation of capacitors, resistors and NC-batteries, decorative purposes	100	Flame Retardant	-	8,5 - 250,0 lay flat width	Low shrink temperature, wide colour- variety	56-57
CVN7	2:1	Thin Wall Flexible PVC	105	-30	Insulation of busbars, connectors, terminals, protection against mechanical stress and corrosion	100	Flame Retardant	UL, CSA, MIL	2,4 - 101,6	Favourable relation of price and quality	58-59
DERAY® KY175	2:1	Modified semi rigid PVDF	175	-55	Excellently suitable for applications where very high chemical and abrasion resistance are needed	175	Flame Retardant	UL-VW1, CSA, MIL, VG, DEF STAN, VDE, PAN	1,2 - 25,4	Highly flame retardant, High withstand to abrasion and cut-through	60-61
DERAY® KYF190	2:1	Modified flexible PVDF	190	-55	High flexible and abrasion resistance requiring applications. Very well applicable for chemical resistance or high operating temperature requirements	175	Flame Retardant	UL-VW1	1,2 - 12,7	Mechanically resistant, high operating temperature, very flexible	62-63
DERAY® V25	2:1	Modified very flexible Elastomer	150	-75	Developed for rugged demands with view to high fuel, chemical and insulation requirements	130	Flame Retardant	MIL, VG, DEF STAN, VDE, PAN	3,2 - 76,0	Diesel, oil, hydraulic fluid resistant	64-65
DERAY® V25 TW	2:1	Modified very flexible thin walled Elastomer	150	-75	Mechanical, chemical, temperature protection of sensitive components in combination with extreme flexibility	130	Flame Retardant	VG, VDE	2,4 - 38,0	Diesel, oil, hydraulic fluid resistant, very thinwalled	66-67
DERAY® VT220	2:1	Flexible Viton®	220	-55	Designed for applications where highest temperature resistance is required	175	Flame Retardant	MIL, VG, DEF STAN, VDE, PAN	3,2 - 50,8	Severe chemical & thermal environments, high resistance to impact & abrasion	68-69
DERAY® PTFE 4:1	4:1	Semi rigid Teflon®	260	-65	Extremely suitable for insulating and protecting objects from thermal load and chemical influence	350	Flame Retardant	-	1,98 - 31,75	Resistant to extremes of heat, shock, chemicals, abrasion	70-71
DERAY® PTFE AWG	2:1	Semi rigid Teflon®	260	-65	Fits to the same kinds applications as PTFE 4:1, but the diameters are related to the AWG	350	Flame Retardant	-	AWG30 (0,86mm) - AWG0 (11,94mm)	Resistant to extremes of heat, shock, chemicals, abrasion	70-71

Market Specific Products

PRODUCT NAME	SHRINK RATIO	DESCRIPTION	OPERATING TEMPERATURE °C		TYPICAL APPLICATIONS	SHRINK TEMPERATURE °C	FLAME RATING	SPECIFICATIONS	SIZES mm	FEATURES	PAGE
			MAX	MIN							
CCAP	3:1	PE End Caps	100	-55	Sealing of cables against moisture	120	Non Flame Retardant	-	10,2 - 119,4 (Diameter)	Superior resistance to weathering, moisture contamination and adverse environmental conditions	74-75
CCB	various	Cable breakouts PE	100	-55	Sealing of cable & conduit breakouts	120	Non Flame Retardant	-	33,0 - 125,0 (Diameter)	Shrink ratio accomodates a wide range of cables, also available as anti-track breakouts and conductive breakouts	76-77
CCBA & CCB-Con	various	Anti-track medium voltage breakouts & Conductive breakouts	100	-55	Sealing of cable & conduit breakouts	135	Non Flame Retardant	-	60,0 - 125,0 (Diameter)	Adhesive liner provides complete protection and insulation	78-79
CEC	various	PE End Caps	100	-55	Sealing of cables against moisture	120	Non Flame Retardant	-	15,0 - 148,0 (Diameter)	Unaffected by ultra-violet light, good chemical and solvent resistance	80-81
CFSP	3:1	Fiber Optic Splice Protection + Support Sleeve	60	-20	Protection of optical fiber splices	90	Non Flame Retardant	-	23,0 - 61,0 (Length)	Deburred stainless steel reinforcing member ends. Preventing contact between fibre and backbone	82-83
CGEL 596/711	-	Gel filled PE Drop Cable Splice Enclosure	80	-40	Waterproof coaxial cable joint	-	-	-	25,4 - 30,48 (Diameter)	Tough outer shell, fully re-enterable gel polymer for complete waterproof protection	84-85
CBTM	3:1	Medium wall anti-track tube	125	-40	Insulation of medium voltage busbars up to 25kV	120	Flame Retardant	-	19,0 - 228,6 (Diameter)	Specifically designed anti track tubing for medium voltage applications	86-87
CBTH	3:1	Heavy wall anti-track tube	125	-40	Insulation of medium voltage busbars up to 36 kV	120	Flame Retardant	-	27,9 - 167,6 (Diameter)	Specifically designed anti track tubing for medium voltage applications	88-89
KSF	>2:1	Heavy wall anti-track tube	135	-40	Insulation of medium voltage busbars up to 36 kV	125	Flame Retardant	-	19,0 - 100,0 (Diameter)	Specifically designed anti track tubing for medium voltage applications	90-91
CNTT	>2:1	Medium wall anti-track tube	125	-55	Insulation of medium voltage joints & terminations up to 36kV, in- and outdoor	120	Flame Retardant	-	33,0 - 70,0 (Diameter)	Exceptional electrical and weathering properties	92-93
CRDW	various	Railed Wraparound Sleeve	45	-15	Cable jacket repair & splicing applications	120	Non Flame Retardant	-	43,0 - 200,0 (Diameter)	Sleeve is closed with a flexible stainless steel locking channel	94-95
CRLS	3:1	RAIL-LESS® Repair Sleeve	110	-55	Cable repair & splicing applications where tubing cannot be used	120	Non Flame Retardant	-	30,0 - 171,0 (Diameter)	RAIL-LESS® Wraparound design for fast installation	96-97
LV Kits	-	Individually to combine	-	-	Jointing multi-core, polymeric insulated energy cables in the low voltage range.	-	-	-	-	Quick, simple installation, Exceptionally good electrical insulation	98-99
Signal Kits	-	Individually to combine	-	-	Particularly suitable for connecting screened signal cables in industry, rail and mass transit	-	-	-	-	Good mechanical load-bearing ability, No maintenance time necessary	100-101
MV Joints & Terminations	-	Individually to combine	-	-	Suitable for terminations and joints up to 36 kV for XLPE, PVC, PILC and PE medium voltage cables	-	-	-	-	Good stress control properties, Exceptional insulation characteristics	102-105

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Tubing Selection and Processing Information:

- The heat shrinkable tubing should be capable of shrinking to a size 20% smaller than the object to be covered.
- Cut the shrink tubing. Be sure to have a smooth cut edge.
- Slide the tubing over 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 tunnel.
- Optimal shrink temperature of the material is vital to assure a short shrink period. You can find the shrink temperature in the corresponding tables.
- In case of tubing with an adhesive inner lining the adhesive layer may have a slight discharge at the end.
- Ensure even heat distribution to prevent overheating. Overheating the material during the shrink process may cause bubbles, discolouration, or damage to the tube.

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

Ordering Information:

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

- Size: See „Dimensions“ chart in individual datasheet
- Colour Options*: See „Colour“ chart in individual datasheet
- Total Quantity & Length Options: See „Dimensions“ chart in individual datasheet
- Printing Options: printed, unprinted
- Adhesive lining Options** : lined, unlined

* Please note that not all standard colours are stock items. Non-stock items require a minimum order quantity. DSG-Canusa also offers predefined special colours, for which the usual lead time is longer and the minimum order quantity generally higher than for standard colours.

** For those products available in two versions

Example: Deray® HB, 1/2", black, 1.000 mtr, 100 m-pool, unprinted

For information on custom sizes and length-options please contact your customer service representative.

All information contained in this catalogue is believed to be reliable. We advise however that customers should separately evaluate the suitability of our products for their particular application.

DSG-Canusa and ShawCor give no guarantees in respect of the accuracy or sufficiency of the information presented and disclaim any liability regarding its use.

Our responsibilities are only those listed in our standard terms and conditions of sale for these products.

In no instance will we be liable for any eventual, indirect or consequential damage or damages arising from the sale, resale, transfer, use or misuse of the product.



Single Wall Products

Single Wall heat shrinkable tubing is used in a variety of applications in the electronics, automotive, military & aerospace sector including:

- Mechanical Protection
- Abrasion Protection
- Strain Relief
- Moisture Protection
- Cable Insulation
- Marking & Bundling of electronic components

DERAY® HB

Economical, non self-extinguishing,
halogen free heat shrink tubing

Features

- Flexible
- Halogen free alternative to PVC
- Continuous Operating
Temperature: -55°C to 105°C
- Shrink Temperature: 125°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black		Black & Clear		Lengths 1.22 m pcs.
mm	IN	mm	mm	Spool Length m	Style*	Spool Length m	Style*	
1,2	3/64	0,6	0,40	300	o	150	o	-
1,6	1/16	0,8	0,40	300	o	150	o	-
2,4	3/32	1,2	0,50	300	o	150	o	-
3,2	1/8	1,6	0,50	300	o	150	o	-
4,8	3/16	2,4	0,50	300	o	75	o	-
6,4	1/4	3,2	0,60	300	o	75	o	-
9,5	3/8	4,8	0,60	150	o	75	o**	-
12,7	1/2	6,4	0,60	100	o	50	-	-
19,0	3/4	9,5	0,80	50	-	30	-	-
25,4	1	12,7	0,90	50	-	30	-	-
38,1	1 1/2	19,0	1,00	50	-	30	-	-
50,8	2	25,4	1,10	50	-	30	-	-

* o = airfilled or oval ** black only, other colours flattened - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	17,0 MPa
Elongation	IEC 60684-2	500%
Longitudinal Change	ASTM-D 2671	6% max.
Secant Modulus	ASTM-D 882	170 MPa max.
Specific Gravity	ASTM-D 792, A-I	0,95 g/cm ³
Elongation after Heat Aging (168 hrs at 150°C)	IEC 811-1-2	470%
Tensile Strength after Heat Aging (168 hrs at 150°C)	IEC 811-1-2	16 MPa
Elongation after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	480%
Tensile Strength after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	16 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C
Flammability	FMVSS302	passed

Standard Colours	Special Colours
black	clear
	On Request

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	VDE 0303 Part 2	20 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁴ Ω x cm

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		good
Water Absorption	VDE 0472	0,30%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

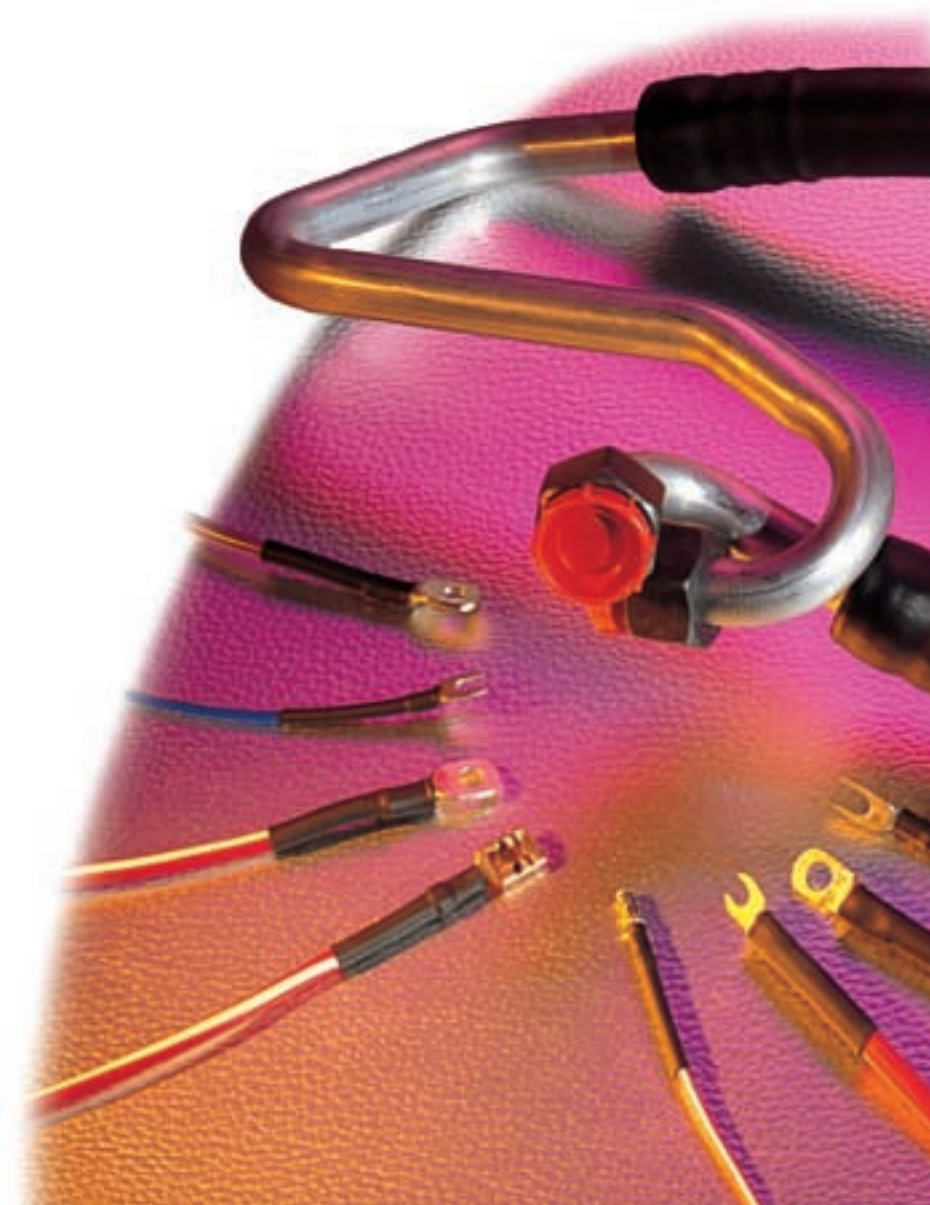
Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® HB 1/2" black, 2.500 mtr., 100m-spool, unprinted

DERAY® LSB

Low shrink temperature tubing,
ideal for covering sensitive
electronic components

Features

- Flexible
- Ideal for high volume production lines
- Continuous Operating Temperature: -45°C to 125°C
- Shrink Temperature: 70°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black		Black & Special colours		Lengths 1.22 m pcs.
mm	IN	mm	mm	Spool Length m	Style*	Spool Length m	Style*	
3,2	1/8	1,6	0,50	300	o	150	o	-
4,8	3/16	2,4	0,50	300	o	75	o	-
6,4	1/4	3,2	0,60	300	o	75	o	-
9,5	3/8	4,8	0,60	150	o	75	o**	-
12,7	1/2	6,4	0,60	100	o	50	-	-
16,0	5/8	8,0	0,60	100	-	50	-	-
19,0	3/4	9,5	0,80	50	-	30	-	-
25,4	1	12,7	0,90	50	-	30	-	-

* o = airfilled or oval ** black only, other colours flattened - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	14 MPa
Elongation	IEC 60684-2	420%
Longitudinal Change	ASTM-D 2671	6% max.
Secant Modulus	ASTM-D 882	40 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,2 g/cm ³
Elongation after Heat Aging (168 hrs at 158°C)	UL 224	390%
Tensile Strength after Heat Aging (168 hrs at 158°C)	UL 224	11 MPa
Elongation after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	450%
Tensile Strength after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	13 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -45°C
Flammability	FMVSS302	passed

Standard Colours	Special Colours
black ■	On Request

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	VDE 0303 Part 2	25 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁴ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		good
Water Absorption	VDE 0472	0,20%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® LSB 1/2" black, 2.500 mtr., 100m-spool, unprinted

DERAY® H

Flame retardant, multi-purpose
heat shrink tubing



Features

- Flexible
- Suitable for various applications
- Continuous Operating
Temperature: -55°C to 125°C
- Shrink Temperature: 110°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black		Black & Coloured		Lengths 1.22 m pcs.
mm	IN	mm	mm	Spool Length m	Style*	Spool Length m	Style*	
1,2	3/64	0,6	0,40	300	o	150	o	25
1,6	1/16	0,8	0,40	300	o	150	o	25
2,4	3/32	1,2	0,50	300	o	150	o	25
3,2	1/8	1,6	0,50	300	o	150	o	25
4,8	3/16	2,4	0,50	300	o	75	o	25
6,4	1/4	3,2	0,60	300	o	75	o	10
9,5	3/8	4,8	0,60	150	o	75	o**	10
12,7	1/2	6,4	0,60	100	o	50	-	10
16,0	5/8	8,0	0,60	100	-	-	-	10
19,0	3/4	9,5	0,80	50	-	30	-	10
25,4	1	12,7	0,90	50	-	30	-	10
31,8	1 1/4	15,9	0,90	50	-	30	-	-
38,0	1 1/2	19,0	1,00	50	-	30	-	-
50,8	2	25,4	1,10	50	-	30	-	-

* o = airfilled or oval ** black only, other colours flattened - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Tensile Strength	IEC 60684-2	15 MPa	19MPa
Elongation	IEC 60684-2	450%	530%
Longitudinal Change	ASTM-D 2671	± 10% max.	± 10% max.
Secant Modulus	ASTM-D 882	175 MPa max.	175 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,25 g/cm ³	1,00 g/cm ³
Elongation after Heat Aging (168 hrs at 158°C)	UL 224	300%	490%
Tensile Strength after Heat Aging (168 hrs at 158°C)	UL 224	12 Mpa	18 MPa
Elongation after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	400%	500%
Tensile Strength after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	13 MPa	18 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C	does not break at -55°C
Flammability	UL 224 (coloured) FMVSS 302 (clear)	flame retardant	passed

Standard Colours							Special Colours
black	clear*	red	yellow	blue	white	green	On Request

*clear not UL or CSA listed

Electrical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Dielectric Strength	VDE 0303 Part 2	24 kV/mm	26 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁵ Ω x cm	10 ¹⁵ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive	non-corrosive
Chemical Resistance		good	good
Water Absorption	VDE 0472	0,15%	0,30%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® H 1/4" black, 2.100 mtr., 300m-spool, unprinted

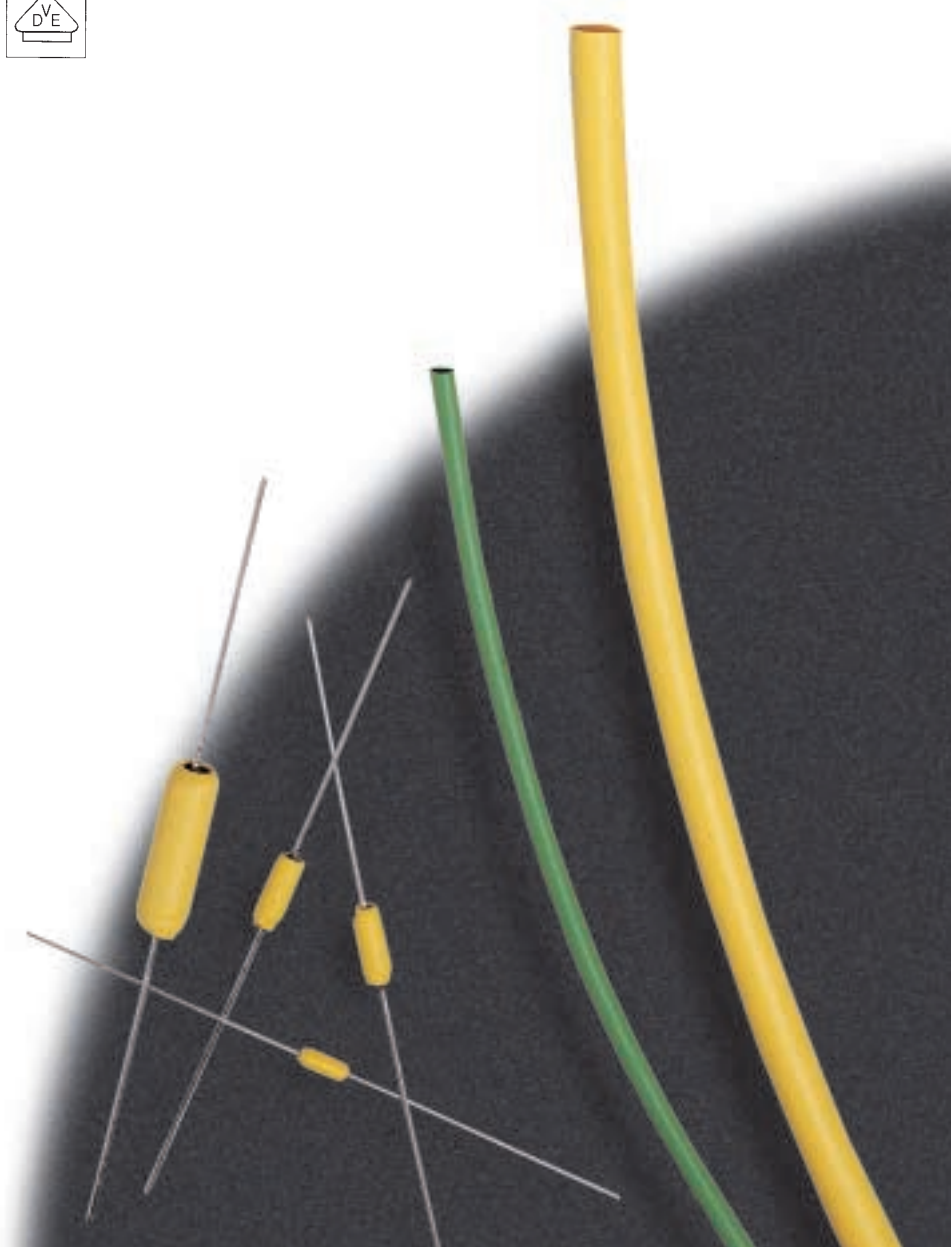
DERAY® I

Universal heat shrink tubing with excellent physical and mechanical properties



Features

- Flexible
- Flame Retardant
- Meets MIL - DTL - 23053/5 class 1+2
- Continuous Operating Temperature: -55°C to 135°C
- Shrink Temperature: 90°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black		Black & Coloured		Lengths 1.22 m pcs.
mm	IN	mm	mm	Spool Length m	Style*	Spool Length m	Style*	
1,2	3/64	0,6	0,40	300	o	150	o	25
1,6	1/16	0,8	0,40	300	o	150	o	25
2,4	3/32	1,2	0,50	300	o	150	o	25
3,2	1/8	1,6	0,50	300	o	150	o	25
4,8	3/16	2,4	0,50	300	o	75	o	25
6,4	1/4	3,2	0,60	300	o	75	o	10
9,5	3/8	4,8	0,60	150	o	75	o**	10
12,7	1/2	6,4	0,60	100	o	50	-	10
16,0	5/8	8,0	0,60	100	-	50	-	10
19,0	3/4	9,5	0,80	50	-	30	-	10
25,4	1	12,7	0,90	50	-	30	-	10
31,8	1 1/4	15,9	0,90	50	-	30	-	-
38,0	1 1/2	19,0	1,00	50	-	30	-	-
51,0	2	25,4	1,10	50	-	30	-	-
76,0	3	38,0	1,30	25	-	15	-	-
101,6	4	50,8	1,40	25	-	15	-	-

