

Divinycell H 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 Divinycell H 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 Divinycell H make it ideal for applications subject to fatigue, slamming or impact loads.

Other key features of Divinycell H include consistent high quality, excellent adhesion/peel strength, excellent chemical resistance, low water absorption and good thermal/acoustic insulation. Divinycell H 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 Divinycell H ideal for hand laminating, vacuum bagging, RTM (resin transfer molding) or vacuum infusion.

Technical Data for Divinycell H Grade

Property	Method	Unit	H35	H45	H60	H80	H100	H130	H160	H200	H250
Nominal Density ¹⁾	ISO 845	kg/m ³	38	48	60	80	100	130	160	200	250
Compressive Strength ²⁾	ASTM D 1621	MPa	0.45	0.6	0.9	1.4	2.0	3.0	3.4	4.8	6.2
Compressive Modulus ²⁾	ASTM D 1621	MPa	40	50	70	90	135	170	200	240	300
Tensile Strength ²⁾	ASTM D 1623	MPa	1.0	1.4	1.8	2.5	3.5	4.8	5.4	7.1	9.2
Tensile Modulus ²⁾	ASTM D 1623	MPa	49	55	75	95	130	175	205	250	320
Shear Strength	ASTM C 273	MPa	0.4	0.56	0.76	1.15	1.6	2.2	2.6	3.5	4.5
Shear Modulus	ASTM C 273	MPa	12	15	20	27	35	50	73	85	104
Shear Strain	ASTM C 273	%	9	12	20	30	40	40	40	40	40
1) Typical density variation ± 10%.											
2) Perpendicular to the plane. All values measured at +23°C.											

Continuous operating temperature is –200°C to +70°C. The foam can be used in sandwich structures, for outdoor exposure, with external skin temperatures up to +85°C. For optimal design of applications used in high operating temperatures in combination with continuous load, please contact DIAB Technologies for detailed design instructions. Normally Divinycell H can be processed at up to +90°C with minor dimensional changes. Maximum processing temperature is dependent on time, pressure and process conditions. Therefore users are advised to contact DIAB Technologies to confirm that Divinycell H is compatible with their particular processing parameters.

Coefficient of linear expansion: approx. $40 \times 10^{-6}/^{\circ}\text{C}$

