

PRODUCT DATASHEET



TENCATE ADVANCED COMPOSITES

TenCate E726 Mid temperature curing modified epoxy component prepreg

PRODUCT TYPE

120°C (248°F) cure
Toughened epoxy resin system

TYPICAL APPLICATIONS

- Medical equipment
- Industrial equipment
- Wide range of engineering applications

SHELF LIFE

Out life
60 days at @ 20°C (68°F)

Storage life
12 months @ -18°C (0°F)

Out life is the maximum time allowed at room temperature before cure.

To avoid moisture condensation:
Following removal from cold storage, allow the prepreg to reach room temperature before opening the polythene bag. Typically the thaw time for a full roll of material will be 4 to 6 hours.

PRODUCT DESCRIPTION

TenCate E726 is a toughened epoxy resin system with controlled flow for cures at 120°C (248°F), pre-impregnated into high performance fibres such as carbon, glass and aramid. It is designed for use within medical and industrial applications and would also suit a wide range of engineering applications. TenCate E726 is compatible for co-cure with TenCate EF72, a 120°C (248°F) cure resin film and TenCate Amlite SC72A syntactic core.

TENCATE E726 PRODUCT BENEFITS/FEATURES

- Controlled flow
- Excellent drapeability – complex shapes easily formed
- Good surface finish
- Excellent tack – easily laminates to mould surface
- Low volatile content – no solvents used during processing
- 60 day shelf life at ambient temperature
- Autoclave, vacuum bag or press curable

TYPICAL NEAT RESIN PROPERTIES

Density 1.20 g/cm³ (74.9 lbs/ft³) at 23°C (73.4°F)
T_g (DMTA) after 1 hour @ 120°C (248°F)..... Onset: 105°C (221°F); Peak tan δ: 128°C (262°F)

TYPICAL LAMINATE PROPERTIES

HS0838 – CARBON 205 GSM 2X2 TWILL TR30S T 3K - 0/90° CONFIGURATION WOVEN LAMINATES

Property	Condition	Method	Results	
Tensile Strength (Warp)	RTD	ISO 527-4	689 MPa	100 ksi
Tensile Modulus (Warp)	RTD	ISO 527-4	54.7 GPa	7.9 Msi
Poisson's Ratio (Warp)	RTD	ISO 527-4	0.05	
Tensile Strength (Weft)	RTD	ISO 527-4	703 MPa	102 ksi
Tensile Modulus (Weft)	RTD	ISO 527-4	54.6 GPa	7.9 Msi
Poisson's Ratio (Weft)	RTD	ISO 527-4	0.05	
In Plane Shear Strength	RTD	EN 6031	121 MPa	17.5 ksi
In Plane Shear Modulus	RTD	EN 6031	3.6 GPa	0.5 Msi
Poisson's Ratio	RTD	EN 6031	0.8	
Compression Strength (Warp)	RTD	EN 2850	577 MPa	83 ksi
Compression Modulus (Warp)	RTD	EN 2850	51.3 GPa	7.4 Msi
Compression Strength (Weft)	RTD	EN 2850	568 MPa	82 ksi
Compression Modulus (Weft)	RTD	EN 2850	49.9 GPa	7.2 Msi
ILSS (Warp)	RTD	ISO 14130	65.5 MPa	9.5 ksi
ILSS (Weft)	RTD	ISO 14130	66.9 MPa	9.7 ksi

* Cured 1 hour at 120°C (248°F) at 48% Vf.

