

LTP240 (High-Temperature Curing Version) High-Temperature Curing Tooling Prepreg

Technical Data Sheet

DESCRIPTION:

LTP240 (High-Temperature Curing Version) is an epoxy resin system that can be pre-impregnated into high-performance reinforcements such as T700 carbon fiber. This version uses a high-temperature cure at 180–200°C and, after cure, provides high glass-transition temperature and stable mechanical performance for composite tooling and molds operated at elevated temperature. 200 g/m² and 650 g/m² T700 plain-weave carbon fabrics are available; resin content and lay-up shall be confirmed by order.

CHARACTERISTICS:

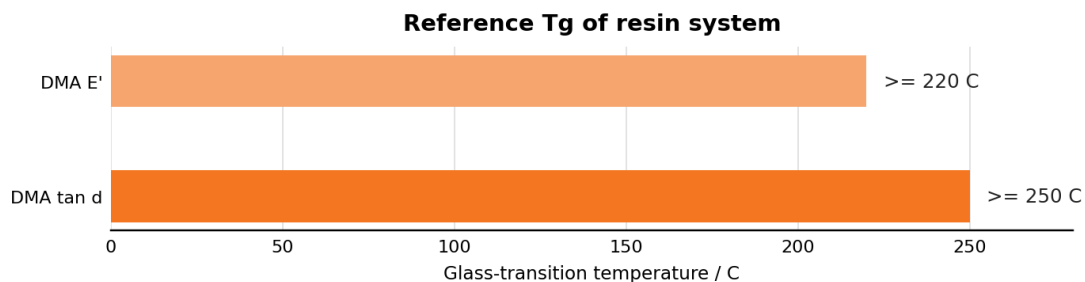
- Recommended high-temperature cure window: 180–200°C;
- High Tg: $\geq 250^{\circ}\text{C}$ by DMA $\tan \delta$ and $\geq 220^{\circ}\text{C}$ by DMA E' (reference resin-system values);
- Moderate prepreg processability, with viscosity of approximately 30,000–40,000 cps at 80°C;
- Controlled resin loss and good surface appearance with stable mechanical performance after cure;
- Designed for high-temperature composite molds, tooling and other heat-resistant composite parts;
- The key difference from the low-temperature-curing version is the cure window: this version requires a 180–200°C high-temperature cycle.

APPLICATIONS:

High-temperature composite molds, composite tooling, autoclave tooling and carbon-fiber mold components requiring high-temperature dimensional stability.

RESIN PROPERTY:

Property	Test condition	Value
Gel time	150°C / 180°C	Approx. 45.5 min / approx. 15 min
Specific gravity	Not specified	Approx. 1.25 g/cm ³
Viscosity	80°C	30,000–40,000 cps
Glass-transition temperature	DMA $\tan \delta$	$\geq 250^{\circ}\text{C}$
Glass-transition temperature	DMA E'	$\geq 220^{\circ}\text{C}$



Note: Tg values are reference resin-system data. Actual LTP240 (High-Temperature Curing Version) part performance depends on reinforcement, resin content, lay-up and cure cycle and shall be validated on the target structure.

REINFORCEMENT:

Fiber type	Fabric weight (g/m ²)	Weave style	Standard resin content
T700 carbon fiber	200	Plain weave	To be confirmed by lay-up / order
T700 carbon fiber	650	Plain weave	To be confirmed by lay-up / order

Note: This version uses 200 g/m² and 650 g/m² plain-weave T700 carbon fabric. Resin content and prepreg area weight shall be confirmed for the specific lay-up and order.

Reference volatiles: <0.8% (110°C × 60 min); verify for the selected fabric, resin content and process.

REFERENCE LAMINATE PROPERTIES OF THE RESIN SYSTEM:

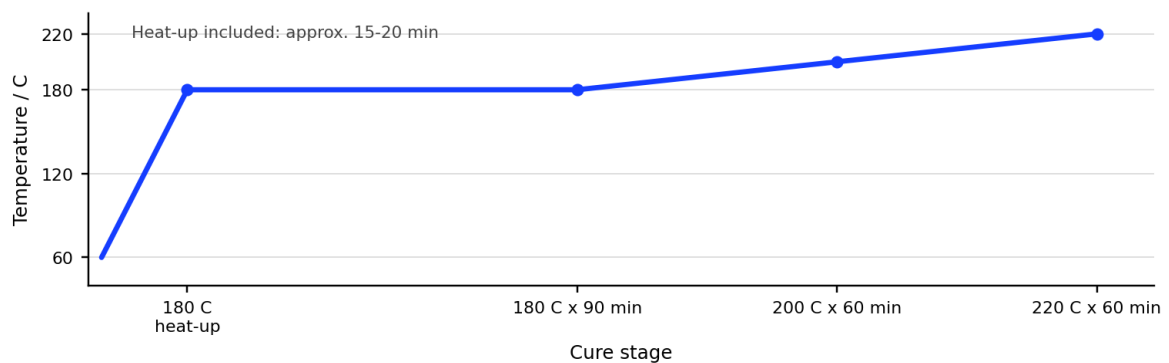
Test condition: 0° carbon prepreg laminate, 180°C × 90 min, no post-cure; specimen resin content 34 wt%. These are reference values from the source resin system and are not guaranteed batch values for 200 g/m² or 650 g/m² T700 fabric.

