

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 Force Measured @ 25% Deflection Force Measured @ 30% Deflection Force Measured @ 40% Deflection Force Measured @ 50% Deflection Force Measured @ 60% Deflection Force Measured @ 70% Deflection	7.7 (1.1) 8.3 (1.2) 9.1 (1.3) 11.2 (1.6) 15.3 (2.2) 26.1 (3.8) 64.4 (9.3)	11.3 (1.6) 12.3 (1.8) 13.4 (1.9) 16.5 (2.4) 21.9 (3.2) 34.5 (5.0) 77.2 (11.2)
Hardness, Durometer, Shore "OO"	ASTM D 2240-97	< 3	<5
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)	2 10 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

PROPERTY	TEST METHOD	VALUE	
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	
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