TBP Converting, Inc.
Rogers Poron 4701-60 PDS

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Product Data Sheet

PORON® 4701-60 Very Firm

PROPERTY	TEST METHOD	VALUE		
PHYSICAL				
Density, kg/m³ (lb./ft³)	ASTM D 3574-95, Test A	240 (15)	320 (20)	400 (25)
Tolerance			± 10	
Thickness, mm (inches)		3.18 - 6.35 (0.125 - 0.250)	0.79 - 4.78 (0.031 - 0.188)	0.79 - 2.36 (0.031 - 0.093)
Tolerance, %			± 10	
Standard Color (Code)			Black (04)	
Compression Force Deflection, kPa (psi)	0.51 cm/min (0.2"/min Strain Rate Force measured @ 25% deflection	124 - 345 (18 - 50)	241 - 586 (35 - 85)	345 - 896 (50 - 130)
Typical kPa (psi)		249 (36)	428 (62)	643 (93)
Hardness, Durometer Shore O	ASTM D 2240-97	42	55	63
Shore A		30	42	53
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)		10	
Dimensional Stability, % max change	22 hrs @ 80°C (176°F) in a forced-air oven		± 5	
Tensile Strength, Min. kpa (psi)	ASTM D 3574-75 Test E	931 (135)	1382 (200)	1724 (250)
Tensile Elongation, % min.	ASTM D 3574-75 Test E	50	45	50
Tear Strength , Min. kN/m, (pli)	ASTM D 264-91 Die C	2.1 (12)	3.0 (17)	3.3 (19)
Typical kNm, (pli)		3.3 (19)	4.4 (25)	5.3 (30)

PORON® 4701-60 Very Firm, cont'd

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		1.60	
Dielectric Strength, volts/mil	ASTM D 149-97a		50	
Dissipation Factor, tan D ("DF")	ASTM D 150-98		0.05	
Volume Resistivity, ohm-cm	ASTM D 257-99		7×10^{12}	
Surface Resistivity, ohm/sq.	ASTM D 257-99		3×10^{12}	
Thermal Conductivity, W/m-C BTU-in./hr/ft^2-F)	ASTM C 518-98	---	0.088 (0.61)	---
Coefficient of Thermal Expansion		$2.3 - 3.1 \times 10^{-4}$ 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.	UL JMST2 (UL50 and UL508)		121°C (250°F)	
Brittleness Temperature	ASTM D 746-98		-16°C (3°F)	
Cold Flexibility	MIL-P-12420D 1991 @ -40°C (-40°F)		Pass	
FLAMMABILITY & OUTGASSING				
Flammability, mm (inches)	UL 94HBF (File E20305) (Pass ≥) MVSS 302 (Pass ≥) CSA Comp HBF (File 188149) (Pass≥)	3.175 (0.125) 3.175 (0.125) 3.175 (0.125)	1.6 (0.062) 1.6 (0.062) 1.6 (0.062)	--- 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) @ <7 x 10^3 Pa	0.6	0.7	0.7
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.05	0.02	0.03
Outgassing, Water Vapor Regain (WVR) %		0.5	0.5	0.6

PORON® 4701-60 Very Firm, cont'd

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		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	19	20	6
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	
Skin Contact Irritation	Primary Skin Irritation Test (FHSA)		Pass	

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.