



PORON® Urethane Foams

Material Selection Guide





Markets

- Communications
- Computers
- Transportation
- Electronics
- Appliances
- Medical Devices
- Industrial



Applications

- LCD Gaskets
- Battery Pressure Pads
- Speaker Gaskets
- Environmental Seals
- Spacers
- Motor Mounts
- Vibration Damping Gaskets
- Springs
- Instrument Cluster Gaskets
- Cup Holders
- Air Filter Gaskets
- Appliance Foot Pads
- EMI/RFI Shielding



The world runs better with Rogers.®

PORON® Urethane foams offer a broad range of design solutions for gasketing, sealing and energy absorption. PORON Urethanes are part of the Rogers High Performance Foams family of products, which also include BISCO® Silicones.

Excellent Compression-set Resistance

Durable, long-term performance for gasketing, sealing, and cushioning

Energy Absorption

High resiliency, good vibration isolation and impact attenuation

Low Outgassing

No plasticizers to migrate, non-corrosive to metal, environmentally safe and clean

Broad Temperature Range

Excellent performance from -40°C to 90°C

Inherently Flame Retardant

Many of the materials meet flammability requirements of UL HBF and MVSS 302

Good Chemical Resistance

Exhibits resistance to corrosion, ozone and UV exposure

Easy to Fabricate

Die-cuts cleanly and readily accepts adhesive without surface preparation

Product Consistency

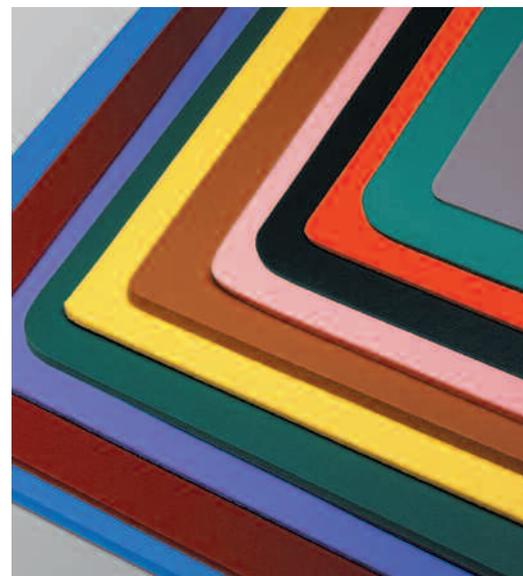
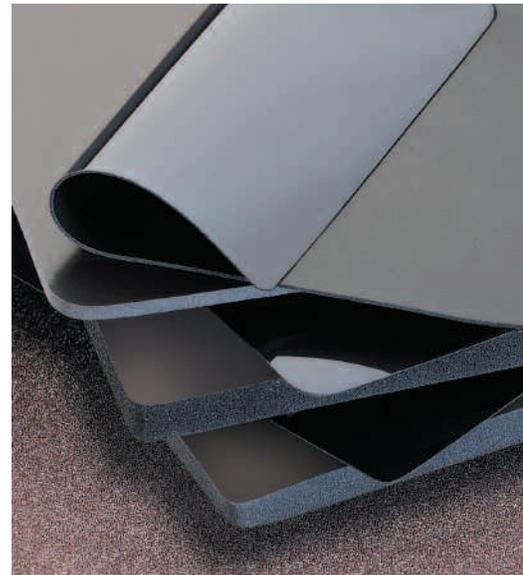
Quality manufacturing, material cast to tight tolerances and precise variations of density and internal strength

Broad Product Offering

Wide range of firmness, density, thickness, and color options available

Quality Service

All products are supported by knowledgeable Rogers Sales Engineers, Technical Service, and Customer Service Representatives



