

SUMITUBE® KH 230 (TW)

AMS-DTL-23053/18, Cl. 3

HIGH TEMPERATURE FLEXIBLE FLUID RESISTANT FLUOROPOLYMER, THIN WALL 2 : 1 Shrink Ratio

MILITARY SPECIFICATION / LOW OUTGASSING



RoHS Compliant



Lead-Free

TYPICAL FEATURES

- 1) SUMITUBE KH 230(TW) is a highly flexible and fluid resistant, flame retardant fluoropolymer heat-shrinkable tubing which meets the material and functional requirements of military specification AMS-DTL- 23053/18, Class 3.
- 2) SUMITUBE KH 230(TW) meets the low outgassing requirements of NASA SP-R-0022A.
- 3) In addition to resistance to fluids in AMS-DTL- 23053, SUMITUBE KH 230(TW) is highly resistant to Skydrol 500 aircraft hydraulic fluid.
- 4) Shrink temperature is 130°C.
- 5) Operating temperature range is -70°C to +230°C and up to 300°C for short periods.
- 6) SUMITUBE KH 230(TW) is recommended for applications where thin walls and resistance to aggressive solvents, including Skydrol, and high temperatures is required. Bundling, harnessing and environmental protection within engine compartments is one such application.
- 7) For clear material, see KH 200(TW).

STANDARD SIZES

| NOMINAL SIZE | INSIDE DIAMETER AS SUPPLIED (MIN) | | INSIDE DIAMETER AFTER RECOVERY (MAX) | | WALL THICKNESS AFTER RECOVERY (NOM) | |
|-----------------|---|------|--|------|---|------|
| | INCH | (MM) | INCH | (MM) | INCH | (MM) |
| 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 |

Standard Color: Black. Other colors available subject to factory acceptance and quote.

Standard Package: Spooled (S)

How to Order: (Type of material) (Size) (Color) (Packaging)

Example: KH 230 (TW) 1/4 Black S

KH 230(TW) SPECIFICATION VALUES

| PROPERTY (UNITS) | TEST METHOD | REQUIREMENT |
|---|---|---|
| Physical: Tensile strength (psi) Elongation (%) Low temperature flexibility (-70°C) Heat shock (300°C, 4 hrs.) Heat resistance (250°C, 168 hrs.) Elongation (%) Tensile strength (psi) Longitudinal change (%) | ASTM D 638 ASTM D 638 AMS-DTL-23053 AMS-DTL-23053 ASTM D 638 ASTM D 638 AMS-DTL-23053 | 1500 min. 250 min. no cracking no cracking 200 min. 1200 min. -10 max. |
| Electrical: Dielectric strength (volts/mil) Volume resistivity (ohm-cm) | ASTM D 876 ASTM D 876 | 500 min. 1.0 X 10 ¹³ min. |
| Chemical: Vacuum outgassing, TML / CVCM, % Copper mirror corrosion (175°C, 16 hrs.) Water absorption (%) Fluid resistance (23°C, 24 hrs.) Tensile strength (psi) Elongation (%) Flammability Shrink temperature, nominal | NASA SP-R-0022A AMS-DTL-23053 ASTM D 570 AMS-DTL-23053 AMS-DTL-23053 AMS-DTL-23053 ----- | 1.0 / 0.1 max. no corrosion 0.1 max. 1200 min. 250 min. 15 sec. max.. 130°C |

Specification references: AMS-DTL-23053/18, Class 3, NASA SP-R-0022A

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Rev. 2/21/05