* o = airfilled or oval ** black only, other colours flattened - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Tensile Strength	IEC 60684-2	17 MPa	20 MPa
Elongation	IEC 60684-2	500%	550%
Longitudinal Change	ASTM-D 2671	± 5% max.	± 5% max.
Secant Modulus	ASTM-D 882	175 MPa max.	175 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,3 g/cm ³	1,0 g/cm ³
Elongation after Heat Aging (168 hrs at 175°C)	ASTM-D 2671	300%	500%
Tensile Strength after Heat Aging (168 hrs at 175°C)	ASTM-D 2671	13 Mpa	18 MPa
Heat Shock (4 hrs at 250°C)	ASTM-D 2671	No cracking or flowing	No cracking or flowing
Tensile Strength after Heat Shock (4 hrs at 250°C)	IEC 811-1-3	19 MPa	15 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C	does not break at -55°C
Flammability	UL 224 (coloured) FMVSS 302 (clear)	flame retardant	passed

Standard Colours						Special Colours - On request				
black	clear*	red	yellow	blue	white	green	brown	orange	grey	violet

*clear not UL or CSA listed

Electrical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Dielectric Strength	VDE 0303 Part 2	24 kV/mm	24 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁶ Ω x cm	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive	non-corrosive
Chemical Resistance		good	good
Water Absorption	VDE 0472	0,20%	0,20%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® I 1/2" black, 2.500 mtr., 100m-spool, unprinted

DERAY® ITW

Ultra thin wall, very flexible
heat shrink tubing

Features

- Very flexible
- Flame retardant
- Continuous Operating
Temperature: -55°C to 135°C
- Shrink Temperature: 90°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS		
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black & Clear Spool Length	Style*	Lengths 1.22 m
mm	IN	mm	mm	m		pcs.
2,5	-	0,8	0,30	300	o	-
4,0	-	1,6	0,30	300	o	-
5,6	-	2,4	0,30	300	o	-
8,1	-	3,2	0,35	150	o	-
11,0	-	4,8	0,35	150	o	-
15,0	-	6,4	0,35	100	-	-
20,0	-	9,5	0,45	50	-	-
26,0	-	12,7	0,50	50	-	-

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Tensile Strength	IEC 60684-2	17 MPa	20 MPa
Elongation	IEC 60684-2	500%	550%
Longitudinal Change	ASTM-D 2671	± 10% max.	± 10% max.
Secant Modulus	ASTM-D 882	175 MPa max.	175 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,3 g/cm ³	1,0 g/cm ³
Elongation after Heat Aging (168 hrs at 175°C)	ASTM-D 2671	300%	500%
Tensile Strength after Heat Aging (168 hrs at 175°C)	ASTM-D 2671	13 MPa	18 MPa
Elongation after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	480%	530%
Tensile Strength after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	15 MPa	19 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C	does not break at -55°C
Flammability	UL 224 (coloured) FMVSS 302 (clear)	flame retardant	passed

Standard Colours	Special Colours - On Request
clear	black

Electrical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Dielectric Strength	VDE 0303 Part 2	24 kV/mm	24 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁶ Ω x cm	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive	non-corrosive
Chemical Resistance		good	good
Water Absorption	VDE 0472	0,20%	0,20%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® ITW 8,1mm clear, 1.500 mtr., 150m-spool, unprinted

DERAY® I 3000

High shrink ratio, flexible heat shrink tubing



Features

- Flexible
- High Shrink Ratio
- Flame retardant
- Resistant to common fluids and solvents
- Meets MIL-DTL-23053/5 class 1+2
- Continuous Operating Temperature: -55°C to 135°C
- Shrink Temperature: 90°C



Dimensions

EXPANDED		RECOVERED			DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w		Black		Black & Coloured		Lengths 1.22 m pcs.
mm	IN	mm	mm	Spool Length m	Style*	Spool Length m	Style*		
1,6	1/16	0,5	0,45	300	o	150	o	25	
3,2	1/8	1,0	0,55	300	o	150	o	25	
4,8	3/16	1,5	0,60	300	o	75	o	25	
6,4	1/4	2,0	0,65	300	o	75	o	10	
9,5	3/8	3,0	0,75	150	o	75	o	10	
12,7	1/2	4,0	0,75	100	o	50	-	10	
19,0	3/4	6,0	0,85	50	-	30	-	10	
25,4	1	8,0	1,00	50	-	30	-	10	
39,0	1 1/2	13,0	1,15	50	-	30	-	-	

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Tensile Strength	IEC 60684-2	17 MPa	20 MPa
Elongation	IEC 60684-2	500%	550%
Longitudinal Change	ASTM-D 2671	± 10% max.	± 10% max.
Secant Modulus	ASTM-D 882	175 MPa max.	175 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,3 g/cm ³	1,0 g/cm ³
Elongation after Heat Aging (168 hrs at 175°C)	ASTM-D 2671	300%	500%
Tensile Strength after Heat Aging (168 hrs at 175°C)	ASTM-D 2671	13 Mpa	18 Mpa
Elongation after Heat Shock (4 hrs at 250°C)	ASTM-D 2671	No cracking or flowing	No cracking or flowing
Tensile Strength after Heat Shock (4 hrs at 250°C)	IEC 811-1-3	19 MPa	15 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C	does not break at -55°C
Flammability	UL 224 (coloured) FMVSS 302 (clear)	flame retardant	passed

Standard Colours					Special Colours - On Request					
black	clear	red	yellow	blue	white	brown	orange	green	violet	grey
■	■	■	■	■	■	■	■	■	■	■

Electrical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Dielectric Strength	VDE 0303 Part 2	24 kV/mm	24 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁶ Ω x cm	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive	non-corrosive
Chemical Resistance		good	good
Water Absorption	VDE 0472	0,20%	0,20%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® I3000 6/2 black, 1.800 mtr., 300m-spool, unprinted

DERAY® IGY

Dual colour, flexible, non-meltable, quick shrinking heat shrink tubing

DEF STAN 59/97

Features

- Flexible
- High shrink ratio
- Flame retardant
- Resistant to common fluids and solvents
- Continuous Operating Temperature: -55°C to 135°C
- Shrink Temperature: 90°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS		
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Green-Yellow Spool Length	Style*	Lengths 1.22 m
mm	IN	mm	mm	m		pcs.
3,2	1/8	1,0	0,55	150	o	25
4,8	3/16	1,5	0,60	75	o	25
6,4	1/4	2,0	0,65	75	o	10
9,5	3/8	3,0	0,75	75	-	10
12,7	1/2	4,0	0,75	50	-	10
19,0	3/4	6,0	0,85	30	-	10
25,4	1	8,0	1,00	30	-	10
39,0	1 1/2	13,0	1,15	30	-	-

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	15 MPa
Elongation	IEC 60684-2	450%
Longitudinal Change	ASTM-D 2671	± 10% max.
Secant Modulus	ASTM-D 882	175 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,3 g/cm ³
Elongation after Heat Aging (168 hrs at 175°C)	UL 224	300%
Tensile Strength after Heat Aging (168 hrs at 175°C)	UL 224	12 Mpa
Elongation after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	400%
Tensile Strength after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	14 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C
Flammability	UL 224	flame retardant

Standard Colours	Special Colours
green-yellow	Not Available

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	VDE 0303 Part 2	24 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		good
Water Absorption	VDE 0472	0,20%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® IGY 19/6 green-yellow, 300 mtr., 30m-spool, unprinted

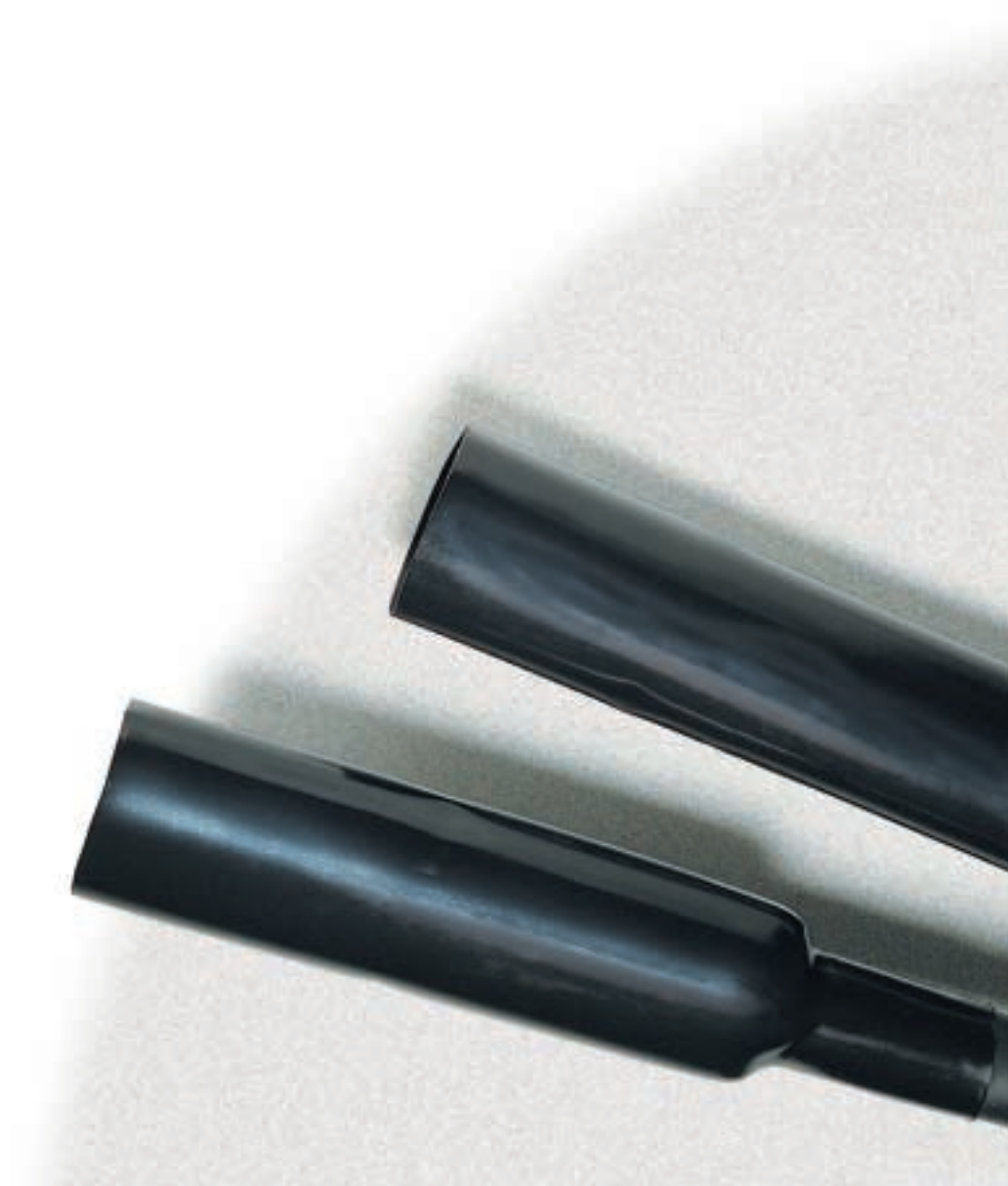
CZT 200

Zero halogen, flexible heat shrink tubing

DEF STAN 59/97

Features

- Flexible
- Zero halogen
- Flame retardant
- Low smoke generation at burnings
- Recommended for use with zero halogen wires & cables
- Meets DEF STAN 59-97, issue 3, type 8
- Continuous Operating Temperature: -40°C to 105°C
- Shrink Temperature: 115°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black		Black & Coloured		Lengths 1.22 m pcs.
mm	IN	mm	mm	Spool Length m	Style*	Spool Length m	Style*	
1,6	1/16	0,8	0,45	300	o	150	o	-
2,4	3/32	1,2	0,51	300	o	150	o	-
3,2	1/8	1,6	0,51	300	o	150	o	-
4,8	3/16	2,4	0,51	300	o	75	o	-
6,4	1/4	3,2	0,64	300	o	75	o	-
9,5	3/8	4,8	0,64	150	o	75	o**	-
12,7	1/2	6,4	0,64	100	o	50	-	-
16,0	5/8	8,0	0,64	100	-	50	-	-
19,0	3/4	9,5	0,76	50	-	30	-	-
25,4	1	12,7	0,89	50	-	30	-	-
31,8	1 1/4	16,0	0,89	50	-	30	-	-
38,0	1 1/2	19,0	1,02	50	-	30	-	-
51,0	2	25,4	1,14	50	-	30	-	-
76,0	3	38,0	1,27	25	-	15	-	-
101,6	4	50,8	1,40	25	-	15	-	-

* o = airfilled or oval ** black only, other colours flattened - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	10 MPa
Elongation	IEC 60684-2	200%
Longitudinal Change	ASTM-D 2671	± 10% max.
Secant Modulus	ASTM-D 882	130 MPa max.
Specific Gravity	ISO/R 1183	1,45 g/cm ³
Elongation after Heat Aging (168 hrs at 158°C)	ISO 37	150%
Elongation after Heat Shock (4 hrs at 150°C)	ASTM-D 2671	100% min.
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -40°C
Flammability	ASTM-D 635	flame retardant

Standard Colours	Special Colours
black white yellow	On Request

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	IEC 243	24 kV/mm
Volume Resistivity	ASTM D 2671	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		good to excellent
Water Absorption	ASTM-D570	0,20%

Printability	Hot stamp	Ink jet	Offset
good	good	good	good

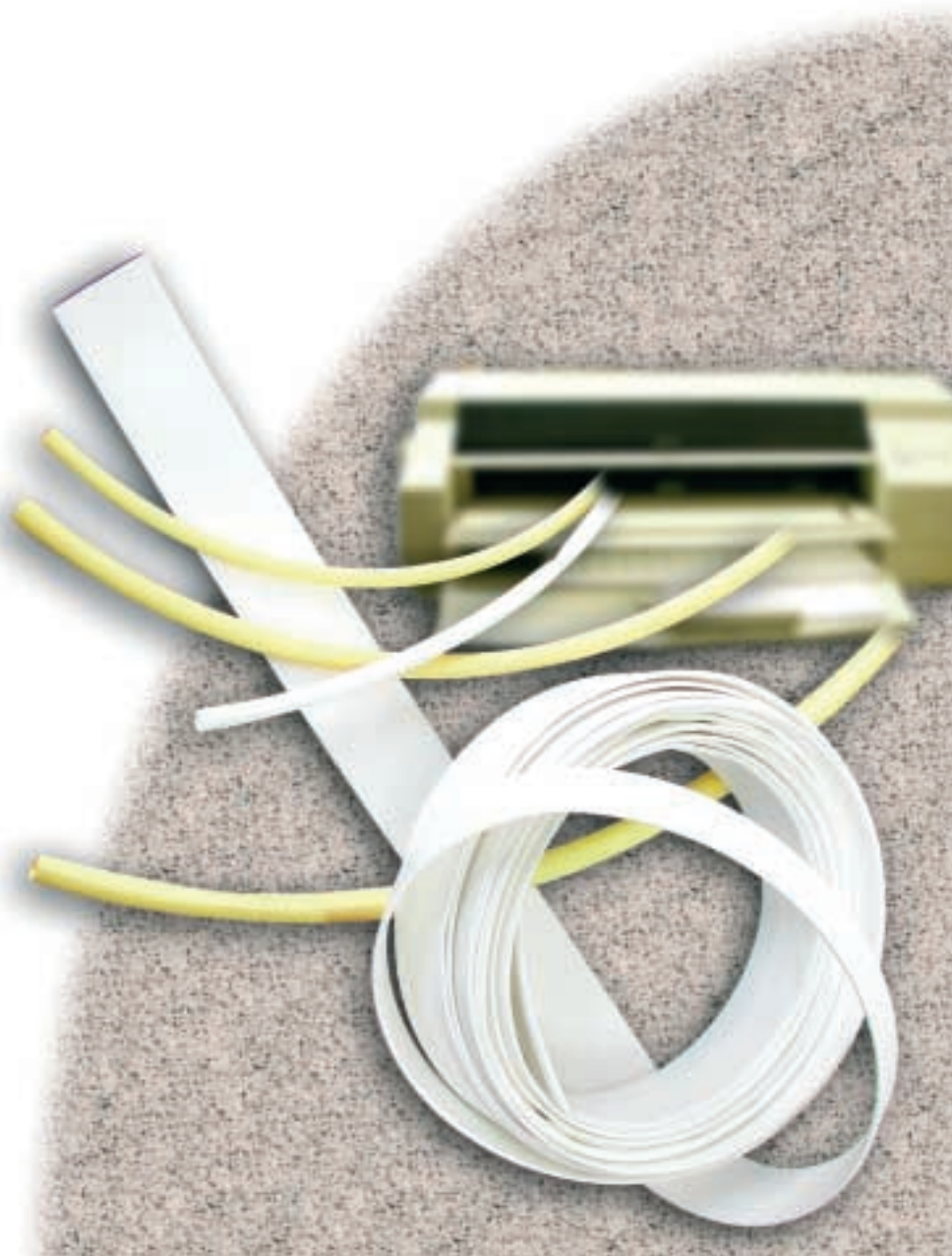
Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: CZT 200 1/2" black, 2.000 mtr., 100m-spool, unprinted

BEX 100

Flexible heat shrink marker tubing

Features

- Flexible
- Flame retardant
- Very suitable for printing with thermal transfer and dot matrix printers
- Smudge resistant surface
- Continuous Operating Temperature: -55°C to 135°C
- Shrink Temperature: 120°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS		
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Yellow + White Spool Length	White Style*	Lengths 1,22 m
mm	IN	mm	mm	m		
2,4	3/32	1,2	0,50	200	o	-
3,2	1/8	1,6	0,50	150	o	-
4,8	3/16	2,4	0,50	150	o	-
6,4	1/4	3,2	0,60	150	o	-
9,5	3/8	4,8	0,60	100	-	-
12,7	1/2	6,4	0,60	100	-	-
19,0	3/4	9,5	0,80	100	-	-
25,4	1	12,7	0,90	75	-	-
38,1	1 1/2	19,0	1,00	50	-	-

* o = airfilled or oval - flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ISO 37	18 MPa
Elongation	ISO 37	400%
Longitudinal Change	ASTM-D 2671	±5 % max.
Secant Modulus	ASTM-D 882	130 MPa
Specific Gravity	ISO/R 1183	1,34 g/cm ³
Elongation after Heat Aging (168 hrs at 175°C)	ISO 37	350%
Heat Shock (4 hrs at 250°C)	ASTM-D 2671	No cracking, dripping or flowing
Low Temperature Flexibility	ASTM-D 2671	does not break at -55°C
Flammability	ASTM-D 2671	Flame retardant

Standard Colours	Special Colours
yellow  white 	On Request

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	IEC 243	20 kV/mm

Chemical

Property	Test Method	Typical Performance
Chemical Resistance	ISO 1817, ISO 37, MIL-I 23053	good
Water Absorption	ASTM-D 570	0,20%

Printability	Thermal transfer	Dot Matrix
	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: BEX 100 1/2" yellow, 1.000 mtr., 100m-spool, unprinted

CPX 876

Flexible, highly flame retardant
heat shrink tubing



Features

- Highly flame retardant, UL-224 VW-1 & CSA OFT
- Flexible
- Resistant to common fluids and solvents
- Meets MIL-DTL-23053/5, class 3
- Continuous Operating Temperature: -55°C to 135°C
- Shrink Temperature: 110°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black		Black & Coloured		Lengths 1.22 m pcs.
mm	IN	mm	mm	Spool Length m	Style*	Spool Length m	Style*	
1,2	3/64	0,6	0,45	300	o	150	o	-
1,6	1/16	0,8	0,45	300	o	150	o	-
2,4	3/32	1,2	0,50	300	o	150	o	-
3,2	1/8	1,6	0,50	300	o	150	o	-
4,8	3/16	2,4	0,50	300	o	75	o	-
6,4	1/4	3,2	0,65	300	o	75	o	-
9,5	3/8	4,8	0,65	150	o	75	-	-
12,7	1/2	6,4	0,65	100	o	50	-	-
16,0	5/8	8,0	0,65	100	-	50	-	-
19,0	3/4	9,5	0,75	50	-	30	-	-
25,4	1	12,7	0,90	50	-	30	-	-
31,8	1 1/4	15,9	0,90	50	-	30	-	-
38,0	1 1/2	19,0	1,00	50	-	30	-	-
51,0	2	25,4	1,15	50	-	30	-	-
76,0	3	38,0	1,25	25	-	15	-	-
101,6	4	50,8	1,40	25	-	15	-	-

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ISO 37	17 MPa
Elongation	ISO 37	400%
Longitudinal Change	ASTM-D 2671	± 5% max.
Secant Modulus	ASTM-D 882	175 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,4 g/cm ³
Elongation after Heat Aging (168 hrs at 175°C)	ISO 37	400%
Elongation after Heat Shock (4 hrs at 250°C)	ASTM-D 2671	no dripping, flowing or ripping
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C
Flammability	UL 224, VW-1	flame retardant

Standard Colours	Special Colours - On request								
black	red	blue	white	yellow	brown	green	orange	grey	violet

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	IEC 243	20 kV/mm
Volume Resistivity	ASTM-D 2671	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		good to excellent
Water Absorption	ASTM-D 570	0,50%

Printability	Hot stamp	Ink jet	Offset
good	good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: CPX876 3/8" black, 1.500 mtr., 150m-spool, unprinted



Dual Wall Products

DSG-Canusa offers a wide range of dual wall products. The available combinations of jacket materials and adhesives allow the customer to choose just the right tubing for the application and environmental conditions.

