



## TECHNICAL DATA

# Divinycell PL

### HIGH PERFORMANCE RECYCLABLE PET SANDWICH CORE WITH ULTRA-LOW RESIN ABSORPTION

Divinycell PL is fully recyclable and has been developed with the aim of optimising PET cored composite structures. Divinycell PL provides superior shear strength and ultra-low resin absorption, helping customers achieve weight reduction and overall cost reduction of components without surface sealing treatment, while ensuring reliable and strong peel strength.

With its superior shear strain and temperature performances, Divinycell PL is suitable for a variety of processes such as vacuum infusion, pre-preg and hot-press moulding.

Divinycell PL230 is particularly suited for high strength demand, and application like local inserts, providing very good screw retention.

### MECHANICAL PROPERTIES

Property	Test Procedure <sup>1</sup>	Unit		PL100	PL105	PL150	PL200	PL230
Compressive Strength <sup>2</sup>	ASTM D 1621	MPa	Nominal	1.3	1.5	2.5	3.8	4.5
			Minimum	1.0	1.3	2.2	3.2	3.7
Compressive Modulus <sup>2</sup>	ASTM D1621-B-73	MPa	Nominal	100	112	165	230	245
			Minimum	75	85	130	190	210
Tensile Strength <sup>2</sup>	ASTM D 1623	MPa	Nominal	2.4	2.4	2.9	3.4	3.6
			Minimum	1.9	1.9	2.3	2.8	3.2
Tensile Modulus <sup>2</sup>	ASTM D 1623	MPa	Nominal	100	110	175	230	270
			Minimum	80	90	130	180	220
Shear Strength <sup>3</sup>	ISO 1922	MPa	Nominal	0.85	0.95	1.45	2.1	2.6
			Minimum	0.7	0.8	1.25	1.8	2.3
Shear Modulus <sup>3</sup>	ISO 1922	MPa	Nominal	23	25	42	65	76
			Minimum	20	23	37	50	67
Shear Strength <sup>4</sup>	ISO 1922	MPa	Nominal	0.8	0.85	1.35	2.0	2.5
			Minimum	0.65	0.75	1.25	1.7	2.2
Shear Modulus <sup>4</sup>	ISO 1922	MPa	Nominal	21	23	36	55	66
			Minimum	17	19	32	47	58
Shear Strain <sup>3,4</sup>	ISO 1922	%	Nominal	20	20	15	10	10
Density	ISO 845	kg/m <sup>3</sup>	Nominal	100	105	150	210	230

1. All values measured at +23°C. Testing is done on foam with welding lines.

2. Properties measured perpendicular to the plane

3. Properties measured parallel to the welding lines, 1-3 direction

4. Shear properties measured perpendicular to weldlines, 2-3 direction

Nominal value is an average value of a mechanical property at a nominal density.

Minimum value is a minimum guaranteed mechanical property a material has independently of density.

### PRODUCT CHARACTERISTICS

- Based on post-industry recycled PET
- Recyclable
- Ultra-low resin uptake
- Thermoformable
- Good chemical resistance
- Good shear strain
- Closed cell structure
- Allows for high processing temperatures

## TECHNICAL CHARACTERISTICS

Characteristics <sup>1</sup>	Unit	PL100	PL105	PL150	PL200	PL230	Test method
Density range	kg/m <sup>3</sup>	95-105	100-115	145-160	195-220	220-240	
Thermal conductivity <sup>2</sup>	W/(m-K)	0.033	0.033	0.036	0.043	0.046	ASTM C177

1. Typical values are approximate
2. Thermal conductivity measured at +25°C

Maximum processing temperature is dependent on time, pressure and process conditions. Therefore users are advised to contact Diab Technical Services to confirm that Divinycell PL is compatible with their particular processing parameters.

## DIMENSIONS

Format		Unit	PL100	PL105	PL150	PL200	PL230
Plain sheets	Length	mm	2440	2440	2440	2440	2440
	Width	mm	1220	1220	1220	1220	1220
GS sheet	Length	mm	1220	1220	1220	1220	1220
	Width	mm	1220	1220	1220	1220	1220
Colour			Beige	Beige	Beige	Beige	Beige

Other dimensions are available on request.

Tolerances	Unit	Length	Width	Thickness
Plain sheets	mm	-0/+10	-0/+6	+/-0.5

## STORAGE OF PRODUCT

The shelf life of Divinycell is unlimited when it is stored in its original package on ambient indoor storage conditions and protected against UV exposure.

### Divinycell PL is type approved by:



#### Disclaimer:

*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. If not stated as minimum values, 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.*

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