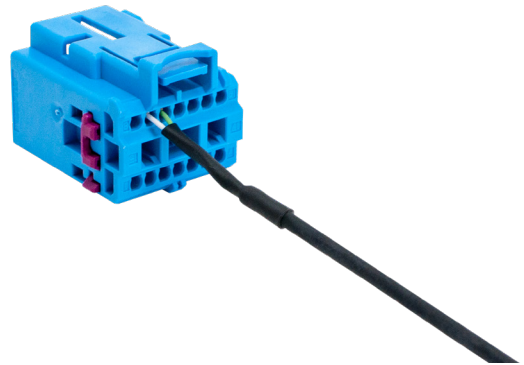


Thin Wall Crosslinked Polyolefin

Universal heat shrink tubing with excellent physical and mechanical properties.



Features and Benefits

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

Standards

- UL 224 125C ATF - UL file # E107857 (colors only)
- CSA 22.2 No 198.1 125C - CSA file # 065789_0_000 (colors only)
- DEF STAN 59-97 Type 2b
- BS G198 Part 3 Type 11B
- VG95343 Part 5 Type A/B
- QPL SAE AS23053/5 Class 1 + 2

- CNES approved and listed in Matrex database
- ECSS-Q-ST-70-02
- Approved to major automotive OEM specifications

Typical Applications

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

2:1

Shrink ratio

-55°C - 135°C (-67°F to 275°F)

Continuous
operating
temperature

Markets:

Automotive, Aerospace, Defense, Industrial, Mass transit

Standards:



ORDER NUMBER	EXPANDED	RECOVERED		DELIVERY UNITS		
	INTERNAL DIAMETER (MIN) D	INTERNAL DIAMETER (MAX) D	TOTAL WALL THICKNESS (NOM) W	SPOOL*	MINI-SPOOL	LENGTHS
	mm (in)	mm (in)	mm (in)	m (ft)	m (ft)	1.22 m (48 in)
0031	0.8 (1/32)	0.4 (0.016)	0.40 (0.016)	300 (984)	- (-)	- (-)
0047	1.2 (3/64)	0.6 (0.024)	0.40 (0.016)	300 (984)	150 (492)	25
0063	1.6 (1/16)	0.8 (0.031)	0.40 (0.016)	300 (984)	150 (492)	25
0094	2.4 (3/32)	1.2 (0.047)	0.50 (0.020)	300 (984)	150 (492)	25
0125	3.2 (1/8)	1.6 (0.063)	0.50 (0.020)	300 (984)	150 (492)	25
0187	4.8 (3/16)	2.4 (0.094)	0.50 (0.020)	300 (984)	75 (246)	25
0250	6.4 (1/4)	3.2 (0.126)	0.60 (0.024)	300 (984)	75 (246)	25
0375	9.5 (3/8)	4.8 (0.189)	0.60 (0.024)	150 (492)	75 (246)	25
0500	12.7 (1/2)	6.4 (0.252)	0.60 (0.024)	100 (328)	50 (164)	25
0625	16.0 (5/8)	8.0 (0.315)	0.60 (0.024)	100 (328)	50 (164)	10
0750	19.0 (3/4)	9.5 (0.374)	0.80 (0.031)	50 (164)	30 (98)	10
1000	25.4 (1)	12.7 (0.500)	0.90 (0.035)	50 (164)	30 (98)	10
1250	31.8 (1 ¼)	15.9 (0.626)	0.90 (0.035)	50 (164)	30 (98)	-
1500	38.0 (1 ½)	19.0 (0.748)	1.00 (0.039)	50 (164)	30 (98)	-
2000	51.0 (2)	25.4 (1.000)	1.10 (0.043)	50 (164)	30 (98)	-
3000	76.0 (3)	38.0 (1.496)	1.30 (0.051)	25 (82)	15 (49)	-
4000	101.6 (4)	50.8 (2.000)	1.40 (0.055)	25 (82)	15 (49)	-

Clear items not UL or CSA listed.

