

TECHNICAL DATA

Divinycell PN

THE HIGH PERFORMANCE PET SANDWICH CORE

Divinycell PN is a structural thermoplastic core material perfectly suited in a variety of sandwich applications to increase performance and reduce weight. Divinycell PN is used in industrial, transportation, marine and wind applications. It is easy to machine and has good dimensional stability at elevated temperatures. It is suitable for a variety of processes including infusion, prepreg and press bonding.

The material has a stable closed cell structure and is insensitive to moisture, decay or rot, making it an excellent substitute for organic materials such as balsa and plywood. High density Divinycell PN (PN250) is particularly suited for flooring, decking, local inserts in the way of fittings; either tapped or bolted through and has very good screw retention. Divinycell PN is 100% recyclable.

MECHANICAL PROPERTIES DIVINYCELL® PN

Property	Test Procedure ¹	Unit		PN80	PN115	PN200	PN250
Compressive Strength ²	ASTMD 1621	MPa	Nominal	1	1.7	3.8	4.8
			Minimum	0.8	1.35	3.2	4.3
Compressive Modulus ²	ASTMD 1621 B-73	MPa	Nominal	80	115	205	237
			Minimum	65	85	175	200
Shear Strength ³	ISO 1922	MPa	Nominal	0.6	0.95	1.7	2.3
			Minimum	0.5	0.8	1.4	1.7
Shear Modulus ³	ISO 1922	MPa	Nominal	20	31	60	78
			Minimum	15	23	53	68
Shear Strength ⁴	ISO 1922	MPa	Nominal	TBD	TBD	1.7	2.3
			Minimum	TBD	TBD	1.4	1.7
Shear Modulus ⁴	ISO 1922	MPa	Nominal	TBD	TBD	55	68
			Minimum	TBD	TBD	49	65
Shear Strain ³	ISO 1922	%	Nominal	15	12	6	5
Density	ISO 845	kg/m ³	Nominal	80	115	205	250
			Minimum	75	110	195	235

1. All values measured at +23°C.

2. Properties measured through the perpendicular plane of the sheet (in the extrusion direction)

3. Shear properties measured parallel to the welding lines

4. Shear properties measured perpendicular to weldlines

Nominal value is the average value of a mechanical property at a nominal density

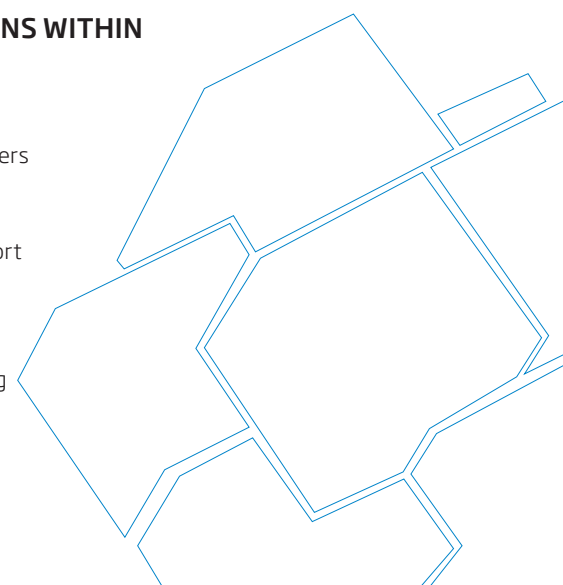
Minimum values are statistically derived minimum properties at minimum density, as per DNV/GL definition.

PRODUCT CHARACTERISTICS

- Recyclable
- Thermoformable
- Good chemical resistance
- Good thermal and sound insulation
- Closed cell structure
- High compression strength
- Very low water absorption
- Insensitive to rot or decay
- Easy to cut and machine
- Exceptional screw retention

APPLICATIONS WITHIN

- Wind blades
- Nacelles
- Tanks and covers
- Paneling
- Sport goods
- Goods transport
- Furniture
- Floors
- Motor homes
- Bridge decking



TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS DIVINYCELL® PN

Characteristics ¹	Unit	PN80	PN115	PN200	PN250	Test method
Density range	kg/m ³	75-85	110-120	195-215	235-265	ISO 845
Thermal conductivity ²	W/(m-K)	0.033	0.035	TBD	TBD	ASTM C177

1. Typical values are approximate
2. Thermal conductivity measured at +10°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 PN is compatible with their particular processing parameters.

PHYSICAL CHARACTERISTICS DIVINYCELL® PN

Format		Unit	PN80	PN115	PN200	PN250
Plain sheets	Length	mm	2440	2440	2440	2440
	Width	mm	1220	1220	1005	1005
GS sheet	Length	mm	1220	1220	1220	1220
	Width	mm	1220	1220	1005	1005

Custom sheet sizes are available on request.

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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