

## Basic Properties

- (1) Materials : Flexible flame-retardant polyvinylchloride
- (2) Shrink Ratio : Radial change: min. 50%  
: Longitudinal change: min. -30%
- (3) Continuous Operating Temperature : -30 to 105°C

## Features

- (1) UL/CSA approved
- (2) Flame-retardant
- (3) Transparent colours

## Specification/Approvals

UL224

File No. E48762  
Catalog No. 819  
Rating temperature: 105°C  
Rating voltage: 600V  
Flammability: VW-1

CSA C22.2 No. 198.1

File No. LR33298  
Rating temperature: 105°C  
Rating voltage: 600V  
Flammability: VW-1

Electrical Appliance and Material Safety Law (Japan)

Flammability rating (-F-) test registration No.: F-ST3-001 - F-ST3-008

## Marking on the surface

UL 105°C VW-1 ◆ SUMITOMO-K SUMITUBE V CAT 819 CSA 105°C VW-1 -F-

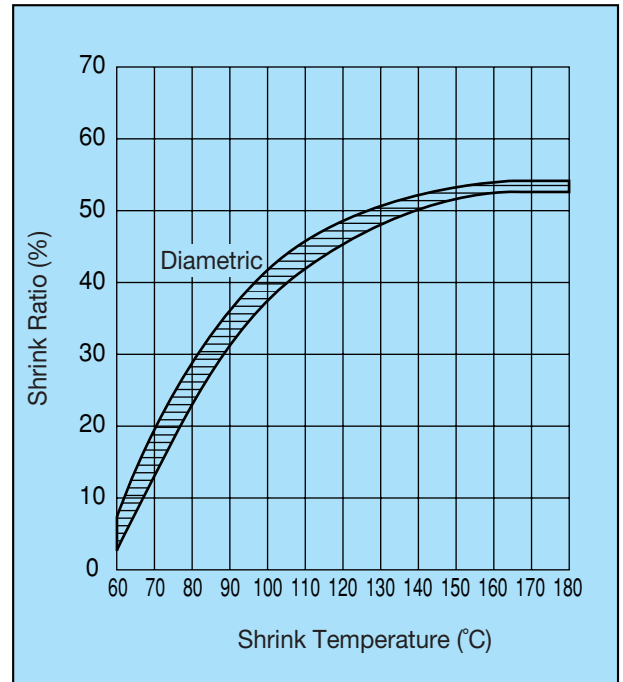
## Application

- (1) Insulation, protection and reinforcement for termination and joints of electric wire
- (2) Fixing and protection for cable labels
- (3) Insulation and protection for resistor and condenser

## Colours

Clear

## Shrink Property



## ■ Properties [UL224]

Properties	Items	Requirements	Typical values*1
Mechanical	Tensile strength (before aging)	min. 10.4MPa	27.7MPa
	Tensile strength (after aging)	136°C x 7 days, min. 7.3MPa	29.0MPa
	Elongation (before aging)	min. 100%	340%
	Elongation (after aging)	136°C x 7 days, min. 100%	320%
	Deformation	131°C x 1 hour, max. 35%	27%
	Heat shock	180°C x 4 hours, no crack	pass
	Cold bend	-30°C x 1 hour, no crack	pass
Electrical	Voltage resistance (before aging)	AC2.5kV x 60 sec. no breakdown	pass
	Voltage resistance (after aging)	136°C x 7 days, AC2.5kV x 60 sec., no breakdown	pass
	Dielectric breakdown (before aging)	min. AC2.5kV	17.5kV
	Dielectric breakdown (after aging)	136°C x 7 days, min. 50% of original and min. AC2.5kV	pass
	Volume resistivity	min. $1.0 \times 10^{10} \Omega \cdot \text{cm}$	$5.3 \times 10^{12} \Omega \cdot \text{cm}$
Chemical	Corrosion against bare copper	136°C x 7 days, no corrosion after leaving under humidity 95%, 23°C x 24 hours	pass
	Stability against copper	136°C x 7 days, elongation min. 70% after leaving under humidity 95%, 23°C x 24 hours	300%
	Flammability	Flame-retardant, pass VW-1	pass

\*1: For reference use only

## ■ Sizes

Nominal size (inch)	Supplied ID (mm)		Recovered ID (mm)		Unit length (min.) (m)
	Inside diameter (min.)*2	Wall thickness (nom.)	Inside diameter (max.)	Wall thickness (min.)	
3/64	1.20	0.20	0.60	0.44	100
1/16	1.60	0.20	0.80	0.44	100
3/32	2.40	0.25	1.20	0.56	100
1/8	3.20	0.25	1.60	0.56	100
3/16	4.80	0.25	2.40	0.56	100
1/4	6.4	0.25	3.20	0.56	50
3/8	9.5	0.25	4.80	0.56	50
1/2	12.7	0.25	6.4	0.56	50
3/4	19.1	0.30	9.5	0.69	50
1	25.4	0.35	12.7	0.77	50

\*2: Actual inside diameter is 20% bigger than above.