

Material Physical Properties for PEPP Foam Molded from ARPRO[®] Porous Expanded Polypropylene Beads

PHYSICAL PROPERTY	TEST METHOD	UNITS	TEST RESULTS						
Density	ASTM-D3575	pcf (g/l)	1.6 (25)	2.8 (45)	3.7 (60)				
Porosity ¹	JSPI Internal	%	30	30	30				
Compressive Strength	ASTM-D3575								
@25% Strain						psi	10.0	23.0	33.0
@50% Strain						psi	17.0	35.0	50.0
@75% Strain		psi	48.0	79.0	115.0				
Compression Set	ASTM-D3575	%	8.0	9.0	9.0				
Tensile Strength	ASTM-D3575	psi	22.0	27.0	28.0				
Tensile Elongation	ASTM-D3575	%	15.0	13.0	12.0				
Tear Strength	ASTM-D3575	lbs/inch	14.5	18.8	22.0				
Thermal Conductivity	ASTM-C177 @ 75°F	(K) BTU-in/(ft ² -hr-°F)	0.26	0.25	0.25				
Thermal Stability Linear Dimensional Change	ASTM-D3575 24 hrs @ 225°F	%	< 1.0%	< 1.0%	< 1.0%				
Thermal Resistance	ASTM-C177	(R)	3.8	4.0	4.0				
Coefficient of Linear Thermal Expansion	ASTM-D696								
70°F to -40°F						in/in/°F x 10 ⁻⁵	7.5	6.4	5.0
70°F to 180°F		in/in/°F x 10 ⁻⁵	11.5	10.8	9.7				
Water Vapor Permeability	ASTM-E96	lbs/ft ² /hr/mmHg	7.5 x 10 ⁻⁵	6.6 x 10 ⁻⁵	5.9 x 10 ⁻⁵				
Water Absorption	ASTM-C272	lbs/in ³ x 10 ⁻³	7.2	6.5	5.3				
Flammability	FMVSS-302	< 4.0 in/min.	Pass	Pass	Pass				
Chemical Resistance (Auto fuels, fluids, solvents)	Various	1 hr exposure	Pass	Pass	Pass				

Notes: Above values shown are typical for Non-Fire Retardant PEPP.

¹Porosity of 30% (Min.) based on a molded compression ratio of @ 10%

pcf = pounds/cubic foot, g/l = grams/liter