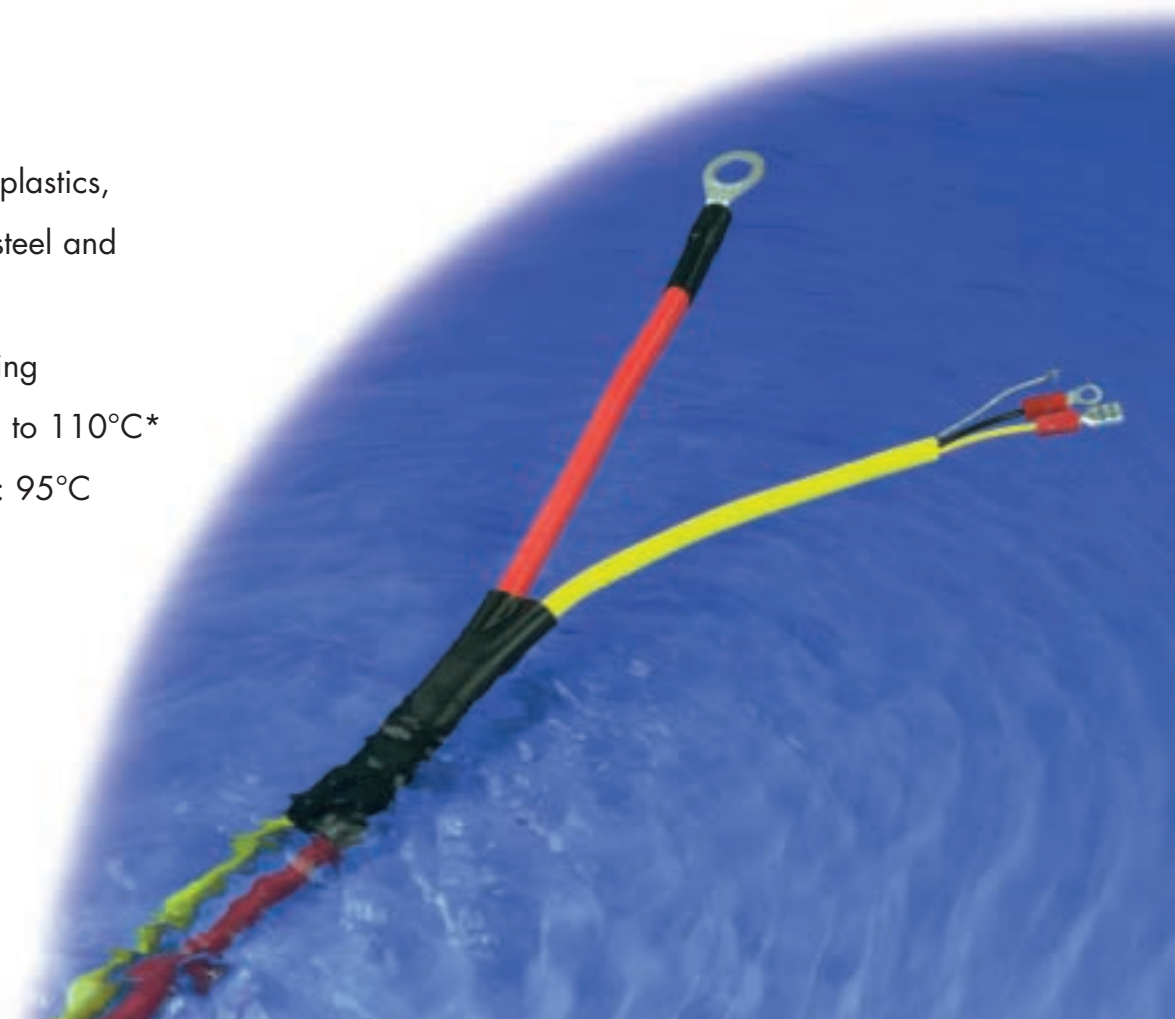
DERAY® IAKT

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

Features

- Flexible
- High shrink ratio
- Adhesive bonds to plastics, rubber, neoprene, steel and polyethylene
- Continuous Operating Temperature: -55°C to 110°C*
- Shrink Temperature: 95°C

*Outer Jacket



Dimensions 3:1

EXPANDED		RECOVERED				DELIVERY UNITS			
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	WALL THICKNESS ADHESIVE (NOM) w	Black		Black & Clear		Lengths 1.22 m
mm	IN	mm	mm	mm	Spool Length	Style*	Spool Length	Style*	
3,0	-	1,0	1,00	0,40	300	o	150	o	25
4,5	-	1,5	1,10	0,50	300	o	75	o	25
6,0	-	2,0	1,20	0,50	300	o	75	o	10
9,0	-	3,0	1,40	0,50	150	o	75	o	10
12,0	-	4,0	1,70	0,60	100	o	50	o	10
19,0	-	6,0	2,10	0,60	50	o	30	o	10
24,0	-	8,0	2,40	0,70	50	o	30	o	10
40,0	-	13,0	2,40	0,70	30	o	-	-	10

Dimensions 4:1

EXPANDED		RECOVERED				DELIVERY UNITS			
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	WALL THICKNESS ADHESIVE (NOM) w	Black		Black & Clear		Lengths 1.22 m
mm	IN	mm	mm	mm	Spool Length	Style*	Spool Length	Style*	
4,0	-	1,0	1,00	0,40	300	o	150	o	25
8,0	-	2,0	1,20	0,50	150	o	75	o	10
12,0	-	3,0	1,40	0,50	100	o	50	o	10
16,0	-	4,0	1,70	0,60	50	o	-	-	10
24,0	-	6,0	2,10	0,60	50	o	30	o	10
32,0	-	8,0	2,40	0,70	50	o	30	o	10
52,0	-	13,0	2,40	0,70	30	o	-	-	10

* o = airfilled or oval -- = flattened

Technical Data

Physical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Tensile Strength	IEC 60684-2	15,0 MPa	17,0 MPa
Elongation	IEC 60684-2	400%	450%
Longitudinal Change 3:1	ASTM-D 2671	- 15% max.	- 15% max.
Longitudinal Change 4:1	ASTM-D 2671	- 18% max.	- 18% max.
Specific Gravity	ASTM-D 792, A-I	1,25 g/cm ³	1,00 g/cm ³
Elongation after Heat Aging (168 hrs at 150°C)	IEC 811-1-2	320%	360%
Tensile Strength after Heat Aging (168 hrs at 150°C)	IEC 811-1-2	14 MPa	15 MPa
Elongation after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	360%	380%
Tensile Strength after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	15 MPa	16 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C	does not break at -55°C
Flammability	ASTM-D 876 (coloured) FMVSS 302 (clear)	flame retardant jacket	passed

Standard Colours		Special Colours	
black	clear	On Request	

Electrical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Dielectric Strength	VDE 0303 Part 2	22 kV/mm	23 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁴ Ω x cm	10 ¹⁴ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive	non-corrosive
Chemical Resistance		good	good
Water Absorption	VDE 0472	0,15%	0,17%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® IAKT 3:1 12,0 mm black, 1.000 mtr., 100m-spool, unprinted

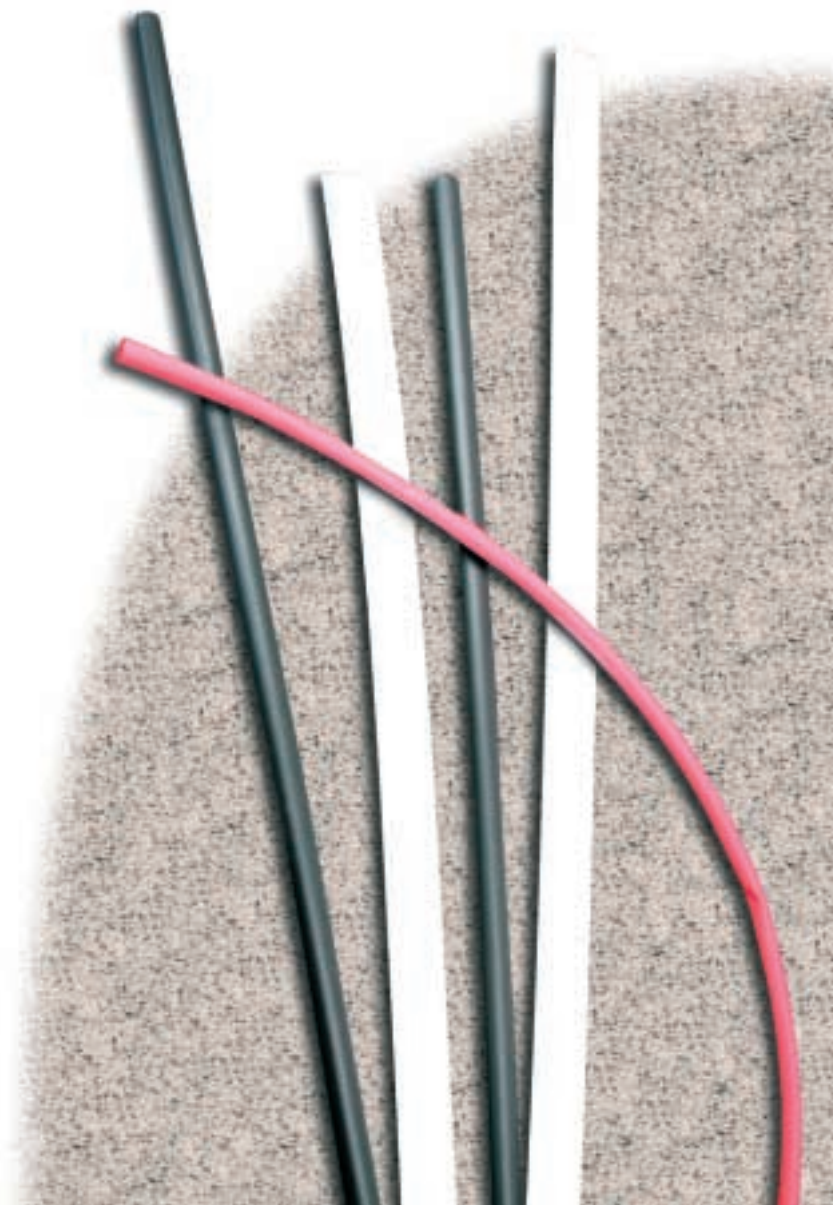
CPA 300

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



Features

- Flame retardant
- Superior sealing against water, moisture or other contaminants
- Meets MIL - DTL - 23053/4 Class 3
- Continuous Operating Temperature: -55°C to 125°C
- Shrink Temperature: 120°C



Dimensions

EXPANDED		RECOVERED			DELIVERY UNITS
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	WALL THICKNESS ADHESIVE (NOM) w	Lengths 1.22 m
mm	IN	mm	mm	m	pcs.
3,2	1/8	1,0	1,00	0,50	25
4,8	3/16	1,5	1,00	0,50	25
6,4	1/4	2,0	1,00	0,50	25
7,9	5/16	2,5	1,30	0,70	25
9,5	3/8	3,2	1,50	0,70	25
12,7	1/2	4,1	1,80	0,80	25
19,1	3/4	7,5	1,80	0,80	25
25,4*	1	8,1	2,50	1,00	25
31,8*	1 1/4	10,6	2,50	1,00	25
39,9*	1 1/2	13,0	2,50	1,00	20

* These sizes are not UL listed

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 638	12,4 MPa
Elongation	ASTM-D 638	450%
Longitudinal Change	ASTM-D 2671	1% to -5% max.
Specific Gravity	MIL-DTL-23053/4	1,22 g/cm ³
Heat Resistant Properties (168 hrs at 175°C)	MIL-DTL-23053/4	no cracking, flowing or dripping of outer wall
Heat Shock (4 hrs at 250°C)	MIL-DTL-23053/4	no cracking, flowing or dripping of outer wall
Flammability	ASTM-D 2671	flame retardant

Standard Colours			Special Colours
black	white**	red**	On Request

** white and red products are not UL listed

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 2671	22 kV/mm
Volume Resistivity	ASTM-D 876	10 ¹⁴ Ω x cm

Chemical

Property	Test Method	Typical Performance
Corrosive Action	MIL-DTL-23053/4	non-corrosive
Copper Compatibility	MIL-DTL-23053/4	non-corrosive
Chemical Resistance		good to excellent
Water Absorption	ASTM-D 570	0,20%

Printability	Hot stamp	Ink jet	Offset
	good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: CPA 300, 1/4", black, 244 mtr, 1,22 mtr-lengths, unprinted

DERAY® IHKT

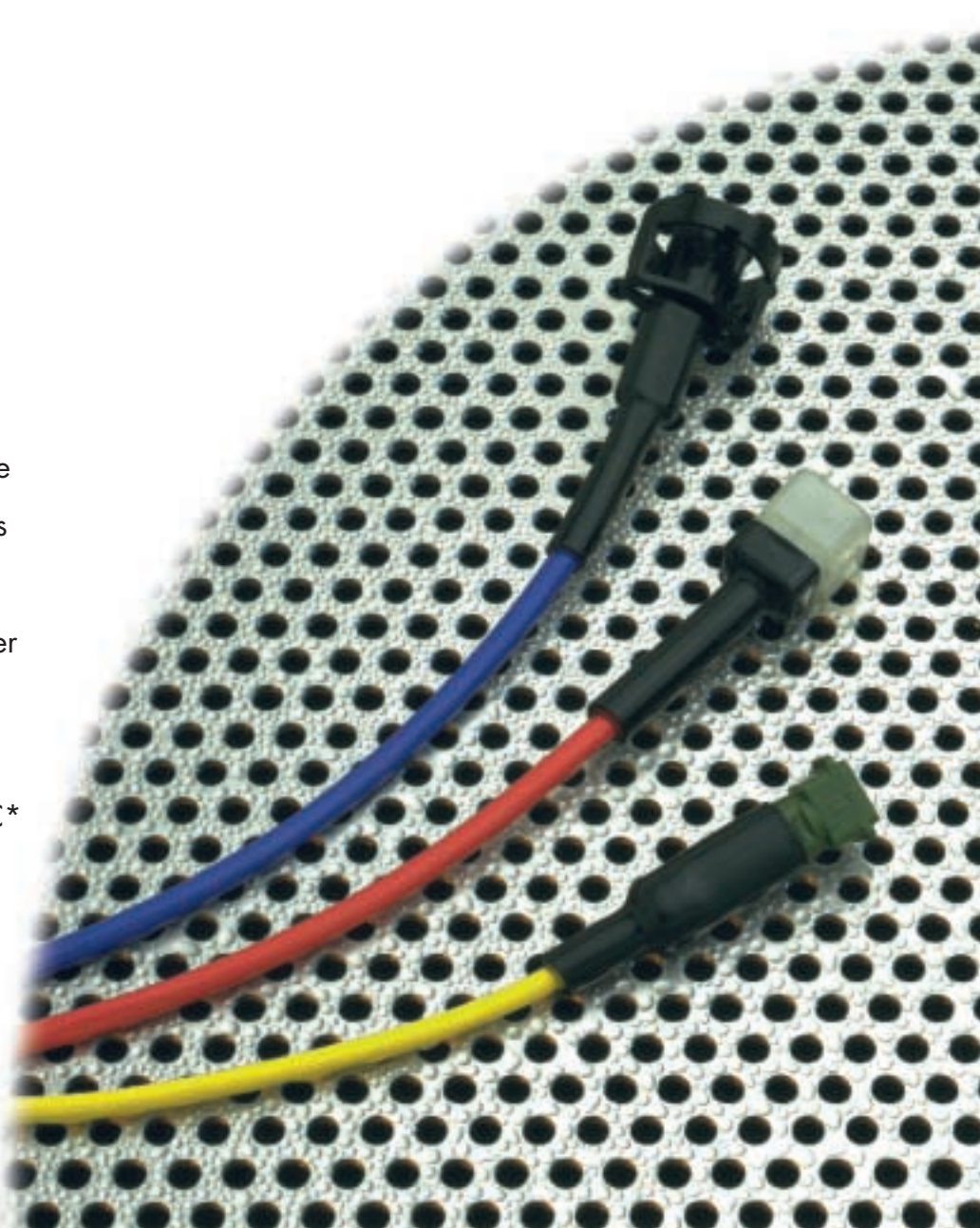
Flexible heat shrink tubing with a temperature resistant polyamide adhesive inner lining



Features

- Flexible
- Very high shrink ratio
- Specially designed polyamide adhesive protects components at higher temperatures
- Superior sealing against water or other contaminants
- Continuous Operating Temperature: -55°C to 125°C*
- Shrink Temperature: 100°C

*Outer Jacket



Dimensions

EXPANDED		RECOVERED			DELIVERY UNITS		
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	WALL THICKNESS ADHESIVE (NOM) w	Black Spool Length	Style*	Lengths 1.22 m
mm	IN	mm	mm	mm	m		pcs.
4,0	-	1,0	1,00	0,40	300	o	25
8,0	-	2,0	1,20	0,40	150	o	10
12,0	-	3,0	1,40	0,40	100	o	10
16,0	-	4,0	1,70	0,60	50	o	10
24,0	-	6,0	2,10	0,60	50	o	10
32,0	-	8,0	2,40	0,70	50	o	10
52,0	-	13,0	2,40	0,70	30	o	10

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Tensile Strength	IEC 60684-2	17,0 MPa	19,0 MPa
Elongation	IEC 60684-2	600%	500%
Longitudinal Change	ASTM-D 2671	- 18% max.	- 18% max.
Specific Gravity	ASTM-D 792, A-I	1,25 g/cm ³	1,00 g/cm ³
Elongation after Heat Aging (168 hrs at 160°C)	IEC 811-1-2	400%	450%
Tensile Strength after Heat Aging (168 hrs at 160°C)	IEC 811-1-2	11 MPa	16 MPa
Elongation after Heat Shock (4 hrs at 210°C)	IEC 811-1-2	360%	450%
Tensile Strength after Heat Shock (4 hrs at 210°C)	IEC 811-1-2	14 MPa	16 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C	does not break at -55°C
	ASTM-D 876	flame retardant jacket	
Flammability	FMVSS 302		passed

Standard Colours	Special Colours
black	Clear

Electrical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Dielectric Strength	VDE 0303 Part 2	16 kV/mm	18 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁴ Ω x cm	10 ¹⁴ Ω x cm

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		very good
Water Absorption	VDE 0472	0,10%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® IHKT 24,0mm black, 500 mtr., 50m-spool, unprinted

CBK

Designed to environmentally seal electronic wire harness assemblies

Features

- Very high shrink ratio
- Special adhesive flows readily on installation to fill voids
- Resistant to acids, alkalis and gasoline
- Continuous Operating Temperature: -55°C to 125°C
- Shrink Temperature: 120°C



Dimensions

EXPANDED		RECOVERED			DELIVERY UNITS		
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	WALL THICKNESS ADHESIVE (NOM) w	Black & Clear Spool Length		Lengths 1.22 m
mm	IN	mm	mm	mm	m	Style*	pcs.
6,0	-	1,4	1,35	0,95	300	o	-
8,0	-	1,6	1,75	0,95	150	o	-
12,0	-	2,5	2,00	1,10	100	o	-
18,0	-	3,7	2,60	1,50	50	o	-

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Tensile Strength	IEC 60684-2	17,0 MPa	15,0 MPa
Elongation	IEC 60684-2	500%	400%
Longitudinal Change	ASTM-D 2671	± 10% max.	± 10% max.
Specific Gravity	ASTM-D 792, A-I	1,25 g/cm ³	1,20 g/cm ³
Elongation after Heat Aging (168 hrs at 160°C)	IEC 811-1-2	320%	400%
Tensile Strength after Heat Aging (168 hrs at 160°C)	IEC 811-1-2	12 MPa	14 MPa
Elongation after Heat Shock (4 hrs at 210°C)	IEC 811-1-2	360%	370%
Tensile Strength after Heat Shock (4 hrs at 210°C)	IEC 811-1-2	14 MPa	15 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -30°C	does not break at -30°C
Flammability	ASTM-D 876 (coloured) FMVSS 302 (clear)	flame retardant jacket	passed

Standard Colours		Special Colours
black	clear	On Request

Electrical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Dielectric Strength	VDE 0303 Part 2	18 kV/mm	20 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁴ Ω x cm	10 ¹⁴ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured	Typical Performance clear
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive	non-corrosive
Chemical Resistance		very good	very good
Water Absorption	VDE 0472	0,50%	0,50%

Printability	Hot stamp	Ink jet	Offset
	very good	-	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit
For example: CBK 12,0mm black, 3.500 mtr., 100m-spool



Medium & Heavy Wall products

Medium Wall and Heavy Wall heat shrinkable tubing possesses excellent insulating, environmental sealing, and impact and abrasion resistance.

Medium Wall & Heavy Wall tubing is used in a variety of general purpose applications to seal and protect electrical connections and terminations and provide excellent mechanical protection.

DSG-Canusa's line of specially designed medium & heavy wall products are used as the industry standard in several markets including Electrical/Utility and Mass Transportation.

