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LTC400 (DF314)

Long Outlife Epoxy Tooling Prepreg

Introduction

LTC400 (DF314) tooling prepreg is designed to cure at low temperatures, whilst giving the potential for high temperature tooling. It has been formulated to give extended outlife without compromising performance. It can be supplied on a variety of fabrics for maximum flexibility.

Typical applications: *Low CTE tooling*

Key Features & Benefits

- Cure temperature from **55°C to 70°C**
- Service temperature up to **200°C** after post cure
- Low CTE and shrinkage
- Work life at 20°C: **21 days**
- Storage life at -18°C: **12 months**
- Very low VOC content – no added solvents during manufacture
- Excellent handleability in warmer conditions

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.

Issued 23rd January 2018

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.

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Material Properties

Test	Results	Standard
DMA	Tg – Storage Modulus Onset	207 °C
	Tg – Tan δ Peak	228 °C

Data obtained after a 200°C, 2h post cure.

Cure Cycles & performances

Cure	Initial Min Cure	Tg
55°C (minimum)	72 hours	65°C
60°C	48 hours	70°C
65°C	20 hours	75°C
70°C (maximum)	12 hours	80°C
200°C Post cure	2 hours	230°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%

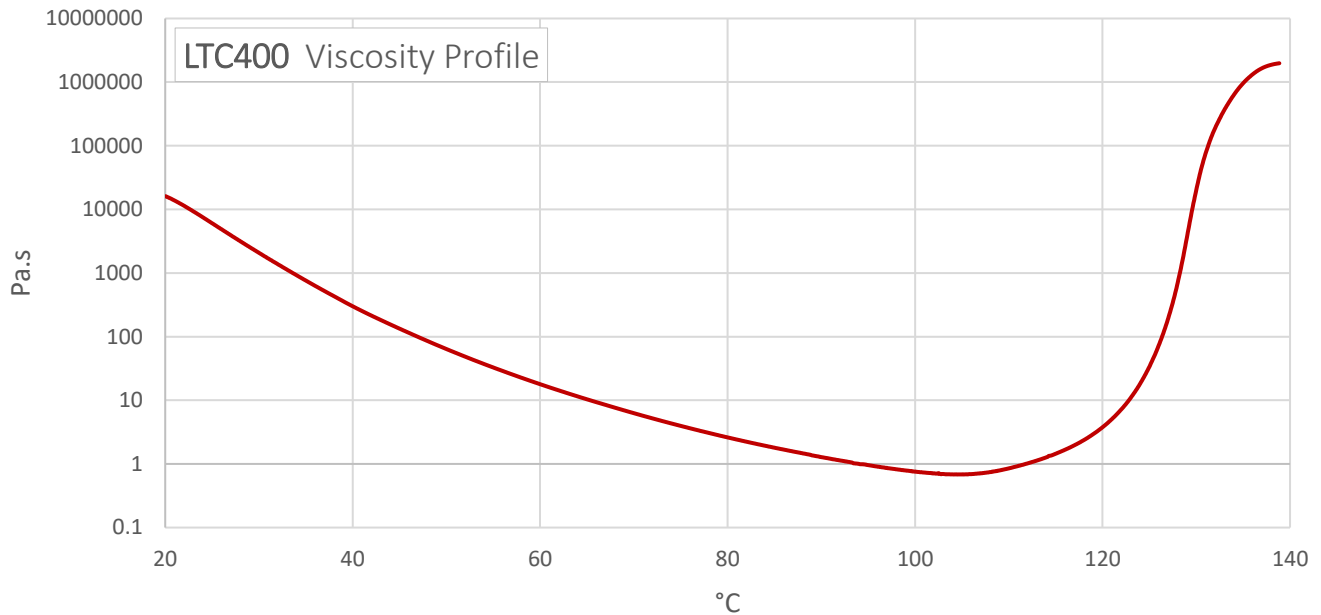
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Viscosity Profile

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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