

Rogers Corporation Poron® 4701-40-15 Cellular Urethane Foam

Category : Polymer , Thermoset , Polyurethane, TS , Thermoset Polyurethane Foam, Unreinforced , Rubber or Thermoset Elastomer (TSE)

Material Notes:

Standard color is black (04); others are available. Passes flammability tests UL HBF (File E20305), MVSS 302, and CSA Component Acceptance HBF (File 188149). Passes fogging test SAE-J 1736 for 3 hrs. at 100°C (212°F). Passes cold flexibility per MIL-P-12420D at -40°C (-40°F). Good mildew/bacteria resistance per ASTM G-21. Skin contact is 'no irritation' per Schwartz and Peck human patch test. No stain per ASTM D925. Good UV resistance per ASTM G53. No tackiness or surface deterioration after 10 min. immersion in 75% naphtha, 25% 1,1,1-trichloroethane, then allowed to dry completely. No tackiness or surface deterioration in antifreeze + water 50/50; windshield washer solution; electrical grease; or in soap + water 50/50. Passes ozone resistance per GM 4486P. General Poron® information: Poron® foams are supplied in continuous rolls and can easily be fabricated: die-cut, slit, machined, and laminated. Key properties include excellent resistance to compression set, high energy absorption, low outgassing, resistance to temperatures, bondable surface, low hydrolysis, no plasticizers, high internal strength and dimensional stability, and chemical resistance. Information supplied by Rogers Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-Poron-4701-40-15-Cellular-Urethane-Foam.php

Physical Properties	Metric	English	Comments
Density	0.240 g/cc	0.00867 lb/in ³	±10%; ASTM D3574A
Water Absorption	2.0 %	2.0 %	Typical per AMS 3568
Water Absorption at Saturation	19 %	19 %	Immersion; ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	8.0	8.0	ASTM D2240
Hardness, Shore O	12	12	ASTM D2240
Tensile Strength, Ultimate	>= 0.276 MPa	>= 40.0 psi	ASTM D3574E
Elongation at Break	>= 100 %	>= 100 %	ASTM D3574E
Compressive Yield Strength	0.0270 - 0.0550 MPa	3.92 - 7.98 psi	at 25% deflection; 0.2"/min strain rate
Tear Strength	>= 0.500 kN/m	>= 2.85 pli	Die C; ASTM D624
Compression Set	<= 2.0 %	<= 2.0 %	23°C; ASTM D1667 test D
	<= 5.0 % @Temperature 121 °C	<= 5.0 % @Temperature 250 °F	Test D after autoclaved 5 hrs.; ASTM D3574J
	<= 10 % @Temperature 70.0 °C	<= 10 % @Temperature 158 °F	ASTM D3574 test D

Thermal Properties	Metric	English	Comments
CTE, linear	230 - 310 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	128 - 172 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM C518
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Maximum Service Temperature, Air	90.0 $^{\circ}\text{C}$	194 $^{\circ}\text{F}$	Recommended continuous use
	121 $^{\circ}\text{C}$	250 $^{\circ}\text{F}$	Intermittent
Brittleness Temperature	-40.0 $^{\circ}\text{C}$	-40.0 $^{\circ}\text{F}$	Low temp embrittlement; ASTM D746

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	ASTM D257
Surface Resistance	2.00e+12 ohm	2.00e+12 ohm	ASTM D257
Dielectric Constant	1.71	1.71	K' ("DK"); ASTM D150; relative humidity 50% for 24 hrs.
Dielectric Strength	2.00 kV/mm	50.8 kV/in	ASTM D149
Dissipation Factor	0.050	0.050	tan D ("DF"); ASTM D150

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