CFM

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

- Seals and protect cable splices and terminations
- High resistance to impact and abrasion
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous Operating Temperature: -55°C to 110°C
- Shrink Temperature: 120°C



Dimensions

ORDER REF. NO.	EXPANDED		RECOVERED		DELIVERY UNITS
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	Lengths 1.22 m
	mm	IN	mm	mm	pcs.
0400	10,2	-	3,8	2,00	75
0750	19,1	-	5,6	2,00	35
1100	27,9	-	10,2	2,00	75
1300	33,0	-	10,2	2,00	60
1500	38,1	-	12,7	2,00	40
1700	43,2	-	12,7	2,00	40
2050	52,1	-	19,1	2,00	25
2750	69,9	-	25,4	2,00	15
3500	88,9	-	30,0	2,40	10
4700	119,4	-	39,9	2,70	5
6700	170,2	-	58,4	2,80	5
9000	228,6	-	77,0	3,00	5

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 412, ISO 37	14,5 MPa
Elongation	ASTM-D 412, ISO 37	550%
Longitudinal Change	ASTM-D 2671	+1% to -10% max.
Specific Gravity	ASTM-D 792, A-I	1,10 g/cm ³ max.
Elongation after Heat Aging (168 hrs at 150°C)	ASTM-D 2671, ISO 37	500%
Elongation after Heat Shock (4 hrs at 225°C)	ASTM-D 2671	No cracking or flowing
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C

Standard Colours	Special Colours
black 	Not Available

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 149 / IEC 243	20 kV/mm
Volume Resistivity	ASTM-D 257	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance
Copper Corrosion	ASTM-D 2671	No Corrosion
Chemical Resistance		good to excellent
Water Absorption	ASTM - D 570	0,10%

Adhesive

Property	Test Method	Typical Performance Adhesive	Typical Performance Sealant
Water Absorption	-	<0,3%	<0,1%
Softening Point	ASTM-E 28	95°C to 105°C	80°C to 90°C

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Lining Options
For example: CFM 1500 black, 200 pcs., 1,22 mtr lengths, lined

CFW

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



Features

- Withstands severe mechanical requirements of U.R.D., submersible and direct burial installations
- Rated for 600V, 90°C continuous use
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous Operating Temperature: -55°C to 110°C
- Shrink Temperature: 120°C



Dimensions

ORDER REF. NO.	EXPANDED		RECOVERED		DELIVERY UNITS
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	
	mm	IN	mm	mm	
0350	8,9	-	3	1,80	100
0500	13,0	-	4,1	2,40	75
0750	19,1	-	6,1	2,40	35
1100	27,9	-	8,9	3,00	75
1500	38,1	-	11,9	4,10	40
2000	50,8	-	16	4,10	25
2700	68,1	-	22,1	4,10	15
3500*	89,9	-	30,0	4,10	10
4700*	119,9	-	39,9	4,30	5

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

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 412, ISO 37	14,5 MPa
Elongation	ASTM-D 412, ISO 37	600%
Longitudinal Change	ASTM-D 2671	+1% to -10% max.
Specific Gravity	ASTM-D 792, A-I	1,10 g/cm ³
Elongation after Heat Aging (168 hrs at 150°C)	ASTM-D 2671, ISO 37	500%
Elongation after Heat Shock (4 hrs at 225°C)	ASTM-D 2671	No cracking or flowing
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C

Standard Colours	Special Colours
black	Not Available

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 149	20 kV/mm
Volume Resistivity	ASTM-D 257	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance
Copper Corrosion	ASTM-D 2671	No Corrosion
Chemical Resistance		good to excellent
Water Absorption	ASTM - D 570	0,10%

Adhesive

Property	Test Method	Typical Performance Adhesive	Typical Performance Sealant
Water Absorption	-	<0,3%	<0,1%
Softening Point	ASTM-E 28	95°C to 105°C	80°C to 90°C

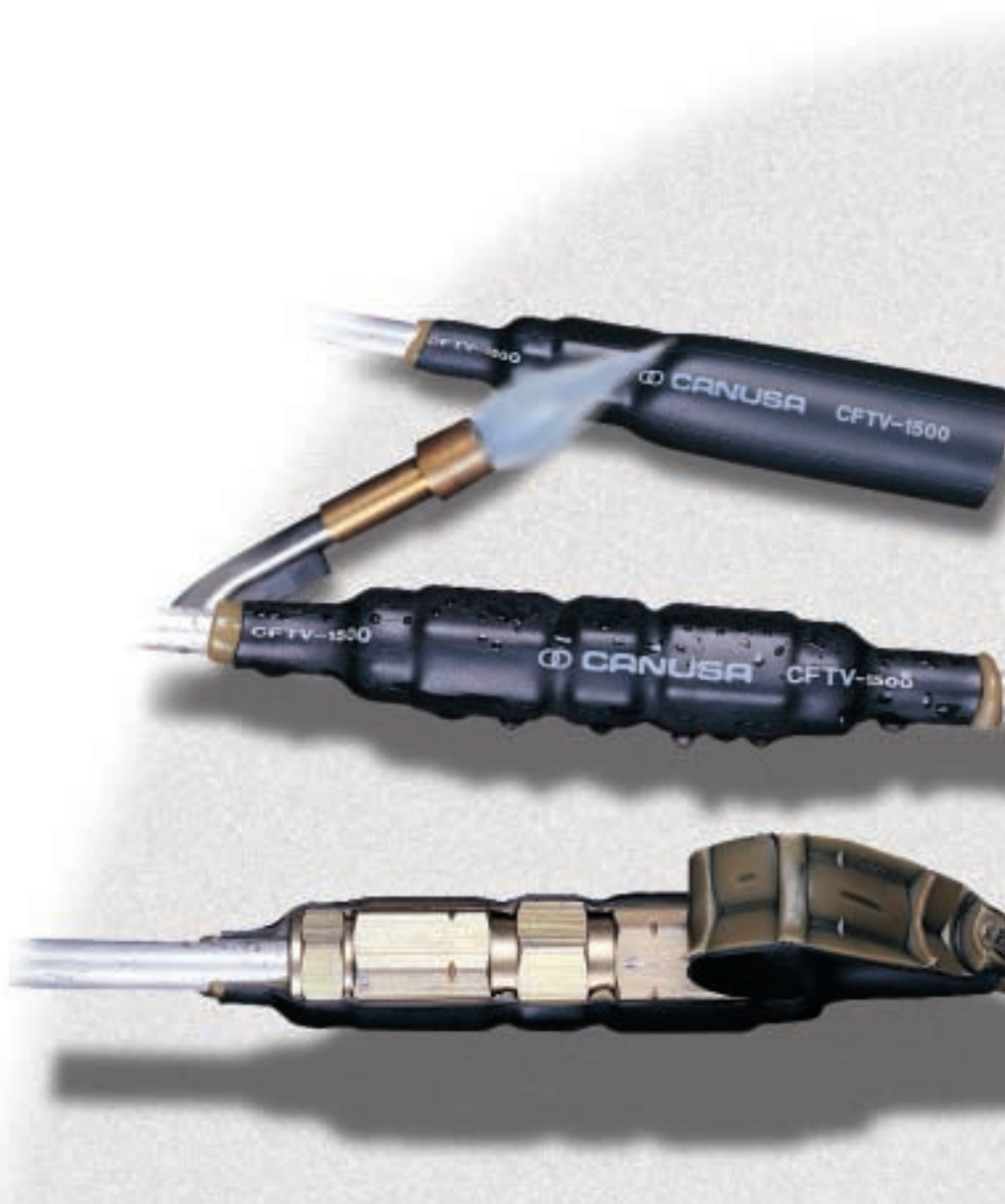
Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Lining Options
For example: CFW 0750 black, 350 pcs., 1,22 mtr lengths, unlined

CFTV

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

Features

- An absolutely waterproof seal
- Selective strippability to meet CATV industry specifications
- Minimal heat required to produce error free installation without splitting
- Heat indicative paint ensures integrity of seal
- Continuous Operating Temperature: -55°C to 110°C
- Shrink Temperature: 120°C



Dimensions

ORDER REF. NO.	EXPANDED		RECOVERED		DELIVERY UNITS
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	Lengths 1.22 m
	mm	IN	mm	mm	pcs.
0400	10,2	-	3,8	2,00	75
0750	19,0	-	5,6	2,00	35
1100	27,9	-	10,2	2,00	75
1300	33,0	-	10,2	2,00	60
1500	38,1	-	12,7	2,00	40
1700	43,2	-	12,7	2,00	40
2050	52,1	-	19,0	2,00	25
2750	69,8	-	25,4	2,00	15

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 412, ISO 37	14,5 MPa
Elongation	ASTM-D 412, ISO 37	600%
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C
Abrasion Resistance	ASTM-D 2671	60 mg
Adhesive Softening Point	ASTM-E 28	85° C
Adhesive Peel Strength to PE	ASTM-D 1000	110N/25mm
Adhesive Peel Strength to Aluminium	ASTM-D 1000	80N/25mm
Adhesive Lap Shear (1 in./min. at 23°C)	ASTM-D 1002	0,1 MPa
Adhesive Viscosity (132°C)	ASTM-D 1084	32000 CPS
Water Penetration (on installed tubing: 50°C for 14 days)	STM-706	No penetration

Chemical

Property	Test Method	Typical Performance
Copper Corrosion	ASTM-D 2671	No Corrosion
Fungus Resistance		no growth
Water Absorption	ASTM-G 21	0,10%

Standard Colours	Special Colours
black 	Not Available

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit
For example: CFTV 0750 black, 480 pcs., 1,22 mtr.-lengths

CFHR

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

Features

- 6:1 Shrink ratio
- Accommodates a wide variety of connector shapes and configurations
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous Operating Temperature: -55°C to 110°C
- Shrink Temperature: 120°C



Dimensions

ORDER REF. NO.	EXPANDED		RECOVERED		DELIVERY UNITS
	INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS OVERALL (NOM) w	
	mm	IN	mm	mm	Lengths 1.22 m pcs.
0750	19,0	-	3,2	3,20	35
1300	33,0	-	5,5	3,40	60
1750	44,4	-	7,4	3,60	40
2000	50,8	-	8,3	4,30	25
2750	69,8	-	11,7	4,80	15
3500	88,9	-	17,1	4,80	10
4700	119,4	-	22,9	4,80	5

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 412, ISO 37	14,5 MPa
Elongation	ASTM-D 412, ISO 37	600%
Longitudinal Change	ASTM-D 2671	+1% to -10% max.
Specific Gravity	ASTM-D 792	1,10 g/cm ³
Elongation after Heat Aging (168 hrs at 150°C)	ASTM-D 2671	400%
Elongation after Heat Shock (4 hrs at 225°C)	ASTM-D 2671	No cracking or flowing
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C
Hardness (Shore D)	ASTM-D 2240	50 D

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 149 / IEC 243	20 kV/mm
Dielectric Voltage Withstand (2500 V, 60Hz, 1 min)	UL 486D	no breakdown
Volume Resistivity	ASTM-D 257	10 ¹⁶ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured
Copper Corrosion	ASTM-D 2671	No Corrosion
Chemical Resistance		good to excellent
Water Absorption	ASTM - D 570	0,10%

Adhesive

Property	Test Method	Typical Performance
Adhesive Lap Shear (1in./min at 23°C)	ASTM-D 1002	0,875 Mpa
Softening Point	ASTM-E 28	92°C/-5°C
Adhesive Peel Strength (300mm/min at 23°C) > to steel, aluminium, P.E > to PVC	ASTM-D 1000	110 N/25mm 80 N/25mm
Adhesive Blocking (30°C)	ASTM-D 1146	no blocking
Water Penetration	STM 706	no penetration after 236 hrs.of continuous immersion

Standard Colours	Special Colours
black 	Not Available

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Lining Options
For example: CFHR 0750 black, 140 pcs., 1,22 mtr lengths, lined



Non Polyolefin

DSG-Canusa provides special materials for demanding applications.

These products, made of materials ranging from elastomers to fluoropolymers, offer increased protection against extreme temperatures and harsh operating environments.

They include diesel resistant products like Deray®-V25 and high temperature products like Deray® VT220.

CHT

Ultra thin wall, rigid heat shrink tubing

Features

- Low Shrink temperature
- Wide colour variety
- Continuous Operating Temperature: -20°C to 85°C
- Shrink Temperature: 100°C



Dimensions

SIZES LAY-FLAT-WIDTH		SIZES WALL THICKNESS							LENGTH PER REEL						
mm		mm							mtr						
from	to	0,07	0,10	0,13	0,15	0,18	0,20	0,30	0,07	0,10	0,13	0,15	0,18	0,20	0,30
8,5	10,0	x	x						300	200	-	-	-	-	-
10,5	13,5	x	x						400	300	-	-	-	-	-
14,0	16,5	x	x	x	x				400	300	200	200	-	-	-
17,0	19,5	x	x	x	x	x			400	300	200	200	100	-	-
20,0	24,5	x	x	x	x	x			400	300	200	200	100	-	-
25,0	29,5	x	x	x	x	x	x		400	300	200	200	100	100	-
30,0	34,5	x	x	x	x	x	x		400	300	200	200	100	100	-
35,0	39,5	x	x	x	x	x	x		400	300	200	200	100	100	-
40,0	99,5	x	x	x	x	x	x	x	400	300	200	200	100	100	100
100,0	109,5	x	x	x	x	x	x	x	300	200	200	200	100	100	100
110,0	250,0	x	x	x	x	x	x	x	300	200	200	200	100	100	100

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	21,0 MPa
Elongation	IEC 60684-2	70-120%
Longitudinal Change	ASTM-D 2671	-20% max.
Specific Gravity	ASTM-D 792, A-I	1,45 g/cm ³ max.
Flammability	UL 224	flame retardant

Electrical

Property	Test Method	Typical Performance coloured
Dielectric Strength	VDE 0303 Part 2	20 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁴ Ω x cm
Dielectric Constant		3,35

Chemical

Property	Test Method	Typical Performance coloured
Chemical Resistance		good
Water Absorption	VDE 0472	0,70%

Standard Colours							Special Colours
black	clear	red	yellow	blue	white	green	On Request
■	■	■	■	■	■	■	

Printability	Hot stamp	Ink jet	Offset
	-	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: CHT 130,0 mm x 0,13 mm blue, 5.000 mtr, 200 mtr. Spool, unprinted

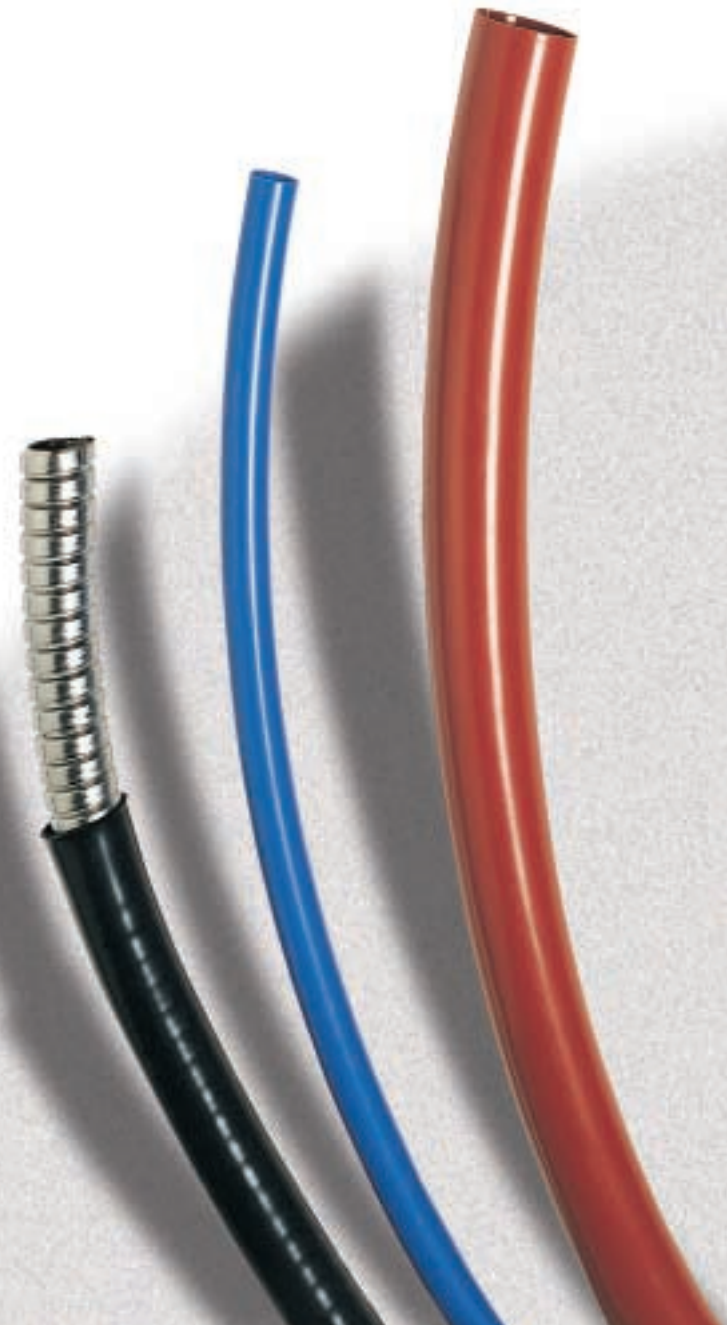
CVN 7

Thin wall flexible PVC
heat shrink tubing



Features

- Flexible
- Meets UL-224 VW-1 & CSA OFT
- Continuous Operating Temperature: -30°C to 105°C
- Shrink Temperature: 100°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS		
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black & Coloured Spoollength	Style*	Lengths 1.22 m pcs.
mm	IN	mm	mm	m		
2,4	3/32	1,2	0,51	300	o	-
3,2	1/8	1,6	0,51	300	o	-
4,8	3/16	2,4	0,51	300	o	-
6,4	1/4	3,2	0,64	300	o	-
9,5	3/8	4,8	0,64	150	o	-
12,7	1/2	6,4	0,64	100	o	-
16,0	5/8	8,0	0,64	100	-	-
19,0	3/4	9,5	0,83	50	-	-
25,4	1	12,7	0,89	50	-	-
31,8	1 1/4	15,9	0,89	50	-	-
38,0	1 1/2	19,0	1,02	50	-	-
50,8	2	25,4	1,14	50	-	-
64,0	2 1/2	38,1	1,17	25	-	-
76,0	3	38,1	1,27	25	-	-
101,6	4	50,8	1,40	25	-	-

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ISO 37	23 MPa
Elongation	ISO 37	300%
Longitudinal Change	ASTM-D 2671	+5% to -10%
Specific Gravity	ISO / R 1183	1,3 g/cm ³ max.
Elongation after Heat Aging (168 hrs at 136°C)	ASTM-D 2671	250%
Heat Shock (4hrs. at 180°)	UL 224	no dripping, flowing, or cracking
Low Temperature Flexibility	UL 224	does not break at -30°C
Flammability	UL 224	passed (VW-1 rated to UL 224)
Deformation	UL 224	35% max.
Restricted Recovery	UL 224	passed

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	IEC 243	20 kV/mm

Chemical

Property	Test Method	Typical Performance
Chemical Resistance	ISO 1817, ISO 37, MIL-1-23053	good
Water Absorption	ASTM-D 570	0,50%

Standard Colours	Special Colours						
black	red	yellow	blue	white	clear	green	brown

Printability	Hot stamp	Ink jet	Offset
	-	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: CVN 7 black 1/2", 1.500 mtr., 100m-spool, unprinted

DERAY® KY 175

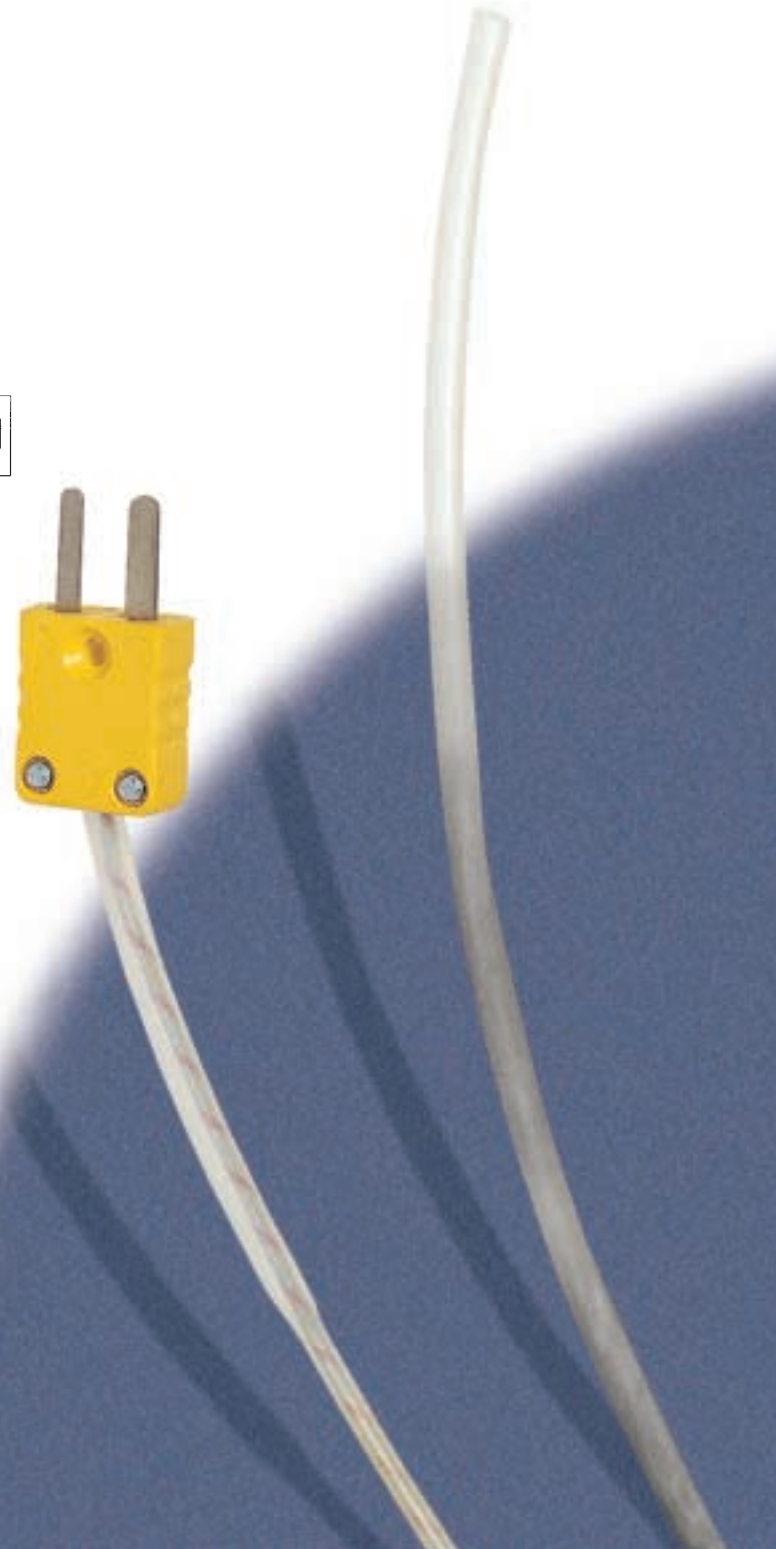
Semi-rigid thin wall Kynar®* heat shrink tubing, ideal for electronic, automotive and military applications requiring protection and see through inspection



