



Divinycell® HT

Divinycell has a unique position in the international composite market as a core material in multifunctional sandwich constructions. The Divinycell HT grade is used in a wide range of compatibility and in high temperature applications where there is a need for a strong, lightweight construction material with excellent mechanical characteristics. Divinycell HT is widely used and found in helicopter rotor blades, aircraft (interior and exterior) and temperature loaded constructions. Divinycell HT grade is available in a range of densities as standard sheets or fabricated to customer specification.

Material Properties					
Quality		HT 50	HT 70	HT 90	HT 110
Density ASTM D 1622	kg/m ³	50	70	90	110
	lb/ft ³	3.1	4.4	5.6	6.9
Compressive Strength ASTM D 1621	MPa (+22°C)	0.7	1.2	1.6	2.1
	psi (+72°F)	102	167	232	305
Compressive Modulus ASTM D 1621 - B	MPa (+22°C)	75	100	125	150
	psi (+72°F)	10877	14503	18129	21755
Tensile Strength ASTM D 1623	MPa (+22°C)	1.5	2.1	2.7	3.3
	psi (+72°F)	218	305	392	479
Tensile Modulus ASTM D 1623	MPa (+22°C)	95	125	150	175
	psi (+72°F)	13778	18129	21755	25381
Shear Strength ASTM C 273	MPa (+22°C)	0.6	0.9	1.3	1.6
	psi (+72°F)	80	131	181	232
Shear Modulus ASTM C 273	MPa (+22°C)	19	26	33	40
	psi (+72°F)	2756	3771	4786	5801
Dielectric Constant ASTM D2520		1.07	1.09	1.12	1.14
Loss Tangent ASTM D2520		0.0016	0.0017	0.0018	0.0019

Refer to the HT Grade Technical Manual for more detailed information.

Continuous operating temperature range: -200°C to +90°C (-325°F to 195°F)
Maximum processing temperature: +129°C (+265°F)
Coefficient of linear expansion (ASTM D-696): $35 \times 10^{-6} / ^\circ\text{C}$ ($2 \times 10^{-5} / ^\circ\text{F}$)
Poissons ratio: 0.32
Density Tolerance: $\pm 10\%$

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Thermal Properties					
Quality		HT 50	HT 70	HT 90	HT 110
Density ASTM D 1622	kg/m ³	50	70	90	110
	lb/ft ³	3.1	4.4	5.6	6.9
Thermal Conductivity ASTM C 377 -10°C	W/m °C	0.030	0.033	0.036	0.039
	Btu in/ft ² h °F	0.20	0.22	0.24	0.26
Thermal Conductivity ASTM C 377 +10°C	W/m °C	0.032	0.035	0.038	0.041
	Btu in/ft ² h °F	0.213	0.233	0.253	0.273
Thermal Conductivity ASTM C 377 +37°C	W/m °C	0.034	0.037	0.040	0.043
	Btu in/ft ² h °F	0.227	0.247	0.267	0.287
Water Absorption ASTM C 272	kg/m ²	0.100	0.060	0.047	0.040
	lb/ft ²	0.0205	0.0123	0.0096	0.0082
Water Permeability ASTM E 96	m ² /s x 10 ⁻⁸	2.5	1.3	1.2	1.0
	ft ² /s x 10 ⁻⁸	0.23	0.12	0.11	0.09
Specific Heat ASTM E 1296	kJ/kg °C	1.9	1.85	1.8	1.75
	Btu/lb °F	0.454	0.442	0.430	0.418
R-Value Based on +10°C K factor	12 mm / 0.5 in	2.3	2.1	2.0	1.8
	25 mm / 1.0 in	4.7	4.3	4.0	3.7
	51 mm / 2.0 in	9.4	8.6	8.0	7.4

Refer to the HT Grade Technical Manual for more detailed information.

Continuous operating temperature range: -200°C to +90°C (-325°F to +195°F)

Maximum processing temperature: +120°C (+250°F)

Coefficient of linear expansion (ASTM D-696): $35 \times 10^{-6} / ^\circ\text{C}$ ($2 \times 10^{-5} / ^\circ\text{F}$)

Poissons ratio: 0.32

Density Tolerance: -10% / +10%

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