

**Material Physical Property Comparison for ARPLANK® products ARPRO® Expanded Polypropylene (EPP) – High Density (2.8 pcf to 3.7 pcf) vs. Extruded PE Foams – High Density (4.0 pcf to 9.0 pcf)**



Physical Properties†	Test Method	Units	ARPRO® EPP		Extruded PE		
Density (Grade)	ASTM-D3575	pcf	2.8	3.7	4.0	6.0	9.0
Density	ASTM-D3575	g/l	45	60	64	96	144
Compressive Strength @10%	ASTM-D3575	psi	32	44	NA	NA	NA
Compressive Strength @25%		psi	42	57	16	28	55
Compressive Strength @50%		psi	54	73	26	40	80
Compressive Strength @75%		psi	111	155	NA	NA	NA
Tensile Strength	ASTM-D3575	psi	67	89	75	96	129
Tensile Elongation	ASTM-D3575	%	15	15	NA	NA	NA
Tear Strength	ASTM-D3575	lbs/in	16	19	25	39	45
Compressive Set @ 25%	ASTM-D3575	%	7	7	<15	<10	<10
Compressive Set @ 50%	ASTM-D3575	%	12	12	<15	<10	<10
Buoyancy	ASTM-D3575	lbs/ft³	59	56.5	NA	NA	NA
Thermal Conductivity	ASTM-C177	(K) BTU-in/ft²-hr-°F	0.25	0.26	0.45	0.45	0.45
Thermal Resistance	ASTM-C177	(R) @70°F	4.0	3.8	2.2	2.2	2.2
Coef. Of Lin. Thermal Expan.	ASTM-D696	in/in/°F x 10 <sup>-5</sup>	5.4	4.8	NA	NA	NA
Service Temperature	ASTM-D3575	°F (Max.)	212	212	NA	NA	NA
Water absorption	ASTM-D3575/C272	% (lb/ft²)	< 1% (<0.02)	< 1% (<0.02)	<10% (<0.2)	<5% (<0.1)	<5% (<0.1)
Compressive Creep	ASTM-D3575	1000hr, % (psi)	1.5 (3.0)	1.5 (6.0)	< 5 (3.0)	< 5 (5.0)	< 5 (10.0)
Flammability	FMVSS-302	<4.0 in/min	Pass	Pass	Pass	Pass	Pass
Chemical Resistance	Various	1 hr exposure (solvents, acids, and alkalines)	Pass	Pass	Pass	Pass	Pass
Fuel Immersion	Coast Guard; Fuel B per 33 CFR §183.114	<5% (chg in vol)	Pass	Pass	NA	NA	NA

†Note: The data presented for the JSP ARPRO Expanded Polypropylene (EPP) are for standard JSP ARPLANK Products. While values shown are typical of the product, they should not be construed as specification limits. (NA = Not Available) For Additional Information or Technical Support contact [www.arplanksales.com](http://www.arplanksales.com) or 1-877-ARPLANK.

ARPRO® Expanded Polypropylene (EPP) is a highly resilient closed-cell expanded bead foam product. It is ideally suited as an energy absorbing cushioning material for products requiring impact protection, shock absorption, vibration dampening, buoyancy, insulation, and chemical resistance. It withstands multiple impacts without damage, is very light-weight and non-abrasive. It is also multi-directional in nature, so unlike traditional extruded foams, which yield different properties along the extrusion, vertical and horizontal axes, the properties of ARPRO® EPP are the same regardless of orientation. These properties make ARPRO® EPP an ideal and versatile product for protective packaging in a variety of applications.

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The information contained herein is based upon the results of limited laboratory tests on test samples of material molded from expanded polyolefin resin manufactured by JSP. There can be no assurance that the similar results will be achieved in simulated tests or actual use of commercial product molded by customers of JSP. Product performance may vary substantially depending upon the particular application or processing involved. The listed properties are illustrative only and not the product specifications. All suggestions and recommendations are made without warranty since the conditions of use are beyond JSP's control. Processing and applications of JSP foam products can influence molded part performance in many ways. Consequently, processors and/or users are advised that there may be a need to conduct independent tests and experiments in order for them to determine the extent to which they may choose to rely upon such information in their business operations. JSP disclaims any liability in connection with the use of the information and does not warrant against infringement by reasons of the use of its products in combination with other material or in any process.

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Expanded bead foam packaging materials