Features

- Highly flame retardant, UL-224 VW-1 & CSA OFT
- High withstand to abrasion and cut-through
- Excellent chemical and solvent resistance
- Meets MIL - DTL - 23053/8
- Continuous Operating Temperature: -55°C to 175°C
- Shrink Temperature: 175°C

* Kynar® is a registered trademark of ATOFINA



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Clear		Clear		Lengths 1.22 m
mm	IN	mm	mm	Spool Length	Style*	Spool Length	Style*	
1,2	3/64	0,6	0,24	300	o	150	o	30,5 m
1,6	1/16	0,8	0,24	300	o	150	o	30,5 m
2,4	3/32	1,2	0,24	300	o	150	o	30,5 m
3,2	1/8	1,6	0,24	300	o	150	o	30,5 m
4,8	3/16	2,4	0,24	300	o	75	o	30,5 m
6,4	1/4	3,2	0,30	300	o	75	o	12,2 m
9,5	3/8	4,8	0,30	150	-	75	-	12,2 m
12,7	1/2	6,4	0,30	100	-	50	-	12,2 m
19,0	3/4	9,5	0,40	50	-	30	-	12,2 m
25,4	1	12,7	0,50	50	-	30	-	12,2 m

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	50 MPa
Elongation	IEC 60684-2	450%
Longitudinal Change	ASTM-D 2671	6% max.
Secant Modulus	ASTM-D 882	750 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,8 g/cm ³
Elongation after Heat Aging (168 hrs at 200°C)	IEC 811-1-2	230%
Tensile Strength after Heat Aging (168 hrs at 200°C)	IEC 811-1-2	40 MPa
Elongation after Heat Shock (4 hrs at 250°C)	IEC 811-1-2	300%
Tensile Strength after Heat Shock (4 hrs at 250°C)	IEC 811-1-2	48 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C
Flammability	UL 224 VW-1	flame retardant

Standard Colours	Special Colours
clear	black

Electrical

Property	Test Method	Typical Performance coloured
Dielectric Strength	VDE 0303 Part 2	31,5 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹³ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	STM-D 2671 Meth. B	non-corrosive
Chemical Resistance		very good
Water Absorption	VDE 0472	0,07%

Printability	Hot stamp	Ink jet	Offset
very good	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® KY 175 1/8" clear, 2.100 mtr., 300m-spool, unprinted

DERAY® KYF 190

Flexible thin wall Kynar®* heat shrink tubing, with extreme chemical resistance, ideal for protecting components in a wide range of harsh conditions



Features

- Highly flame retardant, UL-224 VW-1
- High temperature resistance
- Continuous Operating Temperature: -55°C to 190°C
- Shrink Temperature: 175°C

* Kynar® is a registered trademark of ATOFINA



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS		
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Clear Spool Length	Style*	Lengths 1.22 m
mm	IN	mm	mm	m		
1,2	3/64	0,6	0,24	300	o	30,5 m
1,6	1/16	0,8	0,24	300	o	30,5 m
2,4	3/32	1,2	0,24	300	o	30,5 m
3,2	1/8	1,6	0,24	300	o	30,5 m
4,8	3/16	2,4	0,24	300	o	30,5 m
6,4	1/4	3,2	0,30	300	o	12,2 m
9,5	3/8	4,8	0,30	150	-	12,2 m
12,7	1/2	6,4	0,30	100	-	12,2 m

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	30 MPa
Elongation	IEC 60684-2	450%
Longitudinal Change	ASTM-D 2671	6% max.
Secant Modulus	ASTM-D 882	300 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,8 g/cm ³
Elongation after Heat Aging (168 hrs at 215°C)	IEC 811-1-2	300%
Tensile Strength after Heat Aging (168 hrs at 215°C)	IEC 811-1-2	20 MPa
Elongation after Heat Shock (4 hrs at 275°C)	IEC 811-1-2	250%
Tensile Strength after Heat Shock (4 hrs at 275°C)	IEC 811-1-2	20 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C
Flammability	UL 224 VW-1	flame retardant

Standard Colours	Special Colours
clear	black (other colours on request)

Electrical

Property	Test Method	Typical Performance coloured
Dielectric Strength	VDE 0303 Part 2	33 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹³ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		very good
Water Absorption	VDE 0472	0,30%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® KYF 190 1/8" clear, 2.100 mtr., 300m-spool, unprinted

DERAY® V 25

Diesel resistant elastomeric heat shrink tubing, suited for protecting components in air and space travel as well as for military applications



Features

- Flexible
- Flame retardant
- High abrasion and cut resistance
- Long term resistance to diesel, hydraulic fluids and chemicals
- Meets MIL - DTL - 23053/16
- Continuous Operating Temperature: -75°C to 150°C
- Shrink Temperature: 180°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black		Black		Lengths 1.22 m
mm	IN	mm	mm	Spool Length	Style*	Spool Length	Style*	
3,2	1/8	1,6	0,80	300	o	50	o	-
4,8	3/16	2,4	0,90	300	o	50	o	-
6,4	1/4	3,2	1,00	300	o	50	o	-
9,5	3/8	4,8	1,10	150	o	50	o	-
12,7	1/2	6,4	1,30	100	o	30	o	-
19,0	3/4	9,5	1,50	50	-	30	-	-
25,4	1	12,7	1,90	50	-	30	-	-
38,0	1 1/2	19,0	2,50	50	-	15	-	-
51,0	2	25,4	3,10	50	-	-	-	-
76,0	3	38,0	3,30	25	-	-	-	-

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	20 MPa
Elongation	IEC 60684-2	520%
Longitudinal Change	ASTM-D 2671	± 10% max.
Secant Modulus	ASTM-D 882	30 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,5 g/cm ³
Elongation after Heat Aging (168 hrs at 160°C)	IEC 811-1-2	220%
Tensile Strength after Heat Aging (168 hrs at 160°C)	IEC 811-1-2	13 MPa
Heat Shock (4 hrs at 215°C)	IEC 811-1-2	passed
Tensile Strength after Heat Shock (4 hrs at 215°C)	IEC 811-1-2	12 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -75°C
Flammability	UL 224	flame retardant

Standard Colours	Special Colours
black	On Request

Electrical

Property	Test Method	Typical Performance coloured
Dielectric Strength	VDE 0303 Part 2	22 kV/mm*
Volume Resistivity	VDE 0303 Part 3	10 ¹² Ω x cm

*thickness dependent, min. 12 kV/mm.

Chemical

Property	Test Method	Typical Performance coloured
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		good
Water Absorption	VDE 0472	1,10%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® V 25 1/2" black, 900 mtr., 30m-spool, printed

DERAY® V 25 TW

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



Features

- Very flexible
- Flame retardant
- Long term resistance to diesel, hydraulic fluids and chemicals
- Continuous Operating Temperature: -75°C to 150°C
- Shrink Temperature: 170°C



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS				
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black		Black		Lengths 1.22 m
mm	IN	mm	mm	Spool Length	Style*	Spool Length	Style*	
2,4	3/32	1,2	0,55	300	o	50	o	-
3,2	1/8	1,6	0,55	300	o	50	o	-
4,8	3/16	2,4	0,55	300	o	50	o	-
6,4	1/4	3,2	0,65	300	o	50	o	-
9,5	3/8	4,8	0,65	150	o	50	o	-
12,7	1/2	6,4	0,65	100	o	30	o	-
19,0	3/4	9,5	0,85	50	-	30	-	-
25,4	1	12,7	0,95	50	-	30	-	-
31,8	1 1/4	15,9	1,05	50	-	30	-	-
38,0	1 1/2	19,0	1,05	50	-	15	-	-

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	20 MPa
Elongation	IEC 60684-2	520%
Longitudinal Change	ASTM-D 2671	10% max.
Secant Modulus	ASTM-D 882	30 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,5 g/cm ³
Elongation after Heat Aging (168 hrs at 160°C)	IEC 811-1-2	220%
Tensile Strength after Heat Aging (168 hrs at 160°C)	IEC 811-1-2	13 MPa
Heat Shock (4 hrs at 215°C)	IEC 811-1-2	passed
Tensile Strength after Heat Shock (4 hrs at 215°C)	IEC 811-1-2	12 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -75°C
Flammability	UL 224	flame retardant

Standard Colours	Special Colours
black ■	On Request

Electrical

Property	Test Method	Typical Performance coloured
Dielectric Strength	VDE 0303 Part 2	22 kV/mm*
Volume Resistivity	VDE 0303 Part 3	10 ¹² Ω x cm

*thickness dependent, min. 12 kV/mm.

Chemical

Property	Test Method	Typical Performance coloured
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		good
Water Absorption	VDE 0472	1,10%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® V 25 TW 1/2" black, 2.100 mtr., 30m-spool, printed

DERAY® VT 220

Thin wall Viton®* fluoroelastomer heat shrink tubing, ideal for protecting electronic components in high temperature systems



Features

- Very flexible
- Flame retardant
- Highly abrasion resistant
- High withstand to corrosive fluids in extreme temperatures
- Meets MIL - DTL - 23053/13
- Continuous Operating Temperature: -55°C to 220°C
- Shrink Temperature: 175°C

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



Dimensions

EXPANDED		RECOVERED		DELIVERY UNITS		
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Black Spool Length	Style*	Lengths 1.22 m
mm	IN	mm	mm		m	
3,2	1/8	1,6	0,80	50	o	-
4,8	3/16	2,4	0,90	50	o	-
6,4	1/4	3,2	0,90	50	o	-
9,5	3/8	4,8	1,00	50	o	-
12,7	1/2	6,4	1,20	30	o	-
19,0	3/4	9,5	1,40	30	-	-
25,4	1	12,7	1,80	30	-	-
38,0	1 1/2	19,0	2,40	15	-	-
50,8	2	25,4	2,80	15	-	-

* o = airfilled or oval - = flattened

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	18 MPa
Elongation	IEC 60684-2	520%
Longitudinal Change	ASTM-D 2671	10% max.
Secant Modulus	ASTM-D 882	70 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,9 g/cm ³
Elongation after Heat Aging (168 hrs at 250°C)	IEC 811-1-2	220%
Tensile Strength after Heat Aging (168 hrs at 250°C)	IEC 811-1-2	14 MPa
Elongation after Heat Shock (4 hrs at 300°C)	IEC 811-1-2	250%
Tensile Strength after Heat Shock (4 hrs at 300°C)	IEC 811-1-2	17 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -55°C
Flammability	ASTM-D 2671 Proc. A	passed

Standard Colours	Special Colours
black ■	On Request

Electrical

Property	Test Method	Typical Performance coloured
Dielectric Strength	VDE 0303 Part 2	16 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹³ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		very good
Water Absorption	VDE 0472	0,20%

Printability	Hot stamp	Ink jet	Offset
	very good	good	good

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit 4) Printing Options
For example: DERAY® VT 220 3/16" black, 1.000 mtr., 50m-spool, printed

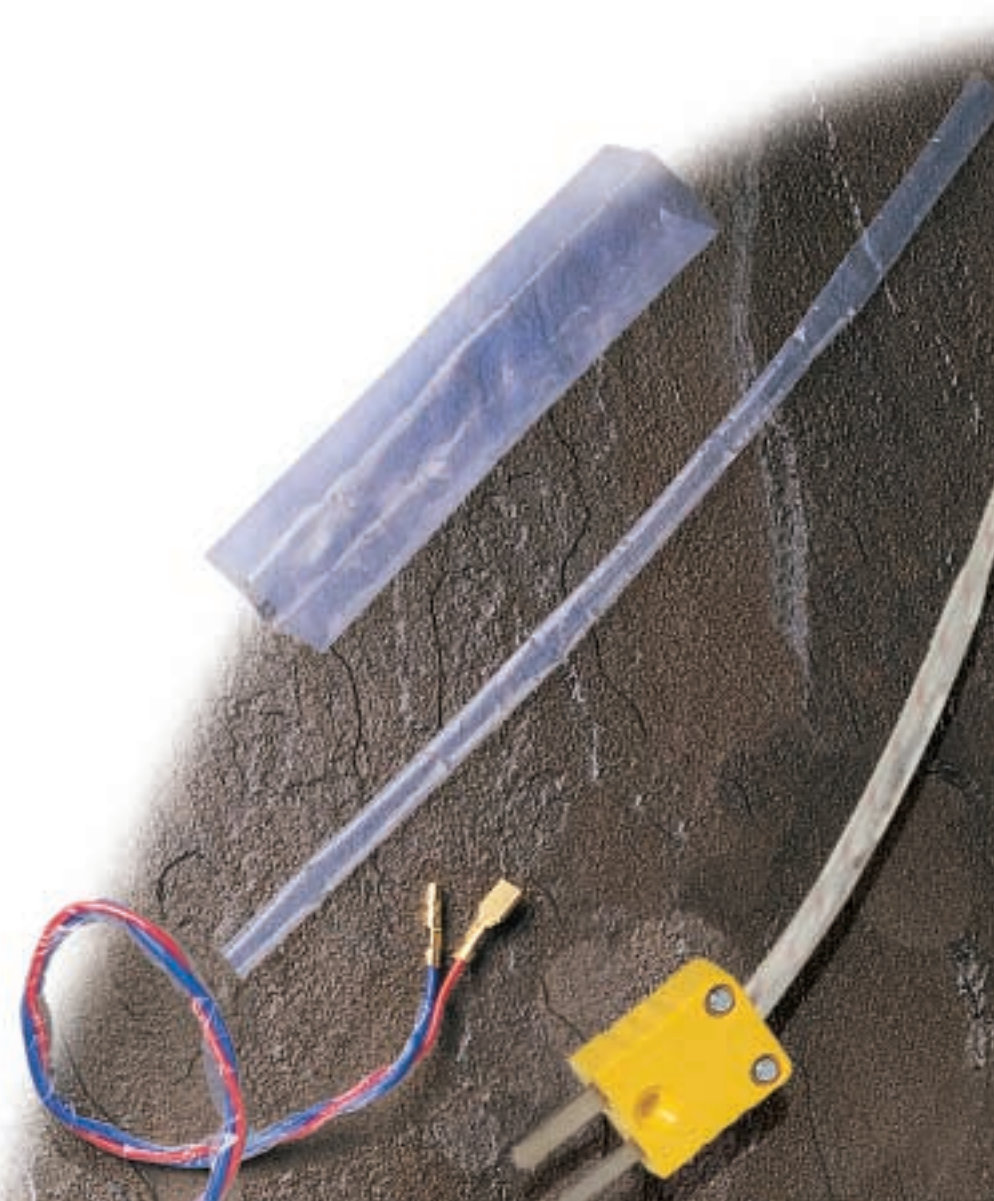
DERAY® PTFE

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

Features

- Semi rigid
- Highly flame retardant
- Chemically inert
- Continuous Operating Temperature: -65°C to 260°C
- Shrink Temperature: 350°C

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



Dimensions

PTFE 4:1				
EXPANDED		RECOVERED		DELIVERY UNITS
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Lengths 1.22 m
mm	IN	mm	mm	
1,98	5/64	0,64	0,23	30,50 m
2,36	3/32	0,80	0,25	30,50 m
3,18	1/8	0,94	0,25	30,50 m
4,76	3/16	1,27	0,30	30,50 m
6,35	1/4	1,60	0,30	12,20 m
9,52	3/8	2,44	0,30	12,20 m
12,70	1/2	3,66	0,38	12,20 m
15,88	5/8	4,52	0,38	12,20 m
19,05	3/4	5,70	0,38	12,20 m
25,40	1	7,06	0,38	12,20 m
31,75	1 1/4	8,82	0,38	12,20 m

PTFE AWG 2:1				
EXPANDED		RECOVERED		DELIVERY UNITS
INTERNAL DIAMETER (MIN) D		INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	Lengths 1.22 m
AWG	mm	mm	mm	
30	0,86	0,38	0,23	30,50 m
28	0,97	0,46	0,23	30,50 m
26	1,17	0,56	0,23	30,50 m
24	1,27	0,64	0,25	30,50 m
22	1,4	0,80	0,25	30,50 m
20	1,52	0,97	0,30	30,50 m
18	1,93	1,17	0,30	30,50 m
16	2,36	1,45	0,30	30,50 m
14	3,05	1,82	0,30	30,50 m
12	3,81	2,26	0,30	30,50 m
10	4,85	2,80	0,30	30,50 m
8	6,1	3,55	0,38	12,20 m
6	7,67	4,40	0,38	12,20 m
4	9,4	5,45	0,38	12,20 m
2	10,92	6,90	0,38	12,20 m
0	11,94	8,56	0,38	12,20 m

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 811-1-1	19 MPa
Elongation	IEC 811-1-1	200%
Longitudinal Change	ASTM-D 2671	± 15% max.
Secant Modulus	ASTM-D 882	750 MPa max.
Specific Gravity	ASTM-D 792, A-I	2,1 g/cm ³
Thermal Ageing (168 hrs at 300°C)	IEC 811-1-2	no drooping, flowing or cracking
Thermal Shock (4 hrs at 400°C)	IEC 811-1-2	no drooping, flowing or cracking
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -65°C
Flammability		non combustible

Standard Colours	Special Colours
clear	black

Electrical

Property	Test Method	Typical Performance coloured
Dielectric Strength	VDE 0303 Part 2	26 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁹ Ω x cm

Chemical

Property	Test Method	Typical Performance coloured
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Chemical Resistance		very good
Water Absorption	VDE 0472	0,07%

Printability	Hot stamp	Ink jet	Offset
-	-	-	-

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit
For example: DERAY® PTFE 4:1 3/32" clear, 122,0 mtr., 1,22 m-length



Market Specific Products

Specialty product lines have grown as DSG-Canusa continues with its commitment to be a full service and product supplier to key markets.

Examples include:

- Solutions for the Electrical/Utility market including break-out boots, end caps and RAIL-LESS® sleeves
- Automotive products including wire harness solutions, hose & pipe solutions and a wide variety of shrink appliances
- Products for Electronics applications ranging from high performance tubing for the industrial user to tube kits for the tradesman.
- Communications industry solutions including fiber optic splice protectors and splice closures

CCAP

Heat shrinkable end caps provide a simple yet effective method for sealing cable ends, pipe conduit, or other similar objects

Features

- Superior resistance to weathering, moisture contamination and adverse environmental conditions
- Resistant to common fluids and solvents
- Optional adhesive liner provides complete environmental protection and insulation
- Heat indicating lines
- Valved end cap available for pressurized applications
- Continuous Operating Temperature: -55°C to 110°C
- Shrink Temperature: 120°C



Dimensions

ORDER REF. NO.	EXPANDED		RECOVERED			GENERAL USE DIAMETER
	INTERNAL DIAMETER (MIN)	LENGTH*	INTERNAL DIAMETER (MAX)	LENGTH**	WALL THICKNESS (NOM)	
	D	mm	D	mm	W	
0400	10,20	76,20	3,8	63,50	2,00	4,5 - 8,5
0750	19,10	88,90	5,6	63,50	2,00	6,0 - 16,5
1100	27,90	101,60	10,2	76,20	2,00	11,5 - 25,0
1300	33,00	101,60	10,2	76,20	2,00	11,5 - 30,0
1500	38,10	114,30	12,7	82,50	2,00	14,0 - 35,0
1700	43,20	114,30	12,7	82,50	2,00	14,0 - 40,0
2050	52,10	114,30	19,0	88,90	2,00	21,0 - 45,0
2750	69,80	127,00	25,4	101,60	2,00	30,0 - 63,0
3500	88,90	127,00	30,0	114,30	2,40	33,0 - 83,8
4700	119,40	165,10	39,9	139,70	2,70	40,6 - 114,3

* Length is measured from shoulder to open end of cap ** Recovery dimensions ±6 mm

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 412, ISO 37	14,5 MPa
Elongation	ASTM-D 412, ISO 37	550%
Specific Gravity	ASTM-D 792, A-I	1,1 g/cm ³ max.
Elongation after Heat Aging (168 hrs at 150°C)	ASTM-D 2671	500%
Heat Shock (4 hrs at 225°C)	ASTM-D 2671	no cracking or flowing
Low Temperature Flexibility	ASTM-D 2671	does not break at -55°C
Hardness (Shore D)	ASTM-D 2240	50D

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 149	20 kV/mm
Dielectric Voltage Withstand (2500 V, 60Hz, 1 min)	UL 486D	no breakdown
Volume Resistivity	ASTM-D 257	10 ¹⁶ Ω x cm

Standard Colours	Special Colours
black ■	On Request

Printability	Hot stamp	Ink jet	Offset
	good	good	good

Seal Integrity

Property	Test Method	Typical Performance
Room Temperature (23°C)	168 hrs/ 40psi	no leaks
Temp. Cycling (-40°C to 60°C)	50 cycles	maintains seal
Burst Pressure		0,70 MPa
Adhesive Lap Shear (1 in./min at 23°C)	ASTM-D 1002	130 psi (0,91 MPa)
Softening Point	ASTM-E 28	92°C/-5°C
Adhesive Peel Strength (300mm/min at 23°C)	ASTM-D 1000	35 pli 20 pli
> to steel, aluminium, PE > to PVC		
Adhesive Blocking (30°C)	ASTM-D 1146	no blocking
Water Penetration	STM 706	no penetration after 236 hrs.of continuous immersion

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Fluid Resistance	MIL-DTL-23053	good to excellent
Water Absorption	ASTM-D 570	0,10%
Fungus Resistance	ASTM-G 21	no growth

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity 4) Printing Options 5) Lining Options 6) Valve Options For example: CCAP 0400 black, 1.600 pcs., unprinted, lined, unvalved

CCB

Heat shrinkable boots seal and protect multi-conductor cable and conduit breakouts

Features

- Boots for 2, 3, 4, 5 and 6 way cable breakouts
- Strain relief and mechanical protection
- Resistant to common fluids and solvents
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- Also available as anti-track medium voltage breakouts and as conductive breakouts
- Continuous Operating Temperature: -55°C to 100°C
- Shrink Temperature: 135°C



Dimensions

CCB Low Voltage Breakouts						
ORDER REF. NO.	EXPANDED		RECOVERED		RECOVERED FULL LENGTH	RECOVERED FINGER LENGTH
	BREAKOUT MAIN DIAMETER (MIN)	FINGER DIAMETER (MIN)	BREAKOUT MAIN DIAMETER (MAX)	FINGER DIAMETER (MAX)	± 10%	± 10%
	mm	mm	mm	mm	mm	mm
CCB2 - Two Core Breakouts						
CCB2 33/14	33,0	14,0	10,0	3,00	90,00	20,0
CCB2 50/21	50,0	21,0	22,9	7,50	119,00	34,0
CCB2 87/43	87,0	43,0	38,0	13,0	141,00	42,0
CCB3 - Three Core Breakouts						
CCB3 38/11	38,0	11,0	14,0	4,00	110,0	20,0
CCB3 60/24	60,0	24,0	22,0	8,00	185,0	45,0
CCB3 80/36	80,0	36,0	33,0	16,0	210,0	50,0
CCB3 110/48	110,0	48,0	47,0	20,0	260,0	75,0
CCB3 125/55	125,0	55,0	47,0	20,0	260,0	75,0
CCB4 - Four Core Breakouts						
CCB4 38/11	38,0	11,0	14,0	4,0	110,0	20,0
CCB4 55/20	55,0	20,0	22,0	8,5	190,0	45,0
CCB4 72/25	72,0	25,0	22,0	8,5	190,0	45,0
CCB4 100/35	100,0	35,0	33,0	14,0	215,0	50,0
CCB4 125/54	125,0	54,0	47,0	22,0	245,0	72,0
CCB5 - Five Core Breakouts						
CCB5 60/30	60,0	30,0	24,0	7,5	180,0	30,0
CCB6 - Six Core Breakouts						
CCB6 61/21	61,0	20,5	37,0	9,0	137,0	51,0

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 638 (M)	10,0 MPa min.
Elongation	ASTM-D 638 (M)	300% min.
Hardness	Internal	40 Shore D min.
Tensile Strength after thermal aging (120°C, 168 hrs)	ISO - 188	9 Mpa min.
Elongation after thermal aging (120°C, 168 hrs)	ISO - 188	250% min.
Water absorption	ISO - 62	1% max.
Dielectric Strength	IEC - 243	12 kV/mm
Dielectric Constant	IEC - 250/ASTM-D 150	5 max.
Resistance to tracking	ASTM-D 2303	N/A
Volume Resistivity	IEC 93	10 ¹² Ω x cm
Flammability	ESI 09-13	Non flame retardant

Raw Material

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 638 (M)	10 MPa min.
Elongation	ASTM-D 638 (M)	300% min.
Hardness	ASTM-D 2240	40 Shore D min.

