Divinycell PN

Technical Data

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	MPa	Nominal	0.7	1	1.7	4	5.2
			Minimum	0.55	0.8	1.35	3.5	4.6
Compressive Modulus[2]	ASTM D 1621 B-73	MPa	Nominal	65	80	115	244	297
			Minimum	42	65	85	183	237
Shear Strength[3]	ISO 1922	MPa	Nominal	0.45	0.6	0.95	2	2.3
			Mimimum	0.35	0.5	0.8	1.6	1.75
Shear Modulus[3]	ISO 1922	MPa	Nominal	12	20	31	68	85
			Minimum	10	15	23	59	76
Shear Strain[3]	ISO 1922	%	Nominal	20	15	12	6	5.3
Density	ISO 845	kg/m^3	Nominal	65	80	115	210	250
			Minimum	60	75	110	200	238

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

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

Diab
diabgroup.com

Technical Characteristics

Technical characteristics Divinycell® PN

Characteristics[1]	Unit	PN65	PN80	PN115	PN200	PN250	Test method
Density range	kg/m^3	60-75	75-85	110-120	200-220	238-263	ISO 845
Thermal conductivity[2]	W/(m-K)	0.032	0.032	0.032	TBD	TBD	ISO 12667

1. Typical values are approximate
2. Thermal conductivity measured at +20°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	PN65	PN80	PN115	PN200		PN250	
Plain sheets	Length	mm	2440	2440	2440	2440	2440	2440	2440
	Width	mm	1220	1220	1220	1220	610	1220	610
GS sheet	Length	mm	1220	1220	1220	1220	1220	1220	1220
	Width	mm	1220	1220	1220	1220	610	1220	610

Custom sheet sizes are available on request.

Issued: Oct 2018 Doc No: PN October 2018 rev8 SI

Diab Group
Box 201
312 22 Laholm, Sweden
Phone: +46 (0)430 163 00
E-mail: info@se.diabgroup.com

diabgroup.com