Divinycell[®] H

Technical Data

Divinycell H Grade can be used for the vast majority of composite applications where both hand laminating and closed moulding processes such as infusion are employed. With the upgraded H Grade, major improvements have been made in all critical performance areas. Strength properties have risen by up to 15%. In addition elongation to break has risen dramatically by up to 65% and the ductility has also been markedly improved. Both the thermal and dimensional stability have also seen significant improvements. Divinycell H can now be processed at up to 90°C with minimal dimensional changes. The chemical resistance has also been enhanced. Another major improvement is a reduction in the core's cell size. Divinycell H is available in a very wide range of densities as standard sheets or fabricated to customers specification as kits.

Technical Data for Divinycell H Grade

Method	Unit	H35	H45	H60	H80	H100	H130	H160	H200	H250
ISO 845	Kg/m ³	38	48	60	80	100	130	160	200	250
ASTM D 1621	MPa	0.45	0.6	0.9	1.4	2.0	3.0	3.4	4.8	6.2
ASTM D 1621	MPa	40	50	70	90	135	170	200	240	300
ASTM D 1623	MPa	1.0	1.4	1.8	2.5	3.5	4.8	5.4	7.1	9.2
ASTM D 1623	MPa	49	55	75	95	130	175	205	250	320
ASTM C 273	MPa	0.4	0.56	0.76	1.15	1.6	2.2	2.6	3.5	4.5
ASTM C 273	MPa	12	15	20	27	35	50	73	85	104
ASTM C 273	%	9	12	20	30	40	40	40	40	40
	ISO 845 ASTM D 1621 ASTM D 1621 ASTM D 1623 ASTM D 1623 ASTM C 273 ASTM C 273	ISO 845 Kg/m³ ASTM D 1621 MPa ASTM D 1621 MPa ASTM D 1623 MPa ASTM D 1623 MPa ASTM C 273 MPa ASTM C 273 MPa	ISO 845 Kg/m³ 38 ASTM D 1621 MPa 0.45 ASTM D 1621 MPa 40 ASTM D 1623 MPa 1.0 ASTM D 1623 MPa 49 ASTM C 273 MPa 0.4 ASTM C 273 MPa 12	ISO 845 Kg/m³ 38 48 ASTM D 1621 MPa 0.45 0.6 ASTM D 1621 MPa 40 50 ASTM D 1623 MPa 1.0 1.4 ASTM D 1623 MPa 49 55 ASTM C 273 MPa 0.4 0.56 ASTM C 273 MPa 12 15	ISO 845 Kg/m³ 38 48 60 ASTM D 1621 MPa 0.45 0.6 0.9 ASTM D 1621 MPa 40 50 70 ASTM D 1623 MPa 1.0 1.4 1.8 ASTM D 1623 MPa 49 55 75 ASTM C 273 MPa 0.4 0.56 0.76 ASTM C 273 MPa 12 15 20	ISO 845 Kg/m³ 38 48 60 80 ASTM D 1621 MPa 0.45 0.6 0.9 1.4 ASTM D 1621 MPa 40 50 70 90 ASTM D 1623 MPa 1.0 1.4 1.8 2.5 ASTM D 1623 MPa 49 55 75 95 ASTM C 273 MPa 0.4 0.56 0.76 1.15 ASTM C 273 MPa 12 15 20 27	ISO 845 Kg/m³ 38 48 60 80 100 ASTM D 1621 MPa 0.45 0.6 0.9 1.4 2.0 ASTM D 1621 MPa 40 50 70 90 135 ASTM D 1623 MPa 1.0 1.4 1.8 2.5 3.5 ASTM D 1623 MPa 49 55 75 95 130 ASTM C 273 MPa 0.4 0.56 0.76 1.15 1.6 ASTM C 273 MPa 12 15 20 27 35	ISO 845 Kg/m³ 38 48 60 80 100 130 ASTM D 1621 MPa 0.45 0.6 0.9 1.4 2.0 3.0 ASTM D 1621 MPa 40 50 70 90 135 170 ASTM D 1623 MPa 1.0 1.4 1.8 2.5 3.5 4.8 ASTM D 1623 MPa 49 55 75 95 130 175 ASTM C 273 MPa 0.4 0.56 0.76 1.15 1.6 2.2 ASTM C 273 MPa 12 15 20 27 35 50	ISO 845 Kg/m³ 38 48 60 80 100 130 160 ASTM D 1621 MPa 0.45 0.6 0.9 1.4 2.0 3.0 3.4 ASTM D 1621 MPa 40 50 70 90 135 170 200 ASTM D 1623 MPa 1.0 1.4 1.8 2.5 3.5 4.8 5.4 ASTM D 1623 MPa 49 55 75 95 130 175 205 ASTM C 273 MPa 0.4 0.56 0.76 1.15 1.6 2.2 2.6 ASTM C 273 MPa 12 15 20 27 35 50 73	ISO 845 Kg/m³ 38 48 60 80 100 130 160 200 ASTM D 1621 MPa 0.45 0.6 0.9 1.4 2.0 3.0 3.4 4.8 ASTM D 1621 MPa 40 50 70 90 135 170 200 240 ASTM D 1623 MPa 1.0 1.4 1.8 2.5 3.5 4.8 5.4 7.1 ASTM C 273 MPa 49 55 75 95 130 175 205 250 ASTM C 273 MPa 0.4 0.56 0.76 1.15 1.6 2.2 2.6 3.5 ASTM C 273 MPa 12 15 20 27 35 50 73 85

¹⁾ Typical density variation \pm 10%.

Continuous operating temperature is -200° C to $+70^{\circ}$ C. The foam can be used in sandwich structures, for outdoor exposure, with external skin temperatures up to $+85^{\circ}$ C. Operating conditions 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 at up to $+90^{\circ}$ C with minor dimensional changes. Please contact DIAB for advice before use.

Coefficient of linear expansion: approx. 40 x 10-6/°C



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.

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