Standard Colours	Special Colours
CCB black	On Request

Printability	Hot stamp	Ink jet	Offset
	excellent	excellent	excellent

Delivery Units on request

Ordering:
Specify the product name and the number of cores plus each of the following options: 1) Size 2) Colour 3) Total Quantity 4) Printing Options
For example: CCB3 38/11 black, 2.000 pcs., unprinted

CCBA & CCB-Con

Heat shrinkable boots seal and protect multi-conductor cable and conduit breakouts

CCBA = Anti-track medium voltage breakouts

CCB-Con = Conductive breakouts

Features

- Strain relief and mechanical protection
- Resistant to common fluids and solvents
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- Continuous Operating Temperature: -55°C to 100°C
- Shrink Temperature: 135°C



Dimensions

CCBA Anti-Track Medium Voltage Breakouts - Three Core Breakouts only

ORDER REF. NO.	EXPANDED		RECOVERED		RECOVERED FULL LENGTH	RECOVERED FINGER LENGTH
	BREAKOUT MAIN DIAMETER (MIN)	FINGER DIAMETER (MIN)	BREAKOUT MAIN DIAMETER (MAX)	FINGER DIAMETER (MAX)	± 10%	± 10%
	mm	mm	mm	mm	mm	mm
CCBA 60/24	60,0	24,0	22,0	8,0	185,0	45,0
CCBA 80/36	80,0	36,0	33,0	16,0	210,0	50,0
CCBA 110/48	110,0	48,0	47,0	20,0	260,0	75,0
CCBA 125/55	125,0	55,0	47,0	20,0	260,0	75,0



CCB-Con Conductive Breakouts - Three Core Breakouts only

ORDER REF. NO.	EXPANDED		RECOVERED		RECOVERED FULL LENGTH	RECOVERED FINGER LENGTH
	BREAKOUT MAIN DIAMETER (MIN)	FINGER DIAMETER (MIN)	BREAKOUT MAIN DIAMETER (MAX)	FINGER DIAMETER (MAX)	± 10%	± 10%
	mm	mm	mm	mm	mm	mm
CCB-CON 60/24	60,0	24,0	22,0	8,0	185,0	45,0
CCB-CON 80/36	80,0	36,0	33,0	16,0	210,0	50,0
CCB-CON 110/48	110,0	48,0	47,0	20,0	260,0	75,0
CCB-CON 125/55	125,0	55,0	47,0	20,0	260,0	75,0

Technical Data

Product

Property	Test Method	Typical Performance CCBA	Typical Performance CCB-Con
Tensile Strength	ASTM-D 638 (M)	7,0 MPa min.	12,0 MPa min.
Elongation	ASTM-D 638 (M)	300% min.	300% min.
Hardness	Internal	32 Shore D min.	40 Shore D min.
Tensile Strength after thermal aging (120°C, 168 hrs)	ISO - 188	6 Mpa min.	10 Mpa min.
Elongation after thermal aging (120°C, 168 hrs)	ISO - 188	250% min.	250% min.
Water absorption	ISO - 62	1% max.	1% max.
Dielectric Strength	IEC - 243	12 kV/mm	Conductive
Dielectric Constant	IEC - 250/ASTM-D 150	5 max.	Conductive
Resistance to tracking	ASTM-D 2303	no failure by tracking after 1 hour at 2.5 kV, 1 hour at 2.75 kV, 1 hour at 3.0 kV, 20 minutes at 3.25 kV	N/A
Volume Resistivity	IEC 93	10 ¹⁴ Ω x cm	2*10 ⁴ Ω x cm
Flammability	ESI 09-13	non burning	Non flame retardant

Standard Colours	Special Colours
CCBA reddish-brown 	
CCB-Con black 	Not Available

Raw Material

Property	Test Method	Typical Performance coloured	Typical Performance clear
Tensile Strength	ASTM-D 638 (M)	7 MPa min.	12 MPa min.
Elongation	ASTM-D 638 (M)	300% min.	300% min.
Hardness	ASTM-D 2240	32 Shore D min.	40 Shore D min.

Printability	Hot stamp	Ink jet	Offset
	Excellent	Excellent	Excellent

Ordering: **Specify the product name** and the number of cores plus each of the following options:

1) Size 2) Colour 3) Total Quantity 4) Printing Options

For example: CCBA 60/24, reddish-brown, 2.000 pcs., unprinted

CEC

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

Features

- Unaffected by ultraviolet light
- Good chemical and solvent resistance
- Unlimited storage life
- Thermoplastic liner provides complete environmental seal
- Continuous Operating Temperature: -55°C to 100°C
- Shrink Temperature: 120°C



Dimensions

ORDER REF. NO.	EXPANDED	RECOVERED			GENERAL USE DIAMETER mm
	INTERNAL DIAMETER* (MIN) A mm	INTERNAL DIAMETER* (MAX) A mm	LENGTH (MIN) B mm	WALL THICKNESS (MIN) T mm	
CEC 15/4,5	15,0	4,5	44,0	1,0	5,0 - 12,0
CEC 25/9	25,0	9,0	69,0	2,7	10,0 - 22,0
CEC 36/15	36,0	15,0	93,0	2,8	17,0 - 30,0
CEC 55/25	55,0	25,0	107,0	3,3	28,0 - 47,0
CEC 80/24	80,0	24,0	127,0	4,7	28,0 - 70,0
CEC 80/40	80,0	40,0	127,0	3,6	45,0 - 70,0
CEC 102/60	102,0	60,0	152,0	3,6	68,0 - 90,0
CEC 124/60	124,0	60,0	152,0	3,6	75,0 - 110,0
CEC 148/57	148,0	57,0	152,0	4,5	80,0 - 135,0

* Internal diameter without adhesive coating

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 638 M	12,0 MPa min.
Elongation	ASTM-D 638 M	300% min.
Water Absorption	ISO - 62	1,0% max.
Shore Hardness	ASTM-D 2240	45 Shore D min.

Thermal

Property	Test Method	Typical Performance coloured
Shrink temperature		> 130°C
Tensile Strength after Heat Aging (168 hrs at 120°C)	ISO - 188	10,0 MPa min.
Elongation after Heat Aging (168 hrs at 120°C)	ISO - 188	250% min.

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	IEC - 243	12 kV/mm min.
Volume Resistivity	IEC - 93	10 ¹¹ Ω x cm

Printability	Hot stamp	Ink jet	Offset
	good	good	good

Standard Colours	Special Colours
black 	On request

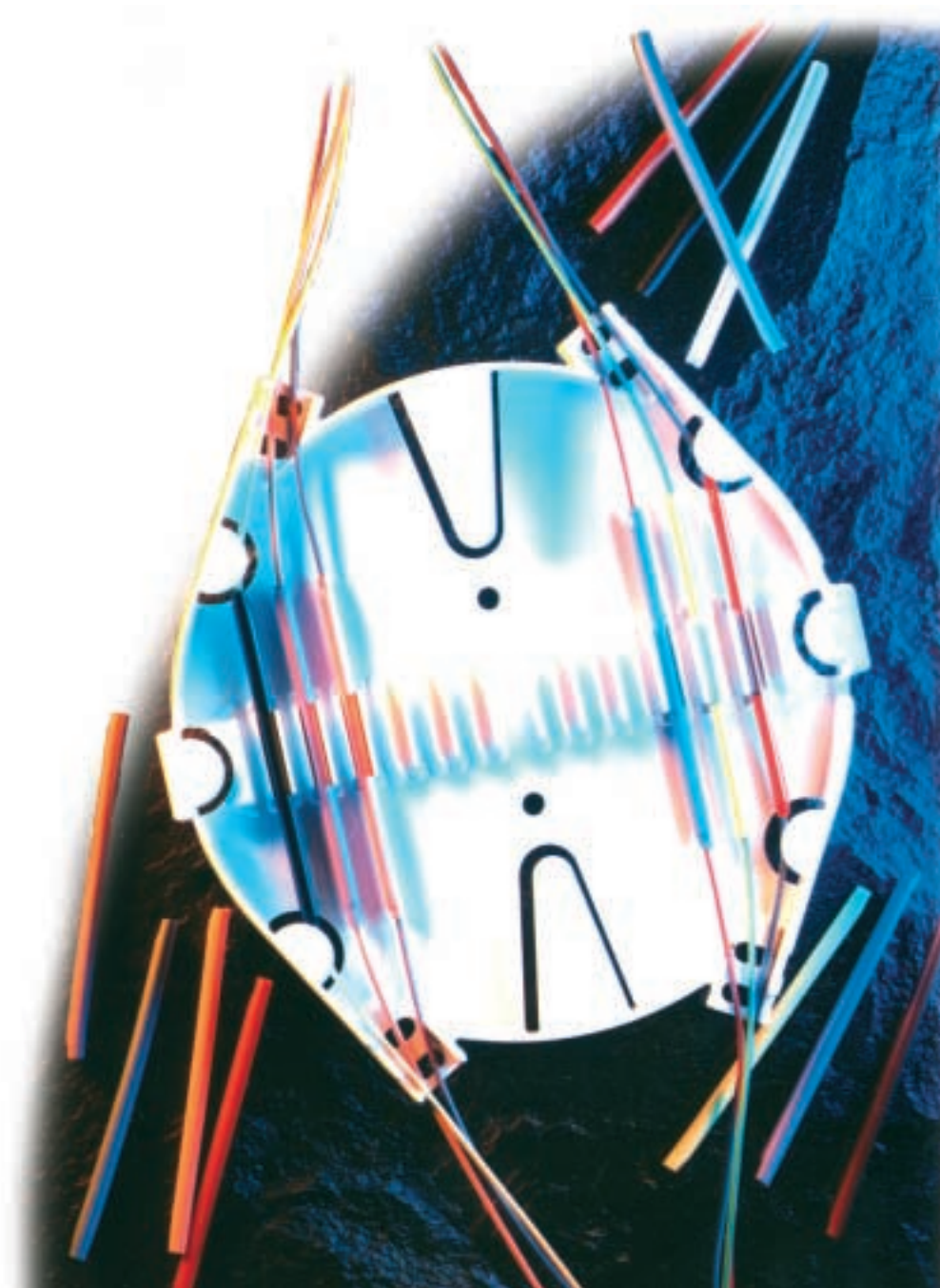
Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity 4) Printing Options
For example: CEC 36/55 black, 1.075 pcs., unprinted

CFSP

A specially designed crosslinked polyolefin tubing system, with melt-able liner, providing strength and protection to optical fibre splices

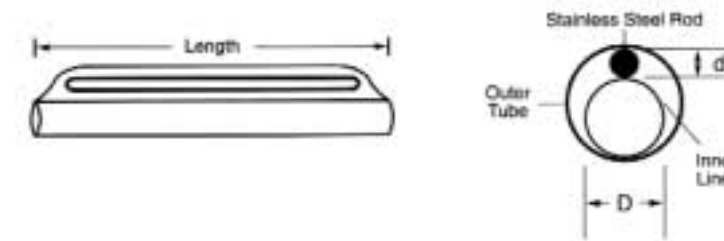
Features

- Single holed (preshrunk) ends eliminates improper fibre threading
- Smooth, deburred stainless steel reinforcing member ends decrease the risk of fibre damage during installation
- Extended liner length prevents contact between the fibre and the backbone
- Clear sleeve design permits easy centering of splice before heating
- Continuous Operating Temperature: -20°C to 60°C
- Shrink Temperature: 90°C



Dimensions

Nominal Sleeve Length	Inside Diameter of Inner Liner (MIN)	Nominal Steel Diameter	DELIVERY UNITS
mm	mm	mm	pcs.
61,0	1,5	1,2	100
45,0	1,5	1,2	100
23,0	1,5	1,2	100



Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 2671, ISO R527	25 MPa
Density	ISO R1183D	0,94
Vicat Softening Point	ISO R306	66°C
Ultimate Elongation	ISO 37	400%
Longitudinal Change	ASTM-D 2671	±5%
Dielectric Strength	IEC 243	20 kV/mm

Standard Colours	Special Colours
clear 	On request

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity
For example: CFSP 45,0 mm clear, 2.000 pcs.

CGEL 596 / CGEL 711

Gel filled closure provides complete environmental protection for coaxial drop splices in burial and aerial applications

Features

- Single piece, clam shell design, requires no additional tools for installation
- Gel filled for complete waterproof protection
- Expansion chambers prevent gel overflow
- Accommodates a wide range of standard F type and environmentally sealed coaxial connectors
- Accommodates all coaxial cable types including quad shielded cable
- Fully re-enterable
- Channel provided for retaining messenger cable
- Tough outer shell withstands impact testing to 5 ft-lbs force
- Meets SCTE IPS-TP-013 requirements for water immersion and temperature cycling



Dimensions

CGEL	NOMINAL DIAMETER (MIN)	STANDARD LENGTH	DELIVERY UNITS
	mm	mm	pcs.
596	25,4	116,0	12
711	30,48	165,0	12

Technical Data

Gel Properties

Physical

Property	Test Method	Typical Performance
Cone Penetration	ASTM-D 1824	121,0 mm
Surface Tack		3,0 sec
Elongation		> 1.200%
Specific Gravity	ASTM-D 70	0,98 g/cm ³ max.

Environmental

Property	Test Method	Typical Performance
Heat Aging 60°C for 30 days		passed all tests
Long Term Life		properties retained for 20 years
Hydrophobic Properties		HLB<2

Electrical

Property	Test Method	Typical Performance
Dielectric Constant	ASTM-D 150	3.3 max at 1kHz 3.0 max at 100 kHz
Power Factor	ASTM-D 150	0.03 max at 1 kHz 0.03 max at 100 kHz

Ordering: Specify: CGEL 596 or CGEL 711 + Total Quantity

Application Ranges

Cables:

596: All 59 & 6 series coaxial cables including quad shield with messengers

711: All RG 7 & RG 11 series coaxial cables including quad shield with messengers

CGEL	596	711
	59 & 6 series coaxial connectors	RG 7 & RG 11 series coaxial connectors
Digicon:	Type 2 series, S series, 6 splice series	S series, RG 11 series
Augat:	F series, SNS series, environmentally sealed SNS	F series, SNS series
Gilbert:	GF, GFW and GF 360 F type, ultraseal series	GAF, GF 11S, GAF 360 type 7 & 11

Closure Properties

Material Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 638	27 MPa
Notched Izod Impact at 23°C	ASTM-D 256A	2.0 ft-lbs/in
Drop Weight Impact Strength at -29°C	Montell	21 ft-lbs
Specific Gravity	ASTM-D 792	0,90 g/cm ³ max.

Electrical

Property	Test Method	Typical Performance
Moisture Migration	SCTE IPS-TP-013	no moisture migration
Impact Strength	Canusa-AH-01 5 ft-lbs, -18°C, 38°C	no cracking or opening of closure

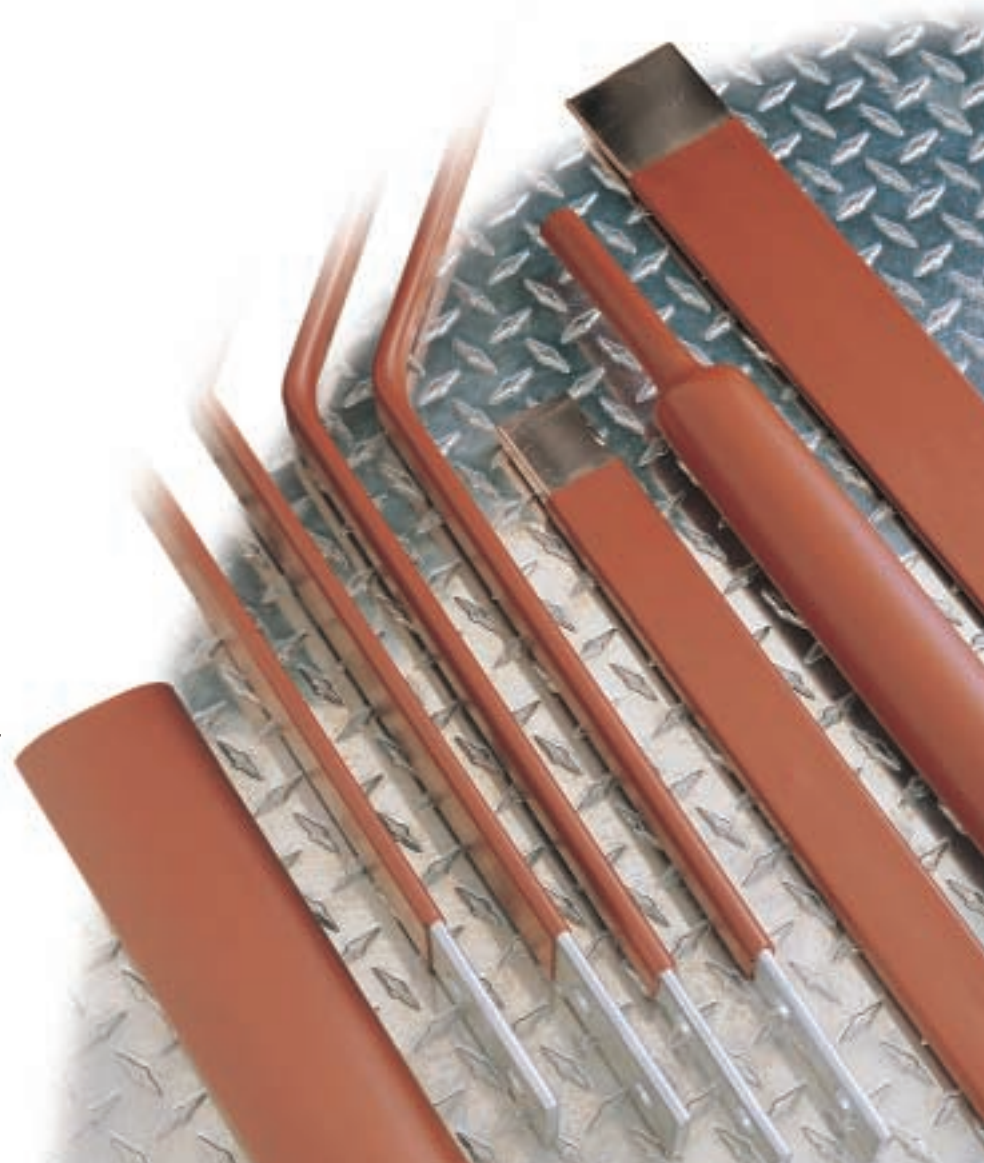
Standard Colours	Special Colours
black	Not Available

CBTM

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

Features

- Flame Retardant
- Reduces bus bar clearance requirements
- Protects against accidental flashover
- Anti-track
- Halogen free
- Tested to ANSI C37.20.2 standards for medium voltage switchgear applications to 25 kV
- UL recognized component
- Continuous Operating Temperature: -40°C to 125°C
- Shrink Temperature: 120°C



Dimensions

CBTM - for services to 25 kV on unbolted bus bar

EXPANDED		RECOVERED		APPLICATION RANGES				DELIVERY UNITS
INTERNAL DIAMETER (MIN) D	INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	RECTANGULAR BUS BARS (MIN) (MAX)		ROUND BUS BARS (MIN) (MAX)		RED	
mm	mm	mm	mm	mm	mm	mm	m	
19,0	5,5	2,70	6,4	6,4	6,8	15,2	15	
33,0	10,1	3,00	12,7	28,5	12,4	27,9	15	
52,0	19,0	2,80	31,5	50,8	22,3	43,1	15	
69,8	25,4	2,90	44,4	76,2	29,7	58,4	15	
88,9	29,9	3,10	57,1	101,6	35,8	73,6	15	
119,3	39,9	3,20	73	142,8	47,7	101,6	15	
170,1	58,4	3,20	114,3	203,2	69,5	144,7	15	
228,6	76,9	3,30	-	-	91,9	190,5	15	

Rectangular bus bars have thickness of 1/4 to 5/8 inch.

