

SUMITUBE™ W3B2

[Dual wall, flame-retarded heat-shrinkable tubing with meltable adhesive for waterproofing of irregular-shaped objects]
W3B2: SAE-AMS/UL/CSA recognized

Catalog No. 891 ✓ RoHS directive

Waterproofing Flame-retarded UL recognized CSA recognized



Basic Properties

- Material : Outer : Irradiated cross-linked flexible flame-retarded polyolefin
: Inner : Meltable adhesive
- Shrink temperature : min. 110°C
- Shrink ratio : Radial change (W3B2): min. 60%
: Longitudinal change: min. -15%
- Continuous operating temperature : -55 to 125°C

Features

- SAE-AMS/UL224/CSA recognized (for W3B2)
- Watertight sealing with good adhesion to metals, polyolefin and PVC
- Flame-retarded (PBDE/PBB-free) ■ Flexible
- Thicker adhesive (than SUMITUBE™ O2B2)

Specifications/Approvals

- SAE-AMS-DTL-23053/4 Class 3 (for select sizes)
UL224
File No. E75077
Catalog No. SUMITUBE™ W3B2 or 891, SUMITUBE™ W3B2 (4X)
Rating temperature: 125°C Rating voltage: 600V
CSA C22.2 No. 198.1
File No. LR33298
Rating temperature: 125°C Rating voltage: 600V

Colors

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

Properties [UL224]

| Properties | Items | Requirements | Typical values*1 |
|------------|-------------------------------------|--|---|
| Mechanical | Tensile strength (before aging)*2 | min. 10.0MPa | 17.0MPa |
| | Tensile strength (after aging)*2 | 158°C x 7 days, min. 7.3MPa | 11.6MPa |
| | Elongation (before aging) | min. 200% | 520% |
| | Elongation (after aging) | 158°C x 7 days, min. 100% | 300% |
| | Heat shock | 250°C x 4 hours, no crack | Pass |
| | Cold bend | -30°C x 1 hour, no crack | Pass |
| Electrical | 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 strength (before aging) | min. AC2.5kV | 24.9kV |
| | Dielectric strength (after aging) | 158°C x 7 days, min. 50% of original and min. AC2.5kV | Pass |
| | Volume resistivity | min. $1.0 \times 10^{14} \Omega \cdot \text{cm}$ | $2.3 \times 10^{14} \Omega \cdot \text{cm}$ |
| Chemical | Corrosion against bare copper | 158°C x 7 days, no corrosion after leaving under 95% humidity, 23°C x 24 hours | Pass |
| | Flammability | Flame-retarded, pass All Tubing Flame Test | Pass |

*1: For reference use only *2: Calculated by using outer cross section

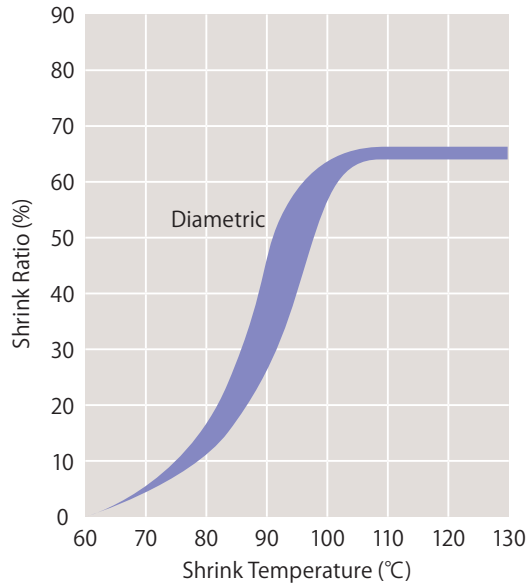
Sizes

| Nominal size (inch) | Inch size | | | | | | Unit length (min.) (m) |
|---------------------|------------------------|-------------------------|------------------------|-------------------------|---------------------------|------|------------------------|
| | Supplied ID (mm) | | Recovered ID (mm) | | | | |
| | Inside diameter (min.) | Wall thickness*3 (nom.) | Inside diameter (max.) | Wall thickness*3 (nom.) | Adhesive thickness (nom.) | | |
| 1/8 | 3.20 | 0.35 | 0.60 | 0.95 | 0.35 | 1.22 | |
| 3/16 | 4.80 | 0.45 | 1.50 | 1.10 | 0.60 | 1.22 | |
| 1/4 | 6.4 | 0.45 | 2.00 | 1.20 | 0.65 | 1.22 | |
| 3/8 | 9.5 | 0.50 | 3.00 | 1.30 | 0.65 | 1.22 | |
| 1/2 | 12.7 | 0.55 | 4.00 | 1.40 | 0.75 | 1.22 | |
| 3/4 | 19.1 | 0.65 | 8.0 | 1.60 | 0.80 | 1.22 | |
| 1 | 25.4 | 0.75 | 10.2 | 1.90 | 0.80 | 1.22 | |

| Nominal size (mm) | Metric size | | | | | | Unit length (min.) (m) |
|-------------------|------------------------|-------------------------|------------------------|-------------------------|---------------------------|------|------------------------|
| | Supplied ID (mm) | | Recovered ID (mm) | | | | |
| | Inside diameter (min.) | Wall thickness*3 (nom.) | Inside diameter (max.) | Wall thickness*3 (nom.) | Adhesive thickness (nom.) | | |
| 19/6 | 19.0 | 0.60 | 6.0 | 1.80 | 0.70 | 1.22 | |
| 24/8 | 24.0 | 0.90 | 8.0 | 2.50 | 1.00 | 1.22 | |
| 40/13 | 40.0 | 0.90 | 13.0 | 2.50 | 1.00 | 1.22 | |

*3: Including inner adhesive *4: SAE-AMS-DTL-23053

Shrink Properties



Applications

- Waterproof sealing for electronic devices with irregular shapes or profiles
- Encapsulation for wire branches
- Insulation and protection for wire joints

SUMITUBE™

A
C
A4
SUMITUBE LA
C (UL)
D
A2

B
SUMITUBE LB

F (Z)
F3 (Z)
SUMITUBE NHR2
NHR4
V (300V)
V (600V)

F2 (Z)
F4 (Z)
SUMITUBE B2
B2 (3X)
B8

K
SUMITUBE K2

SUMITUBE KH200 (TW)
SUMITUBE KH230 (TW)

B11
SUMITUBE B6
R
AN25

SUMITUBE W

SUMITUBE O2C
W3C

O2B2
W3F2
W3B2
SUMITUBE W3B2 (4X)
WSB11
SA2
SA3

IRRAX™TUBE IRRAX™TAPE

A
B
F2
F2 (UL)
V2
IRRAXTUBE RP3
BB
ER2
NHR
NHR4
FE2
IRRAXTAPE VZL

IRRAX™SLEEVE

SCM2
IRRAXSLEEVE SBI 300/350
SNHM

Composite articles

SUMISEAL
SUMITUBE SA3 CAP

Processing equipment

SUMISHRINKER / HEATING GUN