



## TECHNICAL DATA

# Divinycell F

### THE HIGH PERFORMANCE SANDWICH CORE

Divinycell F foam is a recyclable, prepreg compatible sandwich core offering excellent Fire, Smoke and Toxicity (FST) properties, good mechanicals and processing characteristics. It meets the US and European regulatory requirements for commercial aircraft interiors. Other key features include vacuum bag processing up to 220°C and matched tooling and press processing up to 220°C,

exceptional fatigue life, good chemical resistance and excellent heat ageing at 180°C. Divinycell F is compatible with most common aerospace composite manufacturing processes.

Divinycell F is now available in wider sheets for optimal surface finish.

### MECHANICAL PROPERTIES

Property	Test Procedure	Unit		F40	F50	F90	F130
Compressive Strength	ASTM D 1621	MPa	Nominal	0.35	0.6	1.2	1.7
			Minimum	0.25	0.55	0.90	1.3
Compressive Modulus	ASTM C 365	MPa	Nominal	9	18.5	34	60
			Minimum	6.5	11.5	26	40
Tensile Strength <sup>1</sup>	ASTM D 1623	MPa	Nominal	1.5	1.9	2.8	3.3
			Minimum	1.25	1.45	2.25	2.4
Shear Strength	ASTM C 273	MPa	Nominal	0.6	0.8	1.4	1.7
			Minimum	0.4	0.55	1.05	1.4
Shear Modulus <sup>2</sup>	ASTM C 273	MPa	Nominal	8.5	13.5	24	30
			Minimum	5.3	10	14	24
Shear Strain	ASTM C 273	%	Typical	60	60	60	60
Density <sup>3</sup>	ASTM D 1622	kg/m <sup>3</sup>	Nominal	40	50	90	130

1. Type B specimen, flatwise tension, equivalent to ASTM C 297
2. Tension mode
3. Tolerance ±10%

For optimal design of applications used in high operating temperatures in combination with continuous load, please contact Diab Technical Services for detailed design instructions.

### PRODUCT CHARACTERISTICS

- Excellent FST properties
- Exceptional OSU heat release performance
- High temperature resistance
- Excellent hot/wet performance
- Good chemical resistance
- Hot and cold formable
- Low water absorption
- Acoustic and thermal insulation
- Fast and easy to process
- No film adhesive required
- No need to edge fill

### APPLICATION AREAS

Structures, radomes, and interior components.

#### Customers

B/E Aerospace  
C&D Zodiac  
Hawker Beechcraft  
Heath Tecna

#### Specifications

Multiple  
CDM660  
050FS12x  
HMS-B4-001

## TECHNICAL CHARACTERISTICS

Characteristic <sup>1</sup>	Standard	Test method	F40	F50	F90	F130
Coefficient of Linear Expansion	ASTMD 696	-	36x10 <sup>-6</sup> /°C	36x10 <sup>-6</sup> /°C	36x10 <sup>-6</sup> /°C	36x10 <sup>-6</sup> /°C
On set Tg	-	-	205°C	205°C	205°C	205°C
Tg	-	-	225°C	225°C	225°C	225°C
Open cell	ASTMD 6226	-	<10%	<10%	<10%	<10%
Dissipation Factor	ASTMD 2520	Method A	0.0011	0.0009	0.0022	0.0070
Dielectric Constant			1.06	1.06	1.13	1.17
Thermal Conductivity, W/(m·°K) at 23°C	ASTMC177	-	0.039	-	0.037	0.035
	ASTM C 518	-	-	0.036	-	-
Vertical Burn, 60 sec	FAR / CS 25.853 Appendix F	Part I (b)(4)	Pass	Pass	Pass	Pass
Heat Release, Peak / Total	FAR / CS 25.853 Appendix F	Part IV	<25 / <20	<25 / <20	<25 / <20	<25 / <20
	Airbus ABD 0031	AITM 2.0006				
	Boeing BSS 7322	ASTM E906				
Smoke Density <sup>2</sup> , Ds4, Ds1.5	FAR / CS 25.853 Appendix F	Part V	<1	<1	2	2
	Airbus ABD 0031	AITM 2.0007				
	Boeing BSS 7238	ASTM E662				
Combustion Toxicity <sup>2</sup>	Airbus ABD 0031	AITM 3.0005	Pass	Pass	Pass	Pass
	Boeing BSS 7239	ASTM E662				

1. Typical value
2. Flaming mode

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

## DIMENSIONS

Format		Unit	F40	F50	F90	F130
Plain sheets	Length	mm	2440	2440	2440	2440
	Width	mm	1220	1220	1067	965
Colour			White	White	White	White

Tolerances	Unit	Length	Width	Thickness
Plain sheets	mm	-3/+6	-3/+3	-/+0.25

## 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.

### Disclaimer:

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