Property	Reference	Unit	Test temp.	Reference value
Flexural strength	ASTM D790	MPa	25°C	2,000
Interlaminar shear strength	ASTM D2344	MPa	25°C	90
Impact strength	ASTM D256	kJ/m ²	25°C	116
Flexural modulus	ASTM D790	GPa	25°C	128

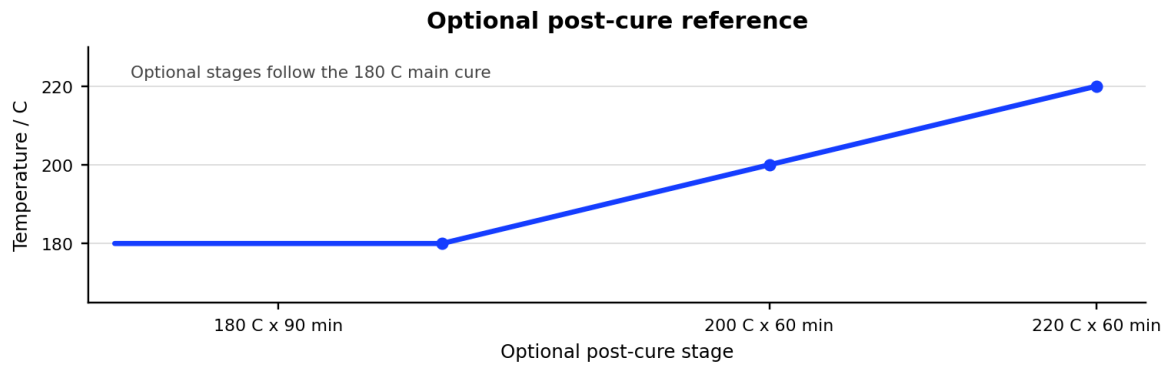
RECOMMENDED CURE:

Process	Condition
High-temperature tooling cure	180°C × 90 min, including approximately 15–20 min heat-up; optional post-cure: 200°C × 60 min + 220°C × 60 min.
Without post-cure	180°C × 120 min; T _g may be approximately 10°C lower than the fully post-cured condition.
Flat-panel molding reference	Mold entry temperature approx. 60°C; recommended platen temperature 180°C. Hold low pressure for approx. 20–25 min, then increase pressure until completion. Post-cure as above.

Recommended high-temperature cure cycle



Note: Heating rate, pressure and dwell time shall be validated for the part thickness, lay-up and equipment. Avoid local overheating and excessive exotherm caused by overly rapid heating.



Optional post-cure reference: 200°C × 60 min + 220°C × 60 min.

STORAGE CONDITIONS:

Storage condition	Recommended period	Requirement
Ambient $\leq 21^{\circ}\text{C}$	≥ 14 days	Usable period increases at lower temperature
Refrigerated $\leq 5^{\circ}\text{C}$	≥ 1 month	Keep sealed in PE or PO bag
Frozen $\leq -15^{\circ}\text{C}$	≥ 12 months	Keep sealed in PE or PO bag

After removal from cold storage, keep the prepreg sealed until it reaches room temperature before opening the package. This prevents condensation, moisture uptake, delamination and surface defects.

HANDLING PRECAUTIONS:

Process in a well-ventilated area. Avoid skin contact. Wear gloves, mask, safety glasses and protective clothing. For detailed safety information, consult the Safety Data Sheet (SDS).

NOTE:

The data above were obtained under specified conditions and are provided for reference. Actual processing depends on part geometry, lay-up, equipment and environment. Users should conduct appropriate process and performance validation before use to confirm suitability for the intended application.

DOCUMENT INFORMATION:

Product	Revision	Date	Manufacturer
LTP240 (High-Temperature Curing Version)	V1.1	September 2026	EPTEK Materials