



## Vinyl Foam: 5 lb. Density

Part # - 1495, 1496

### Highest Strength Foam

Looking to make a strong composite part? Closed cell vinyl foam is an excellent choice for sandwich core material. We only distribute DIAB Divinycell® H vinyl foams due to their superior strength properties. When used as a structural sandwich core, 5lb vinyl foams are used extensively in applications where ultimate laminate strength is of the utmost importance. 5lb foam is used extensively in high strength structural, building, aerospace, and design applications.

The different thicknesses we offer are tailored to different applications. Offering significant strength and impact resistance to a laminate, 3/8" thick foam is commonly used for exterior vehicle structures, boat hulls, and bulkheads. 1/2" thick foam offers the highest strength to a composite part possible. Applications for 1/2" vinyl foam include load bearing structural supports, structural walls, unsupported flooring, and other high strength parts.

Vinyl Foams are compatible with all of our resins and can be easily thermoformed with a heat gun or oven. 5 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>	80
		Lb/ft <sup>3</sup>	5.0
Compressive Strength <sup>2)</sup>	ASTM D 1621	MPa	1.4
		psi	203
Compressive Modulus <sup>2)</sup>	ASTM D 1621	MPa	90
		psi	13,050
Tensile Strength <sup>2)</sup>	ASTM D 1623	MPa	2.5
		psi	363
Tensile Modulus <sup>2)</sup>	ASTM D 1623	MPa	95
		psi	13,775
Shear Strength	ASTM C 273	MPa	1.15
		psi	167
Shear Modulus	ASTM C 273	MPa	27
		psi	3,915
Shear Strain	ASTM C 273	%	30
Thickness	1495	in	0.375 +/- .015
	1496		0.500 +/- .015

1) Typical density variation ± 10%

2) Perpendicular to the plane. All values measured at +23°C (73.4°F)