

-770

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

-770 heat shrinkable molded shapes are made of a chemically resistant fluoroelastomer 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 125°C
 [-67°F to 257°F]

Available in:	Americas	Europe	Asia Pacific
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-770 (Continued)

Specifications/Approvals

Military	TE
SC-X15112 TOP-8-2-510	RT-770 type II (Molded Parts)

Product Characteristics

Physical

PROPERTY	UNIT	RT-770 TYPE I TUBING	RT-770 TYPE II MOLDED PARTS	TEST METHOD
Dimensions	Inches (<i>mm</i>)	In accordance with Table 1	In accordance with applicable SCD	RT-770
Tensile Strength	Psi (<i>MPa</i>)	2500 (<i>17.2</i>) minimum	2500 (<i>17.2</i>) minimum	ASTM D 412
Ultimate Elongation	Percent	300 minimum	300 minimum	ASTM D 412
Secant Modulus (expanded), 2%	Psi (<i>MPa</i>)	100,000 (<i>689</i>) maximum	100,000 (<i>689</i>) maximum	ASTM 882
Specific Gravity	--	1.85 maximum	1.85 maximum	ASTM D 792
Low Temperature Flexibility 4 hours at -55±3°C (-67±5°F)	--	No cracking	No cracking	RT-770
Heat Shock 4 hours at 225±5°C (437±9°F)	--	No dripping, flowing or cracking	No dripping, flowing or cracking	RT-770
Heat Resistance 336 hours at 175±3°C (347±5°F)				RT-770
Followed by tests for:				
Tensile Strength	Psi (<i>MPa</i>)	2000 (<i>13.8</i>) minimum	2000 (<i>13.8</i>) minimum	
Ultimate Elongation	Percent	250 minimum	250 minimum	

Electrical

PROPERTY	UNIT	RT-770 TYPE I TUBING	RT-770 TYPE II MOLDED PARTS	TEST METHOD
Dielectric Strength	Volts/mil (<i>kV/mm</i>)	400 (<i>15.7</i>) minimum	400 (<i>15.7</i>) 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-770 TYPE I TUBING	RT-770 TYPE II MOLDED PARTS	TEST METHOD
Radiation Resistance -10 Mrads gamma				RT-770
Followed by tests for:				
Tensile Strength	Psi (<i>MPa</i>)	2000 (<i>13.8</i>) minimum	2000 (<i>13.8</i>) minimum	
Ultimate Elongation	Percent	150 minimum	150 minimum	

Chemical

PROPERTY	UNIT	RT-770 TYPE I TUBING	RT-770 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				ASTM D 2671 Procedure A
Average Burn Time	Seconds	15 maximum	--	
Average Burn Time	Seconds	--	15 maximum	ASTM D 635-98
Average extent of burning	Inches		1 maximum	
Fluid Resistance 24 hours at 23±3°C (73±5°F) a) JP-8 Jet Fuel (MIL-DTL-83133) b) Diesel Fuel (VV-F-800, DF-2)				RT-770
Followed by tests for:				
Tensile Strength	Psi (MPa)	2000 (13.8) minimum	2000 (13.8) minimum	
Ultimate Elongation	Percent	250 minimum	250 minimum	
Weight Increase	Percent	3 maximum	3 maximum	
24 hours at 50±3°C (122±5°F) a) Bore Cleaner (MIL-PRF-372) b) Anti-Icing Fluid (SAE-AMS-1424) c) Salt-5% solution (ASTM D 632) d) Lubricating Oil (MIL-PRF-2104) e) Lubricating Oil (MIL-PRF-23699) f) Arctic Lube (MIL-PRF-46167) g) Cleaning Compound (A-A-59133) h) Electrolyte (P/N 10873919)				
Followed by tests for:				
Tensile Strength	Psi (MPa)	2000 (13.8) minimum	2000 (13.8) minimum	
Ultimate Elongation	Percent	250 minimum	250 minimum	
Weight Increase	Percent	3 maximum	3 maximum	
24 hours at 71±3°C (160±5°F) Hydraulic, synthetic (MIL-PRF-46170)				
Followed by tests for:				
Tensile Strength	Psi (MPa)	2000 (13.8) minimum	2000 (13.8) minimum	
Ultimate Elongation	Percent	250 minimum	250 minimum	
Weight Increase	Percent	3 maximum	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-770
Followed by tests for:				
Tensile Strength	Psi (MPa)	2000 (13.8) minimum	2000 (13.8) minimum	
Ultimate Elongation	Percent	250 minimum	250 minimum	
Weight Increase	Percent	3 maximum	3 maximum	