

Ideal CFD Curves for Battery Pad Applications: PORON® 4790-92 Extra Soft

PROPERTY	TEST METHOD	VALUE	
PHYSICAL			
Density, kg /m ³ (lb. / ft ³)	ASTM D 3574-95, Test A	192 (12)	240 (15)
Tolerance, %		± 10	
Thickness, mm (inches)		0.5 – 3.0 (0.020 - 0.118)	0.5 – 3.0 (0.020 - 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	1.7 - 17 (0.25 - 2.5)	2 - 24 (0.3 - 3.5)
Typical kPa (psi)	Force Measured @ 20% Deflection	7.7 (1.1)	11.3 (1.6)
	Force Measured @ 25% Deflection	8.3 (1.2)	12.3 (1.8)
	Force Measured @ 30% Deflection	9.1 (1.3)	13.4 (1.9)
	Force Measured @ 40% Deflection	11.2 (1.6)	16.5 (2.4)
	Force Measured @ 50% Deflection	15.3 (2.2)	21.9 (3.2)
	Force Measured @ 60% Deflection	26.1 (3.8)	34.5 (5.0)
	Force Measured @ 70% Deflection	64.4 (9.3)	77.2 (11.2)
Hardness, Durometer, Shore "O"	ASTM D 2240-97	< 3	<5
Compression Set, % max.	ASTM D 3574-95 Test D @ 23°C (73°F)	2	
	ASTM D 3574-95 Test D @ 70°C (158°F)	10	
	ASTM D 3574-95 Test J/Test D autoclaved 5 hrs @ 121°C (250°F)	5	
Resilience by Verticle Rebound, %	ASTM D 2632-96	4	
Dimensional Stability, % max. change	22 hrs @ 80°C (176°F) in a forced-air oven	± 3	± 5
Tensile Strength, Min. kPa, (psi)	ASTM D 3574-75 Test E	-	103 (15)
Tensile Elongation, % min.,	ASTM D 3574-75 Test E	-	120
Tear Strength, kN/m (pli) min	ASTM D 264-91 Die C	-	0.53 (3)
ELECTRICAL AND THERMAL			
Dielectric Constant, K' ("DK")	ASTM D 150 measurements at 22°C (72°F) relative humidity 50% for 24 hrs.	-	1.48

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ELECTRICAL AND THERMAL			
Dielectric Strength, kN/m (volts/mil)	ASTM D 149-97a	42	50
Dissipation Factor, tan D ("DF")	ASTM D 150-98	-	.04
Volume Resistivity, ohm-cm (ohm-in)	ASTM D 257-99	-	8 x 10 ¹¹
Surface Resistivity, ohm/sq.	ASTM D 257-99	-	10 x 10 ¹¹
Thermal Conductivity, W/m-C (BTU-in./hr/ft ² -F)	ASTM C 518-98	-	0.083 (0.53)
Coefficient of Thermal Expansion		2.3 - 3.1 x 10 ⁻⁴ in./in./°C (1.3-1.7 x10 ⁻⁴ in/in/°F)	
TEMPERATURE RESISTANCE			
Recommended Constant Use, max.	SAE J-2236	90°C (194°F)	
Recommended Intermittent Use, max.		121°C (250°F)	
Embrittlement	ASTM D 746-98	-20°C (-4°F)	
Cold Flexibility	MIL-P-12420D 1991 @ -40°C (-40°F)	-	
FLAMMABILITY AND OUTGASSING			
Flammability, mm (inches) [without PET carrier]	UL 94HBF (File E20305) (Pass ≥)	-	3.0 (0.118)
	MVSS 302 (Pass ≥)	-	2.5 (0.098)
	CSA Comp HBF (File 188149) (Pass ≥)	-	3.0 (0.118)
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)	0.76	1.73
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.04	0.14
Outgassing, Water Vapor Regain (WVR) %		0.6	0.71
ENVIRONMENTAL			
Gasketing and Sealing	UL JMST2 (Consisting of UL50 and UL508) CAN/CSA – C22.2 No. 94-M91	-	File MH15464
Water Absorption, High Humidity Exposure, % weight gain, typical	AMS 3568-95	2	
Water Absorption, Immersion Testing, % weight gain, typical	ASTM D 570-95	38	34
Mildew/Bacteria Resistance	ASTM G 21	Good	
Staining	ASTM D 925	No Stain	

**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