

SUMITUBE™ F2 (Z)

[125°C rating, flame-retarded heat-shrinkable tubing]
UL/CSA recognized

Catalog No. 940 ✓ RoHS directive 10 substances

Waterproofing Flame-retarded UL recognized CSA recognized



Basic Properties

- Material : Irradiated cross-linked flexible flame-retarded polyolefin
- Shrink temperature : min. 90°C
- Shrink ratio : Radial change: min. 50%
: Longitudinal change: 0 ±5%
- Continuous operating temperature : -55 to 125°C

Features

- UL/CSA recognized
- Flexible
- Flame-retarded (PBDE/PBB-free)

Specifications/Approvals

UL224 File No. E48762 Catalog No. SUMITUBE™ F2 (Z) or 940
Rating temperature: 125°C Rating voltage: 600V Flammability: VW-1
CSA C22.2 No. 198.1 File No. LR33298 Rating temperature: 125°C
Rating voltage: 600V Flammability: VW-1
Electrical Appliance and Material Safety Law (Japan)
Upper operating temperature test 125°C temporary registration No. @004CC0546
Flammability rating (-F-) test registration No.: F-ST53-009 to F-ST53-012

Marking on Surface

125°C VW-1 ◆ SUMITOMO-K SUMITUBE F2 (Z) CAT 940 CSA 125°C VW-1 -F-

Applications

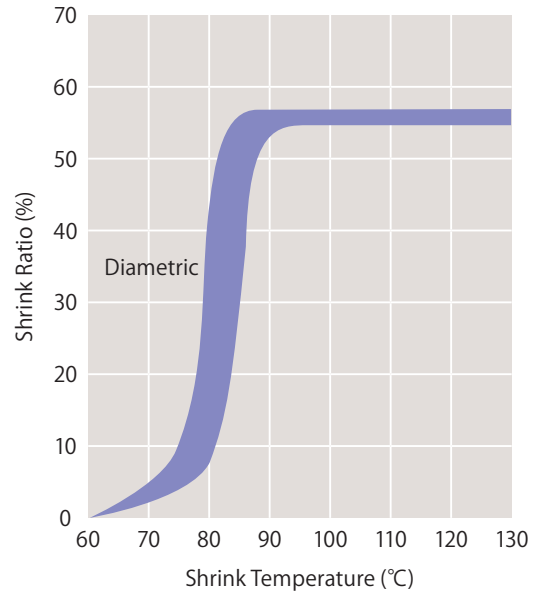
- Insulation, protection and reinforcement for termination and joints of electric wire
- Color identification and bundling for electric wires
- Insulation and protection of resistors and capacitors

Properties [UL224]

Properties	Items	Requirements	Typical values*1
Mechanical	Tensile strength (before aging)	min. 10.4MPa	13.2MPa
	Tensile strength (after aging)	158°C x 7 days, min. 7.3MPa	13.4MPa
	Elongation (before aging)	min. 200%	325%
	Elongation (after aging)	158°C x 7 days, min. 100%	350%
Electrical	Heat shock	250°C x 4 hours, no crack	Pass
	Cold bend	-30°C x 1 hour, no crack	Pass
	Dielectric withstand (before aging)	AC2.5kV x 60 sec., no breakdown	Pass
	Dielectric withstand (after aging)	158°C x 7 days, AC2.5kV x 60 sec., no breakdown	Pass
	Dielectric breakdown (before aging)	min. AC2.5kV	19.1kV
Chemical	Dielectric breakdown (after aging)	158°C x 7 days, min. 50% of original and min. AC2.5kV	Pass
	Volume resistivity	min. 1.0 x 10 ¹⁵ Ω·cm	1.6 x 10 ¹⁶ Ω·cm
	Corrosion against bare copper	158°C x 7 days, no corrosion after leaving under 95% humidity, 23°C x 24 hours	Pass
Chemical	Stability against copper	158°C x 7 days, elongation min. 100% after leaving under 95% humidity, 23°C x 24 hours	325%
	Flammability	Flame-retarded, pass VW-1	Pass

*1: For reference use only

Shrink Properties



Colors

- Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White

Sizes

Trade size (mm)	As supplied (mm)		After recovered (mm)		Unit length (min.) (m)		Nominal size (mm)	As supplied (mm)		After recovered (mm)		Unit length (min.) (m)	
	Inside diameter	Wall thickness (nom.)	Inside diameter (max.)	Wall thickness (min.)	Cut	Spool		Inside diameter	Wall thickness (nom.)	Inside diameter (max.)	Wall thickness (min.)	Cut	Spool
1 × 0.2	1.30 ± 0.30	0.20	0.50	0.33	1	200	11 × 0.25	11.4 ± 0.4	0.25	5.50	0.56	1	50
1.5 × 0.2	2.00 ± 0.30	0.20	0.75	0.36	1	200	12 × 0.25	12.4 ± 0.4	0.25	6.0	0.56	1	50
2 × 0.2	2.50 ± 0.30	0.20	1.00	0.44	1	200	13 × 0.3	13.4 ± 0.4	0.30	6.5	0.69	1	50
2.5 × 0.25	3.00 ± 0.30	0.25	1.25	0.44	1	200	14 × 0.3	14.5 ± 0.4	0.30	7.0	0.69	1	50
3 × 0.25	3.50 ± 0.30	0.25	1.50	0.44	1	200	15 × 0.3	15.5 ± 0.4	0.30	7.5	0.69	1	50
3.5 × 0.25	4.00 ± 0.30	0.25	1.75	0.44	1	200	16 × 0.3	16.8 ± 0.5	0.30	8.0	0.69	1	50
4 × 0.25	4.50 ± 0.30	0.25	2.00	0.44	1	200	18 × 0.35	18.7 ± 0.5	0.35	9.0	0.77	1	50
5 × 0.25	5.40 ± 0.30	0.25	2.50	0.56	1	100	20 × 0.35	21.2 ± 0.6	0.35	10.0	0.77	1	50
6 × 0.25	6.4 ± 0.4	0.25	3.00	0.56	1	100	22 × 0.4	23.2 ± 0.6	0.40	11.0	0.77	1	50
7 × 0.25	7.4 ± 0.4	0.25	3.50	0.56	1	50	25 × 0.4	26.1 ± 0.8	0.40	12.5	0.87	1	50
8 × 0.25	8.4 ± 0.4	0.25	4.00	0.56	1	50	30 × 0.5	32.0 ± 1.0	0.50	15.0	0.87	1	50
9 × 0.25	9.4 ± 0.4	0.25	4.50	0.56	1	50	40 × 0.5	43.0 ± 1.5	0.50	20.0	0.97	1	50
10 × 0.25	10.4 ± 0.4	0.25	5.00	0.56	1	50	50 × 0.5	53.0 ± 2.0	0.50	25.0	0.97	1	50

IRRAX™TUBE IRRAX™TAPE

- A
- B
- F2
- F2 (UL)
- V2
- RP3
- B8
- ER2
- NHR
- FE2
- VZL

IRRAX™SLEEVE

- SCM2
- SBI 300/350
- SNHM

Composite articles

- SUMISEAL
- SUMITUBE SA3 CAP

Processing equipment

- SUMISHRINKER / HEATING GUN