Typical Physical Properties

Electrical & Thermal

Density, lb./ft ³ (kg / m ³), Tolerance, % ASTM D 3574-95 Test A	Compression Force Deflection, Range, psi (kPa), Typical psi (kPa) , 0.2"/min, Strain Rate Force @ 25% Deflection	Hardness, Durometer, Shore "O", Shore "A", Shore "A" , ASTM D 2240-97	Compression Set, % max., ASTM D 3574-95 Test D @ 73°F (23°C)	Compression Set, % max., Test J / Test D after, autocured 5 hrs. @ 158°F (70°C)	Dimensional Stability, % max change 22 hrs. @ 176°F (80°C) in a forced-air oven	Tensile Strength, Min, psi (kPa), Typical psi (kPa) ASTM D 3574-75 Test E	Tensile Elongation, %, Min., Typical ASTM D 3574-95 Test E	Tear Strength, Min, pli (kN/m), Typical pli (kN/m) ASTM D 264-91 Die C	Dielectric Constant, K'(DK), ASTM D 150 measurements @ 72°F (22°C) relative humidity 50% for 24 hours.	Dielectric Strength, volts/mil, ASTM D 149-97a	Dissipation Factor, tan D ("DF"), ASTM D 150-98	Volume Resistivity, ohm-cm, ASTM D 257-99	Surface Resistivity, ohm/sq., ASTM D 257-99	Thermal Conductivity, W/m-C, ASTM C 518-98	Coefficient of Thermal Expansion in./in./°C	
12 (192) ± 10	0.25-2.5 (1.7-17) 1.4 (10)	-	2	10	5	± 3	12 (83)	150	2 (0.4)	-	42	-	-	-	-	2.3-3.1 x 10 ⁻⁴
15 (240) ± 10	0.3-3.5 (2-24) 2 (14)	2	2	10	5	± 5	15 (103) 30 (207)	120 206	4 (0.7) 5 (0.9)	1.48	50	0.04	8 x 10 ¹¹	10 x 10 ¹¹	0.083 (0.58)	2.8-3.1 x 10 ⁻⁴
15 (240) ± 10	1-5 (7-35) 3 (21)	< 3 < 3					20 (138) 30 (207)	100 160	1 (0.2) 5 (0.9)							
20 (320) ± 10	3-8 (21-55) 5 (35)	8 5	2	10	5	± 1	30 (207) 50 (346)	100 155	3 (0.5) 7 (1.2)	1.75	50	0.05	3 x 10 ¹¹	6 x 10 ¹¹	0.076 (0.53)	2.3-3.1 x 10 ⁻⁴
25 (400) ± 10	5-12 (35-83) 9 (62)	16 12					35 (242) 70 (484)	100 150	4 (0.7) 10 (1.8)							
15 (240) ± 10	4-8 (27-55) 6 (41)	12 8					40 (276) 70 (484)	100 160	3 (0.5) 9 (1.6)							
20 (320) ± 10	7-13 (48-90) 11 (76)	17 12	5	10	5	± 1	75 (518) 95 (657)	100 155	5 (0.9) 12 (2.1)	1.71	50	0.05	1 x 10 ¹²	2 x 10 ¹²	0.086 (0.60)	2.3-3.1 x 10 ⁻⁴
30* (480) ± 10	15-40 (104-276) 25 (173)	34 25					120 (829) 170 (1175)	100 145	12 (2.1) 17 (3.0)							
15 (240) ± 10	8-14 (55-97) 10 (69)	18 13					80 (553) 95 (657)	100 140	6 (1.1) 12 (2.1)							
20 (320) ± 10	13-23 (90-159) 17 (117)	24 18	5	10	5	± 1	120 (829) 145 (1003)	100 135	10 (1.8) 16 (2.8)	1.63	50	0.05	2 x 10 ¹²	7 x 10 ¹²	0.090 (0.63)	2.3-3.1 x 10 ⁻⁴
30 (480) ± 10	30-60 (207-415) 39 (269)	55 42					200 (1382) 250 (1729)	90 130	13 (2.3) 24 (4.2)							
15 (240) ± 10	18-50 (124-345) 36 (249)	42 30					135 (931) 170 (1175)	50 75	12 (2.1) 19 (3.3)							
20 (320) ± 10	35-85 (241-586) 62 (428)	55 42	5	10	10	± 5	200 (1382) 275 (1901)	45 75	17 (3.0) 25 (4.4)	1.60	50	0.05	7 x 10 ¹²	3 x 10 ¹²	0.088 (0.61)	2.3-3.1 x 10 ⁻⁴
25 (400) ± 10	50-130 (345-896) 93 (643)	63 53					250 (1724) 380 (2627)	50 75	19 (3.3) 30 (5.3)							

Testing Methods Appear in Green

Notes: All metric conversions are approximate. Additional technical services are available.

- Indicates data not available.

Temperature Resistance

Flammability & Outgassing

Environmental

Avail.

