

PORON® 4790-92 Extra Soft Slow Rebound - Supported



STOCKWELL ELASTOMERICS

MANUFACTURING SOLUTIONS
THROUGH ENGINEERED MATERIALS

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e-mail: service@stockwell.com • (800) 523-0123

PROPERTY	TEST METHOD	VALUE		
PHYSICAL				
Density, kg/m ³ (lb./ft ³)	ASTM D 3574-95, Test A	240 (15)	320 (20)	400 (25)
Tolerance		± 10		
Thickness, mm (inches)		1.00 - 3.05 (0.039 - 0.120)	2.06 (0.081)	0.53 - 1.04 (0.021 - 0.041)
Tolerance, %		±10	± 10	± 15
Standard Color (Code)		Black (04)		
Compression Force Deflection, kPa (psi)	0.51 cm/min (0.2"/min Strain Rate Force measured @ 25% deflection	2 - 24 (0.3 - 3.5)	7 - 35 (1 - 5)	8 - 58 (1.25 - 8.5)
Typical kPa (psi)		12 (1.7)	22 (3.2)	37 (5.3)
Hardness, Durometer Shore O	ASTM D 2240-97	2	---	---
Compression Set, % max	ASTM D 1667-90 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)		---	
Resilience by Vertical Rebound, %	ASTM D 2632-96	4	5	---
Dimensional Stability, % max change	22 hrs @ 80°C (176°F) in a forced-air oven		---	
Tensile Strength, Min. kpa (psi)	ASTM D 3574-75 Test E		---	
Tensile Elongation, % min.	ASTM D 3574-75 Test E		---	
Tear Strength, Min. kN/m, (pli) Typical kNm, (pli)	ASTM D 264-91 Die C		---	

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PROPERTY	TEST METHOD	VALUE		
ELECTRICAL & THERMAL		240 (15)	320 (20)	400 (25)
Dielectric Constant, K' ("DK")	ASTM D 150 @ 22°C (72°F) 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	10x10 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 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 D 746-98	-20°C (-4°F)	-18°C (0°F)	-12°C (10°F)
Cold Flexibility	MIL-P-12420D 1991 @ -40°C (-40°F)	---		
FLAMMABILITY & OUTGASSING				
Flammability	UL 94HBF (File E20305) (Pass ≥)	2.06 (0.081)		
	FMVSS 302 (Pass ≥)	2.06 (0.081)		
	CSA Comp HBR (File 188149) (Pass≥)	2.06 (0.081)		
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 x 10 ³ Pa	1.73	1.63	1.44
Outgassing, Collected Volatile Condensable Materials (CVCN) %		0.14	0.29	0.27
Outgassing, Water Vapor Regain (WVR) %		0.71	0.49	0.44

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PROPERTY	TEST METHOD	VALUE		
ENVIRONMENTAL		240 (15)	320 (20)	400 (25)
Gasketing and Sealing	UL JMST2 (Consisting of UL50 & 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	

The data mentioned above represents results of testing the PORON polyurethane foam only. PORON cellular polyurethane materials is supported by being directly cast onto 0.0508 mm (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, kg/m ³ (lb./ft ³)	ASTM D 1505	1.395 (87.1)
Modules, MD, kPa (psi)	ASTM D 882	3.5 x 10 ⁶ (5000,000)
Shrinkage, MD, %, (TD)	39 min @ 150°C (302°F)	1.2 (0.0)
Tensile Strength, MD, kPa (psi)	ASTM D 882	2.1 x 10 ⁵ (30,000)
Ultimate Elongation	ASTM D 882	150
Yield Strength (F5), kPa (psi)	ASTM D 882	1.0 x 10 ⁵ (15,000)

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.