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 (mm)	p to g (mm)
15 kV	95	86,0	106,0
25 kV	125	114,0	152,0
36 kV	150	165,0	203,0

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

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 412, ISO 37	8,3 MPa
Elongation	ASTM-D 412, ISO 37	370%
Heat Aging (7 days at 175°C) Tensile Strength Elongation	ASTM-D 2671 ASTM-D 2671	10 Mpa 200%
Heat Shock (4 hrs at 225°C)	ASTM-D 2671	no cracking or flowing
Low Temp. Flexibility (4 hrs at -25°C)	ASTM-D 2671	no cracking
Flammability	ANSI C37.20, ASTM-D 2671	passed

Standard Colours	Special Colours
red 	Not Available

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 149	20 kV/mm
Surface Resistivity	ASTM-D 257	510 x 10 ⁹ Ω
Volume Resistivity	ASTM-D 257	1.9 x 10 ¹⁶ Ω cm
Dielectric Constant	ASTM-D 150	3.4
Tracking Resistance (2500 V, 300 min)	ANSI C37.20, ASTM-D 2303	non-tracking
Weathering	ASTM-G 53	non-tracking after 6000 hours

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671	non-corrosive
Fluid Resistance	MIL-DTL-23053/15	good to excellent
Water Absorption	ASTM-D 570	0,25%

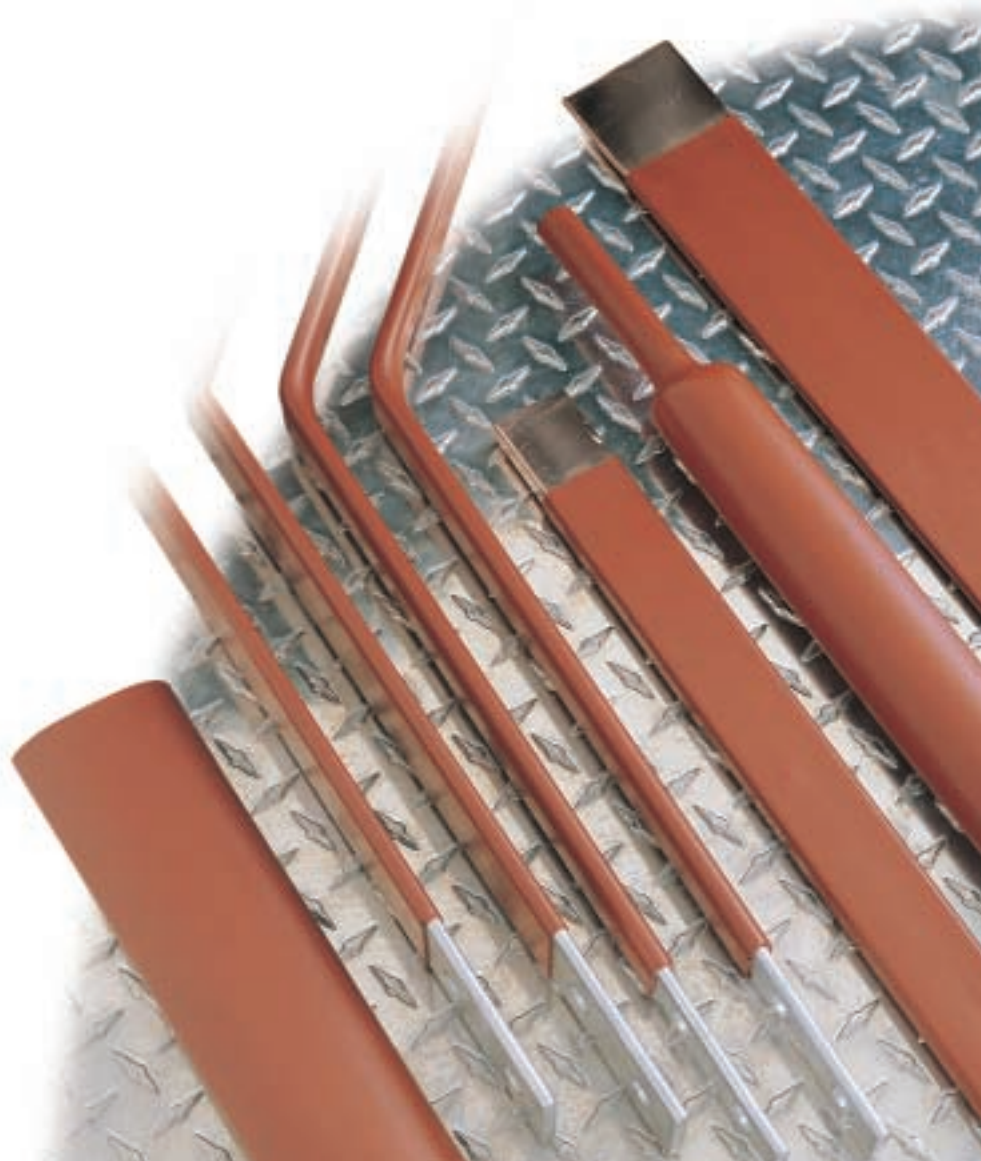
Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit
For example: CBTM 52/19 red, 1.500 mtr., 15m-spool

CBTH

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

Features

- Flame Retardant
- Reduces bus bar clearance requirements
- Protects against accidental flash-over
- Anti-track
- Halogen free
- Tested to ANSI C37.20.2 standards for medium voltage switch-gear applications to 36 kV
- UL recognized component
- Continuous Operating Temperature: -40°C to 125°C
- Shrink Temperature: 120°C



Dimensions

CBTH - for services to 36 kV on unbolted bus bar

EXPANDED		RECOVERED		APPLICATION RANGES				DELIVERY UNITS
INTERNAL DIAMETER (MIN) D	INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	RECTANGULAR BUS BARS		ROUND BUS BARS		RED	
mm	mm	mm	(MIN) mm	(MAX) mm	(MIN) mm	(MAX) mm	m	
27,9	8,9	3,90	9,5	12,7	10,6	17,7	15	
50,8	16	4,10	25,4	34,9	19,3	33,0	15	
68,0	22,1	4,10	34,9	50,8	26,1	43,1	15	
89,9	29,9	4,10	50,8	76,2	35,8	58,4	15	
119,9	39,9	4,20	69,8	111,1	47,7	81,2	15	
167,6	58,4	4,20	107,9	177,8	69,5	124,4	15	

Rectangular bus bars have thickness of 1/4 to 5/8 inch.

Application ranges noted above selected to obtain minimum insulation thickness required to meet ANSI C37.20.2 withstand 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 (mm)	p to g (mm)
15 kV	95	55,0	66,0
25 kV	125	71,0	101,0
36 kV	150	142,0	190,0

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

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 412, ISO 37	8,3 MPa
Elongation	ASTM-D 412, ISO 37	370%
Heat Aging (7 days at 175°C) Tensile Strength Elongation	ASTM-D 2671 ASTM-D 2671	10 Mpa 200%
Heat Shock (4 hrs at 225°C)	ASTM-D 2671	no cracking or flowing
Low Temp. Flexibility (4 hrs at -25°C)	ASTM-D 2671	no cracking
Flammability	ANSI C37.20, ASTM-D 2671	passed

Standard Colours	Special Colours
red	Not Available

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 149	20 kV/mm
Surface Resistivity	ASTM-D 257	510 x 10 ⁹ Ω
Volume Resistivity	ASTM-D 257	1.9 x 10 ¹⁶ Ω cm
Dielectric Constant	ASTM-D 150	3.4
Tracking Resistance (2500 V, 300 min)	ANSI C37.20, ASTM-D 2303	non-tracking
Weathering	ASTM-G 53	non-tracking after 6000 hours

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671	non-corrosive
Fluid Resistance	MIL-DTL-23053/15	good to excellent
Water Absorption	ASTM-D 570	0,25%

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit
For example: CBTH 50/16 red, 300 mtr., 15m-spool

DERAY® KSF

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

Features

- Reduces bus bar clearance requirements
- Protects against accidental flash-over
- Anti-track
- Halogen free
- Continuous Operating Temperature: -40°C to 135°C
- Shrink Temperature: 125°C



Dimensions

EXPANDED	RECOVERED		DELIVERY UNITS
INTERNAL DIAMETER (MIN) D	INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	RED
mm	mm	mm	m
19,0	6,0	2,00	50
25,0	10,0	4,10	50
32,0	12,0	2,80	50
38,0	12,0	2,80	50
43,0	19,0	3,50	25
45,0	16,0	4,10	25
52,0	19,0	3,50	25
58,0	19,0	3,50	25
68,0	25,0	3,50	25
76,0	32,0	3,50	15
100,0	40,0	4,10	10

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	IEC 60684-2	14 MPa
Elongation	IEC 60684-2	500%
Longitudinal Change	ASTM-D 2671	6% ± 3% max.
Secant Modulus	ASTM-D 882	30 MPa max.
Specific Gravity	ASTM-D 792, A-I	1,2 g/cm ³ max.
Elongation after Heat Shock (4 hrs at 200°C)	IEC 811-1-2	450%
Tensile Strength after Heat Shock (4 hrs at 200°C)	IEC 811-1-3	11 MPa
Low Temperature Flexibility	ASTM-D 2671 Meth. C	does not break at -40°C
Flammability	FMVSS 302	passed

Standard Colours	Special Colours
red 	Not Available

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	VDE 0303 Part 2	20 kV/mm
Volume Resistivity	VDE 0303 Part 3	10 ¹⁴ Ω x cm
Comparative Tracking Index	IEC 112	CTI 600<0,1

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671 Meth. A	non-corrosive
Copper Compatibility	ASTM-D 2671 Meth. B	non-corrosive
Water Absorption	VDE 0472	0,20%

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit
For example: DERAY® KSF 19/6, red, 500 mtr., 50 m-spool, unprinted

CNTT

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

Features

- Non Tracking
- UV stabilised
- Flame retardant
- Exceptional electrical and weathering properties
- Suitable for outdoor & indoor terminations
- Continuous Operating Temperature: -55°C to 125°C
- Shrink Temperature: 120°C



Dimensions

EXPANDED	RECOVERED		DELIVERY UNITS
INTERNAL DIAMETER (MIN) D	INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	SPOOL LENGTH
mm	mm	mm	m
33,0	10,0	2,80	15
45,0	15,0	2,80	15
60,0	19,0	3,10	15
70,0	25,0	2,90	15

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 412, ISO 37	11,2 MPa
Elongation	ASTM-D 412, ISO 37	370%
Longitudinal Change	ASTM-D 2671	-5% max.
Specific Gravity	ISO/R 1183 (A)/ASTM-D 1505	1,31 g/cm ³
Heat Shock (30 min at 200°C)	ESI-0913	no cracking or flowing
Elongation after Heat Shock (500 hrs at 120°C)	ASTM-D 412, ISO 37	310%
Tensile Strength after Heat Shock (500 hrs at 120°C)	ASTM-D 412, ISO 37	8,56 MPa
Low Temperature Flexibility	ASTM-D 2671	does not break at -40°C
Flammability	ASTM-D 2671 (B)	passed

Standard Colours	Special Colours
red 	Not Available

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 149	779 V/mil
Surface Resistance	ASTM-D 257	154x10 ⁹ Ω
Volume Resistivity	ASTM-D 257/IEC-93	2.5*10 ¹¹ Ω cm
Dielectric Constant	ASTM-D 150/IEC-250	2,0 min.
Tracking Resistance (2500 V, 300 min)	ASTM-D 2303-96	no tracking after 12 hrs

Chemical

Property	Test Method	Typical Performance
Corrosive Action	ASTM-D 2671	non-corrosive
Environmental Salt fog test	IEC 1109	no tracking after 1000 hrs
Chemical Resistance (Transformer Oil)	ISO-175/ISO-37	passed
Water Absorption	ASTM-D 570/ ISO-62	0,11% min., 0,28 max.%

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit
For example: CNTT 45/15, red-brown, 150 mtr. 15 mtr.-reel

CRDW

Adhesive-lined, heat shrinkable wrap-around sleeve with a flexible stainless steellocking channel. Used for general re-jacketing and sealing applications, protection of damaged cable or as outer jacket on XLPE Cu Telecom cable joints from 10 pair to 2000 pair cable

Features

- Provides water tight seal upon recovery
- Excellent mechanical strength
- Application procedure is quick, simple and clean
- Covered with thermochromatic paint that changes colour upon achieving correct shrink temperature
- Sleeve can be cut to suit shorter application requirements
- Stainless steel channel provides permanent closure system
- Easy to install in situ over live cable without cutting the cable or shutting down power
- Installation temperature range: -15°C to +45°C



Dimensions

EXPANDED	RECOVERED		DELIVERY UNITS
INTERNAL DIAMETER (MIN) D	INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	BLACK LENGTHS
mm	mm	mm	m
43,0	8,0	2,30	1,0 or 1,5
68,0	15,0	2,30	1,0 or 1,5
93,0	25,0	2,30	1,0 or 1,5
137,0	34,0	2,30	1,0 or 1,5
160,0	48,0	2,30	1,0 or 1,5
200,0	48,0	2,30	1,0 or 1,5

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	DIN 53455/ISO R527	17,0 MPa min.
Elongation	DIN 53455/ISO R527	350% min.
Tensile Strength after Heat Aging (168 hrs at 150°C)	DIN 53455/ISO R527	14 MPa min.
Elongation after Heat Aging (168 hrs at 150°C)	DIN 53455/ISO R527	300% min.
Carbon Black Content for UV Resistance	VDE 0472	2% min.
Low Temperature Flexibility	DIN 53453	no cracking at -40°C
Longitudinal Shrinkage		10% max.

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	DIN 53481/IEC 243	12 kV/mm min.

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Colour 3) Total Quantity + Delivery Unit
For example: CRDW 93/25 black, 1.000 pcs., 1,0 mtr.-length

CRLS

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

Features

- Shut down of system not required for repair
- High shrink ratio covers even irregular shapes
- Simple RAIL-LESS®* installation with clamshell design
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- Meets ICEA and NEMA insulation thickness specifications
- Continuous Operating Temperature: -55°C to 110°C
- Shrink Temperature: 120°C

* RAIL-LESS® is a registered trademark of Shawcor



Dimensions

EXPANDED	RECOVERED		DELIVERY UNITS
INTERNAL DIAMETER (MIN) D	INTERNAL DIAMETER (MAX) D	WALL THICKNESS (NOM) w	BLACK LENGTHS*
mm	mm	mm	
30,0	6,0	2,00	* Standard lengths are:
46,0	14,0	2,00	152 mm
68,0	24,0	2,00	203 mm
91,0	33,0	2,00	305 mm
126,0	47,0	2,00	610 mm
171,0	67,0	2,00	914 mm

Technical Data

Physical

Property	Test Method	Typical Performance
Tensile Strength	ASTM-D 638	19 MPa
Elongation	ASTM-D 638	600%
Heat Shock (4hrs at 225°C)	ASTM-D 2671	no cracking or flowing
Air Oven Aging (7 days at 150°C)		
Tensile Strength	ASTM-D 638	14,5 MPa
Elongation	ASTM-D 638	540%
Specific Gravity	ASTM-D 792	0,94 g/cm ³
Hardness (Shore D)	ASTM-D 2240	50 D

Electrical

Property	Test Method	Typical Performance
Dielectric Strength	ASTM-D 2671	28 kV/mm min.
Volume Resistivity	ASTM-D 257	1,9x10 ¹⁸ Ω x cm
Dielectric Constant (1 KHZ)	ASTM-D 150	4,05

Chemical

Property	Test Method	Typical Performance
Fluid Resistance	MIL-DTL-23053/15	good to excellent
Hydraulic Fluid (MIL H5606C)		
Tensile Strength	MIL-DTL-23053/15 ASTM-D 638, ISO 37	17 MPa
Elongation	ASTM-D 638, ISO 37	600%
Lubricating Oil (MIL L7808G)		
Tensile Strength	MIL-DTL-23053/15 ASTM-D 638, ISO 37	16 MPa
Elongation	ASTM-D 638, ISO 37	600%
Diesel Fuel		
Tensile Strength	MIL-DTL-23053/15 ASTM-D 638, ISO 37	14,5 MPa
Elongation	ASTM-D 638, ISO 37	600%
Corrosive Action	ASTM-D 2671	non-corrosive
Fungus Resistance	ASTM-G 21	no growth
Water Absorption	ASTM-D 570	0,1% max.

Ordering: **Specify the product name** plus each of the following options: 1) Size 2) Length 3)Colour 4) Total Quantity
For example: CRLS 68/24, 203 mm, black, 100 pcs.

Low Voltage Kits

LVJUAC, LVJUAM and LVJUAS connecting (cable-jointing) sleeves are perfectly suitable for joining multi-core, polymeric insulated energy cables in the low voltage range.

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

Features

- Quick, simple installation
- Exceptionally good electrical insulation
- Good mechanical load-bearing ability
- No maintenance time necessary
- Usable immediately
- Unlimited storage life
- Tested to DIN 47632/VDE 0278/HD623 part 1 and 3
- Available with the following interior coatings
A = hot-melt adhesive
S = sealing composition



Dimensions

Joint kits for plastic-insulated 0.6/1kV cables

DESCRIPTION	CROSS SECTION OF CONDUCTORS DIN 47632	CABLE TYPE E.G.
For Screw Connectors		
LVJUAM 4X1.5-4X16	4X1.5-4X16	NYY, NXY, NYX, NXX with Round (r) or sectorial (s), solid (e) or stranded (m), aluminium (Al) or Copper (cu) conductor
LVJUAM 5X1.5-5X16	5X1.5-5X16	
LVJUAM 4X6-4X25	4X6-4X25	
LVJUAM 4X16-4X50	4X16-4X50	
LVJUAM 5X16-5X50	5X16-5X50	
LVJUAM 4X25-4X95	4X25-4X95	
LVJUAM 4X35-4X150	4X35-4X150	
LVJUAM 4X95-4X300	4X95-4X300	

For Crimp Connectors		
LVJUAC 4 X 2.5 - 16	4 X 2.5 - 16	NYY, NXY, NYX, NXX with Round (r) or sectorial (s), solid (e) or stranded (m), aluminium (Al) or Copper (cu) conductor
LVJUAC 5 X 2.5 - 16	5 X 2.5 - 16	
LVJUAC 4 X 6 - 35	4 X 6 - 35	
LVJUAC 5 X 6 - 35	5 X 6 - 35	
LVJUAC 4 X 16 - 50	4 X 16 - 50	
LVJUAC 4 X 35 - 150	4 X 35 - 150	
LVJUAC 4 X 120 - 240	4 X 120 - 240	
LVJUAC 4 X 185 - 300	4 X 185 - 300	

Joint kits for screened-insulated 0.6/1kV cables

DESCRIPTION	CROSS SECTION OF CONDUCTORS DIN 47632	CABLE TYPE E.G.
For Crimp Connectors		
LVJUAS 4X1.5-4X16	4X1.5-4X16	NYCY, NYCWY, NHXH with Round (r) or sectorial (s), solid (e) or stranded (m), aluminium (Al) or Copper (cu) conductor
LVJUAS 5X1.5-5X16	5X1.5-5X16	
LVJUAS 4X6-4X25	4X6-4X25	
LVJUAS 4X16-4X50	4X16-4X50	
LVJUAS 5X16-5X50	5X16-5X50	
LVJUAS 4X25-4X95	4X25-4X95	
LVJUAS 4X35-4X150	4X35-4X150	
LVJUAS 4X95-4X300	4X95-4X300	

Standard Contents

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

Ordering: Specify the product referring to above dimension chart

Joint kit for armoured cables

CODE	CORE SIZE
CJK 4	4 x 1.5-4 mm ²
CJK16	4 x 6 - 16 mm ²
CJK 50	4 x 25 - 50 mm ²
CJK 95	4 x 70 - 120 mm ²
CJK 240	4 x 150 - 240 mm ²

Earth and Armour continuity included in all kits. Connectors not included in kit contents.

Termination kit for armoured cables

CODE	CORE SIZE
CTK16	4 x 6 - 16 mm ²
CTK 50	4 x 25 - 50 mm ²
CTK 95	4 x 70 - 120 mm ²
CTK 240	4 x 150 - 240 mm ²

N.B. Table is for four core cable only. Kits for two and three core cables including CNE cable available on request. Earthing kits available as optional extra. Cable Lugs not included.

Standard Contents

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

Signal Kits

CSK-B signal kits are particularly suitable for connecting screened signal cables in industry, rail and mass transit. Individual splices can be supplied as separate kits to cover a wide range of sizes with minimal stock.

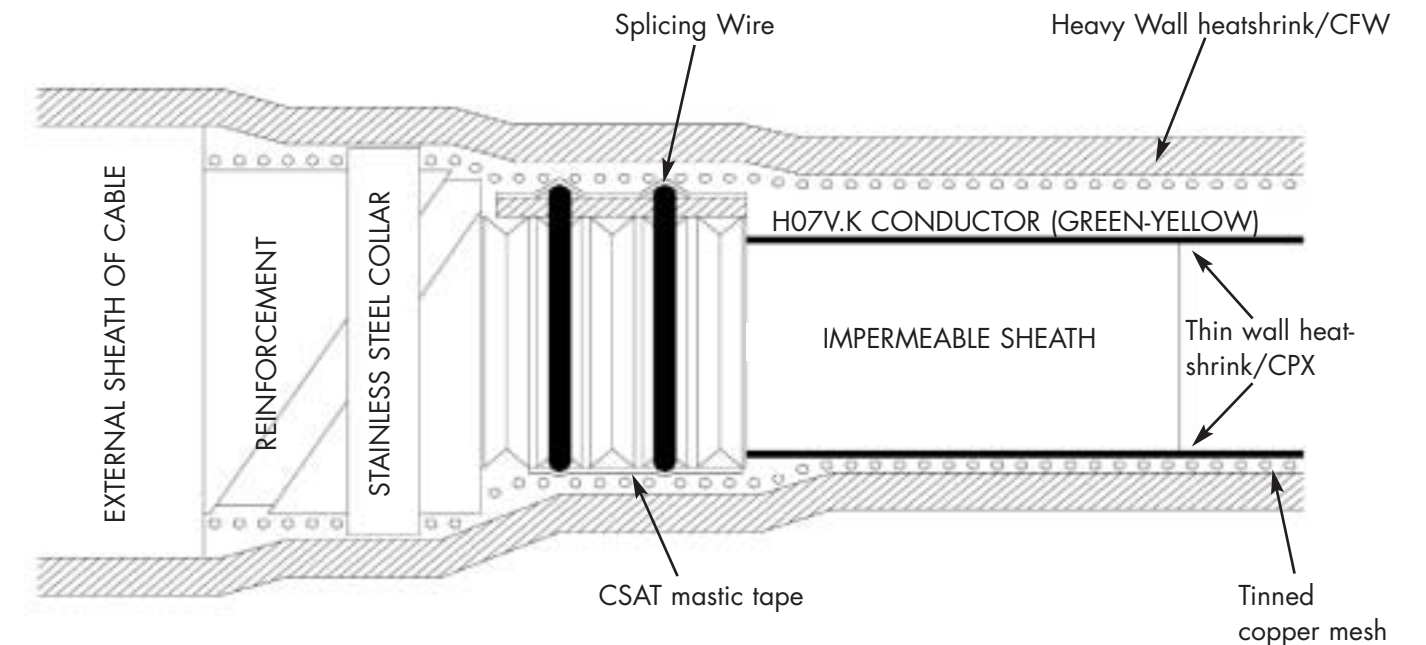
Features

- Quick, 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
 - dual wall heat shrink tubing with crimp connector



DSG-Canusa Signal Kits

Suitable for 1.5-2.5 mm² copper conductor
Types YSLCY, LSYCVY, ZPFU, SZRMtk VM-J 0.6/1kV armoured.



