



Product Data Sheet

# PORON® 4701-50 Firm Supported

PROPERTY	TEST METHOD	TYPICAL VALUE
<b>PHYSICAL</b>		
Density, kg/m <sup>3</sup> (lb./ft <sup>3</sup> )	ASTM D3574-95, Test A	480 (30)
Tolerance, %		± 10
Thickness, mm (inches)		0.30 (0.012)
Tolerance, mm (inches)		0.08 (± 0.003)
Standard Color (Code)		Black (04)
Compression Force Deflection, kPa (psi)		
Range kPa, (psi)	0.51cm/min (0.2"/min) Strain Rate	103 - 310 (15 - 45)
Typical kPa, (psi)	Force Measured @ 25% Deflection	221 (32)
Hardness, Durometer Shore O	ASTM D2240-97	55
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)	-
<b>ELECTRICAL &amp; THERMAL</b>		
Dielectric Constant, K' ("DK")	ASTM D150 Measurements at 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 x 10 <sup>12</sup> (7.87 x 10 <sup>11</sup> )
Surface Resistivity, ohm/sq	ASTM D257-99	7 x 10 <sup>12</sup>
Thermal Conductivity, W/m-C (BTU-in./hr/ft <sup>2</sup> -F)	ASTM C518-98	0.090 (0.63)
Coefficient of Thermal Expansion		2.3-3.1 x 10 <sup>-4</sup> in/in/°C (1.3-1.7 x 10 <sup>-4</sup> in/in/°F)



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**TEMPERATURE RESISTANCE**

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

**FLAMMABILITY AND OUTGASSING**

Flammability, mm (inches)	UL 94HBF <sup>†</sup> (File E20305) (Pass ≥)	-
	FMVSS 302 (Pass ≥)	-
	CSA Comp HBF (File 188149) (Pass ≥)	-
Fogging	SAE J-1756 3 hrs @ 100°C (212°F)	Pass
Outgassing, Total Mass Loss (TML) %	ASTM E595-93 24 hrs @ 125°C (257°F) @ <7 x 10 <sup>3</sup> kPa	0.9
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.06
Outgassing, Water Vapor Regain (WVR) %		0.43

**ENVIRONMENTAL**

Gasketing & Sealing	UL JMST2 (Consisting of UL50 & UL508)	File MH15464
	CAN/CSA - C22.2 No. 94-M91	-
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
Skin Contact Irritation	Primary Skin Irritation Test (FHSA)	Pass

The data mentioned above represents results of testing the PORON polyurethane foam only. PORON cellular polyurethane material is supported by being directly cast onto 0.05mm (2 mil) polyester film. By casting directly onto the film, a permanent bond is created. Please see physical property data for the film as represented by manufacturer below.

**Supporting Material - Clear Polyester Film (PET)**

PROPERTY	TEST METHOD	VALUE
Coefficient of Friction A/B, (Kinetic)	ASTM D1894	0.40
Density, kg/m <sup>3</sup> (lb/ft <sup>3</sup> )	ASTM D1505	1395 (87.1)
Modulus, MD, kPa (psi)	ASTM D882	3.5 x 10 <sup>6</sup> (500,000)
Shrinkage, MD, % (TD)	39 min. @ 150°C (302°F)	1.2 (0.0)
Tensile Strength, MD, kPa (psi)	ASTM D882	2.1 x 10 <sup>5</sup> (30,000)
Ultimate Elongation, %	ASTM D882	150
Yield Strength (F5), kPa (psi)	ASTM D882	1.0 x 10 <sup>5</sup> (15,000)

Notes:

†Designed to meet UL 94 HBF based upon 2022 test criteria. As of 2023 items with nominal density ≥ 15.6lb/ft<sup>3</sup> (250kg/m<sup>3</sup>) 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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