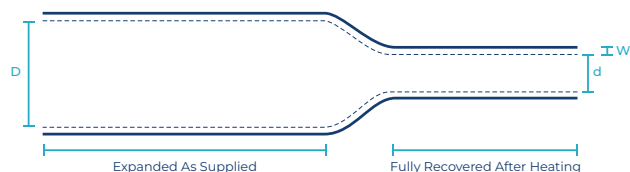
*Delivery unit spool only available for black items

Ordering

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

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

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



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

For further information, please contact:

Americas: 800 422 6872
Canada: 800 845 6808

Asia Pacific: +86 512 82280099
Europe: +49 2226 9047 355

DERAY®-I colored

Technical data

PROPERTY	CURRENT VALUES	TEST METHODS
MATERIAL		
Material	PE, modified; free of lead, silicone and cadmium	n/a
Surface	smooth	n/a
Specific gravity	1.3 g/cm ³ max.	ASTM-D 792, A-I
Shrink ratio	2:1	n/a
Longitudinal shrinkage	+5% max.	ASTM-D 2671
MECHANICAL		
Tensile strength	17 MPa	IEC 60684-2
Elongation	510%	IEC 60684-2
Secant modulus	175 MPa max.	ASTM-D 882
THERMAL		
Tensile strength after thermal ageing (168 h at 158°C)	13 MPa	UL 224
Elongation after thermal ageing (168 h at 158°C)	305%	UL 224
Tensile strength after thermal shock (4 h at 200°C)	14 MPa	IEC 811-1-2
Elongation after thermal shock (4 h at 200°C)	470%	IEC 811-1-2
Cold bend test	does not break at -55°C	ASTM-D 2671
Combustion behaviour	selfextinguishing	UL 224
Shrink temperature	90°C min.	n/a
Storage temperature	50°C max.	n/a
Continuous operating temperature	-55°C to 135°C	VDE 0473
CHEMICAL		
Corrosive action	non-corrosive	ASTM-D 2671 Meth. A
Compatibility with copper	non-corrosive	ASTM-D 2671 Meth. B
Resistance against chemicals	good	n/a
Water absorption	0.2% max.	VDE 0473
ELECTRICAL		
Dielectric strength	24 kV/mm	VDE 0303 Part 2
Spec. volume resistivity	10 ¹⁶ Ω x cm	VDE 0303 Part 3

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DERAY®-I transparent

Technical data

PROPERTY	CURRENT VALUES	TEST METHODS
MATERIAL		
Material	PE, modified; free of lead, silicone, halogen and cadmium	n/a
Surface	semi glossy	n/a
Specific gravity	1.0 g/cm ³ max.	ASTM-D 792, A-I
Shrink ratio	2:1	n/a
Longitudinal shrinkage	-5% max.	ASTM-D 2671
MECHANICAL		
Tensile strength	20 MPa	IEC 60684-2
Elongation	550%	IEC 60684-2
Secant modulus	175 MPa max.	ASTM-D 882
THERMAL		
Tensile strength after thermal ageing (168 h at 158°C)	18 MPa	UL 224
Elongation after thermal ageing (168 h at 158°C)	500%	UL 224
Tensile strength after thermal shock (4 h at 200°C)	19 MPa	IEC 811-1-2
Elongation after thermal shock (4 h at 200°C)	530%	IEC 811-1-2
Cold bend test	does not break at -55°C	ASTM-D 2671 Meth. C
Combustion behaviour	passed	FMVSS 302
Shrink temperature	90°C min.	n/a
Storage temperature	40°C max.	n/a
Continuous operating temperature	-55°C to 135°C	IEC 216
CHEMICAL		
Corrosive action	non-corrosive	ASTM-D 2671 Meth. A
Compatibility with copper	non-corrosive	ASTM-D 2671 Meth. B
Resistance against chemicals	good	n/a
Water absorption	0.2% max.	VDE 0473
ELECTRICAL		
Dielectric strength	24 kV/mm	VDE 0303 Part 2
Spec. volume resistivity	10 ¹⁶ Ω x cm	VDE 0303 Part 3

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