

Evopreg PFC

Fire-retardant prepregs with low environmental impact

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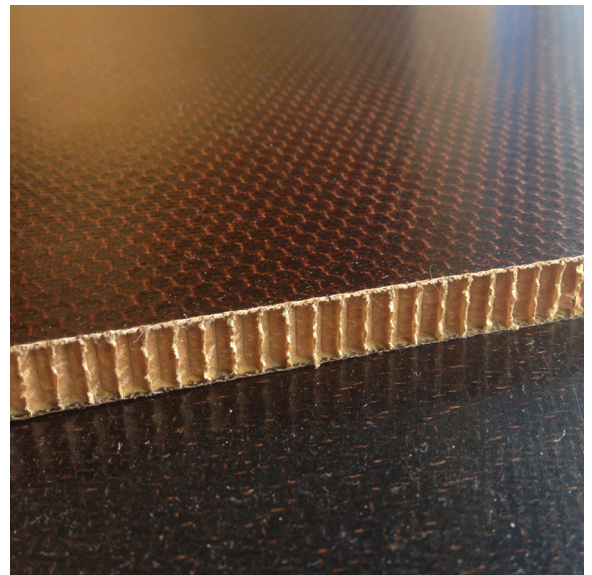
Evopreg PFC prepregs are a range of fire-retardant, pre-impregnated composite materials based on a PFA (Polyfurfuryl Alcohol) bioresin.

PFA is a thermosetting bioresin derived from crop waste and is similar to a phenolic resin but with lower VOC emissions. In addition to its environmental credentials, PFA has fire retardant properties equivalent to phenolics, plus excellent temperature and chemical resistance.

The prepregs can be supplied with a range of reinforcement fibres and fabric constructions. They can be consolidated by vacuum bagging, autoclave or press moulding and are designed for a range of applications including mass transport, marine, offshore and construction.

Available Products:

- Evopreg PFC Glass
- Evopreg PFC Carbon
- Evopreg PFC Flax



Evopreg PFA

Example Prepreg Specifications

Reinforcement	E-Glass 300 g/m ² 8H Satin 7781	E-Glass 860 g/m ² 5H Satin 3784
Resin Content (by weight)	40%	38%
Tack Level	Medium	Medium
Width	1270 mm	1270 mm
Ply Thickness (cured)	0.25 mm	0.6 mm
Density (cured)	1.78 g/cm ³	1.80 g/cm ³
Max. Service Temperature (cured)	200°C	200°C

Processing

Evopreg PFC prepregs can be processed using standard techniques including vacuum bagging, autoclave and press moulding. Typical curing cycle 140°C for 45 minutes. More details available on request.

Example Mechanical Properties

Tensile Modulus	23 GPa	ISO 527-4
Tensile Strength	350 MPa	ISO 527-4
Flexural Modulus	22 GPa	ISO 178
Flexural Strength	450 MPa	ISO 178

Typical mechanical properties for laminates made from PFC-G300S-7781-40, press moulded, 6 bar, 140°C for 45 minutes, and tested at ambient

Example Fire Properties

UL94 Flammability	V-0	
BS476 Part 7 Surface Flame Spread	Class 1	
FAR 25.853 (a) App. F Pt. I Flammability	Flame Time: 0 s	Requirement < 15 s
	Drip Flame Time: 0 s	Requirement < 3 s
	Burn Length: 0.8"	Requirement < 6"
FAR 25.853 (a) App. F Pt. IV Heat Release	Peak: 29 kW/m ²	Requirement < 65 kW/m ²
	Total: 19 kW.min/m ²	Requirement < 65 kW.min/m ²
FAR 25.853 (a) App. F Pt. I Smoke Density	Ds = 3	Requirement < 200

Typical fire properties for laminates made from PFC-G300S-7781-40, press moulded, 6 bar, 140°C for 45 minutes.

Storage

Storage life at -18°C: 6 months
Outlife at 20°C: 3 weeks

Safety

Evopreg PFC prepregs are based on renewable biomass and have fewer health and safety concerns than many conventional alternative materials. However, typical precautions should be taken when handling the material including using appropriate PPE and adequate ventilation. Please refer to safety data sheet.

The information provided here is believed to be accurate but should be considered indicative only. It is the responsibility of the customer to ensure suitability for their application prior to use.