

Rogers Corporation Poron® 4790-92-12 Urethane Foam, Extra Soft, Slow Rebound

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-4790-92-12-Urethane-Foam-Extra-Soft-Slow-Rebound.php

Physical Properties	Metric	English	Comments
Density	0.192 g/cc	0.00694 lb/in ³	ASTM D3574-95 Test A
Water Absorption	38 %	38 %	Immersion; ASTM D570-95
Moisture Absorption at Equilibrium	2.0 %	2.0 %	High Humidity; AMS 3568-95
Thickness	3940 - 10800 microns	155 - 425 mil	Range of Thicknesses Available
Outgassing - Total Mass Loss	0.040 %	0.040 %	CVCM; ASTM E595-93
	0.60 %	0.60 %	WVR; ASTM E595-93
	0.76 %	0.76 %	TML; ASTM E595-93

Mechanical Properties	Metric	English	Comments
Hardness, Shore O	<= 3.0	<= 3.0	ASTM D2240-97
Tensile Strength	>= 0.0827 MPa	>= 12.0 psi	ASTM D3574-75 Test E
Elongation at Break	>= 150 %	>= 150 %	ASTM D3574-75 Test E
Compressive Yield Strength	0.00172 - 0.0172 MPa	0.250 - 2.50 psi	Range, 0.2"/min. strain rate
	@Strain 25.0 %	@Strain 25.0 %	
Tear Strength	0.00965 MPa	1.40 psi	Typical value, 0.2"/min. strain rate
	@Strain 25.0 %	@Strain 25.0 %	
Tear Strength	>= 0.400 kN/m	>= 2.28 pli	ASTM D264-91 Die C

Mechanical Properties	Metric	English	Comments
Compression Set			ASTM D1667-90 Test D
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	5.0 %	5.0 %	autoclaved 5 hrs; ASTM D3574-95 J/Test D
	@Temperature 121 °C	@Temperature 250 °F	
	10 %	10 %	ASTM D3574-95 Test D
	@Temperature 70.0 °C	@Temperature 158 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	230 - 310 $\mu\text{m}/\text{m}\cdot\text{°C}$	128 - 172 $\mu\text{in}/\text{in}\cdot\text{°F}$	
Maximum Service Temperature, Air	90.0 °C	194 °F	Constant use; SAE J-2236
	121 °C	250 °F	Intermittent use; ASTM D746-98
Brittleness Temperature	-20.0 °C	-4.00 °F	ASTM D746-98

Electrical Properties	Metric	English	Comments
Dielectric Strength	1.65 kV/mm	42.0 kV/in	ASTM D149-97a

Descriptive Properties	Value	Comments
Flammability Test	pass	MVSS 302; 0.155 in.
	pass	CSA Comp HBF (File 188149); 0.155 in.

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