

Evopreg® EPC200 component prepreg is designed for low-temperature, out-of-autoclave processing. The flexible cure profile also makes it ideally suited to rapid processing at higher temperatures. Based on a toughened epoxy resin system, Evopreg® EPC200 is formulated for high-performance, ease of lay-up, and excellent surface finish.

The prepreg can be supplied with a range of reinforcement fibres and fabric constructions, and can be consolidated by vacuum bag/oven or autoclave. It can meet the requirements for a range of applications including automotive, motorsport, sporting goods and general industrial.

KEY FEATURES & BENEFITS

- Flexible cure temperature 65-120°C
- Service temperature up to 120°C
- Suitable for vacuum bag/oven and autoclave moulding
- Good tack and drape
- Excellent surface finish

CURE PROFILES

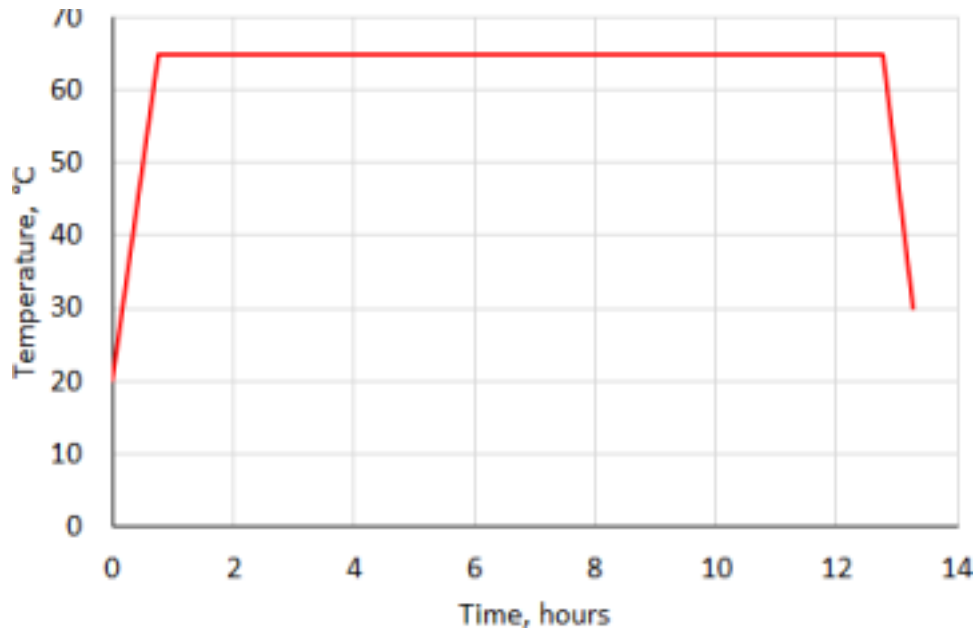
The prepreg can be processed using standard techniques including vacuum bag/oven and autoclave. Suggested cure cycles are shown below.

		Glass transition temperature, T _g	
Cure temperature	Minimum cure time	T _g , onset E'	T _g , peak tan δ
65°C	12 hours	69°C	85°C
85°C	3 hours	95°C	119°C
120°C	30 minutes	124°C	145°C

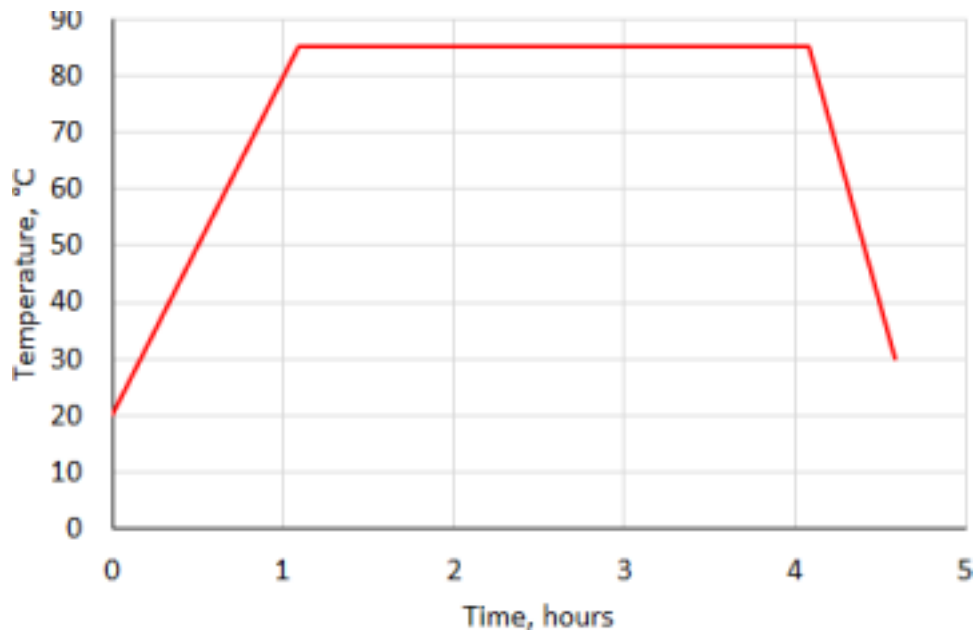
- Recommended maximum ramp rate 1°C/min.
- Ramp rates may need to be reduced and/or cure times extended to account for thermal lag in large tools.
- For autoclave cures, we recommend using a relatively low pressure e.g. 30-50 psi (2-3.5 bar) to avoid excess resin bleed.
- If curing at 120°C out-of-autoclave, an initial hold at 80°C for at least 30 minutes before ramping to higher temperatures may assist resin flow to improve surface finish.
- Optional post-cure 120°C for 1 hour - T_g onset E' 128°C, T_g peak tan δ 145°C (max ramp rate 0.3°C/min).

