PORON® Polyurethanes

PORON® 4701-40 Soft – Data Sheet

PROPERTY	TEST METHOD	VALUE		
PHYSICAL				
Density, kg /m³ (lb. / ft³)	ASTM D 3574-95, Test A	240 (15)	320 (20)	480 (30)
Tolerance, %		± 10		
Thickness, mm		3.18 – 12.70	1.57 – 3.18	0.79 – 1.14
(inches)		(0.125 - 0.500)	(0.062 - 0.125)	(0.031 - 0.045)
Tolerance, %		± 10		± 20
Standard Color (Code)		Black (04)		
Compression Force Deflection, kPa	0.51cm/min (0.2" / min) Strain Rate	27 - 76	48 - 90	104 - 276
(psi)	Force Measured @ 25% Deflection	(4 – 11)	(7 – 13)	(15 – 40)
Typical kPa (psi)		41(5)	76 (11)	173 (25)
Hardness, Durometer, Shore "O",	ASTM D 2240-97	12	17	34
Shore "A"		8	12	25
Compression Set, % max.	ASTM D 3574-95 Test D @ 23°C (73°F)	5		
	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)	5		
Dimensional Stability, % max. change	22 hrs @ 80°C (176°F) in a forced-air oven	± 1		
Tensile Strength, Min kPa (psi)	ASTM D 3574-75 Test E	276 (40)	518 (75)	829 (120)
Tensile Elongation, % min.,	ASTM D 3574-75 Test E	100	100	100
Tear Strength, kN/m (pli), min	ASTM D 264-91 Die C	0.5 (3)	0.9 (5)	2.1 (12)
Typical kN/m (pli)		1.6 (9)	2.1 (12)	3.0 (17)
ELECTRICAL AND THERMAL				
Dielectric Constant, K' ("DK")	ASTM D 150 measurements at 22°C (72°F) relative humidity 50% for 24 hrs.	1.71		
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	1×10^{12} (3.9×10^{11})		
Surface Resistivity, ohm/sq.	ASTM D 257-99	2×10^{12}		
Thermal Conductivity, W/m-K	ASTM C 518-98	0.065	0.080	0.127
Coefficient of Thermal Expansion		2.3 - 3.1 x 10^{-4} in/in/°C (1.3-1.7 x10^{-4} in /in/°F)		

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PORON® 4701-40 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	-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 ≥)	4.8 (0.188)	1.6 (0.062)	-
	MVSS 302 (Pass ≥)	4.8 (0.188)	1.6 (0.062)	-
	CSA Comp HBF (File 188149) (Pass ≥)	4.8 (0.188)	1.6 (0.062)	-
Fogging	SAE J-1756 3 hrs @ 100°C (212°F)	Pass	Pass	-
Outgassing, Total Mass Loss (TML) %	ASTM E 595-93 24 hrs @ 125°C (257°F) @ <7kPa (1.02psi)	0.7	0.8	1.0
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.04	0.04	0.05
Outgassing, Water Vapor Regain (WVR) %		0.3	0.3	0.62
ENVIRONMENTAL				
Gasketing and Sealing	UL JMST2 (Consisting of UL50 & UL508)	File MH15464		-
	CAN/CSA – C22.2 No. 94-M91	File 188149		
Moisture Absorption, High Humidity Exposure, % weight gain, typical	AMS 3568-95	2	2	-
Water Absorption, Immersion Testing, % weight gain, typical	ASTM D 570-95	17	15	11
UV Resistance	ASTM G 53-96	Good	Good	-
Ozone Resistance	GM 4486P-95	Pass	Pass	-
Corrosion Resistance	AMS 3568-91	Pass	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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