



MTFA500 (DF044)

Epoxy Adhesive Film

Introduction

MTFA500 (DF044) toughened epoxy adhesive film is design to cure between 80°C and 120°C, allowing flexibility in component manufacture.

Typical applications: *General purpose*

Key Features & Benefits

- Cure temperature from **80°C to 120°C**
- Service temperature up to **135°C** after post cure
- Low CTE and shrinkage
- Work life at 20°C: **30 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

- Recommended Initial cure: **80°C** for **16h**, at a ramp rate of **2°C/min**
- Recommended Post cure: **120°C** for **1h**, at a ramp rate of **0.3°C/min** (where required for high Tg)

CURE CYCLE OPTIONS:

Temperature	Duration	Tg
80°C (minimum)	16 hours	90°C
90°C	8 hours	100°C
100°C	4 hours	110°C
120°C (maximum)	1 hour	130°C
135°C Post cure	1 hour	140°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 **3.0°C** per minute during **initial cure**.
Ramp rates must not exceed **0.3°C** per minute during **post cure**.

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

Cured Material Properties

Tests performed on **MTFA500** resin films

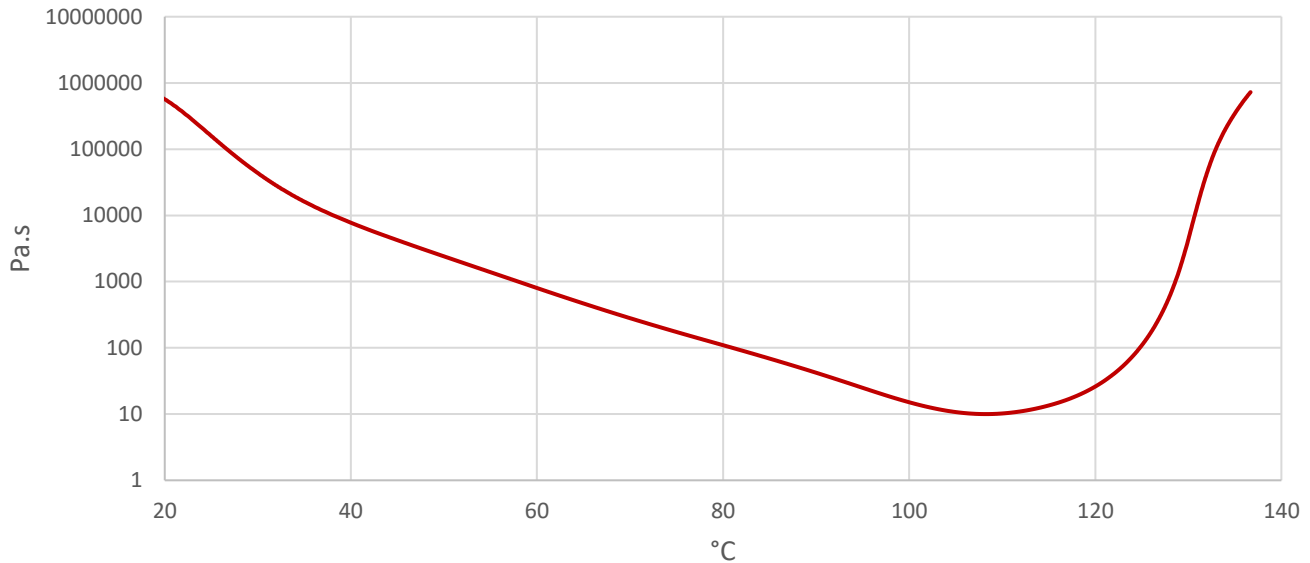
Test	Results	Standard
Climbing Drum Peel	Peel Strength (T)	437 N <i>ASTM D3165</i>
	Peel Strength (L)	538 N <i>ASTM D1781</i>
DMA	Tg – Storage Modulus Onset	141 °C <i>AITM 1-0003 Issue 3</i>
	Tg – Tan δ Peak	150 °C

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.



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 $3.0^\circ\text{C}/\text{min}$ 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.