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LTC210

Epoxy Tooling Prepreg

Introduction

LTC210 Prepreg is designed to cure at low temperatures whilst giving the potential for high temperature tooling. It can be supplied on a variety of fabrics to meet your cost and manufacturing requirements.

Typical applications: *Low CTE tooling*

Key Features & Benefits

- Cure temperature from **45°C to 70°C**
- Service temperature up to **200°C** after post cure
- Low CTE and shrinkage
- Work life at 20°C: **4 days (Note; 1000gsm LTC210-1 bulk ply, 3 days)**
- Storage life at -18°C: **12 months**
- Very low VOC content – no added solvents during manufacture
- Excellent handleability in warmer conditions

Available Reinforcements (standard)

Carbon Surface ply	– 200g/m ² 2x2 twill
Carbon Bulk ply	– 650g/m ² 2x2 twill for standard 1:8:1 layup – 1000g/m ² 2x2 twill for 1:5:1 layup
Glass Surface ply	– 300g/m ² 8 harness satin
Glass Bulk ply	– 870g/m ² 2x2 twill

Note – other reinforcements available on request. Please enquire for details.

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Note: The information and assistance provided herein is for your consideration without legal responsibility. Users are required to perform verification and testing to confirm that the product meets with their requirements.



Storage & 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.

Mechanical Properties

Tests performed on **LTC210**, 1-8-1 laminates

Test	Results	Standard
Interlaminar Shear Strength	Interlaminar shear strength 29.3 MPa	<i>BS EN 2563 : 1997</i>
DMA	Tg – Storage Modulus Onset 202 °C	<i>AITM 1-0003 Issue 3</i>
	Tg – Tan δ Peak 221 °C	

Mechanical testing carried out at 23±2°C, 50±5% RH. All mechanical tests were completed independently by UKAS approved organisations. Complete tests reports can be supplied independently upon request. All figures are actual test results and haven't been normalised.

Cure Cycles & performances

Cure	Initial Min Cure	Tg
45°C (minimum)	40 hours	55°C
55°C	16 hours	65°C
60°C	8 hours	70°C
70°C (maximum)	4 hours	80°C
200°C Post cure	8 hours	210°C

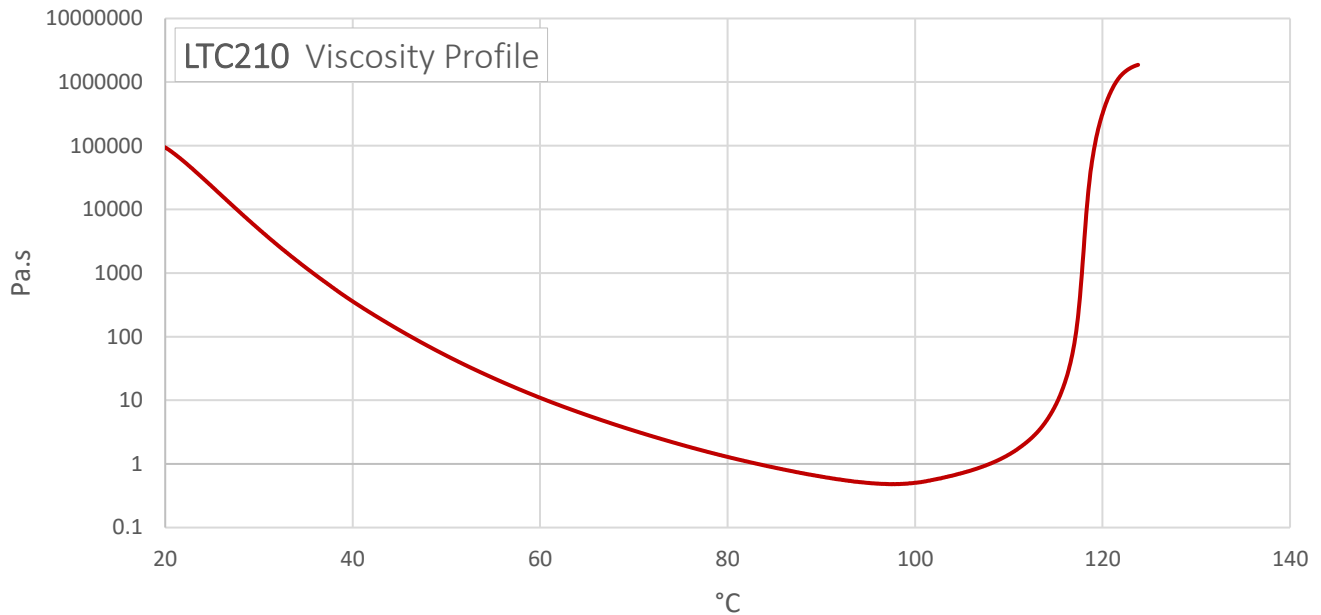
- Curing Schedule is meant to be a guide only and is subject to local conditions.
- To avoid exotherm particular care must be taken with thick laminates.
Ramp rates must not exceed **1.0°C** per minute during **initial cure**.
Ramp rates must not exceed **0.3°C** per minute during **post cure** (free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

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



Viscosity Profile

Testing carried out at $23\pm 2^{\circ}\text{C}$, $50\pm 5\%$ RH. Ramp rate: $2^{\circ}\text{C}/\text{min}$.



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 $1.0^{\circ}\text{C}/\text{min}$ during initial cure and $0.3^{\circ}\text{C}/\text{min}$ during post cure.

SHD Composite Materials Ltd cannot 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.

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