



Part of an F1 nosecone laminated using multiple plies of XC130 prepreg.



The excellent mechanical properties of XC130 make it a popular choice for advanced orthotics.



Nomex® honeycomb carbon fibre panel made using XC130 prepreg and XA120 adhesive film.

XC130 | AUTOCLAVE CURE COMPONENT PREPREG SYSTEM

XPREG® XC130 is an epoxy-based component prepreg system with a 130°C service temperature recommended for autoclave or other positive pressure cure.

This toughened resin system offers excellent mechanical properties whilst its clear formulation and excellent surface finish make it suitable for the manufacture of visual quality carbon fibre components.

XC130 has a long out-life with an intermediate tack level making for easy handling and laminating whilst its variable cure temperature from 80°C allows a wide range of mould systems to be used.

XC130 is fully compatible with our XA120 adhesive film for the construction of complex composite structures, including honeycomb or foam cored laminates.

XC130 prepregs are held in stock in a range of standard reinforcements including woven fabrics and unidirectional format. Other formats according to requirement (subject to MOQ).

RECOMMENDED USES

XC130 is the recommended system for both structural and cosmetic applications where components will be cured in an autoclave or otherwise under positive pressure (such as heated platen press).

The combination of excellent mechanical performance, visual quality appearance and class-A surface finish make XC130 prepregs suitable for a wide range of applications from large-scale structural components to high-precision decorative parts.

High Performance

- UAV/drones
- Motorsport
- Bike frames
- Racing boats
- Orthotics
- Sports equipment

Large Scale

- Boat hulls
- Wind energy
- Mass transit
- Light aircraft

Cosmetic/Lifestyle

- Interior trim
- Furniture
- Stands/display

CURING

XPREG® XC130 is designed to be autoclave cured or otherwise cured under positive pressure (such as heated platen or pressurised bladder).

Initial cure is possible from 80°C although service temperature will be determined by the final cure temperature.

CURE CYCLES AND RESULTING Tg

Cure Temp	Comments	Initial Min Cure Time	Tg
80°C	(Minimum)	16 hrs	90°C
90°C		8 hrs	100°C
100°C		4 hrs	110°C
120°C	(Maximum)	1 hr	120°C
130°C	Post Cure	2 hrs	140°C

Curing schedule is intended as a guide only and may need adjusting according to individual circumstances and conditions.

To avoid exotherm, care should be taken with thick laminates. To avoid exotherm risk and minimise distortion, ramp rates must not exceed 3°C per minute during initial cure and 0.3°C per minute during free standing post cure.

SUITABLE MOULDS/TOOLING

Moulds/tools should be epoxy-based composite moulds, epoxy tooling board or metal. In all cases, moulds must be temperature stable to a minimum of 80°C but ideally to 120°C.

Compatible

- Carbon fibre prepreg moulds (e.g. XPREG® XT135, XT180)
- Glass fibre prepreg moulds (e.g. XPREG® XT135, XT180)
- Epoxy tooling board (e.g. EP700 with S120 Board Sealer)
- High temp epoxy hand-layup (e.g. EG160 gel / EMP160 paste)
- Aluminium / stainless moulds
- Toughened glass (for flat sheet/panels)

NOT Compatible

- Vinylester composite moulds (e.g. Uni-Mould)
- Polyester composite moulds
- Polyurethane model/tooling board (due to cure inhibition)

STANDARD REINFORCEMENTS

XPREG® XC130 is available off-the-shelf using standard reinforcements of high strength 210g 3k and 450g 12k carbon fibre.

SKU	Fibre	Weight (gsm)	Weave	Width (mm)
XC130-C331T2-210(1250)	Pyrofil TR30S High Strength Carbon 3k	210	2x2	1250
XC130-1232T2-450(1250)	Pyrofil TR50S High Strength Carbon 12k	450	2x2	1250
XC130-C12UD-300(300)	Toray T700 High Strength	300	UD	300

XC130 can be produced in a range of alternative reinforcements including glass, aramid and hybrids in woven, UD, multiaxial and spread-tow formats, according to requirements - subject to MOQ.

TECHNICAL SPECIFICATION

GENERAL PROPERTIES

Cure temperature range	80°C to 120°C
Maximum service temperature	130°C (after post cure)
Out-life (at 20°C)	30 days
Freezer-life (at -18 °C)	12 months
VOC content	Very low (solvent free)

CURED MECHANICAL PROPERTIES

Tests performed on XC130-C331T2-210(1250) laminate, autoclave cured.

Property	Test Standard	Units	Result
Compressive strength	BS EN ISO 14126 : 1999	MPa	615
Tensile strength	BS EN ISO 527-4 : 1997	MPa	645
Tensile modulus		GPa	55.2
Flexural strength	BS EN ISO 14125 : 1998	MPa	882
Flexural modulus		GPa	60.1
Strain to failure		%	1.5
Interlaminar shear strength	BS EN 2563 : 1997	MPa	69.8
Tg Onset (DMA)	ASTM 1-0003 Issue 3	°C	140
Tg Peak (DMA)		°C	148

STORAGE & HANDLING

When not in use, XPREG® prepregs should be kept frozen at -18°C (0°F) in sealed plastic packaging. When ready to use, the material should be removed from the freezer and allowed to thaw fully to room temperature before being removed from the packaging.

Remaining material should be re-sealed before returning to the freezer to avoid the risk of moisture uptake.

SAFETY INFORMATION

This material contains uncured epoxy resin which can cause allergic reactions with skin contact. Repeated and prolonged skin contact must be avoided.

Please refer to the product safety datasheet before working with this material.

OTHER XPREG® SYSTEMS

XC110	Out-of-autoclave visual quality component prepreg with a service temperature of 110°C. Co-curable with XC130.
XT135	Out-of-autoclave tooling prepreg system ideal for use with XC110. Maximum service temp of 135°C.
XA120	Adhesive film fully compatible with XC130.
XT180	Autoclave cure tooling prepreg with low CTE, long out-life and 180°C service temperature.
XT210	Aerospace industry autoclave cure tooling prepreg with low CTE and very high 210°C service temperature.

Disclaimer

This data is not to be used for specifications. Values listed are for typical properties and should not be considered minimum or maximum.

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