

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 (PN200 and 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		PN65	PN80	PN115	PN200	PN250
Compressive Strength ²	ASTM D 1621	psi	Nominal	102	145	247	580	754
			Minimum	80	116	196	508	667
Compressive Modulus ²	ASTM D 1621 B-73	psi	Nominal	9,427	11,603	16,679	35,389	43,076
			Minimum	6,092	9,427	12,328	26,542	34,374
Shear Strength ³	ISO 1922	psi	Nominal	65	87	138	290	334
			Minimum	51	73	116	232	254
Shear Modulus ³	ISO 1922	psi	Nominal	1,740	2,901	4,496	9,863	12,328
			Minimum	1,450	2,176	3,336	8,557	11,023
Shear Strain ³	ISO 1922	%	Nominal	20	15	12	6	5.3
			Minimum	4.1	5.0	7.2	13.1	15.6
Density	ISO 845	lb/ft ³	Nominal	4.1	5.0	7.2	13.1	15.6
			Minimum	3.7	4.7	6.9	12.5	14.9

1. All values measured at +73.4°F.
2. Properties measured through the perpendicular plane of the sheet (in the extrusion direction)
3. Shear properties measured parallel to the welding lines

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	PN65	PN80	PN115	PN200	PN250	Test method
Density range	lb/ft ³	3.75-4.68	4.68-5.31	6.87-7.49	12.49-13.73	14.86-16.42	ISO 845
Thermal conductivity ²	Btu x in/(ft ² x h x °F)	0.23	0.23	0.24	0.32	TBD	ASTM C177

1. Typical values are approximate
2. Thermal conductivity measured at +50°F

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	PN65	PN80	PN115	PN200	PN250
Plain sheets	Length	inch	96.06	96.06	96.06	96.06	96.06
	Width	mm	48.03	48.03	48.03	24.02	48.03
GS sheet	Length	mm	48.03	48.03	48.03	48.03	48.03
	Width	mm	48.03	48.03	48.03	24.02	48.03

Custom sheet sizes are available on request.

Disclaimer:

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