

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 D3574-95, 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 O	ASTM D2240-97	< 3	<5
Compression Set, % max.	ASTM D3574-95 Test D @ 23°C (73°F)	2	
	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	
Resilience by Verticle Rebound, %	ASTM D2632-96	4	
Dimensional Stability, % max. change	22 hrs @ 80°C (176°F) in a Forced-Air Oven	± 3	± 5
Tensile Strength, min. kPa, (psi)	ASTM D3574-75 Test E	-	103 (15)
Tensile Elongation, % min.	ASTM D3574-75 Test E	-	120
Tear Strength, kN/m (pli) min	ASTM D264-91 Die C	-	0.53 (3)
ELECTRICAL AND THERMAL			
Dielectric Constant, K' ("DK")	ASTM D150 Measurements at 22°C (72°F) Relative Humidity 50% for 24 hrs.	-	1.48

PROPERTY	TEST METHOD	VALUE	
ELECTRICAL AND THERMAL		192 (12)	240 (15)
Dielectric Strength, kN/m (volts/mil)	ASTM D149-97A	42	50
Dissipation Factor, tan D ("DF")	ASTM D150-98	-	.04
Volume Resistivity, ohm-cm (ohm-in)	ASTM D257-99	-	8 x 10 ¹¹
Surface Resistivity, ohm/sq.	ASTM D257-99	-	10 x 10 ¹¹
Thermal Conductivity, W/m-C (BTU-in./hr/ft ² -F)	ASTM C518-98	-	0.083 (0.53)
Coefficient of Thermal Expansion		2.3 - 3.1 x 10 ⁻⁴ in./in./°C (1.3-1.7 x 10 ⁻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 D746-98	-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)
	FMVSS 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 E595-93 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 D570-95	38	34
Mildew/Bacteria Resistance	ASTM G21	Good	
Staining	ASTM D925	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:

- ‡Designed to meet UL 94 HBF based upon 2022 test criteria. As of 2023 items with nominal density ≥ 15.6lb/ft³ (250kg/m³) 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

For more information and to request a sample, please contact our team of experts at solutions@rogerscorp.com



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