

Basic Properties

- (1) Materials : Outer: Irradiated cross-linked semi-rigid flame-retardant polyolefin
Inner: Meltable adhesive
- (2) Shrink temperature : min. 115°C
- (3) Shrink Ratio : Radial change: min. 75%
Longitudinal change: min. -10%
- (4) Continuous Operating Temperature : -40 to 130°C

Features

- (1) Highly waterproofing with well adhesion for metals, polyolefin and PVC
- (2) High shrink ratio and effective for waterproofing of large gap objects
- (3) Effective for waterproofing of several wire joints
- (4) Flame-retardant
- (5) Abrasion resistant

Specification/Approvals

SFP standard (R4-B100)

Marking on the surface

See size table

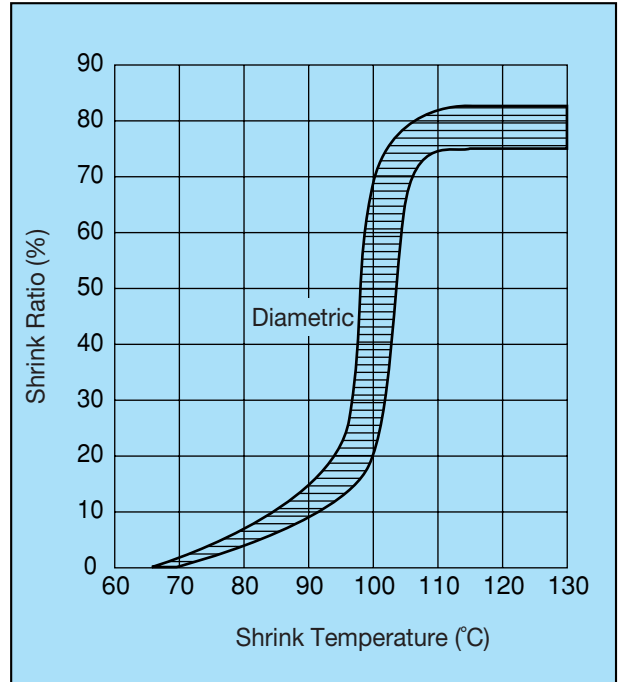
Application

- (1) Waterproof sealing, insulation and reinforcement for harness joints of motor vehicle/electronic devices
- (2) Waterproof sealing, insulation and reinforcement for harness terminals of motor vehicle/electronic devices
- (3) Waterproof sealing for large gap devices of motor vehicle/electronic

Colours

Black

Shrink Property



Properties

Properties	Items	Requirements	Typical values*1
Mechanical	Tensile strength*2	min. 10.4MPa	31.7MPa
	Elongation	min. 300%	558%
	Heat shock	225°C x 4 hours, no crack	pass
	Heat resistance	130°C x 7 days, no crack	pass
	Second modulus	min. 150MPa	200.8MPa
	Dynamic cut through	min. 134N	597.2N
Electrical	Dielectric strength	min. 19.7kV/mm	22.7kV/mm
	Volume resistivity	min. $1.0 \times 10^{12} \Omega \cdot \text{cm}$	$1.2 \times 10^{16} \Omega \cdot \text{cm}$
Chemical	Water absorption	23°C x 24 hours, max. 0.50%	0.28%
	Flammability	SAE J1128, flame-out within 70 sec.	pass
Water resistant (after fixing harness)	Testing by SFP standard regulation Heat aging: 125°C x 1008 hours Heat cycle: 125 cycles under 125°C-30 minutes and 40°C-30 minutes Fluid resistance: Immercing over 2 hours with; break oil, engine coolant, ASTM#3, automatic transmission oil		pass pass pass

*1: For reference use only

*2: Calculated by using outer cross section

Sizes

Nominal size (mm)	Supplied ID (mm)		Recovered ID (mm)			Unit length (min.) (m)	Marking
	Inside diameter (min.)	Wall thickness* (nom.)	Inside diameter (max.)	Wall thickness (min.)*	Adhesive thickness (nom.)		
5.8/1.2	5.80	0.45	1.26	1.20	0.56	1.22	SA2-1
7.5/1.6	7.5	0.60	1.64	1.52	0.76	1.22	SA2-2
10.9/2.4	10.9	0.70	2.40	1.91	1.02	1.22	SA2-3
17.8/4.4	17.8	0.80	4.45	2.41	1.37	1.22	SA2-4

*Including inner adhesive