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ABOUT OUR COMPANY

Dr. Dietrich Müller GmbH is a global solution provider for electrical insulation materials, thermally conductive products, seals and technical films.

We advise on the selection of the right material and manufacture precision parts from flexible and rigid materials. We operate 6 sites and provide services to companies around the world.

We are ISO 9001 and ISO 14001 certified and UL listed as a repackager (E341377).

Dr. Dietrich Müller GmbH

PORON® 4701-50 Firm Supported

PROPERTY	TEST METHOD	TYPICAL VALUE
PHYSICAL		
Density, kg/m ³ (lb./ft ³)	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)	-
ELECTRICAL & THERMAL		
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 ¹² (7.87 x 10 ¹¹)
Surface Resistivity, ohm/sq	ASTM D257-99	7 x 10 ¹²
Thermal Conductivity, W/m-C (BTU-in./hr/ft ² -F)	ASTM C518-98	0.090 (0.63)
Coefficient of Thermal Expansion		2.3-3.1 x 10 ⁻⁴ in/in/°C (1.3-1.7 x 10 ⁻⁴ in/in/°F)

PROPERTY	TEST METHOD	TYPICAL VALUE
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 [‡] (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 ³ 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) CAN/CSA - C22.2 No. 94-M91	File MH15464 -
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 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 ³ (lb/ft ³)	ASTM D1505	1.395 (87.1)
Modulus, MD, kPa (psi)	ASTM D882	3.5 x 10 ⁶ (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 ⁵ (30,000)
Ultimate Elongation	ASTM D882	150
Yield Strength (F5), kPa (psi)	ASTM D882	1.0 x 10 ⁵ (15,000)

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.

To order PORON materials, please contact our Sales Specialists at 860.928.3622 or via email at EMS_CT_cust_serv@rogerscorporation.com