



## Vinyl Foam: 3 lb. Density

Part # - 1022, 1491, 1492

Light Weight Versatile Foam

Closed cell vinyl foam is an excellent core material with superior mechanical properties. We only distribute DIAB Divinycell® H vinyl foams due to their superior strength properties. When used as a structural sandwich core, these foams provides ultra-low weight, improved stiffness and impact resistance, and they offer insulative properties. 3lb foams are used extensively in aircraft and automotive applications.

The different thicknesses we offer are tailored to different applications. 1/8" thick foam is best used for laminates that require additional impact resistance only. If you want to make reinforced vertical components or walls, 3/8" thick foam offers additional strength and impact resistance without adding significant weight. 1/2" thick foam offers the highest strength to a composite part. Applications for 1/2" vinyl foam include structural flooring, exterior paneling, and other structural components.

Vinyl Foams are compatible with all of our resins and can be easily thermoformed with a heat gun or oven. 3 Lb. Density, 32" X 48" Sheets.

### Applications

This foam has been widely used over many years in virtually every application area where sandwich composites are employed including the marine (leisure, military and commercial), land transportation, wind energy, civil engineering/infrastructure and general industrial markets. In its application range, this foam has the highest strength to density ratio. It exhibits at both ambient and elevated temperatures impressive compressive strength and shear properties. In addition, the ductile qualities of this foam make it ideal for applications subject to fatigue, slamming or impact loads. Other key features of this foam include consistent high quality, excellent adhesion/peel strength, excellent chemical resistance, low water absorption and good thermal/acoustic insulation. This foam is compatible with virtually all commonly used resin systems (polyester, vinyl ester and epoxy) including those with high styrene contents. Its good temperature performance with high residual strength and good dimensional stability, makes this foam ideal for hand laminating, vacuum bagging, resin transfer molding or vacuum infusion.

### Design Considerations

Continuous operating temperature is -200oC to + 70oC (-325oF to + 160oF). The foam can be used in sandwich structures, for outdoor exposure, with external skin temperatures up to +85oC (+185oF). Normally this foam can be processed at up to -90oC (+194oF) with minor dimensional changes. Maximum processing temperature is dependent on time, pressure and process conditions. Coefficient of linear expansion: approx. 22.2 x 10-6/oF (40 x 10-6/oC)

Property	Method	Unit	
Nominal Density <sup>1)</sup>	ISO 845	Kg/m <sup>3</sup>	48
		Lb/ft <sup>3</sup>	3.0
Compressive Strength <sup>2)</sup>	ASTM D 1621	MPa	0.6
		psi	87
Compressive Modulus <sup>2)</sup>	ASTM D 1621	MPa	50
		psi	7,250
Tensile Strength <sup>2)</sup>	ASTM D 1623	MPa	1.4
		psi	203
Tensile Modulus <sup>2)</sup>	ASTM D 1623	MPa	55
		psi	7,975
Shear Strength	ASTM C 273	MPa	0.56
		psi	81
Shear Modulus	ASTM C 273	MPa	15
		psi	2,175
Shear Strain	ASTM C 273	%	12
Thickness	1022	in	0.125 +/- .015
	1491		0.375 +/- .015
	1492		0.500 +/- .015

- 1) Typical density variation ±
- 2) Perpendicular to the plane. All values measured at +23°C (73.4°F)

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