

## Ideal CFD Curves for Battery Pad Applications: PORON® 4701-40 Soft

PROPERTY	TEST METHOD	VALUE
<b>PHYSICAL</b>		
Density, kg /m <sup>3</sup> (lb. / ft <sup>3</sup> )	ASTM D 3574-95, Test A	240 (15)
Tolerance, %		± 10
Thickness, mm (inches)		1.4 – 3.0 (0.055 - 0.118)
Tolerance, %		± 10
Standard Color (Code)		Black (04)
Compression Force Deflection, Range kPa (psi)	0.51 cm/min (0.2" / min). Strain Rate Force Measured @ 25% Deflection	27 - 55 (4.0 - 8.0)
Typical kPa (psi)	Force Measured @ 20% Deflection Force Measured @ 25% Deflection Force Measured @ 30% Deflection Force Measured @ 40% Deflection Force Measured @ 50% Deflection Force Measured @ 60% Deflection Force Measured @ 70% Deflection	40.6 (5.9) 44.5 (6.5) 49.1 (7.1) 60.8 (8.8) 81.5 (11.8) 127 (18.5) 264 (38.4)
Hardness, Durometer, Shore "O" Shore "A"	ASTM D 2240-97	12 8
Compression Set, % max.	ASTM D 3574-95 Test D @ 23°C (73°F) ASTM D 3574-95 Test D @ 70°C (158°F) ASTM D 3574-95 Test J/Test D autoclaved 5 hrs @ 121°C (250°F)	5 10 5
Dimensional Stability, % max. change	22 hrs @ 80°C (176°F) in a forced-air oven	± 1
Tensile Strength, Min. kPa, (psi)	ASTM D 3574-75 Test E	276 (40)
Tensile Elongation, % min.,	ASTM D 3574-75 Test E	100
Tear Strength, kN/m (pli) min	ASTM D 264-91 Die C	0.5 (3)
<b>ELECTRICAL AND THERMAL</b>		
Dielectric Constant, K' ("DK")	ASTM D 150 measurements at 22°C (72°F) relative humidity 50% for 24 hrs.	1.71
Dielectric Strength, kN/m (volts/mil)	ASTM D 149-97a	1969 (50)
Dissipation Factor, tan D ("DF")	ASTM D 150-98	0.05
Volume Resistivity, ohm-cm (ohm-in)	ASTM D 257-99	1 x 10 <sup>12</sup>

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<b>ELECTRICAL AND THERMAL</b>		
Surface Resistivity, ohm/sq.	ASTM D 257-99	2 x 10 <sup>12</sup>
Thermal Conductivity, W/m-C (BTU-in./hr/ft <sup>2</sup> -F)	ASTM C 518-98	-
Coefficient of Thermal Expansion		2.3 - 3.1 x 10 <sup>-4</sup> in./in./°C (1.3-1.7 x10 <sup>-4</sup> 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 D 746-98	-40°C (-40°F)
Cold Flexibility	MIL-P-12420D 1991 @ -40°C (-40°F)	Pass
<b>FLAMMABILITY AND OUTGASSING</b>		
Flammability, mm (inches) [without PET carrier]	UL 94HBF (File E20305) (Pass ≥)	4.8 (0.188)
	MVSS 302 (Pass ≥)	2.5 (0.059)
	CSA Comp HBF (File 188149) (Pass ≥)	4.8 (0.188)
Fogging	SAE J-1756 3 hrs @ 100°C (212°F)	Pass
Outgassing, Total Mass Loss (TML) %	ASTM E 595-93 24 hrs @ 125°C (257°F) @ <7 kPa (1.02psi)	0.7
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.04
Outgassing, Water Vapor Regain (WVR) %		0.3
<b>ENVIRONMENTAL</b>		
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	19
UV Resistance	ASTM G 53-96	Good
Ozone Resistance	GM 4486P-95	Pass
Corrosion Resistance	ASM 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

\*\*Products available as unsupported, PET supported, or tacky surface.

\*\*Thickness availability may vary by construction type – contact your local sales or customer service representative

**Notes:**

- - 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