- Alternative post-cure 95°C for 1 hour - Tg onset E' 114°C, Tg peak tan δ 131°C (max ramp rate 0.3°C/min).

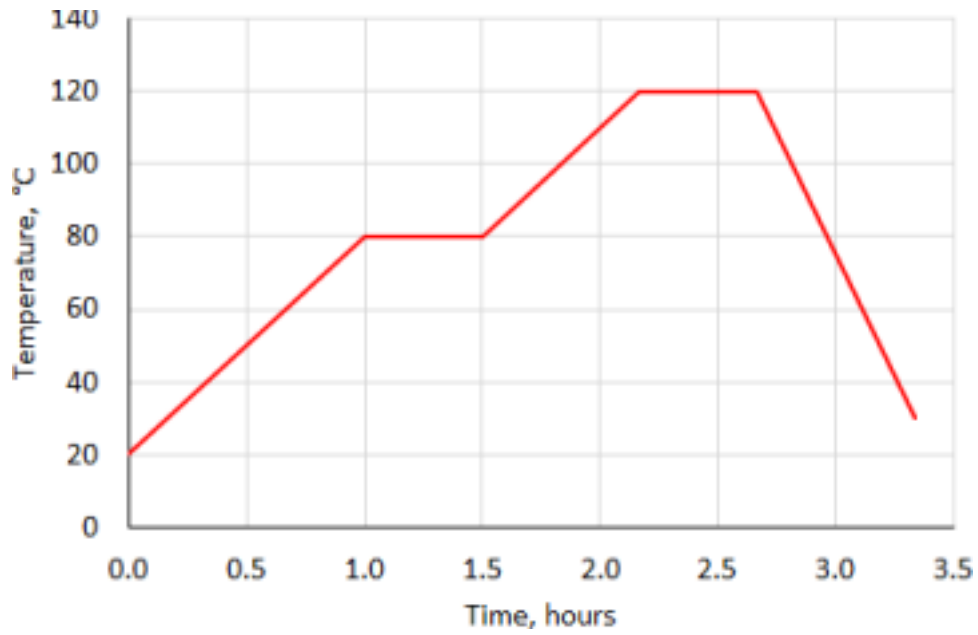
Suggested cure cycle for vacuum bag/oven cures at 65 °C



Suggested cure cycle for vacuum bag/oven cures at 85 °C:



Suggested cure cycle for vacuum bag/oven cures at 120 °C



COMPOSITE PROPERTIES

Mechanical Properties of Monolithic Laminates

Carbon

EPC200-C205T: Typical data for laminates made from Evopreg® EPC200 205 g/m² 2x2 twill high strength carbon fibre prepreg (Evopreg® EPC200-C205T-HS-3K-45-1250) cured in a vacuum bag/oven for 12 hours at 65°C followed by a free standing post-cure for 1 hour at 120°C.

Property	Result	Result, normalized 50% Vf	Test method
Fibre content by volume, Vf	46%	50%	-
Cured ply thickness	0.26 mm/ply	0.23 mm/ply	-
Density	1.46 g/cm ³	1.49 g/cm ³	-
Flexural strength, 0°	705 MPa	772 MPa	ISO 14125
Flexural modulus, 0°	49.0 GPa	53.7 GPa	ISO 14125
Tensile strength, 0°	582 MPa	678 GPa	ISO 527-4
Tensile modulus, 0°	51.7 GPa	60.3 MPa	ISO 527-4
Compression strength, 0°	548 MPa	607 MPa	ASTM D6641
Apparent interlaminar shear strength (ILSS), 0°	61.5 MPa	-	ISO 14130
In-plane shear strength, ±45°	88.9 MPa	-	ISO 14129 ¹

1. No clear failure, value taken at 5% strain

EPC200-C650T: Typical data for laminates made from Evopreg® EPC200 650 g/m² 2x2 twill high strength carbon fibre prepreg (Evopreg® EPC200-C650T-HS-12K-38-1250) cured in a vacuum bag/oven for 12 hours at 65°C followed by a free standing post-cure for 1 hour at 120°C.

Property	Result	Result, normalized 50% Vf	Test method
Fibre content by volume, Vf	51%	50%	-
Cured ply thickness	0.69 mm/ply	0.68 mm/ply	-
Density	1.48 g/cm ³	1.48 g/cm ³	-
Flexural strength, 0°	762 MPa	752 MPa	ISO 14125
Flexural modulus, 0°	46.0 GPa	45.4 GPa	ISO 14125
Tensile strength, 0°	529 MPa	522 MPa	ISO 527-4
Tensile modulus, 0°	54.4 GPa	53.7 GPa	ISO 527-4
Compression strength, 0°	399 MPa	390 MPa	ASTM D6641
Apparent interlaminar shear strength (ILSS), 0°	54.0 MPa	-	ISO 14130
In-plane shear strength, ±45°	70.1 MPa	-	ISO 14129

STORAGE & OUTLIFE

- To store material, keep it frozen at -18°C in a polythene bag.
- Material must remain in the unopened bag until fully thawed.
- If all material is not used, then reseal in a polythene bag to prevent moisture absorption.
- Outlife at 18°C: 21 days
- Storage life at -18°C: 12 months

HEALTH & SAFETY

Please refer to the Safety Data Sheet (SDS) before use. Suitable PPE should be worn when handling epoxy resin products. This material contains resin and fibres which can cause irritation to skin and eyes, and allergic reactions. Ensure adequate ventilation. Exothermic reactions can occur when curing resins, and particular care must be taken when curing thick laminates.

All data and guidance on this datasheet is provided based on typical processing and testing completed by Simcas Composites. Users should conduct their own testing and processing trials to ensure that this material is suitable for their specific process and application.