SHD COMPOSITE MATERIALS INC
203 McKenzie Road
Mooresville
NC 28117

www.shdcomposites.com

Tel: +1 (704) 6266876
us-sales@shdcomposites.com

# 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 **85°F** to **150°F**
- Service temperature up to **410°F** after post cure
- Low CTE and shrinkage
- Work life at 70°F: **3 days**
- Storage life at 0°F: **12 months**
- Very low VOC content – no added solvents during manufacture

## Storage & Out Life

This material should be kept frozen at 0°F. 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.

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## Cure Cycles & performances

| Cure | | Initial Min Cure | | Tg |
|---|---|---|---|---|
| 85°F | (minimum) | 45 | hours | 120°F |
| 105°F | | 24 | hours | 130°F |
| 120°F | | 14 | hours | 140°F |
| 140°F | | 7 | hours | 160°F |
| 150°F | (maximum) | 5 | hours | 170°F |
| 390°F | Post cure | 8 | hours | 410°F |

- 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 **2°F** per minute during **initial cure**.
  Ramp rates must not exceed **1°F** 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* |
|---|---|---|---|---|
| **Interlaminar Shear Strength** | Interlaminar shear strength | **38.0** | **MPa** | *BS EN 2563 : 1997* |
| **DMA** | Tg – Storage Modulus Onset | **417** | **°F** | *AITM 1-0003 Issue 3* |
| | Tg – Tan δ Peak | **450** | **°F** | |

*Mechanical testing carried out at 70°F±4°F, 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.*

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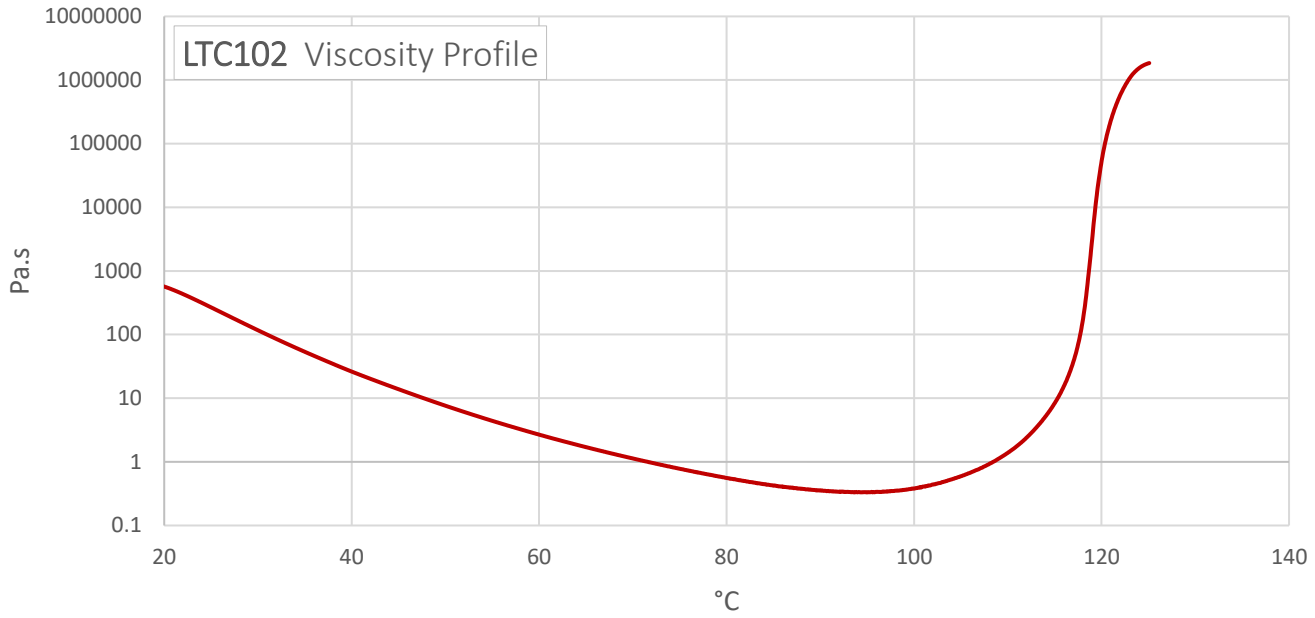
## Viscosity Profile




## 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 2°F/min during initial cure and 1°F/min during post cure.