Unsupported Products

Temperature Resistance			Flammability & Outgassing			Environmental			Avail.							
Temperature Resistance, Recommended Constant Use, max., SAE J-2236	Temperature Resistance, Recommended Intermittent Use, max.	Temperature Resistance, Embrittlement ASTM D 746-98	Temperature Resistance, Cold Flexibility MIL-P-12420 D 1991 @ -40 F (-40 C)	Flame Resistance, UL HBF (File E20305) (Pass ≥), MVSS 302 (Pass ≥), CSA Component Acceptance HBF (File 188149) (Pass ≥)	Fogging, SAE J-1756 3 hrs @ 212 F (100°C)	Outgassing, Total Mass Loss, (TML), % ASTM E 595-93 24 hrs @ 212 F (100°C)	Outgassing, Collected Volatile Condensable Materials (CVCM), % ASTM E 595-24 hrs @ 257 F (125°C) @ < 7x10 ⁻³ Pa	Outgassing, Water Vapor Regain (WVR), % ASTM E 595-24 hrs @ 257 F (125°C) @ < 7x10 ⁻³ Pa	Gasketing and Sealing UL JMSTZ (Consisting of UL50 and UL508) % weight gain, typical, AMS 3568-95	Water Absorption, High Humidity Exposure, % weight gain, typical, AMS 3568-95	UV Resistance, Immersion Testing, ASTM D 570-95	Ozone Resistance, ASTM G 53-96	Corrosion Resistance, GM 4486P-95	Thickness, inches (mm), Tolerance, %	Standard Color (Code)	
194°F (90°C)	250°F (121°C)	-4°F (-20°C)	-	0.155 0.155	Pass	0.76	0.04	0.6	-	2	38	-	-	-	0.155-0.425 (3.94 - 10.8) ± 10%	Black (04)
194°F (90°C)	250°F (121°C)	-4°F (-20°C)	-	0.118 0.118	Pass	1.73	0.14	0.71	File MH15464	2	34	-	-	-	0.125 - 0.500 (3.18 - 12.70) ± 10%	Black (04)
194°F (90°C)	250°F (121°C)	-60°F (-51°C)	Pass	0.188" 0.188" 0.188" 0.093" 0.062" 0.093" - 0.062" -	Pass	1	0.1	0.3	File MH15464 File 188149*	2	9	Good	Pass	Pass	0.188 - 0.500 (4.78 - 12.70) ± 10% 0.062 - 0.125 (1.57 - 3.18) ± 10% 0.031 - 0.045 (0.79 - 1.14) ± 15%	Black (04)
194°F (90°C)	250°F (121°C)	-40°F (-40°C)	Pass	0.188" 0.188" 0.188" 0.062" 0.062" 0.062" - - -	Pass	0.7	0.04	0.3	File MH15464 File 188149	2	11	Good	Pass	Pass	0.188 - 0.500 (4.78 - 12.70) ± 10% 0.062 - 0.125 (1.57 - 3.18) ± 10% 0.031 - 0.045 (0.79 - 1.14) ± 20%	Black (04)
194°F (90°C)	250°F (121°C)	-40°F (-40°C)	Pass	0.188" 0.188" 0.188" 0.062" 0.062" 0.062" - 0.045" -	Pass	0.6	0.04	0.1	File MH15464 File 188149**	2	8	Good	Pass	Pass	0.188 - 0.500 (4.78 - 12.70) ± 10% 0.062 - 0.125 (1.57 - 3.18) ± 10% 0.031 - 0.045 (0.79 - 1.14) ± 20%	Black (04)
158°F (70°C)	250°F (121°C)	3°F (-16°C)	Pass	0.125" 0.125" 0.125" 0.062" 0.062" 0.062" 0.062" 0.062" 0.062"	Pass	0.6	0.05	0.5	File MH15464 File 188149	2	19	Good	Pass	-	0.125 - 0.250 (3.18 - 6.35) ± 10% 0.031 - 0.188 (0.79 - 4.78) ± 10% 0.031 - 0.093 (0.79 - 2.36) ± 15%	Black (04)

4790-92
Extra
Soft-Slow
Rebound

4701-30
Very Soft

4701-40
Soft

4701-50
Firm

4701-60
Very Firm

Notes: All products exhibit good Mildew/Bacteria Resistance, ASTM G 21-96
 All products exhibit no Skin Contact Irritation, Primary Skin Irritation Test (FHSA)
 All products exhibit no Staining, ASTM D 925
 *Material tested in Azure **Material tested in Gray

