# Technical Data Sheet

Lineat Composites
Unit 3 Severn Link Distribution Centre
Newhouse Farm Industrial Estate
NP16 6UN, Chepstow, UK

## AFFT™ ALIGNED FORMABLE FIBRE TECHNOLOGY

AFFT™ tapes are advanced uni-directional pre-preg tapes made with highly aligned short fibres. The highly aligned fibre architecture mimics virgin continuous fibre material and it can reach similar performance as equivalent continuous fibre materials, whilst adding unique moulding and draping characteristics to speed up manual and automated lay-up procedures. Tapes with custom (reclaimed) carbon fibres can be made to create strong recycled composite tapes that can substitute continuous fibre UD material.

## OVERVIEW

| | |
|---|---|
| **Fibre type** | rCF: Reclaimed standard modulus 4mm carbon fibre |
| **Fibre areal weight** | 35 gsm (typically +-3 gsm) |
| **Resin system** | Epoxy (SHD MTC400-1) |
| **Resin areal weight** | 50 gsm (typically +-10gsm) |
| **Tape width** | 100 mm |
| **Cured ply thickness** | 0.05 mm |

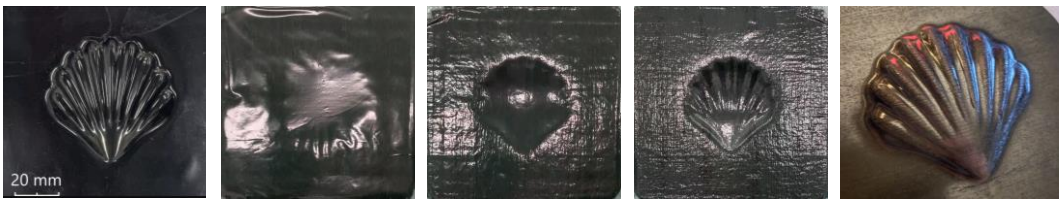
## PROCESSING

| Method | Vacuum / oven cure | Autoclave | Compression moulding |
|---|---|---|---|
| **Consolidation pressure** | 1 bar | 7 bar | 10 bar+ |
| **Fibre volume fraction $V_f$** | 20 – 30 % | 30 – 40 % | 40 – 50 % |

**STORE FROZEN AT -18°C**
**Cure temperature-time*:**
**85°C – 16 hours**
**100 °C – 4 hours**
**135 °C - 1 hour**

**Resin TDS available on request for more detailed cure information.*

*In uncured state at elevated temperatures (40°C), AFFT tapes can stretch up to 20% strain, allowing easy draping around complex, double curved surfaces.*
*To avoid excessive stretching behavior, use material at lower temperature (< 18°C) during manual handling and lay-up to maintain fibre alignment and prevent unwanted tape stretching.*
*Development pre-preg tapes are single-side impregnated with a resin rich side.*
*Higher consolidation pressures above 10 bar advised for maximum fibre volume fraction and best performance.*




*Scan for tape info, photos & videos.*



**Version**: V2
**Issue date**: 26th February 2025

## TYPICAL COMPOSITE PROPERTIES

*T300 rCF/MTC400-1*
Processing conditions: Compression moulding at 90 bar. Estimated FVF of 46%.

| Property | Unit | Value | Standard |
|---|---|---|---|
| **Tensile Modulus** | GPa | 89.40 | ISO 524-5 |
| **Tensile Strength** | MPa | 722.76 | ISO 524-5 |
| **Flexural Modulus** | GPa | 89.40 | ISO 14125 |
| **Flexural Strength** | MPa | 967.78 | ISO 14125 |
| **Compressive Modulus** | GPa | 92.31 | ISO 14126 |
| **Compressive Strength** | MPa | 928.03 | ISO 14126 |
| **ILSS** | MPa | 89.17 | ISO 14130 |
| **Density** | $g/cm^3$ | 1.45 | - |