DIY HQPP 245g (3K) Carbon Fibre (Data Sheet)

Epoxy Visual Component Pre-preg

Description

DIY HQPP 245 is a toughened epoxy prepreg system designed for out of autoclave / oven cure allowing flexibility in component manufacture. This pre-preg utilises a 245g 3k carbon fibre cloth with a resin weight of 42% and is well suited for visual components and general use. This prepreg is compatible for use with DIY HQPP 415 and DIY HQPP 650 bulking plys.

The resin system is extremely versatile giving the end user many options during the curing process depending on tool materials and manufacturing time constraints.

Benefits

- Cure temperature from **65°C** to **120°C**
- Service temperature up to **130°C** after post cure
- Low CTE and shrinkage
- Work life at 20°C: **21 days**
- Storage life at -18°C: **12 months**
- Very low VOC content – no added solvents during manufacture
- Out of Autoclave

Storage and Out life

This material should be kept frozen at -18°C. It must be kept sealed in a polythene bag which must not be opened until fully thawed to room temperature. If the material is not fully used, then the material must be resealed in the polythene bag to prevent moisture absorption.

Cure Cycles

- Recommended Cure Cycle 1:

- 1st dwell at **50°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
- 2nd dwell at **60°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
- 3rd dwell at **70°C** for **10h**, at a ramp rate of **1°C/min** under full vacuum

- Recommended Cure Cycle 2:

- 1st dwell at **50°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
- 2nd dwell at **60°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
- 3rd dwell at **70°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum
- 4th dwell at **120°C** for **1h**, at a ramp rate of **1°C/min** under full vacuum

Cure		Initial Min Cure		Tg
65°C	(minimum)	16	hours	65°C
80°C		8	hours	80°C
100°C		2	hours	100°C
120°C	(maximum)	1	hour	120°C
135°C	Post-cure	2	hours	135°C

**thin laminates only, to avoid exotherm – contact our technical team for advice.*

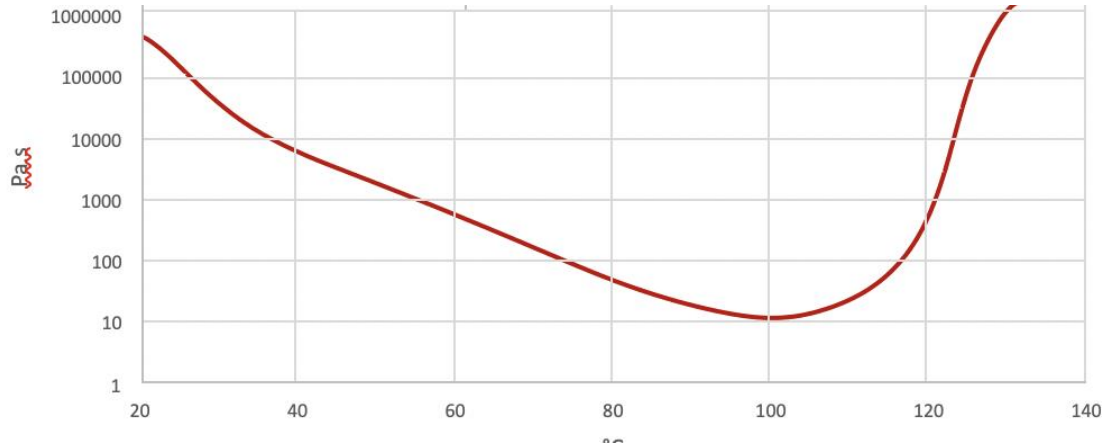
- Curing Schedule is meant to be a guide only and is subject to local conditions.
- To avoid exotherm particular care must be taken with thick laminates. Ramp rates must not exceed **1.0°C** per minute during **initial cure**.
  Ramp rates must not exceed **0.3°C** per minute during **post cure** (free standing).

Volatile content	< 1.0%
Fibre volume fraction	50 to 60%
Voidage (autoclave cure)	< 1.0%

Viscosity Profile

Testing carried out at 23±2°C, 50±5% RH. Ramp rate: **2°C/min**.

Resin system within this prep-preg – Viscosity Profile



Health and Safety

This material contains epoxy resin which can cause allergic reactions with skin contact and must avoid repeated and prolonged skin contact.

Please refer to the product Safety Data Sheet before using this material. The following precautions must be taken when using epoxy resin prepregs:

- Overalls must be worn.
- Impervious gloves must be worn.
- Curing schedule is meant to be as a guide only and is subject to local conditions.
- To avoid exotherm, particular care must be taken with thick laminates.
- Ramp rates must not exceed 1.0°C/min during initial cure and 0.3°C/min during post cure.

DIY Composites nor any parents or subsidiaries thereof can accept any liability for injury or damage where the above precautions have not been taken or where the material is used for any purpose other than its intended use.

Further Information

All information presented within this document is believed to be accurate and reliable, but is solely for the user's consideration, investigation and verification. Our technical advice, whether verbal, or in writing is given in good faith, but without warranty express or implied– this also applies where proprietary rights of third parties are involved.

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DIY Composites requests that the user reads, understands with the information contained herein and the current Material Safety Data Sheet.

DIY Composites

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For any enquiries please contact DIY Composites by email at info@diycomposites.co.uk