

Material Physical Property Information for ARPLANK® Products

ARPAK® Expanded Polyethylene (EPE) – Density Range 1.3 pcf to 4.6 pcf (20 to 74 g/l)

Physical Properties†	Test Method	Units	JSP ARPAK® EPE						
Density (Grade)	ASTM-D3575	pcf	1.3	1.5	1.9	2.3	2.8	4.2	4.6
Density	ASTM-D3575	g/l	20	24	30	37	45	67	74
Compressive Strength @ 10%	ASTM-D3575	psi	6.5	8.0	10.2	13.2	16.8	29.4	35
Compressive Strength @ 25%		psi	8.8	10.3	12.8	16.5	20.7	35.7	43
Compressive Strength @ 50%		psi	16.6	18.4	22.0	27.6	33.5	56.0	70
Compressive Strength @ 75%		psi	42.5	47.6	55.6	64.3	75.4	113.0	130
Tensile Strength	ASTM-D3575	psi	40	45	52	62	70	98	120
Tensile Elongation	ASTM-D3575	%	38	35	32	31	30	22	22
Tear Strength	ASTM-D3575	lbs/in	14	16	17	19	21	28	34
Compressive Set @ 25%	ASTM-D3575	%	3	4	4	4	4	7	7
Compressive Set @ 50%	ASTM D3575	%	14	13	12	12	12	15	15
Buoyancy	ASTM-D3575	lbs/ft³	60.6	59.5	59.5	59.3	59.1	57.5	56.5
Thermal Conductivity	ASTM-C177	(K) BTU-in/ft²-hr-°F	0.26	0.24	0.24	0.24	0.24	0.28	0.30
Thermal Resistance	ASTM-C177	(R) @70°F	4.0	4.2	4.2	4.2	4.1	3.6	3.3
Coeff. of Lin. Thermal Expansion	ASTM-D696	in/in/°F x 10⁻⁵	8.2	7.2	6.2	5.5	4.8	4.2	4.0
Service Temperature	ASTM-D3575	°F (Max.)	176	176	176	176	176	176	176
Water Absorption	ASTM-D3575/C272	% (vol)/lb/ft³	<5.0/< 0.02	<5.0/< 0.02	<5.0/< 0.02	<5.0/< 0.02	<5.0/< 0.02	<5.0/< 0.02	<5.0/< 0.02
Compressive Creep	ASTM-D3575	1000hr, % (psi)	2.8 (1)	3.0 (1)	3.3 (1)	3.5 (1.5)	3.0 (1.5)	5.5 (10)	4.0 (10)
Flammability	FMVSS-302	<4.0 in/min	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Chemical Resistance	Various	1 hr exposure (solvents, acids, and alkalines)	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Fuel Immersion	Coast Guard; Fuel B per 33 CFR §183.114	<5% (chg in vol)	Pass	Pass	Pass	Pass	Pass	NA	NA

†Note: For standard JSP ARPLANK EPE Products. Values shown are typical of the product and should not be construed as specification limits. (NA = Not Available)