



## Product Data Sheet



# PORON® 4701-50 Firm Thin as Cast

PROPERTY	TEST METHOD	VALUE
<b>PHYSICAL</b>		
Density, kg/m <sup>3</sup> (lb./ft <sup>3</sup> )	ASTM D 3574-95, Test A	480 (30)
Tolerance, %		± 10
Thickness, mm (inches)		0.43 - 0.50 (0.017 - 0.020)
Tolerance, mm (inches)		0.08 (± 0.003)
Standard Color (Code)		Black (04)
Compression Force Deflection, kPa (psi)		
Range kPa (psi)	0.51 cm/min (0.2"/min)	103 - 310 (15 - 45)
Typical kPa (psi)	Strain Rate Force Measured @ 25% Deflection	221 (32)
Hardness, Durometer Shore O	ASTM D2240-97	55
Compression Set, % max	ASTM D1667-90 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	1106 (160)
Tensile Elongation, % min.	ASTM D3574-75 Test E	90
Tear Strength, min. kN/m, (pli) Typical kNm, (pli)	ASTM D264-91 Die C	1.6 (9) 4.4 (25)



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PROPERTY	TEST METHOD	VALUE
<b>ELECTRICAL &amp; THERMAL</b>		
Dielectric Constant, K' ("DK")	ASTM D150 @ 22°C (72°F) Relative Humidity 50% for 24 hrs	1.63
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	$2 \times 10^{12}$ ( $7.87 \times 10^{11}$ )
Surface Resistivity, ohm/sq.	ASTM D257-99	$7 \times 10^{12}$
Thermal Conductivity, W/m-C (BTU-in./hr/ft <sup>2</sup> -F)	ASTM C518-98	-
Coefficient of Thermal Expansion		$2.3 - 3.1 \times 10^{-4}$ in/in/°C ( $1.3 - 1.7 \times 10^{-4}$ in/in/°F)
<b>TEMPERATURE RESISTANCE</b>		
Recommended Constant Use, max.	SAE J-2236	90°C (194°F)
Recommended Intermittent Use, max.		121°C (250°F)
Embrittlement	ASTM D746-98	-40°C (-40°F)
Cold Flexibility	MIL-P-12420D 1991 @ -40°C (-40°F)	Pass
<b>FLAMMABILITY &amp; OUTGASSING</b>		
Flammability, mm (inches)	UL 94HBF <sup>†</sup> (File E20305) (Pass ≥)	-
	FMVSS 302 (Pass ≥)	1.1 (0.045)
	CSA Comp HBF (File 188149) (Pass ≥)	-
Fogging	SAE J-1756 3 hrs @ 100°C (212°F)	-
Outgassing, Total Mass Loss (TML) %	ASTM E595-93 24 hrs @ 125°C (257°F) @ <7 kPa (1.02 psi)	0.9
Outgassing, Collected Volatile Condensable Materials (CVM) %		0.06
Outgassing, Water Vapor Regain (WVR) %		0.43

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<b>ENVIRONMENTAL</b>		
Gasketing and Sealing	UL JMST2 (Consisting of UL50 & UL508) CAN/CSA-C22.2 No. 94-M91	File MH15464 -
Moisture Absorption, High Humidity Exposure, % Weight Gain, Typical	AMS 3568-95	2
Water Absorption, Immersion Testing, % Weight Gain, Typical	ASTM D570-95	5
UV Resistance	ASTM G53-96	Good
Ozone Resistance	GM 4486P-95	Pass
Corrosion Resistance	AMS 3568-91	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  $\geq 15.6\text{lb/ft}^3$  ( $250\text{kg/m}^3$ ) 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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