# SUMITUBE ® K2 (AS23053/18 Class 1)

FLEXIBLE POLYVINYLIDENE FLUORIDE, 2:1 SHRINK RATIO

## PRODUCT FEATURES;

- MEETS OR EXCEEDS AS23053/18 CLASS 1 AND UL-224, VW-1; MILITARY SPECIFICATION & UL; NAVAIR QPL LISTED
- ROHS / ROHS2 / ROHS3 COMPLIANT; LEAD-FREE
- CLEAR, FLEXIBLE, INHERENTLY FLAME RETARDED HEAT-SHRINKABLE PVDF TUBING
- PACKAGED IN CONTINUOUS LENGTHS ON SPOOLS: LONG LENGTHS NOT AVAILABLE WITH STANDARD PVDF TUBING
- TOUGH AND ABRASION RESISTANT IN MECHANICAL ENVIRONMENTS; EXCELLENT RESISTANCE TO CUT-THROUGH, SOLVENTS AND FLUIDS, INCLUDING SKYDROL®
- SHRINK TEMPERATURE : 150 °C (COMPARED WITH 170 °C FOR STANDARD KYNAR)
- CONTINUOUS OPERATING TEMPERATURE RANGE: -55 °C TO +175 °C.

## BASIC PROPERTIES

- MATERIAL : FLEXIBLE POLYVINYLIDENE FLUORIDE (PVDF)
- SHRINK RATIO : 2:1
- COLOR : CLEAR (BLACK AND WHITE AVAILABLE AS NON-STANDARD COLORS)
- APPLICATIONS : WHERE THE PROPERTIES OF STANDARD PVDF ARE DESIRABLE, BUT WITH THE ADDED BENEFITS OF FLEXIBILITY, GREATER CLARITY, REDUCED SHRINK TEMPERATURE AND LONG CONTINUOUS LENGTHS

**PROPERTIES :**

| NOMINALSIZE | As Supplied | | After Recovery | | | |
|---|---|---|---|---|---|---|
| | Inside Diameter As Supplied(Minimum) | | Inside Diameter After Recovery(Maximum) | | Wall Thickness After Recovery(Nominal) | |
| | Inch | (MM) | Inch | (MM) | Inch | (MM) |
| 3/64 | .046 | 1.2 | .023 | 0.6 | .010 | 0.25 |
| 1/16 | .063 | 1.6 | .031 | 0.8 | .010 | 0.25 |
| 3/32 | .093 | 2.4 | .046 | 1.2 | .010 | 0.25 |
| 1/8 | .125 | 3.2 | .062 | 1.6 | .010 | 0.25 |
| 3/16 | .187 | 4.8 | .093 | 2.4 | .010 | 0.25 |
| 1/4 | .250 | 6.4 | .125 | 3.2 | .012 | 0.30 |
| 3/8 | .375 | 9.5 | .187 | 4.8 | .012 | 0.30 |
| 1/2 | .500 | 12.7 | .250 | 6.4 | .012 | 0.30 |
| 3/4 | .750 | 19.1 | .375 | 9.5 | .017 | 0.43 |
| 1 | 1.000 | 25.4 | .500 | 12.7 | .019 | 0.48 |
| 1 1/2 | 1.500 | 38.1 | .750 | 19.1 | .020 | 0.51 |
| 2 | 2.000 | 50.8 | 1.000 | 25.4 | .020 | 0.51 |

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## PERFORMANCES

| PROPERTIES | ITEMS | REQUIREMENTS | TEST METHOD |
|---|---|---|---|
| **PHYSICAL** | Tensile strength (psi) | 3500 min. | ASTM D 638 |
| | Elongation (%) | 200 min. | ASTM D 638 |
| | Specific gravity | 2.0 max. | ASTM D 792 |
| | Low temperature flex (-55 °C) | No cracking | AS23053 |
| | Heat shock (275 °C, 4 hrs.) | No cracking | AS23053 |
| | Heat resistance (250 °C, 168 hrs.): Elongation (%) | 100 min. | ASTM D 638 |
| | Secant modulus (psi) | 100,000 min. | ASTM D 882 |
| | Deformation (150 °C, 1 hr.) (%) | 50 max. | UL 224 |
| | Longitudinal change (%) | +10 | AS23053 |
| **ELECTRICAL** | Dielectric strength (volts) | 400 min. | ASTM D 2671 |
| | Volume resistivity (ohm-cm) | $1.0 \times 10^{11}$ min. | ASTM D 876 |
| **CHEMICAL** | Copper stability (180 °C, 168 hrs.): Elongation (%) | 70% of unaged value min. | UL 224 |
| | Water absorption (%) | 0.5 max. | ASTM D 570 |
| | Fluid resistance (23 °C, 24 hrs.): Tensile strength (psi) | 2000 min. | AS23053 |
| | *Fluid resistance, Skydrol® (23 °C, 24 hrs.): Tensile strength (psi) | 2000 min. | AS23053 |
| | Flammability | Pass | UL-224 VW-1 |
| | Shrink temperature, nominal | 150 °C | |
| | Vacuum outgassing: TML (%) | 1.0 max. | ASTM-E-595 |
| | Vacuum outgassing: CVCM (%) | 0.1 max. | ASTM-E-595 |

**Specification reference:** UL-224, 150 °C, VW-1
File E-70631 YDQS2, Cat. No. SUMITUBE K2 or 875
AS23053/18, Class 1
*Note: Skydrol resistance is not required by AS23053

## ORDERING INFORMATION

| | | | | |
|---|---|---|---|---|
| COLOR | CLEAR (BLACK AND WHITE AVAILABLE AS NON-STANDARD COLORS) | | | |
| PACKAGING | SPOOLED | | | |
| HOW TO ORDER | (Type of material) | (Size) | (Color) | (Packaging) |
| ORDERING EXAMPLE: | K2 | 1/4 | Clear | S |

**SUMITOMO ELECTRIC INTERCONNECT PRODUCTS, INC.**

**915 ARMORLITE DR. SAN MARCOS, CA 92069**

**760-761-0600** **info@SEIPUSA.COM**

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