Typical Physical Properties

Electrical & Thermal

Density, lb./ft ³ (kg / m ³), Tolerance, % ASTM D 3574-95 Test A	Compression Force Deflection, Range psi (kPa), Typical psi (kPa) , 0.2"/min. Strain Rate Force Measured @ 25% Deflection	Hardness, Durometer, Shore "O", ASTM D 2240-97	Compression Set, % max. ASTM D 3574-95 Test D @ 73°F (23°C)	Compression Set, % max. Test J / Test D @ 158°F (70°C)	Dimensional Stability, % max., ASTM D 3574-95 22 hrs. @ 176°F (80°C) in a forced-air oven	Tensile Strength, Min. psi (kPa), Typical psi (kPa) ASTM D 3574-75 Test E	Tensile Elongation, %, Min., Typical ASTM D 3574-95 Test E	Tear Strength, Min. pli (kN/m), Typical pli (kN/m) ASTM D 264-91 Die C	Dielectric Constant, K' ("DK"), ASTM D 150 measurements @ 72°F (22°C) relative humidity 50% for 24 hours	Dielectric Strength, volts/mil, ASTM D 149-97a	Dissipation Factor, tan D ("DF"), ASTM D 150-98	Volume Resistivity, ohm-cm, ASTM D 257-99	Surface Resistivity, ohm/sq, ASTM D 257-99	Thermal Conductivity, W/m-C (BTU-in/hr-ft ² -F) ASTM C 518-98	Coefficient of Thermal Expansion in./in./°C
15 (240) ± 10	0.3-3.5 (2-24) 1.7 (12)	2	-	-	-	-	-	-	-	-	-	-	0.083 (0.58)	-	
20 (320) ± 10	1-5 (7-35) 3.2 (22)	-	2	10	-	-	-	-	1.48	50	0.04	8 x 10 ¹¹	10 x 10 ¹¹	2.3-3.1 x 10 ⁻⁴	
25 (400) ± 10	1.25-8.5 (8-58) 5.3 (37)	-	-	-	-	-	-	-	-	-	-	-	-	-	
20 (320) ± 10	3-8 (21-55) 5.0 (34)	8	-	-	-	-	-	-	-	-	-	-	0.076 (0.53)	-	
25 (400) ± 10	5-12 (35-83) 8.4 (58)	16	4	10	-	-	-	-	1.75	50	0.05	3.1 x 10 ¹¹	5.9 x 10 ¹¹	2.3-3.1 x 10 ⁻⁴	
30 (480) ± 10	15-45 (103-310) 32 (221)	55	5	10	-	-	-	-	1.63	50	0.05	2 x 10 ¹²	7 x 10 ¹²	2.3-3.1 x 10 ⁻⁴	
15 (240) ± 10	5-11 (35-76) 9.3 (64)	11	-	-	-	40 (276) 67 (462)	100 149	6 (1.1) 10 (1.8)	-	-	-	-	-	-	
20 (320) ± 10	10-17 (69-117) 15 (103)	19	5 ¹	10 ¹	5 ¹	± 2	90 (620) 94 (648)	100 140	8 (1.4) 13 (2.3)	1.71	50	0.05	1 x 10 ¹²	2 x 10 ¹²	2.3-3.1 x 10 ⁻⁴
30 (480) ± 10	15-40 (103-276) 28 (193)	31	-	-	-	120 (827) 149 (1027)	100 136	15 (2.6) 18 (3.2)	-	-	-	-	-	-	
30 (480) ± 10	15-45 (103-310) 32 (221)	55	5	10	5	± 1	160 (1106) 238 (1641)	90 118	9 (1.6) 25 (4.4)	1.63	50	0.05	2 x 10 ¹²	7 x 10 ¹²	2.3-3.1 x 10 ⁻⁴

Testing Methods Appear in Green

- Notes:** 1. Compression Set, % maximum, after 24 hour recovery
 2. PORON Cellular Urethane material is supported by being directly cast onto 2 mil polyester film
 All metric conversions are approximate. Additional technical services are available. - Indicates data not available.

World Class Performance

Rogers Corporation (NYSE:ROG), headquartered in Rogers, CT, is a global technology leader in the development and manufacture of high performance, specialty-material-based products for a variety of applications in diverse markets including: portable communications, communications infrastructure, computer and office equipment, consumer products, ground transportation, aerospace and defense. In an ever-changing world, where product design and manufacturing often take place on different sides of the planet, Rogers has the global reach to meet customer needs. Rogers provides the convenience of a worldwide presence and a true understanding of global markets. The world runs better with Rogers.®

High Performance Foams Division

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Toll Free: 800.755.6766



The Woodstock, CT Facility
Is Registered to ISO 9001:2000
Certificate No. A-3843

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