

PORON® 4701-50 Firm

PROPERTY	TEST METHOD	VALUE		
PHYSICAL				
Density, lb. / ft ³ (kg / m ³)	ASTM D 3574-95, Test A	15 (240)	20 (320)	30 (480)
Tolerance, %		± 10		
Thickness, inches (mm)		0.188 - 0.500 (4,78 - 12,70)	0.062 - 0.125 (1,57 - 3,18)	0.031 - 0.045 (0,79 - 1,14)
Tolerance, %		± 10		± 20
Standard Color (Code)		Black (04)		
Compression Force Deflection, psi (kPa)	0.2" / min. Strain Rate Force Measured @ 25% Deflection	8 - 14 (55 - 97)	13 - 23 (90 - 159)	30 - 60 (207 - 415)
Typical psi (kPa)		10 (69)	17 (117)	39 (269)
Hardness, Durometer, Shore "O", Shore "A"	ASTM D 2240-97	18 13	24 18	55 42
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	70 (482) 95 (657)	120 (829) 145 (1003)	200 (1382) 250 (1729)
Tensile Elongation, % min., Typical	ASTM D 3574-75 Test E	100 140	100 135	90 130
Tear Strength, Min. pli (kN/m), Typical pli (kN/m)	ASTM D 264-91 Die C	6 (1.1) 12 (2.1)	10 (1.8) 16 (2.8)	13 (2.3) 24 (4.2)
ELECTRICAL AND THERMAL				
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 ¹²		
Surface Resistivity, ohm/sq.	ASTM D 257-99	7 x 10 ¹²		
Thermal Conductivity, W/m-C (BTU-in./hr/ft ² -F)	ASTM C 518-98	-	0.090 (0.63)	-
Coefficient of Thermal Expansion		2.3 - 3.1 x 10 ⁻⁴ in./in./°C		

The information contained in this Data Sheet is intended to assist you in designing with Rogers' High Performance Foam Materials. 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 in this Data Sheet will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers' High Performance Foam Materials for each application.

PORON® 4701-50 Firm Continued

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Density, lb. / ft ³ (kg /m ³)	ASTM D 3574-95, Test A	15 (240)	20 (320)	30 (480)
TEMPERATURE RESISTANCE				
Recommended Constant Use, max.	SAE J-2236	194°F (90°C)		
Recommended Intermittent Use, max.		250°F (121°C)		
Embrittlement	ASTM D 746-98	-40°F (-40°C)		
Cold Flexibility	MIL-P-12420D 1991 @ -40°F (40°C)	Pass		
FLAMMABILITY AND OUTGASSING				
Flammability	UL 94HBF (File E20305) (Pass ≥)	0.188"	0.062"	-
	MVSS 302 (Pass ≥)	0.188"	0.062"	0.045"
	CSA Comp HBF (File 188149) (Pass ≥)	0.188"	0.062"	-
Fogging	SAE J-1756 3 hrs @ 212°F (100°C)	Pass		
Outgassing, Total Mass Loss (TML) %	ASTM E 595-93 24 hrs @ 257°F (125°C) @ <7x10 ³ Pa	0.6	0.8	0.9
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.04	0.05	0.06
Outgassing, Water Vapor Regain (WVR) %		0.1	0.3	0.4
ENVIRONMENTAL				
Gasketing and Sealing	UL JMST2 (Consisting of UL50 and UL508) CAN/CSA – C22.2 No. 94-M91	File MH15464 File 188149		
Water Absorption, High Humidity Exposure, % weight gain, typical	AMS 3568-95	2		
Water Absorption, Immersion Testing, % weight gain, typical	ASTM D 570-95	13	8	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		

Notes:

1. – Represents testing not available at this time.
2. All metric conversions are approximate.
3. Additional technical information is available.
4. Typical values should not be used for specification limits.

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