



# Kynar<sup>®</sup> Heat Shrink Tubing

Modified Polyvinylidene Fluoride

Data Sheet

January 2008

## Product Description

3M<sup>™</sup> KYNAR<sup>®</sup> Heat Shrink Tubing is a cross-linked, thin-walled, heat-shrinkable tubing offering a high degree of mechanical strength and high-temperature resistance. Fabricated from polyvinylidene fluoride, the tubing has outstanding abrasion resistance and cut-through properties in combination with high dielectric strength. It is inherently flame retardant, semi-rigid and highly resistant to most industrial fuels, chemicals and solvents. When heated in excess of 175°C (347°F), Kynar Tubing rapidly shrinks to a skintight fit. Kynar Tubing is rated for continuous operation from -55°C (-67°F) to 175°C (347°F).

## Typical Applications

Kynar Tubing is recommended for shrink-fit protection and strain relief of wires, solder joints, terminals and connections. Suggested applications include automotive wiring, jackets, fuse coverings and military wire markers. Because the tubing is transparent, it allows see-through inspection and identification, and is ideal for use as a jacketing for components such as resistors and capacitors. The tubing is readily marked by hot-stamp and print-wheel equipment.

**NOTE:** Technical information provided consists of typical product data and should not be used for specification purposes. Unless otherwise noted, all tests are performed at room temperature.

## Applicable Specification

MIL-DTL-23053/8, MIL-DTL-23053/18, Class 1; AMS-3632; UL File E-39100, VW-1; CSA LR 38227, OFT

## Typical Physical Properties

<b>Tensile Strength</b>	5500 psi
<b>Ultimate Elongation</b>	350%
<b>Longitudinal Change</b>	+1, -10%
<b>Specific Gravity</b>	1.7
<b>Operating Temperature Range</b>	-55°C to +175°C
<b>Shrink Temperature (Min.)</b>	175°C (347°F)
<b>Low Temperature Flexibility</b> (4 hrs @ -55°C)	No Cracking
<b>Flammability</b>	Self-extinguish, meets UL224 VW-1 Test
<b>Secant Modulus (2%)</b>	123,000 psi

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**Typical Electrical Properties**

<b>Dielectric Strength</b>	900 V/mil
<b>Volume Resistivity</b>	10 <sup>14</sup> ohm-cm

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**Typical Chemical Properties**

<b>Corrosive Resistance</b>	Non-corrosive
<b>Fuel &amp; Oil Resistance</b>	Excellent
<b>Solvent Resistance</b>	Excellent
<b>Abrasion Resistance</b>	Excellent
<b>Acids &amp; Alkalis Resistance</b>	Excellent

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**Standard Sizes and Dimensions**

Ordering Size	Expanded I.D. (Minimum)		Recovered I.D. (Maximum)		Recovered Wall Thickness (Nominal)	
	in.	(mm)	in.	(mm)	in.	(mm)
3/64	.046	(1,17)	.023	(0,58)	.010	(0,25)
1/16	.063	(1,60)	.031	(0,79)	.010	(0,25)
3/32	.093	(2,36)	.046	(1,17)	.010	(0,25)
1/8	.125	(3,18)	.062	(1,57)	.010	(0,25)
3/16	.187	(4,75)	.093	(2,36)	.010	(0,25)
1/4	.250	(6,35)	.125	(3,18)	.012	(0,30)
3/8	.375	(9,53)	.187	(4,75)	.012	(0,30)
1/2	.500	(12,70)	.250	(6,35)	.012	(0,30)
5/8	.625	(15,88)	.313	(7,94)	.014	(0,36)
3/4	.750	(19,05)	.375	(9,53)	.017	(0,43)
1	1.000	(25,40)	.500	(12,70)	.019	(0,48)
1-1/2	1,500	(38,10)	.750	(19,05)	.020	(0,51)
2	2.000	(50,80)	1.000	(25,40)	.022	(0,56)

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**Shrink Ratio**

3M™ Kynar Heat Shrink Tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its as-supplied internal diameter. The recovered wall thickness is proportional to the degree of recovery.

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**Standard Color**

Clear. Colors available subject to factory quotation.

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**Standard Packaging**

Four foot lengths.

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**Ordering Information**

Order 3M™ Kynar Heat Shrink Tubing by product name, size equivalent to the expanded inside diameter, package type and color. Always order the largest size that will shrink snugly over the item to be covered.

Example: 3M™ Kynar Tubing, 3/8", 4 ft., clear.

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