

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



VTFA400 (DF034)

Epoxy Adhesive Film

Introduction

VTFA400 (DF034) toughened epoxy adhesive film is design to cure between 65°C and 120°C, allowing flexibility in component manufacture.

Typical applications: General purpose

Key Features & Benefits

- Cure temperature from **65°C to 130°C**
- Service temperature up to **125°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

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 01st February 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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Performances

Tests performed on **VTFA400** resin films

Test	Results	Standard
Climbing Drum Peel	Peel Strength (T) 431 N	<i>ASTM D3165</i>
	Peel Strength (L) 524 N	<i>ASTM D1781</i>
DMA	Tg – Storage Modulus Onset 135 °C	<i>AITM 1-0003 Issue 3</i>
	Tg – Tan δ Peak 147 °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.

Cure Cycles & performances

- Recommended Initial cure: **65°C** for **16h**, at a ramp rate of **3.0°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
65°C (minimum)	16 hours	75°C
80°C	5 hours	90°C
100°C	2 hours	110°C
120°C (maximum)	1 hour	130°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%

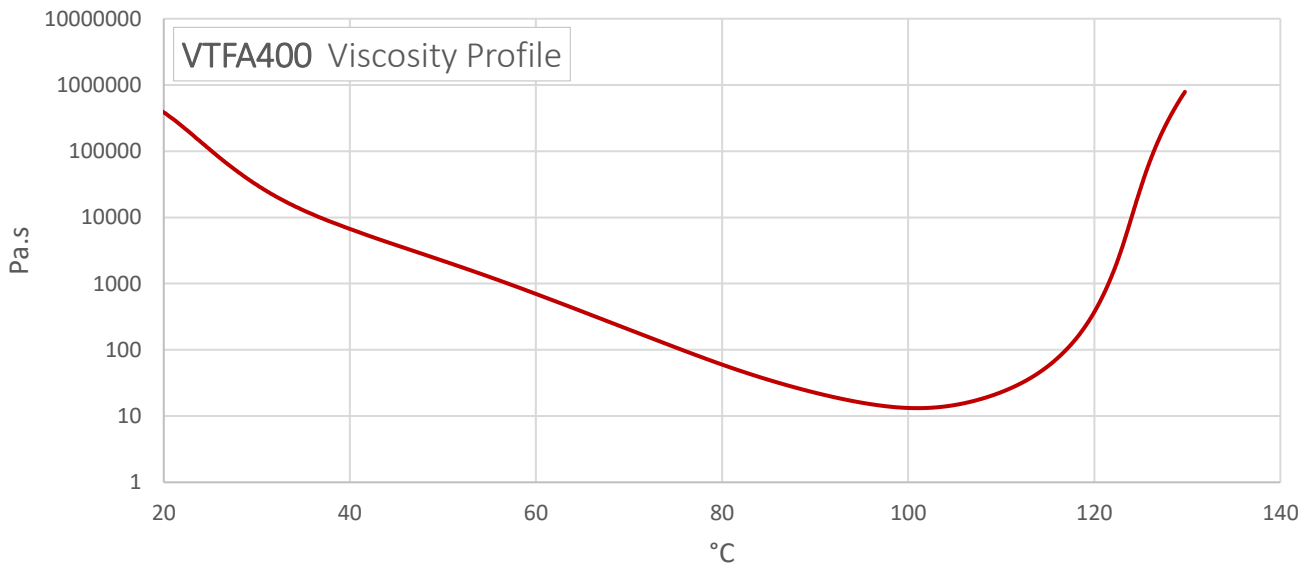
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Viscosity Profile

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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