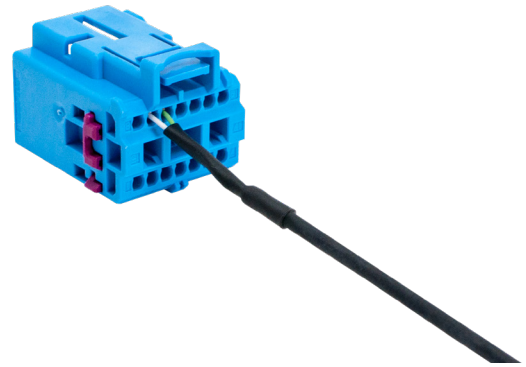


Thin Wall Crosslinked Polyolefin

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.

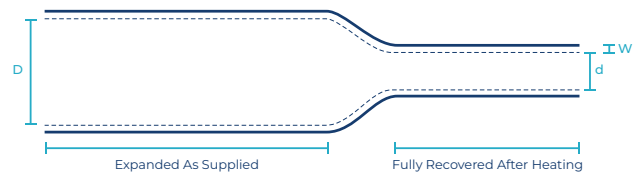
*Delivery unit spool only available for black items

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.



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

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