



# LTC102

## Epoxy Tooling Prepreg

### Introduction

LTC102 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 **30°C to 65°C**
- Service temperature up to **210°C** after post cure
- Low CTE and shrinkage
- Work life at 20°C: **3 days**
- Storage life at -18°C: **12 months**
- Very low VOC content – no added solvents during manufacture

### 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.



## Cure Cycles & performances

### CURE CYCLE OPTIONS:

Temperature		Duration	Tg
30°C	(minimum)	45 hours	50°C
40°C		24 hours	55°C
50°C		14 hours	60°C
60°C		7 hours	70°C
65°C	(maximum)	5 hours	75°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%

## Cured Material Properties

Tests performed on **LTC102**, 1-8-1 laminates

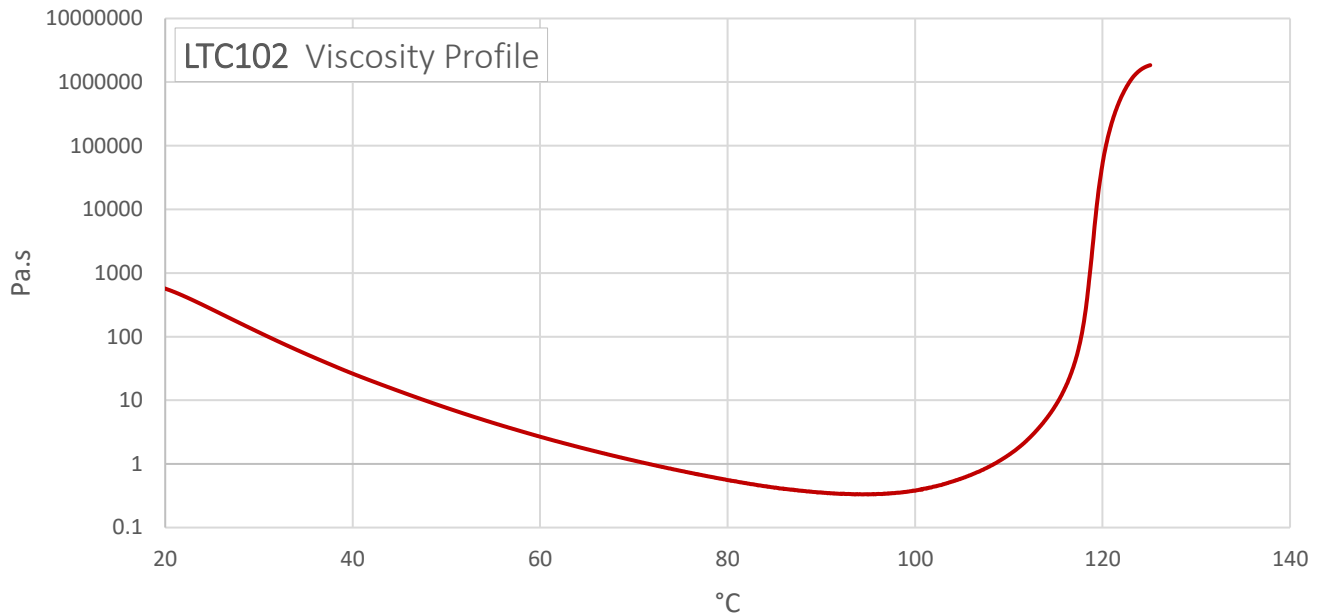
Test	Results	Standard
<b>Interlaminar Shear Strength</b>	Interlaminar shear strength <b>38.0 MPa</b>	<i>BS EN 2563 : 1997</i>
<b>DMA</b>	Tg – Storage Modulus Onset <b>214 °C</b>	<i>AITM 1-0003 Issue 3</i>
	Tg – Tan δ Peak <b>232 °C</b>	

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.



## 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.

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Customers must carry out their own tests and assessments as necessary in order to determine the quality and suitability of the product for their particular application and circumstances. Such testing should be performed under conditions identical to those to which the final component/product may be subjected. Values listed in any SHD document are for typical properties of the product or substance in question and are not intended to be used in establishing either statistical specifications nor engineering basis values. They do not constitute either minimum or maximum values for the product or substance in question.