

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

PROPERTY	TEST METHOD	VALUE	
PHYSICAL			
Density, kg /m ³ (lb. / ft ³)	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 x 10 ¹¹ (1.22 x 10 ¹¹)	
Surface Resistivity, ohm/sq.	ASTM D 257-99	5.9 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)	

The information contained in this Data Sheet is intended to assist you in designing with Rogers' Elastomeric Material Solutions. 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 PORON Polyurethane Foam Materials for each application. The Rogers logo, Helping power, protect, connect our world, and PORON are trademarks of Rogers Corporation or one of its subsidiaries. © 2000-2003, 2006, 2008, 2009, 2016, 2017 Rogers Corporation, All rights reserved. Printed in U.S.A., 1217-PDF, Publication #17-037

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.

The information contained in this Data Sheet is intended to assist you in designing with Rogers' Elastomeric Material Solutions. 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 PORON Polyurethane Foam Materials for each application. The Rogers logo, Helping power, protect, connect our world, and PORON are trademarks of Rogers Corporation or one of its subsidiaries. © 2000-2003, 2006, 2008, 2009, 2016, 2017 Rogers Corporation, All rights reserved. Printed in U.S.A., 1217-PDF, Publication #17-037