



PORON® Urethane Foams

High Performance Foams Division  
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*Typical Product Properties*

**PORON 4701-50 Firm – Thin as Cast**

PROPERTY	TEST METHOD	VALUE
<b>PHYSICAL</b>		
Density, lb. / ft <sup>3</sup> (kg /m <sup>3</sup> )	ASTM D 3574-95, Test A	30 (480)
Tolerance, %		± 10
Thickness, inches (mm)		0.017 - 0.020 (0,43 - 0,50)
Tolerance, inches (mm)		± 0.003 (0,08)
Standard Color (Code)		Black (04)
Compression Force Deflection, psi (kPa)	0.2" / min. Strain Rate Force Measured @ 25% Deflection	15 - 45 (103 - 310)
Typical psi (kPa)		32 (221)
Hardness, Durometer, Shore "O"	ASTM D 2240-97	55
Compression Set, % max.	ASTM D 1667-90 Test D @ 73°F (23°C) ASTM D 3574-95 Test D @ 158°F (70°C) ASTM D 3574-95 Test J/Test D autoclaved 5 hrs @ 250°F (121°C)	5  10  5
Dimensional Stability, % max. change	22 hrs @ 176°F (80°C) in a forced-air oven	± 1
Tensile Strength, Min. psi (kPa), Typical psi (kPa)	ASTM D 3574-75 Test E	160 (1106) 238 (1641)
Tensile Elongation, % min., Typical	ASTM D 3574-75 Test E	90 118
Tear Strength, Min. pli (kN/m), Typical pli (kN/m)	ASTM D 264-91 Die C	9 (1.6) 25 (4.4)
<b>ELECTRICAL AND THERMAL</b>		
Dielectric Constant, K' ("DK")	ASTM D 150 measurements at 72°F (22°C) relative humidity 50% for 24 hrs.	1.63
Dielectric Strength, volts/mil	ASTM D 149-97a	50
Dissipation Factor, tan D ("DF")	ASTM D 150-98	0.05
Volume Resistivity, ohm-cm	ASTM D 257-99	2 x 10 <sup>12</sup>
Surface Resistivity, ohm/sq.	ASTM D 257-99	7 x 10 <sup>12</sup>
Thermal Conductivity, W/m-C (BTU-in./hr/ft <sup>2</sup> -F)	ASTM C 518-98	-
Coefficient of Thermal Expansion		2.3 - 3.1 x 10 <sup>-4</sup> in./in./°C

Please see reverse side for additional data.

## PORON 4701-50 Firm – Thin as Cast Continued

PROPERTY	TEST METHOD	VALUE
Density, lb. / ft <sup>3</sup> (kg /m <sup>3</sup> )	ASTM D 3574-95, Test A	30 (480)
<b>TEMPERATURE RESISTANCE</b>		
Recommended Constant Use, max.	SAE J-2236	194°F (90°C)
Recommended Intermittent Use, max.	ASTM D 746-98	250°F (121°C)
Embrittlement	ASTM D 746-98	-40°F (-40°C)
Cold Flexibility	MIL-P-12420D 1991 @ -40°F (40°C)	Pass
<b>FLAMMABILITY AND OUTGASSING</b>		
Flammability	UL 94HBF (File E20305) (Pass ≥) MVSS 302 (Pass ≥) CSA Comp HBF (File 188149) (Pass ≥)	- 0.045" -
Fogging	SAE J-1756 3 hrs @ 212°F (100°C)	-
Outgassing, Total Mass Loss (TML) %	ASTM E 595-93 24 hrs @ 257°F (125°C) @ <7x10 <sup>3</sup> Pa	0.9
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.06
Outgassing, Water Vapor Regain (WVR) %		0.43
<b>ENVIRONMENTAL</b>		
Gasketing and Sealing	UL JMST2 (Consisting of UL50 and UL508) CAN/CSA – C22.2 No. 94-M91	File MH15464
Water Absorption, High Humidity Exposure, % weight gain, typical	AMS 3568-95	2
Water Absorption, Immersion Testing, % weight gain, typical	ASTM D 570-95	5
UV Resistance	ASTM G 53-96	Good
Ozone Resistance	GM 4486P-95	Pass
Corrosion Resistance	AMS 3568-91	Pass
Mildew/Bacteria Resistance	ASTM G 21	Good
Staining	ASTM D 925	No Stain
Skin Contact Irritation	Primary Skin Irritation Test (FHSA)	Pass

The information contained in this data sheet is intended to assist you in designing with Rogers PORON Urethane. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results shown on the data sheet will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers PORON Urethane for each application.

Notes:

1. All metric conversions are approximate.
2. Additional technical information is available.

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