TECHNICAL DATA

PES Foam | **Divinycell F**

PES foam with excellent FST properties

Divinycell F is a recyclable, prepreg-compatible sandwich core designed specifically for commercial aircraft seating and cabin interiors. Offering outstanding Fire, Smoke, and Toxicity (FST) performance, it fully meets US and European regulatory requirements for safety. In addition to its FST compliance, Divinycell F delivers strong mechanical properties, long fatigue life, and excellent processing characteristics.

With compatibility across major aerospace manufacturing processes, it provides both performance and efficiency for demanding interior applications. Certified for aerospace – meets US and European FST regulations for commercial aircraft interiors. High-temperature capability – suitable for vacuum bag processing up to 220 °C and press processing up to 220 °C.

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[1]	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[2]	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[3]	ASTM D 1622	kg/m³	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 characteristiscs

- Excellent FST properties
- Excellent hot/wet performance
- Exceptional OSU heat release performance
- High temperature resistance
- Good chemical resistance
- Hot and cold formable
- Low water absorption
- Acoustic and thermal insulation
- Recycable -zero waste
- No film adhesive required
- Processing efficiency -no need to edge fill

Typical application areas

Aerospace

Customers

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

Specifications

Multiple
CDM660
050FS12x
HMS-B4-001

Technical characteristiscs

Characteristic[1]	Standard	Test method	F40	F50	F90	F130
Coefficient of Linear Expansion	ASTM D 696	-	36x10^{-6}/°C	36x10^{-6}/°C	36x10^{-6}/°C	36x10^{-6}/°C
On set Tg	-	-	205°C	205°C	205°C	205°C
Tg	-	-	225°C	225°C	225°C	225°C
Open cell	ASTM D 6226	-	<10%	<10%	<10%	<10%
Dissipation Factor	ASTM D 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	ASTM C 177	-	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[2], 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[2]	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.

For more info visit:
diabgroup.com/contact