

## Technical Data Sheet

# Evopreg<sup>®</sup> EPC205

Low exotherm epoxy prepregs for thick laminate applications

### Introduction

Evopreg<sup>®</sup> EPC205 component prepregs are primarily designed for low-temperature autoclave processing with the possibility to cure sections up to 50 mm in thickness. For thinner laminates (<8mm) it is also possible to cure as a standard component system at 120 °C.

Based on a toughened epoxy resin system, Evopreg<sup>®</sup> EPC205 is formulated specifically for high performance, ease of lay-up and excellent surface finish.

The prepregs can be supplied with a range of reinforcement fibres and fabric constructions. They can be consolidated by vacuum bag/oven, press or autoclave and are designed for a range of applications including automotive, motorsport, sporting goods and general industrial.

### Key Features & Benefits

- Flexible cure temperature 65-120°C (low temperature initial cure is a requirement for thick sections)
- Service temperature up to 120°C
- Best suited for autoclave moulding
- 21 days out-life at room temperature
- 12 months storage life at -18°C
- Good tack and drape
- Toughened
- Excellent surface finish
- Available on a range of reinforcement fabrics

## Processing & Curing

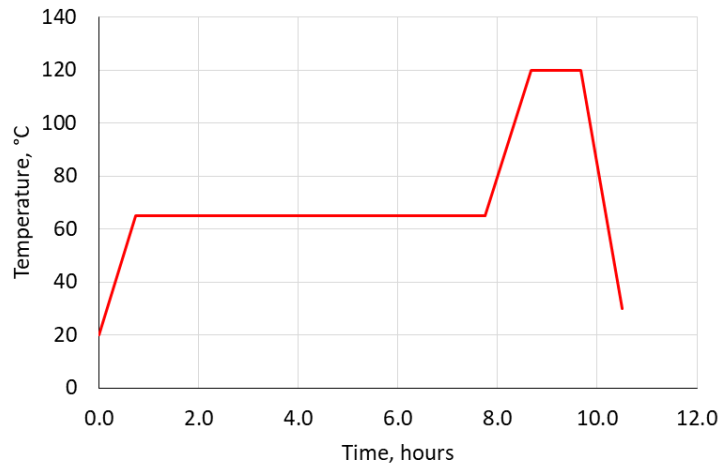
The prepregs can be processed using standard techniques, in particular autoclave cure is recommended. Suggested cure cycles are shown below.

Cure temperature	Minimum cure time	Glass transition temperature, Tg	
		Tg, onset E'	Tg, peak tan δ
65 °C (7h) + 120°C (1h)	8h + ramps	122 °C	135°C
120 °C*	1h	TBC	TBC

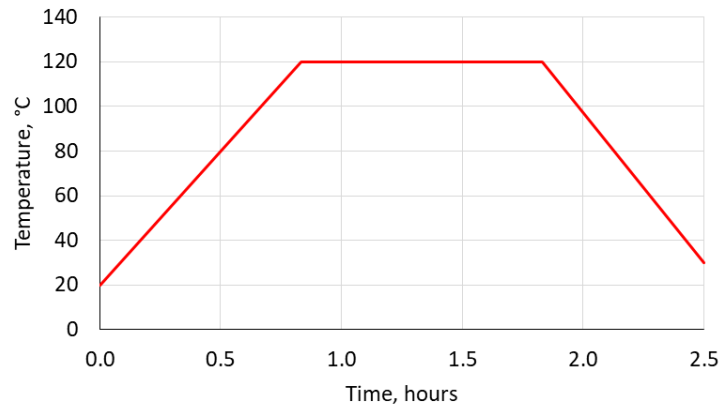
\*Laminates <8 mm thickness only

- Recommended maximum ramp rate 1°C/min.
- For thick laminates the part temperature should be monitored during cure. A small increase in part temperature of approx. 20°C above the initial 65°C hold is normal. Once this peak has passed the cure can be moved on to the 120°C section.
- Ramp rates may need to be reduced and/or cure times extended to account for thermal lag in large tools.
- For autoclave cures, we recommend using a relatively low pressure e.g. 30-50 psi (2-3.5 bar) to avoid excess resin bleed.

Standard cure for thick laminates:



Suggested cure cycle for thinner laminates (<8mm only):



## Available Products

Evopreg® preregs are available with a wide range of reinforcements, including woven, non-woven, non-crimp stitched and unidirectional fabrics in the following fibres:

- Carbon
- Glass
- ampliTex™ Flax
- Aramid
- Hybrids

## Packaging

The material is typically delivered in rolls and with a silicone coated release paper on the bottom and a polythene release film on the top. Typical packaging - 76 mm (3") diameter cardboard core, polythene bag, reusable cable ties, cardboard box and end supports. Where relevant, multiple boxes are typically stacked on a standard wooden pallet, strapped and covered with stretch wrap. Other packaging may be available on request. We recommend retaining the boxed packaging to protect the material during storage.

## Storage

The material should ideally be stored in a freezer at -18°C and sealed in a polythene bag. To protect the material, we recommend storing it in its original box with the end supports. To avoid moisture condensation, allow the material to defrost fully and reach room temperature before opening the polythene bag. Typical thaw time for a full roll is 4-6 hours. Keep the material sealed in the polythene bag when not in use to prevent moisture absorption. The cable tie that seals the polythene bag is reusable. Out-life at room temperature is 21 days. Storage life at -18°C is 12 months.

## Health & Safety

Please refer to the Safety Data Sheet (SDS) before use. This material contains epoxy resin and fibres which can cause irritation to skin and eyes and allergic reactions. Wear appropriate PPE

including overalls and impervious gloves, and ensure adequate ventilation. Exothermic reactions can occur when curing epoxy resins, and particular care must be taken when curing thick laminates.

## Disclaimer

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

*Evopreg® EPC205 TDS v1.0 11/07/2023*