

The high performance FST sandwich core

Divinycell P is a closed-cell PET structural core with excellent fire, smoke and toxicity behavior. It is thermoplastic and recyclable, offering good mechanical properties, high chemical resistance and does not absorb water. Divinycell P is ideal but not limited to applications requiring demanding FST properties like public transport, architecture or commercial marine.

Due to its good dimensional stability at elevated temperatures, Divinycell P can be processed with medium temperature pre-preg systems and it is compatible with most commonly used resin and manufacturing systems. Divinycell P is easy to thermoform, cut or mill.

Product Characteristics

- High temperature resistance
- Recyclable
- Thermoformable
- Good chemical resistance
- Very good FST behavior

Mechanical properties Divinycell® P - Imperial units

Property	Test Procedure	Unit		P60	P100	P150
Compressive Strength ¹	ASTM D 1621	psi	Nominal	102	218	334
			Minimum	65	160	290
Compressive Modulus ¹	ASTM D1621-B-73	psi	Nominal	9,427	14,504	22,046
			Minimum	4,206	8,702	16,679
Tensile Strength	ASTM D 1623	psi	Nominal	174	261	355
			Minimum	116	196	268
Shear Strength	ISO 1922	psi	Nominal	65	123	181
			Minimum	46	100	138
Shear Modulus	ISO 1922	psi	Nominal	1,885	4,061	5,802
			Minimum	1,378	3,191	5,221
Shear Elongation	ISO 1922	%	Nominal	20	12	7.5
			Minimum	8	3	3
Density	ISO 845	lb/ft ³	Nominal	4.1	6.9	9.4

All values measured at +73.4°F. Testing is done on foam without welding lines.

1. Properties measured perpendicular to the plane

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

Divinycell P is type approved by:



Technical Characteristics

Technical characteristics Divynycell® P

Characteristics ¹	Unit	P60	P100	P150	Test method
Density range	lb/ft ³	3.7-4.7	6.4-7.3	8.9-9.9	-
Thermal conductivity ²	Btu x in / (ft ² x h x °F)	0.229	0.229	TBD	ASTM C 518
FST performance	-	S4 ST2 SR2	S4 ST2 SR2	S4 ST2 SR2	DIN 5510 ³
	-	M1 F1	M1 F1	M1 F1	AFNOR NF F 16-101 ³
	-	Bs2d0 ^{4,5}	Cs2d0 ⁴ /Bs2d0 ⁵	-	EN 13501-1
	-	-	HL3 R1 ⁶	-	EN 45545-2 ⁷

1. Typical values are approximate
2. Thermal conductivity at +20°C
3. Measured at different thicknesses, contact Diab for more information
4. Test performed on foam core, 10 mm thick specimens
5. Test performed on final sandwich, composite skins and foam core
6. Test performed on final sandwich, aluminum skins
7. EN 45545-2 requires testing of final composite sandwich

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

Physical characteristics

Format		Unit	P60	P100	P150
Plain sheets	Length	inch	96.06	96.06	96.06
	Width	inch	48.03	48.03	48.03
GS sheet	Length	inch	48.03	48.03	48.03
	Width	inch	48.03	48.03	48.03

Other dimensions 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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