ROGERS CORPORATION

PORON® Polyurethanes

展格 ZHANGE

苏州展格新材料有限公司

1595008877

Elastomeric Material Solutions

www.rogerscorp.com

PORON® 4701-30 Very Soft – Supported – Data Sheet

Typical Product Properties

PROPERTY	TEST METHOD	VALUE	
PHYSICAL			
Density, kg /m³ (lb. / ft³)	ASTM D 3574-95, Test A	320 (20)	400 (25)
Tolerance, %		± 10	
Thickness, mm (inches)		0.79 – 2.36 (0.031 - 0.095)	0.53 – 1.19 (0.021 - 0.047)
Thickness Tolerance Foam Thickness >0.79mm (0.031") % Foam Thickness ≤0.79mm (0.031")		 ± 10 -	 ± 15 0.08 (0.003)
Standard Color (Code)		Black (04)	
Compression Force Deflection, kPa (psi) Typical kPa (psi)	0.51 cm/min (0.2" / min). Strain Rate Force Measured @ 25% Deflection	21 - 55 (3 – 8) 34 (5.0)	35 - 83 (5 – 12) 58 (8.4)
Hardness, Durometer, Shore "O"	ASTM D 2240-97	8	16
Compression Set, % max.	ASTM D 3574-95 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)	4 10 -	
Dimensional Stability, % max. change	22 hrs @ 80°C (176°F) in a forced-air oven	-	
Tensile Strength, kPa (psi), min Typical kPa (psi)	ASTM D 3574-75 Test E	-	
Tensile Elongation, % min., Typical	ASTM D 3574-75 Test E	-	
Tear Strength, kN/m (pli), min Typical kN/m (pli)	ASTM D 264-91 Die C	-	
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	3.1×10^{11} (1.22×10^{11})	
Surface Resistivity, ohm/sq.	ASTM D 257-99	5.9×10^{11}	
Thermal Conductivity, W/m-C (BTU-in./hr/ft²-F)	ASTM C 518-98	0.076 (0.53)	-
Coefficient of Thermal Expansion		$2.3 - 3.1 \times 10^{-4}$ in/in/°C ($1.3-1.7 \times 10^{-4}$in/in/°F)	

PORON® 4701-30 Very Soft – Supported, 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	UL 94HBF (File E20305) (Pass ≥) MVSS 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 E 595-93 24 hrs @ 125°C (257°F) @ <7kPa (1.02 psi)	1.0	1.3
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.1	0.2
Outgassing, Water Vapor Regain (WVR) %		0.3	0.6
ENVIRONMENTAL			
Gasketing and 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 D 570-95	9	14
UV Resistance	ASTM G 53-96	Good	
Ozone Resistance	GM 4486P-95	Pass	
Corrosion Resistance	AMS 3568-91	Pass	
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 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, kg /m^3 (lb. / ft^3)	ASTM D 1505	1.395 (87.1)
Modulus, MD, kPa (psi)	ASTM D 882	3.5 x 10^6 (500,000)
Shrinkage, MD, %, (TD)	39 min. at 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.