

Unit 4  
The Reservation  
Sleaford Enterprise Park  
Sleaford  
Lincolnshire  
NG34 7BY

www.shdcomposites.com  
Tel +44(0)1529 307629  
Fax +44(0)1529 306990  
sales@shdcomposites.com



# 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.

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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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## Performances

Tests performed on **MTFA500** resin films

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

Mechanical testing carried out at  $23\pm 2^{\circ}\text{C}$ ,  $50\pm 5\%$  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.

## 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	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%

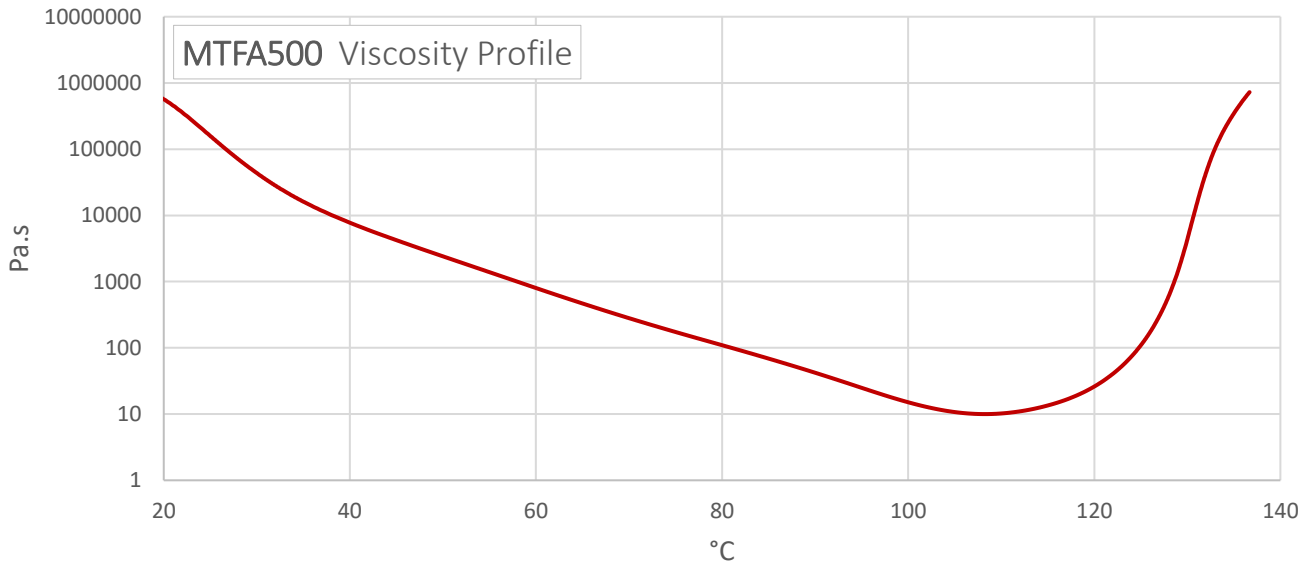
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## Viscosity Profile

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