ROGERS CORPORATION

PORON® Polyurethanes

Elastomeric Material Solutions
www.rogerscorp.com

Typical Product Properties

PORON® 4701-30 Very Soft – Data Sheet

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)		4.78 – 12.70 (0.188 - 0.500)	1.57 – 3.18 (0.062-0.125)	0.79 – 1.14 (0.031 - 0.045)
Tolerance, %		± 10		± 15
Standard Color (Code)		Black (04)		
Compression Force Deflection, kPa (psi) Typical kPa, (psi)	0.51cm/min (0.2" / min) Strain Rate Force Measured @ 25% Deflection	7 - 35 (1 – 5) 21 (3)	21 - 55 (3 – 8) 35 (5)	35 - 83 (5 – 12) 62 (9)
Hardness, Durometer, Shore "O", Shore "A"	ASTM D 2240-97	<3 <3	8 5	16 12
Compression Set, % max.	ASTM D 1667-90 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		
Dimensional Stability, % max. change	22 hrs @ 80°C (176°F) in a forced-air oven	± 1		
Tensile Strength, kPa (psi) min. Typical kPa (psi)	ASTM D 3574-75 Test E	138 (20) 207 (30)	207 (30) 346 (50)	242 (35) 484 (70)
Tensile Elongation, % min., Typical	ASTM D 3574-75 Test E	100 160	100 155	100 150
Tear Strength, kN/m (pli) min Typical kN/m (pli)	ASTM D 264-91 Die C	0.2 (1) 0.9 (5)	0.5 (3) 1.2 (7)	0.7 (4) 1.8 (10)
ELECTRICAL AND THERMAL				
Dielectric Constant, K' ("DK")	ASTM D 150 measurements at 22°C (72°F) relative humidity 50% for 24 hrs.	1.75		
Dielectric Strength, kV/m (volts/mil)	ASTM D 149-97a	1969 (50)		
Dissipation Factor, tan D ("DF")	ASTM D 150-98	0.05		
Volume Resistivity, ohm-cm (ohm-in)	ASTM D 257-99	3 x 10^{11} (1.18 x 10^{11})		
Surface Resistivity, ohm/sq.	ASTM D 257-99	6 x 10^{11}		
Thermal Conductivity, W/m-C (BTU-in./hr/ft^2-F)	ASTM C 518-98	-	0.076 (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)		

PORON® 4701-30 Very Soft, Continued

PROPERTY	TEST METHOD	VALUE		
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	-51°C (-60°F)		
Cold Flexibility	MIL-P-12420D 1991 @ -40˚C (-40˚F)	Pass		
FLAMMABILITY AND OUTGASSING				
Flammability, mm (inches)	UL 94HBF (File E20305) (Pass ≥) MVSS 302 (Pass ≥) CSA Comp HBF (File 188149) (Pass ≥)	4.8 (0.188) 4.8 (0.188) 4.8 (0.188)	2.4 (0.093) 1.6 (0.062) 2.4 (0.093)	- 1.6 (0.062) -
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) @ <7kPa (1.02 psi)	0.8	1.0	1.3
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.1	0.1	0.2
Outgassing, Water Vapor Regain (WVR) %		0.2	0.3	0.6
ENVIRONMENTAL				
Gasketing and Sealing	UL JMST2 (Consisting of UL50 and UL508) CAN/CSA – C22.2 No. 94-M91	File MH15464 File 188149		
Water Absorption, High Humidity Exposure, % weight gain, typical	AMS 3568-95	2		
Water Absorption, Immersion Testing, % weight gain, typical	ASTM D 570-95	12	9	14
UV Resistance	ASTM G 53-96	Good		
Ozone Resistance	GM 4486P-95	Pass	Pass	-
Corrosion Resistance	AMS 3568-91	Pass		
Mildew/Bacteria Resistance	ASTM G 21	Good		
Staining	ASTM D 925	No Stain		

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.

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