

Divinycell

H Grade

THE ULTIMATE CORE FOR SANDWICH CONSTRUCTION

Divinycell has a unique position in the international H composite market as a core material in multifunctional sandwich constructions. The Divinycell H grade in this folder is used in a wide range of applications where there is a need for a strong, lightweight construction material with excellent mechanical characteristics. Divinycell is widely used and found in e.g. wind turbine blades, pleasure craft, ship hulls and truck bodies. Divinycell H grade is available in a range of densities as standard sheets or fabricated to customer specification.

Divinycell H Sandwich Core Material

Average properties for the nominal density and minimum values within the brackets for the minimum density. All values are measured at +23°C.

Property	Unit	H 45	H 60	H 80	H 100	H 130	H 160	H 200	H 250
Density - nominal*		48	60	80	100	130	160	200	250
Density - maximum*	kg/m ³	55	69	92	115	149	180	230	290
Density - minimum*		43	55	72	90	120	145	180	230
Compressive Strength** ASTM D 1621	MPa	0.55 (0.4)	0.8 (0.7)	1.2 (1.0)	1.7 (1.4)	2.6 (2.2)	3.4 (2.8)	4.5 (3.7)	5.8 (4.9)
Compressive Modulus** ASTM D 1621	MPa	40 (30)	60 (45)	85 (65)	125 (95)	175 (130)	230 (175)	310 (235)	400 (300)
Tensile Strength** ASTM D 1623	MPa	1.2 (0.9)	1.6 (1.1)	2.2 (1.8)	3.1 (2.6)	4.2 (3.4)	5.4 (4.0)	7.0 (5.5)	8.8 (6.5)
Tensile Strength*** ISO 1926	MPa	1.1 (0.8)	1.4 (1.0)	2.0 (1.6)	2.4 (1.9)	3.0 (2.4)	3.9 (3.2)	4.8 (3.9)	6.4 (5.2)
Shear Strength*** ASTM C 273	MPa	0.5 (0.4)	0.7 (0.6)	1.0 (0.9)	1.4 (1.2)	2.0 (1.7)	2.6 (2.2)	3.3 (2.8)	4.5 (3.8)
Shear Modulus*** ASTM C 273	MPa	18 (12)	22 (15)	31 (23)	40 (30)	55 (40)	73 (50)	90 (70)	108 (87)
Shear Strain*** ASTM C 273	%	10 (6)	13 (8)	20 (12)	24 (14)	29 (19)	30 (20)	30 (20)	30 (20)

- * = Measured on maximum size, trimmed blocks with a typical thickness of 50-70 mm. Sheets, especially in low thickness, may have lower or higher density than specified above. Low density sheets will still meet the minimum properties stated above.
- ** = Perpendicular to the plane.
- *** = Parallel to the plane.

Operating temperature is -200°C to +70°C. Lifetime must be taken into consideration for the very low and high temperatures. Maximum processing temperature is dependent on time, pressure and process conditions. Normally Divinycell H can be processed up to 80°C without dimensional changes. Please contact DIAB for advice before use.

Coefficient of linear expansion ASTM D 696:
Poissons ratio:

Approx. 35 · 10⁻⁶/°C
0.32

This data sheet may be subject to revision and changes due to development and changes of the material. The data is derived from tests and experience. The data is average data and should be treated as such. Calculations should be verified by actual tests. The data is furnished without liability for the company and does not constitute a warranty or representation in respect of the material or its use. The company reserves the right to release new data sheets in replacement. Customers should check that they have the latest issue, see www.diabgroup.com