-780

CBRN Fluoroelastomer Molded Component



Product Facts

- **Hardened to withstand effect of NBC decontamination agents including DS-2 and STB**
- **Tested in live agent tests with HD, VX and TGD for interior and exterior exposure**
- **Meets the demands of flammability and fluid resistance of current military ground vehicles**
- **Offered with compatible tubing, adhesive, wire and other harness components for a survivable system**

Applications

-780 heat shrinkable molded shapes are made of a chemically resistant fluoropolymer that is suited for use where moisture, fungus and vehicle fluids and fuels are a concern. Chemical resistance has been tested in accordance with Army TOP 8-2-510 for NBC Contamination Survivability.

Installation

Boots shrink with temperatures in excess of 150˚C

Product is provided with a minimum 2:1 expansion ratio

Optimum application range is 10% above recovered ID to 85% of the expanded ID for all openings.

Operating Temperature Range

-55°C to 175°C
[-67°F to 347°F]

Available in:	Americas	Europe	Asia Pacific
	■	■	■

Catalog 1654025
Revised 5-12

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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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-780 (Continued)

Specifications/Approvals

Military	TE
SC-X15112 TOP-8-2-510	RT-780 type II (Molded Parts)

Product Characteristics

Physical

PROPERTY	UNIT	RT-780 TYPE I TUBING	RT-780 TYPE II MOLDED PARTS	TEST METHOD
Dimensions	Inches (*mm*)	In accordance with Table 1	In accordance with applicable SCD	RT-770
Tensile Strength	Psi (*MPa*)	3000 (*20.7*) minimum	3000 (*20.7*) minimum	ASTM D 412
Ultimate Elongation	Percent	300 minimum	300 minimum	ASTM D 412
Secant Modulus (expanded), 2%	Psi (*MPa*)	50,000 (*345*) maximum	50,000 (*345*) maximum	ASTM 882
Specific Gravity	--	2.0 maximum	2.0 maximum	ASTM D 792
Low Temperature Flexibility 4 hours at -55±3˚C (*-67±5˚F*)	--	No cracking	No cracking	RT-780
Heat Shock 4 hours at 275±5˚C (*527±9˚F*)	--	No dripping, flowing or cracking	No dripping, flowing or cracking	RT-780
Heat Resistance 336 hours at 200±3˚C (*392±5˚F*) Followed by tests for:				RT-780
Tensile Strength	Psi (*MPa*)	2000 (*13.8*) minimum	2000 (*13.8*) minimum	
Ultimate Elongation	Percent	250 minimum	250 minimum	

Electrical

PROPERTY	UNIT	RT-780 TYPE I TUBING	RT-780 TYPE II MOLDED PARTS	TEST METHOD
Dielectric Strength	Volts/mil (*kV/mm*)	200 (*7.9*) minimum	200 (*7.9*) minimum	ASTM D 149
Volume Resistivity	Ohm-cm	1 x 10^{11} minimum	1 x 10^{11} minimum	ASTM D 257

Nuclear

PROPERTY	UNIT	RT-780 TYPE I TUBING	RT-780 TYPE II MOLDED PARTS	TEST METHOD
Radiation Resistance -10 Mrads gamma Followed by tests for:				RT-780
Tensile Strength	Psi (*MPa*)	2000 (*13.8*) minimum	2000 (*13.8*) minimum	
Ultimate Elongation	Percent	150 minimum	150 minimum	

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-780 (Continued)

Chemical

PROPERTY	UNIT	RT-780 TYPE I TUBING	RT-780 TYPE II MOLDED PARTS	TEST METHOD
Copper Mirror Corrosion 16 hours at 175±3˚C (*347±5˚F*)	--	Non Corrosive	Non Corrosive	ASTM D 2671 Procedure A
Fungus Resistance	Growth	Rating of 1 or less	Rating of 1 or less	ASTM G21
Water Absorption 24 hours at 23±3˚C (*73±5˚F*)	Percent	0.5 maximum	0.5 maximum	ASTM D 570
Flammability Average Burn Time	--	1) 25% max. flag burn 2) No burning of cotton 3) No flaming or glowing longer than 30 seconds	--	ASTM D 2671 Procedure C
Average Burn Time Average extent of burning	Seconds Inches	--	15 maximum 1 maximum	ASTM D 635-98
Fluid Resistance 24 hours at 23±3˚C (*73±5˚F*) a) JP-8 Jet Fuel (MIL-DTL-83133)				RT-780
Followed by tests for: Tensile Strength Ultimate Elongation Weight Increase	 Psi (MPa) Percent Percent	 2000 (*13.8*) minimum 250 minimum 3 maximum	 2000 (*13.8*) minimum 250 minimum 3 maximum	
24 hours at 50±3˚C (*122±5˚F*) a) Bore Cleaner (MIL-PRF-372 b) Diesel Fuel DF-2 (A-A-525571) c) Anti-Icing Fluid (SAE-AMS-1424) d) Salt-5% solution (ASTM D 632) e) Lubricating Oil (MIL-PRF-2104) f) Lubricating Oil (MIL-PRF-23699) g) Arctic Lube (MIL-PRF-46167) h) Cleaning Compound (A-A-59133) i) Electrolyte (P/N 10873919)				
Followed by tests for: Tensile Strength Ultimate Elongation Weight Increase	 Psi (MPa) Percent Percent	 2000 (*13.8*) minimum 250 minimum 3 maximum	 2000 (*13.8*) minimum 250 minimum 3 maximum	
24 hours at 71±3˚C (*160±5˚F*) Hydraulic, synthetic (MIL-PRF-46170)				
Followed by tests for: Tensile Strength Ultimate Elongation Weight Increase	 Psi (MPa) Percent Percent	 2000 (*13.8*) minimum 250 minimum 3 maximum	 2000 (*13.8*) minimum 250 minimum 3 maximum	
4 hours at 23±3˚C (*73±5˚F*) a) Decontaminating Agent, DS-2 (MIL-D-50030) b) Decontaminating Agent, STB (MIL-DTL-12468) 5% Solution				RT-780
Followed by tests for: Tensile Strength Ultimate Elongation Weight Increase	 Psi (MPa) Percent Percent	 2000 (*13.8*) minimum 250 minimum 3 maximum	 2000 (*13.8*) minimum 250 minimum 3 maximum	

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