

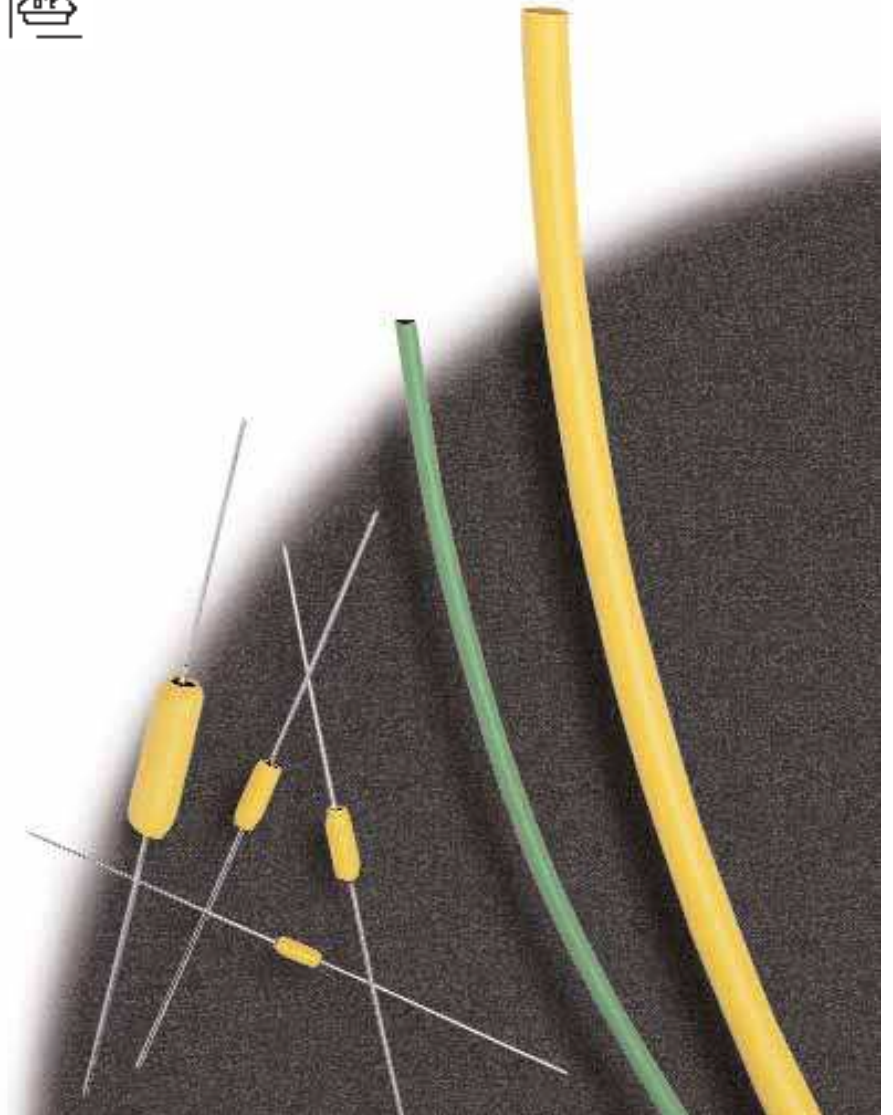
# DERAY®-I

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





\*except clear

## 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, A1	1,3 g/cm <sup>3</sup>	1,0 g/cm <sup>3</sup>
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 200°C)	IEC 811-1-3	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

### 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 <sup>16</sup> Ω x cm	10 <sup>16</sup> 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%

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

\*clear not UL or CSA listed

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