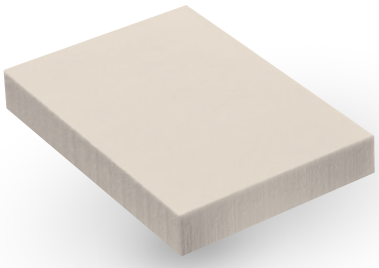

TECHNICAL DATA

PEI Foam | **Divinycell U**

PEI foam with excellent radar transmittance properties

Divinycell U is a recyclable sandwich core, combining excellent Fire, Smoke, and Toxicity (FST) performance with strong mechanical properties and processing efficiency. Prepreg-compatible and thermoformable, it offers a high strength-to-weight ratio with low moisture absorption.

It also provides excellent radar transmittance, meaning it does not interfere with radar signals – a critical property for aerospace and defense applications where uninterrupted signal transmission is required. With its acoustic and thermal insulation benefits, ease of processing, and reduced need for secondary operations, Divinycell U provides a versatile and sustainable solution for advanced composite structures.

Mechanical properties

Property	Test Method	Unit		U60	U80	U110
Compressive Strength	ASTM D 1621	psi	Nominal	102	159	261
			Minimum	80	116	188
Compressive Modulus	ASTM D 1621	psi	Nominal	3,045	5,075	7,975
			Minimum	1,885	3,045	3,335
Tensile Strength[1]	ASTM D 1623	psi	Nominal	305	406	522
			Minimum	231	333	435
Shear Strength	ASTM C 273	psi	Nominal	116	145	232
			Minimum	87	116	188
Shear Modulus[2]	ASTM C 273	psi	Nominal	1,885	2,320	3,335
			Minimum	1,595	1,885	2,610
Shear Strain	ASTM C 273	%	Typical	40	40	40
Density[3]	ASTM D 1622	lb/ft³	Nominal	3.7	5.0	6.9

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 radar transmittance
- Excellent FST properties
- Exceptional OSU heat release performance
- Recyclable
- High temperature resistance
- Good chemical resistance
- Hot and cold formable
- Acoustic and thermal insulation

Typical application areas

Radomes

Aerospace

Customers

LM
ULA

Specifications

Aero G22084
STM1035

Technical characteristiscs

Characteristic[1]	Standard	Test Method	U60	U80	U110
Tg	-	–	422°F	422°F	422°F
Open cell	ASTM D 6226	–	>90%	>90%	>90%
Dissipation Factor	ASTM D 2520	Method A	0.0003	0.0008	0.0003
Dielectric Constant			1.06	1.10	1.13
Thermal Conductivity, Btu x in / (ft^2 x hr x °F) at 73.4°C	ASTM C 177	–	0.025	0.026	0.027
Vertical Burn, 60 sec	FAR / CS 25, Appendix F	Part I (a)(1)(i)	Pass	Pass	Pass
Heat Release, Peak / Total	FAR / CS 25.853 Appendix F	Part IV	<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	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
	Boeing BSS 7239	ASTM E662			

1. Typical values
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 U is compatible with their processing parameters.

Dimensions

Format		Unit	U60	U80	U110
Plain sheets	Length	inch	96	96	96
	Width	inch	48	45	42
Colour			Beige	Beige	Beige

Tolerances	Unit	Length	Width	Thickness
Plain sheets	inch	-0.12/+0.24	-0.12/+0.12	-/+0.01

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