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LTC410

Long Outlife Epoxy Tooling Prepreg

Introduction

LTC410 Prepreg is designed to cure at low to medium 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 to meet your cost and manufacturing requirements.

Typical applications: *Longer outlife tooling*

Key Features & Benefits

- Cure temperature from **65°C** to **80°C**
- Service temperature up to **180°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 surface finish

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 10th July 2019

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.



Material Properties

| Test | Results | Standard |
|------|----------------------------|----------|
| DMA | Tg – Storage Modulus Onset | 192 °C |
| | Tg – Tan δ Peak | 218 °C |

Data obtained after a 180°C, 8h post cure.

Cure Cycles & performances

- Recommended Initial cure: **65°C for 16h**, at a ramp rate of **1.0°C/min**
- Recommended Post cure: **180°C for 8h**, at a ramp rate of **0.3°C/min**

| Cure | Initial Min Cure | Tg |
|-----------------|------------------|-------|
| 65°C (minimum) | 16 hours | 75°C |
| 70°C | 8 hours | 80°C |
| 80°C (maximum) | 4 hours | 90°C |
| 180°C Post cure | 8 hours | 190°C |

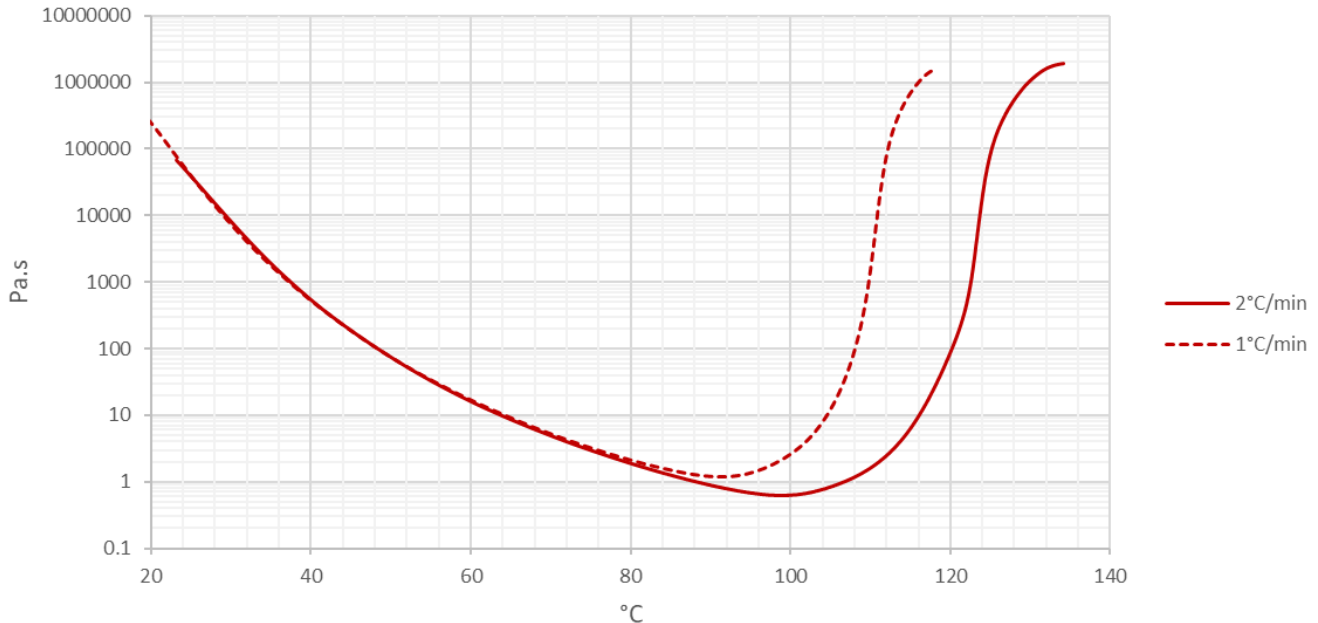
- Curing Schedule is meant to be a guide only and is subject to local conditions.
- To avoid exotherm particular care must be taken with thick laminates.
Ramp rates must not exceed **1.0°C** per minute during **initial cure**.
Ramp rates must not exceed **0.3°C** per minute during **post cure** (free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



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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