CFTV - high shrink ratio tubing with thermochromatic paint and high performance adhesive gives 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 designed to perform even during flexing and vibration

CPX300 - heat shrink tubing to replace inner insulation layer and continue waterproof seal

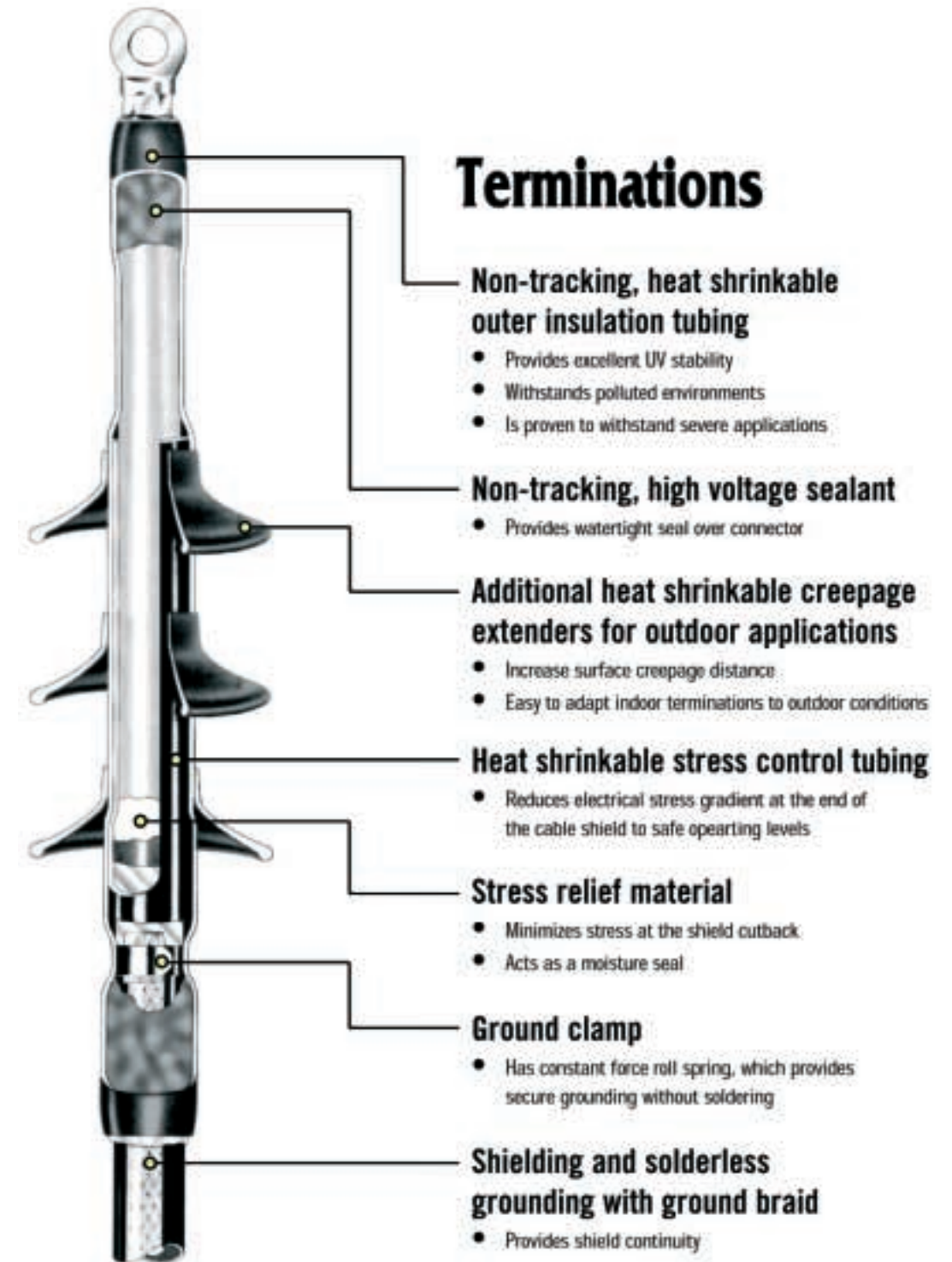
KIT NAME	CABLE RANGE (NO. OF PAIRS)
CSKB - 1	4 - 7
CSKB - 2	10 - 22
CSKB - 3	28 - 32

Medium Voltage Terminations

Heat shrinkable power cable terminations consist of a non-tracking, weather resistant heat shrinkable protective tubing, heat shrinkable stress control tube and mastic. Each termination consists of appropriate tubes, rainsheds, cable breakouts, sealing materials, hardware and installation instructions

Benefits of DSG-Canusa components

- Suitable for 1 & 3 core cable
- Range includes kits for XLPE & PILC cables for a wide range of conductor cross sections
- Kits are available for both armoured & 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
- Fully sealed against water ingress
- Unsurpassed performance in polluted environments



Medium Voltage Joint Kits

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

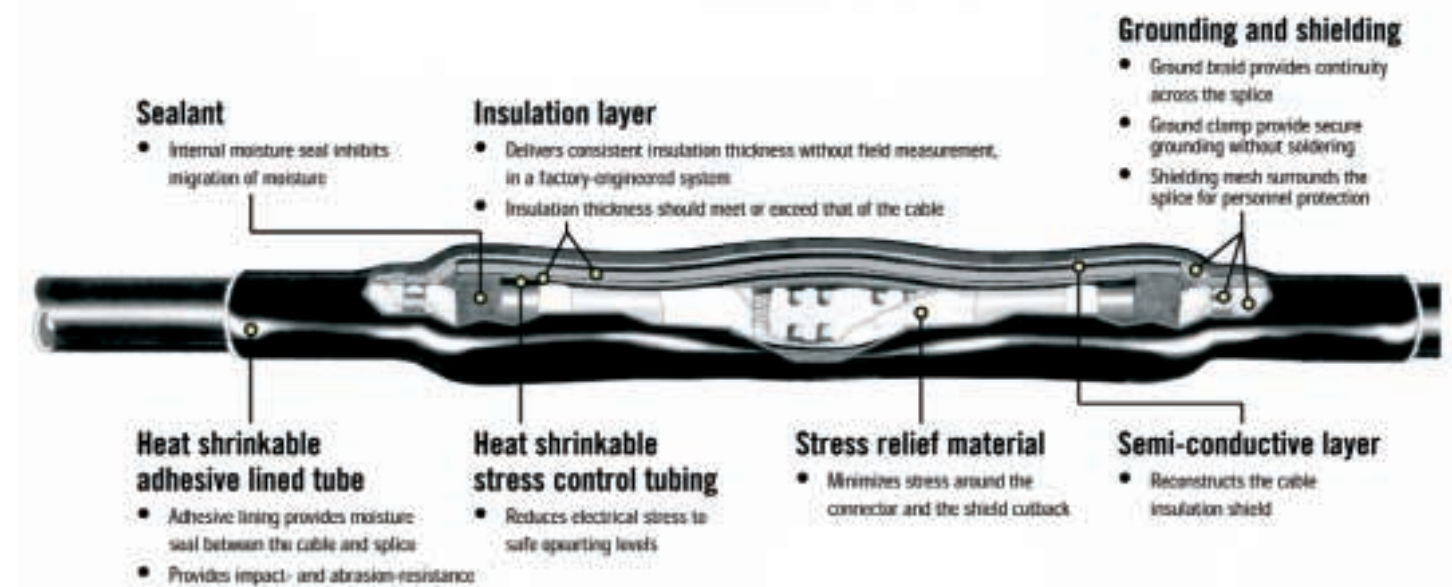
Benefits of DSG-Canusa components

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



Cable Joints



Automotive Wire Harness Solutions

In addition to the standard heat shrink tubing product line, DSG-Canusa provides solutions that are designed specifically for the demanding requirements of automotive wire harnesses.

For insulation of ground connections, splices or for longitudinal water sealing of cable harnesses, DSG-Canusa delivers tailor-made products of optimum quality.



DERAY®-Splicemelt

Crimped and ultrasonically welded parallel and end splices often require longitudinal water proof sealing as well high resistance against thermal, chemical and mechanical influences. Different sealing applications have these requirements, especially in the automotive sector. DERAY®-SPLICEMELT, a specially modified heat shrinkable sleeve with an inner thermoplastic adhesive, fulfils the requirements of these harsh environments. During the shrink process the hot melt adhesive flows into all the voids within the area to be sealed. The result is a corrosion and water proof seal. Due to its simple and fast installation the two-in-one shrink tube can be used in continuous production. In general the processing of DERAY®-SPLICEMELT is possible on each of the following shrink machines: DERAY®-Spliceman, DERAY®-Spliceman IR, DERAY®-Dockman jr., DERAY®-KST and DERAY®-FST

=> DERAY®-Splicemelt is the premier SPLICE SEALING system which satisfies most automotive applications.



DERAY®-Splicemelt-Cap

In addition to the DERAY®-Splicemelt the longitudinal water proof sealing of end splices can easily be effected with the DERAY®-Splicemelt-Cap. Available in black and clear and in 4 standard sizes, this product provides an economical and reliable sealing.



DERAY®-Pressmelt

DERAY®-Pressmelt is a specially modified sealing system that consists of a modified heat shrinkable sleeve with an inner adhesive and a push-on profile of thermoplastic adhesive. This system guarantees within wide temperature differences absolute sealing and functionality of all sealed cables. It is available for 85°C or 105°C operating temperatures. DERAY®-Pressmelt can be processed using the following shrink devices: DERAY®-Dockman, DERAY®-Workman, DERAY®-KST
=> DERAY®-Pressmelt system provides efficient LONGITUDINAL WATER BLOCKING IN SMALL CABLE BUNDLES.



DERAY®-Duomelt

DERAY®-Duomelt is the evolution of DERAY®-Pressmelt system, combining DERAY®-Duomelt adhesive strips with DERAY®-IAKT or DERAY®-IHKT heat shrink tubing. The adhesive strips are lined with a strip of butyl rubber to ensure that the adhesive is evenly distributed throughout the bundle and to assist with the installation. DERAY®-Duomelt can be processed by standard heat shrink appliances; however DSG-Canusa suggests the DERAY®-Workman for bench applications and the DERAY®-Dockman for wiring board applications.
=> DERAY®-Duomelt is ideal for providing WATER BLOCKING IN SMALL AND MEDIUM CABLE BUNDLES.



DERAY®-Coldmelt I

As some insulating materials are very sensitive to heat, DSG-Canusa designed DERAY®-Coldmelt I which uses minimal heat during the installation process and thus ensures that individual bundle components are not damaged during installation. The DERAY®-Coldmelt I system consists of DERAY®-Coldmelt butyl rubber strips to provide a tight seal between the individual harness components and a DERAY®-CS heat shrink tubing to encase the installation. DERAY®-Coldmelt I is processed optimally by the DERAY®-Sealman.
=> DERAY®-Coldmelt I is specifically designed to provide LONGITUDINAL WATER BLOCKING IN LARGE CABLE BUNDLES (UP TO 150 WIRES).



DERAY®-Coldmelt II

DERAY®-Coldmelt II is based on the reliable, well-known and extensively used DERAY®-Coldmelt I system. This system substitutes a custom designed grommet for the DERAY®-CS heat shrink tubing. The grommet is made up of two half shells which consist of a sealing component from polyamide (PA) and a moulded part (e.g. socket) from TPE. The special shape of the moulded part guarantees perfect sealing in the area of the car body feed-throughs. The special advantage of this new system is the possibility to operate the sealing of the cable bundle or wiring and the car body feedthroughs at the same time. Processing of DERAY®-Coldmelt II is done by the DERAY®-Coldmelt II processor.
=> DERAY®-Coldmelt II is likewise specifically designed to provide LONGITUDINAL WATER BLOCKING IN LARGE CABLE BUNDLES (UP TO 150 WIRES).

You will find further information about DERAY® shrink appliances on pages 110-111

Automotive Hose and Pipe Solutions

DSG-Canusa has pioneered individual solutions to reliably protect media conducting lines and pipes.

DSG-Canusa has also developed solutions for protecting components in the engine compartment, under-carriage, passenger compartment or boot against stone impact, abrasion and corrosion.

Air conditioning lines, brake lines, fuel lines, oil lines, pneumatic springs, seatbelt clasp fixtures and restraint systems are only some of the typical objects that safely withstand numerous demands because of heat shrink tubing.



DERAY®-IAKT NS, DERAY®-MDKT NS, DERAY®-IBKT

This range of adhesive lined heat shrinkable tubes, available in either black or clear, is an ideal solution to prevent corrosion and to protect against stone and gravel damage. Its tough outer jacket also prevents damage to the substrate during installation, fixing or clamping, and servicing. Additionally, it will not separate from the substrate during bending operations. The continuous operating temperature of this product range is from -55°C to 105°C.

=> DERAY®-IAKT NS, DERAY®-MDKT NS, DERAY®-IBKT are most suitable for BRAKE PIPES.



DERAY®-HBNS

DERAY®-HBNS is a heat shrinkable, polyolefin tube specifically designed to adhere to aluminium pipes in automotive applications. The wall material adheres to aluminium during bending operations. DERAY®-HBNS provides superior corrosion protection, protects against stone and gravel damage and eliminates noise and vibration. It has a continuous operating temperature from -55°C to 135°C.

=> This tube provides effective protection of AIR CONDITIONING PIPES.



DERAY®-INS

Superior abrasion protection, under extreme temperature, is the primary feature of DERAY®-INS. This tube provides excellent adhesion properties and shrinks rapidly in order to avoid damage to the substrate during processing. The tough material of DERAY®-INS gives effective reduction of vibration and noise. With an operating temperature from -55°C to 135°C is DERAY®-INS the ideal solution for protecting PRESSURIZED RUBBER HOSES.



DERAY®-KWS

Deray®-KWS is a heat shrinkable (> 2:1) polyolefin tubing with excellent abrasion resistance. The DERAY®-KWS provides bubble and fold-free shrinkage on manifolds with an extreme radius. It gives a smooth appearance and shrinks snugly on curves on the substrate during processing. The continuous operating temperature of DERAY®-KWS is between -55°C and 135°C.

=> DERAY®-KWS is specifically designed to protect COOLING AND HEATING WATER HOSES in automotive applications.



DERAY®-DKI

Deray®-DKI is a double chamber heat shrinkable polyolefin tube specifically designed for bundling. DERAY®-DKI provides excellent abrasion resistance as well as noise and vibration reduction. Additionally, DERAY®-DKI connects tubes at temperature up to 135°C and is resistant against vibrations. The continuous operating temperature of DERAY®-DKI is from -55°C to 135°C.

=> This product is ideal for BUNDLING OF RUBBER HOSES in automotive applications.



DERAY®-HB

Deray®-HB is an economical solution for protecting and colour matching of special components. This heat shrinkable tube is characterized by its good abrasion resistance and its customisable colour to match the interior of the car. The continuous operating temperature of DERAY®-HB is between -55°C and 105°C.

=> The DERAY®-HB is the ideal solution for the protection and colour matching of SEAT BELT STALKS.

You will find further information about DERAY® shrink appliances on pages 110-111

Shrink Appliances

In addition to the standard heat shrink tubing product line, DSG-Canusa also provides 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 tunnels. Beyond the numerous standard machines, DSG-Canusa can construct custom machines for unique applications.



DERAY®-WorkMan 2000

DERAY® -WorkMan 2000 is a process controlled heat shrink appliance designed for general purpose shrink applications at a work bench. It is equipped with separate temperature and time settings. The device is most often used for the installation of all DERAY® standard tubes and DERAY®-Duomelt, DERAY®-Pressmelt, DERAY®-Coldmelt Lite sealing systems. Special versions for specific customers demands are also possible.



DERAY®-Board WorkMan

DERAY®-Board WorkMan is a process controlled heat shrink appliance specifically designed for DERAY®-Splicemelt applications such as parallel splices, end splices and ring terminals on the wiring board. It is equipped with a separate temperature control and three time pre-settings with start buttons on the working head.



DERAY®-DockMan

DERAY®-DockMan is a process controlled heat shrink appliance designed for general purpose shrink applications on a wiring board. It is equipped with separate temperature and time settings. The device is most often used for the installation of all DERAY® standard tubes and DERAY®-Duomelt, DERAY®-Pressmelt, DERAY®-Coldmelt Lite sealing systems.



DERAY®-DockMan Endsplices

DERAY®-DockMan Endsplices is a process controlled heat shrink appliance specifically designed for DERAY®-Splicemelt applications on end splices on a wiring board. It is equipped with separate temperature control and three time pre-settings with start buttons on the working head.



DERAY®-SealMan

DERAY®-SealMan is a process controlled heat shrink appliance specifically designed for DERAY®-Coldmelt I applications on a wiring board. Similar to other equipment, it is equipped with separate temperature and time settings. A unique feature for the DERAY®-Coldmelt I system is its automatic compression mechanism for the sealing area. All three DERAY®-Sealman sizes (35 / 53 / 70) are also available in a bench mount version.



DERAY®-SpliceMan IR

DERAY®-SpliceMan IR is a process controlled heat shrink appliance specifically designed for sealing parallel splices with DERAY®-Splicemelt at a work bench. It features a Controller menu with 18 pre-adjustable shrink times, and a noise reduced shrinking process. After finishing process the parallel splice is automatically ejected.



DERAY®-FST 165/600

DERAY®-FST 165/600 is a small process controlled shrink tunnel to process heat shrinkable tubing for the insulation or sealing of small cable bundles. The shrink processor can be used as an individual working station as well as in series production. The continuously adjustable belt speed control enables consistent quality to be maintained.



DERAY®-KST 100/1000

DERAY®-KST 100/1000 is a small tunnel oven specifically designed for processing wire splices, and all kinds of small cable applications, in industrial serial production utilising heavy duty infrared heaters. It is equipped with separate adjustable temperature and belt speed settings. It can be fitted with extension belts in order to work on long or heavy items.



DERAY®-HST 35 100 and HST 40 170

DSG-CANUSA also offers a standard selection of tunnel ovens for hose and pipe applications. These high performance industrial tunnel ovens have been designed for economical series production and are outfitted with the following features:

- High performance fan
- Ni-CR heating elements for continuous operations hermetically embedded in stainless steel tubes
- Rod chain conveyor with teflonized fibreglass fabric tape
- High quality heat insulation
- Very economical energy costs



Custom shrink equipment can also be designed and installed for more specialised applications.

Distribution Sets & Kits - Customizing

Distribution Sets & Kits - Customizing

DSG-Canusa has developed a range of specially configured kits designed to reduce field installation time and improve installation effectiveness.

Custom Kitting, Tailored Packaging, ready-to-use Sets, and Blister packs are only a few products in the broad DSG-Canusa range for distributors, craftsmen and do-it-yourselfers.

Distribution Sets & Kits - Customizing



DERAY®-Set Six, DERAY®-Set 1000

The DSG-Canusa way to have a wide variety of different sizes, diameters and colours of heat-shrink without stocking large quantities.



DERAY®-Set 2000 + refill bag

The DERAY®-Set 2000 combines the advantages of DERAY®-Set Six and DERAY®-Set 1000 with the possibility to refill any emptied compartment with the DERAY®-Tube refill system.



DERAY®-Box

The DERAY®-Box, with four different types of DERAY®-tube, gives the do-it-yourselfer a convenient (and environmentally friendly) package for a wide variety of tasks.



DERAY®-Display

The DERAY®-Display makes an attractive in-store display when filled with a range of DSG-Canusa products. The layout and the contents of this cardboard display can be customized according to your requirements.



DERAY®-Blister

DERAY®-Blister packs with holder creates an eye-catching display of DERAY®-pack + holder tubes. The range of colours and sizes in convenient small quantities can be proudly displayed on shop counters or on racks in do-it-yourself markets.



DERAY®-Crimpseal + crimpool

DERAY-Crimpseal and crimpool ensure a water-tight connection for cables up to 6 mm

If you need further information about these products don't hesitate to contact us at: info-DE@dsgcanusa.shawcor.com

DSG-Canusa – A Summary

Using heat shrink technology, DSG-Canusa provides electrical and mechanical insulation solutions for the Automotive, Electrical/Utility, Electronics and Communications markets.

Our focus on research and development continually yields new products to meet industry requirements.

Moreover, an aptitude and readiness to engineer unique solutions to suit customer applications has earned us a reputation for excellence in customer satisfaction.

DSG-Canusa is a market leader with manufacturing and support facilities throughout the globe.

DSG-Canusa satisfies the most demanding customer needs through:

- A global sales & service network
- Significant expenditures in product development
- Solutions-oriented applications engineering
- Fully stocked product line
- ISO 9001, QS 9000, ISO 14001, VDA 6.1 systems implementation
- The highest quality tubing in the marketplace

There's no end to what we cover

DSG-Canusa – Mission Statement

To be the leading global manufacturer and marketer of heat shrink based systems and related products to the electrical, mechanical and electronic insulation markets through excellence in customer service and by identifying and solving application problems with differentiated product solutions.

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