

PORON® Urethane Foams

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) Typical psi (kPa)	0.2" / min. Strain Rate Force Measured @ 25% Deflection	8 - 14 (55 - 97) 10 (69)	13 - 23 (90 - 159) 17 (117)	30 - 60 (207 - 415) 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		

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PORON® 4701-50 Firm Continued

PROPERTY	TEST METHOD	VALUE		
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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