

Rogers Corporation Poron® 4790-92-20 Supported Urethane Foam, Extra Soft, Slow Rebound, PET Reinforced

Category : Polymer , Thermoset , Polyurethane, TS , Thermoset Polyurethane Foam, Unreinforced

Material Notes:

Extra soft, slow rebound with a very low closure force. Standard available thickness range from 0.021" to 0.500" (0.53 mm to 12.7 mm). Features and Benefits of PORON Products: Excellent compression set resistance which enables durable, long-term performance for gasketing, sealing, and cushioning. Low-outgassing and non-fogging, containing no plasticizers or residual chemicals to contaminate the device. The material will not become brittle and crumble and is non-corrosive to metal. Inherently flame retardant without the use of additives. Many of the materials meet flammability requirements of UL HBF and MVSS 302. Engineered urethane formulations offering a wide modulus range - 2-90 psi @ 25% deflection – for more design versatility requirements. Good chemical resistance. Easy to fabricate, die-cuts cleanly and works with a broad range of adhesives. Broad range of formulas and thicknesses from 0.012" to 0.500" (0.43mm to 12.7mm). Applications:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-Poron-4790-92-20-Supported-Urethane-Foam-Extra-Soft-Slow-Rebound-PET-Reinforced.php

Physical Properties	Metric	English	Comments
Density	0.320 g/cc	0.0116 lb/in ³	ASTM D3574-95 Test A
	1.395 g/cc	0.05040 lb/in ³	supporting material; ASTM D1505
Water Absorption	23 %	23 %	Immersion; ASTM D570-95
Moisture Absorption at Equilibrium	2.0 %	2.0 %	High Humidity; AMS 3568-95
Thickness	2060 microns	81.0 mil	
Outgassing - Total Mass Loss	0.29 %	0.29 %	CVCM; at 7000 Pa; ASTM E595-93
	@Temperature 125 °C, Time 86400 sec	@Temperature 257 °F, Time 24.0 hour	
	0.49 %	0.49 %	WVR; at 7000 Pa; ASTM E595-93
	@Temperature 125 °C, Time 86400 sec	@Temperature 257 °F, Time 24.0 hour	
	1.63 %	1.63 %	TML; at 7000 Pa; ASTM E595-93
	@Temperature 125 °C, Time 86400 sec	@Temperature 257 °F, Time 24.0 hour	

Mechanical Properties	Metric	English	Comments
Tensile Strength	207 MPa	30000 psi	MD, supporting material; ASTM D882
Tensile Strength, Yield	103 MPa	15000 psi	F5, supporting material; ASTM D882
Elongation at Break	150 %	150 %	supporting material; ASTM D882

Mechanical Properties	Metric	English	Comments
Tensile Modulus	3.43 GPa	500 ksi	MD, supporting material; ASTM D882
Compressive Yield Strength	0.00689 - 0.0345 MPa @Strain 25.0 %	1.00 - 5.00 psi @Strain 25.0 %	Range, 0.2"/min. strain rate
	0.0221 MPa @Strain 25.0 %	3.20 psi @Strain 25.0 %	Typical value, 0.2"/min. strain rate
Coefficient of Friction, Dynamic	0.40	0.40	A/B, supporting material; ASTM D1894
Compression Set	2.0 % @Temperature 23.0 °C	2.0 % @Temperature 73.4 °F	ASTM D1667-90 Test D
	10 % @Temperature 70.0 °C	10 % @Temperature 158 °F	ASTM D3574-95 Test D

Thermal Properties	Metric	English	Comments
CTE, linear	230 - 310 µm/m-°C	128 - 172 µin/in-°F	
Maximum Service Temperature, Air	70.0 °C	158 °F	Constant use; SAE J-2236
	121 °C	250 °F	Intermittent use; ASTM D746-98
Brittleness Temperature	-18.0 °C	-0.400 °F	ASTM D746-98
Shrinkage, MD	1.2 % @Temperature 150 °C, Time 2340 sec	1.2 % @Temperature 302 °F, Time 0.650 hour	supporting material
Shrinkage, TD	0.00 % @Temperature 150 °C, Time 2340 sec	0.00 % @Temperature 302 °F, Time 0.650 hour	supporting material

Electrical Properties	Metric	English	Comments
Volume Resistivity	8.00e+11 ohm-cm	8.00e+11 ohm-cm	ASTM D257-99
Dielectric Constant	1.48 @Time 86400 sec	1.48 @Time 24.0 hour	50% RH; ASTM D150
Dielectric Strength	1.97 kV/mm	50.0 kV/in	ASTM D149-97a
Dissipation Factor	0.040	0.040	ASTM D150-98

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