



PORON® Urethane Foams

High Performance Foams Division
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Typical Product Properties

PORON® 4790-92 Extra Soft – Slow Rebound – Supported

PROPERTY	TEST METHOD	VALUE		
PHYSICAL				
Density, lb. / ft ³ (kg / m ³)	ASTM D 3574-95, Test A	15 (240)	20 (320)	25 (400)
Tolerance, %		± 10		
Thickness, inches (mm)		0.120 (3,05)	0.081 (2,06)	0.021 - 0.041 (0,53 - 1,04)
Tolerance, %		± 10		± 15
Standard Color (Code)		Black (04)		
Compression Force Deflection, psi (kPa) Typical psi (kPa)	0.2" / min. Strain Rate Force Measured @ 25% Deflection	0.3 - 3.5 (2 - 24) 1.7 (12)	1 - 5 (7 - 35) 3.2 (22)	1.25 - 8.5 (8 - 58) 5.3 (37)
Hardness, Durometer, Shore "O"	ASTM D 2240-97	2	-	-
Compression Set, % max.	ASTM D 1667-90 Test D @ 73°F (23°C) ASTM D 3574-95 Test D @ 158°F (70°C) ASTM D 3574-95 Test J/Test D autoclaved 5 hrs @ 250°F (121°C)	2 10 -		
Resilience by Vertical Rebound, %	ASTM D 2632-96	4	5	-
Dimensional Stability, % max. change	22 hrs @ 176°F (80°C) in a forced-air oven	-		
Tensile Strength, Min. psi (kPa), Typical psi (kPa)	ASTM D 3574-75 Test E	-		
Tensile Elongation, % min., Typical	ASTM D 3574-75 Test E	-		
Tear Strength, Min. pli (kN/m), Typical pli (kN/m)	ASTM D 264-91 Die C	-		
ELECTRICAL AND THERMAL				
Dielectric Constant, K' ("DK")	ASTM D 150 measurements at 72°F (22°C) relative humidity 50% for 24 hrs.	1.48		
Dielectric Strength, volts/mil	ASTM D 149-97a	50		
Dissipation Factor, tan D ("DF")	ASTM D 150-98	0.04		
Volume Resistivity, ohm-cm	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/ft²-F)	ASTM C 518-98	0.083 (0.53)	-	-
Coefficient of Thermal Expansion		2.3 - 3.1 x 10 ⁻⁴ in./in./°C		

The information contained in this Data Sheet is intended to assist you in designing with Rogers' High Performance Foam Materials. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results shown in this Data Sheet will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers' High Performance Foam Materials for each application.

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PORON® 4790-92 Extra Soft – Slow Rebound – Supported Continued

PROPERTY	TEST METHOD	VALUE		
Density, lb. / ft ³ (kg /m ³)	ASTM D 3574-95, Test A	15 (240)	20 (320)	25 (400)
TEMPERATURE RESISTANCE				
Recommended Constant Use, max.	SAE J-2236	158°F (70°C)		
Recommended Intermittent Use, max.		250°F (121°C)		
Embrittlement	ASTM D 746-98	-4°F (-20°C)	0°F (-18°C)	10°F (-12°C)
Cold Flexibility	MIL-P-12420D 1991 @ -40°F (40°C)	-		
FLAMMABILITY AND OUTGASSING				
Flammability	UL 94HBF (File E20305) (Pass ≥) MVSS 302 (Pass ≥) CSA Comp HBF (File 188149) (Pass ≥)	- - -		
Fogging	SAE J-1756 3 hrs @ 212°F (100°C)	Pass		
Outgassing, Total Mass Loss (TML) %	ASTM E 595-93 24 hrs @ 257°F (125°C) @ <7x10 ³ Pa	1.73	1.63	1.44
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.14	0.29	0.27
Outgassing, Water Vapor Regain (WVR) %		0.71	0.49	0.44
ENVIRONMENTAL				
Gasketing and Sealing	UL JMST2 (Consisting of UL50 and UL508) CAN/CSA – C22.2 No. 94-M91	- -		
Water Absorption, High Humidity Exposure, % weight gain, typical	AMS 3568-95	2		
Water Absorption, Immersion Testing, % weight gain, typical	ASTM D 570-95	25	23	14
UV Resistance	ASTM G 53-96	-		
Ozone Resistance	GM 4486P-95	-		
Corrosion Resistance	AMS 3568-91	-		
Mildew/Bacteria Resistance	ASTM G 21	Good		
Staining	ASTM D 925	No Stain		
Skin Contact Irritation	Primary Skin Irritation Test (FHSA)	Pass		

The data mentioned above represents results of testing the PORON urethane foam only. PORON cellular urethane 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 D 1894	0.40
Density, g/cm ³	ASTM D 1505	1.395
Modules, MD, psi (kg/cm ²)	ASTM D 882	500,000 (35,200)
Shrinkage, MD, %, (TD)	39 min. at 150°C	1.2 (0.0)
Tensile Strength, MD, psi (kg/cm ²)	ASTM D 882	30,000 (2,110)
Ultimate Elongation	ASTM D 882	150
Yield Strength (F5), psi (kg/cm ²)	ASTM D 882	15,000 (1,050)

Notes:

1. — represents testing not available at this time.
2. All metric conversions are approximate.
3. Additional technical information is available.
4. Typical values should not be used for specification limits.

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