

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

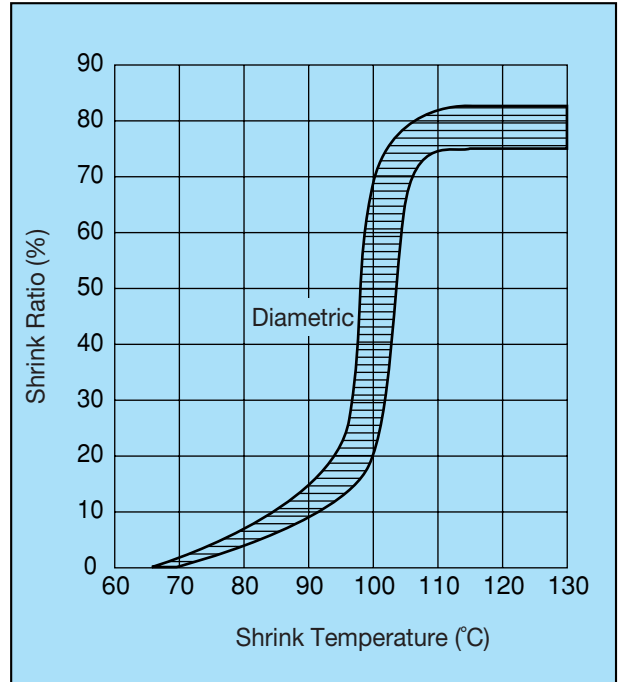
Application

- (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