



TBP Converting, Inc.
Rogers Poron® 4701-40



PORON® 4701-40 Soft

PROPERTY	TEST METHOD	VALUE		
PHYSICAL				
Density, kg/m ³ (lb./ft ³)	ASTM D3574-95, Test A	240 (15)	320 (20)	480 (30)
Tolerance, %		± 10		
Thickness, mm (inches)		3.18 - 12.70 (0.125 - 0.500)	1.57 - 3.18 (0.062 - 0.125)	0.79 - 1.14 (0.031 - 0.045)
Tolerance, %		± 10	± 10	± 20
Standard Color (Code)		Black (04)		
Compression Force Deflection, kPa (psi) Typical kPa (psi)	0.51 cm/min (0.2"/min) Strain Rate Force Measured @ 25% Deflection	27 - 76 (4 - 11) 41 (5)	48 - 90 (7 - 13) 76 (11)	104 - 276 (15 - 40) 173 (25)
Hardness, Durometer Shore O Shore A	ASTM D2240-97	12 8	17 12	34 25
Compression Set, % max	ASTM D3574-95 Test D @ 23°C (73°F)	5		
	ASTM D3574-95 Test D @ 70°C (158°F)	10		
	ASTM D3574-95 Test J/Test D Autoclaved 5 hrs @ 121°C (250°F)	5		
Dimensional Stability, % max change	22 hrs @ 80°C (176°F) in a Forced-Air Oven	± 1		
Tensile Strength, Min. kPa (psi)	ASTM D3574-75 Test E	276 (40)	518 (75)	829 (120)
Tensile Elongation, % min.	ASTM D3574-75 Test E	100		
Tear Strength, Min. kN/m, (pli) Typical kNm, (pli)	ASTM D264-91 Die C	0.5 (3) 1.6 (9)	0.9 (5) 2.1 (12)	2.1 (12) 3.0 (17)



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ELECTRICAL & THERMAL		240 (15)	320 (20)	480 (30)
Dielectric Constant, K' ("DK")	ASTM D150 @ 22°C (72°F) Relative Humidity 50% for 24 hrs	1.71		
Dielectric Strength, kV/m (volts/mil)	ASTM D149-97a	1969 (50)		
Dissipation Factor, tan D ("DF")	ASTM D150-98	0.05		
Volume Resistivity, ohm-cm (ohm-in)	ASTM D257-99	1 x 10 ¹² (3.9 x 10 ¹¹)		
Surface Resistivity, ohm/sq.	ASTM D257-99	2 x 10 ¹²		
Thermal Conductivity, W/m-K (BTU-in./hr/ft ² -F)	ASTM C518-98	0.065 (0.45)	0.080 (0.56)	0.127 (0.88)
Coefficient of Thermal Expansion		2.3 - 3.1 x 10 ⁻⁴ in/in/°C (1.3 - 1.7 x 10 ⁻⁴ in/in/°F)		
TEMPERATURE RESISTANCE				
Recommended Constant Use, max.	SAE J-2236	90°C (194°F)		
Recommended Intermittent Use, max.	UL JMST2 (UL50 and UL508)	121°C (250°F)		
Brittleness Temperature	ASTM D746-98	-40°C (-40°F)		
Cold Flexibility	MIL-P-12420D 1991 @ -40°C (-40°F)	Pass		
FLAMMABILITY & OUTGASSING				
Flammability, mm (inches)	UL 94HBF [†] (File E20305) (Pass ≥)	4.8 (0.188)	1.6 (0.062)	-
	FMVSS 302 (Pass ≥)	4.8 (0.188)	1.6 (0.062)	-
	CSA Comp HBF (File 188149) (Pass≥)	4.8 (0.188)	1.6 (0.062)	-
Fogging	SAE J-1756 3 hrs @ 100°C (212°F)	Pass	Pass	-
Outgassing, Total Mass Loss (TML) %	ASTM E595-93 24 hrs @ 125°C (257°F) @ <7 x 10 ³ kPa	0.7	0.8	1.0
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.04	0.04	0.05
Outgassing, Water Vapor Regain (WVR) %		0.3	0.3	0.62



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PROPERTY	TEST METHOD	VALUE		
ENVIRONMENTAL		240 (15)	320 (20)	480 (30)
Gasketing and Sealing	UL JMST2 (Consisting of UL50 & UL508) CAN/CSA-C22.2 No. 94-M91	File MH15464 File 188149		-
Moisture Absorption, High Humidity Exposure, % Weight Gain, Typical	AMS 3568-95	2	2	-
Water Absorption, Immersion Testing, % Weight Gain, Typical	ASTM D570-95	17	15	11
UV Resistance	ASTM G53-96	Good	Good	-
Ozone Resistance	GM 4486P-95	Pass	Pass	-
Corrosion Resistance	AMS 3568-91	Pass	Pass	-
Mildew/Bacteria Resistance	ASTM G21	Good		
Staining	ASTM D925	No Stain		

Notes:

‡Designed to meet UL 94 HBF based upon 2022 test criteria. As of 2023 items with nominal density $\geq 15.6\text{lb/ft}^3$ (250kg/m^3) are no longer eligible to be tested for UL 94 HBF but remain equivalent.

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



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