

# SUMITUBE® KH 200 (TW)

AMS-DTL-23053/18, Cl. 3

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

### MILITARY SPECIFICATION / LOW OUTGASSING



RoHS Compliant



Lead-Free

### TYPICAL FEATURES

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

# KH 200(TW) SPECIFICATION VALUES

PROPERTY (UNITS)	TEST METHOD	REQUIREMENT
<b>Physical:</b> 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.
<b>Electrical:</b> Dielectric strength (volts/mil) Volume resistivity (ohm-cm)	ASTM D 876 ASTM D 876	500 min. 1.0 X 10 <sup>13</sup> min.
<b>Chemical:</b> 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-23053/18B, Class 3, NASA SP-R-0022A


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