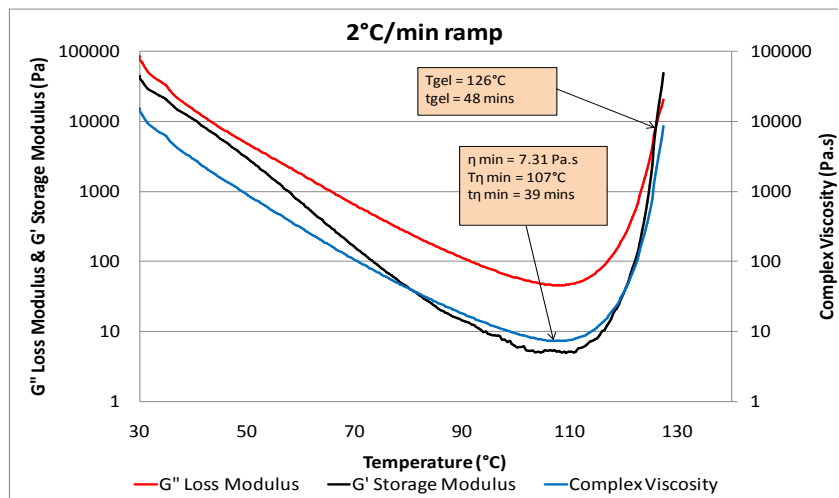
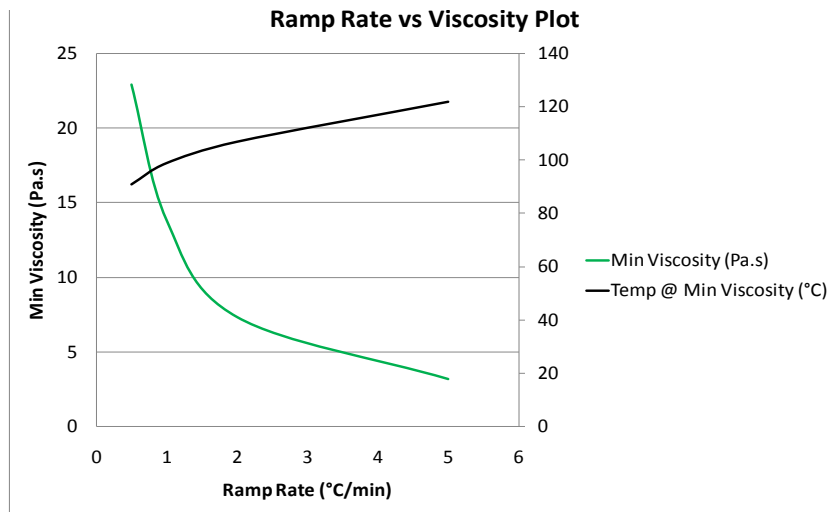
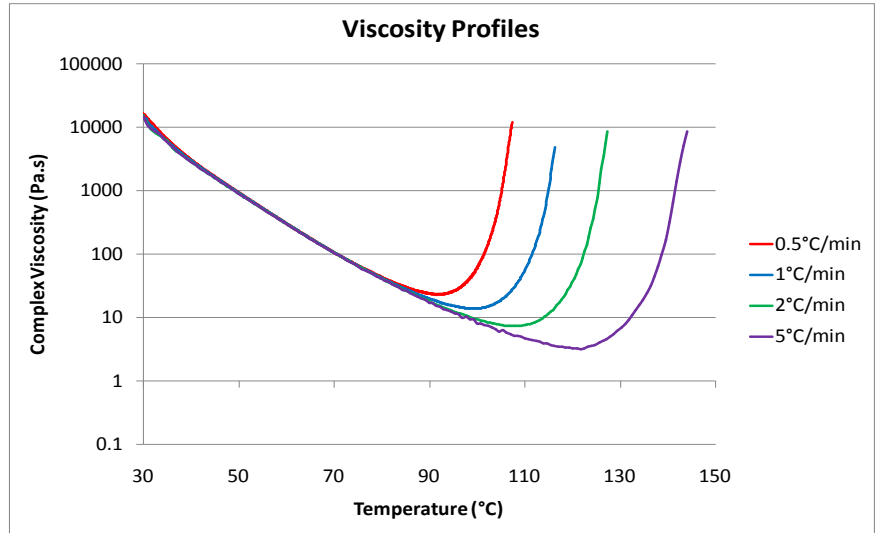
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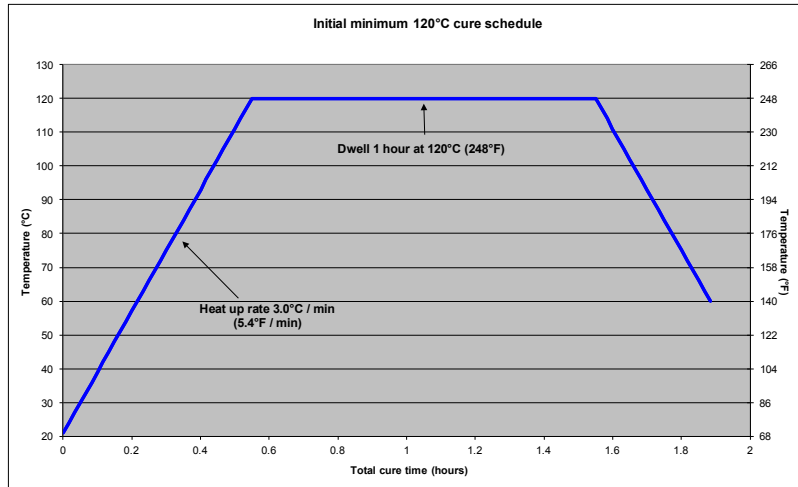
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TENCATE ADVANCED COMPOSITES

TenCate E726

Mid temperature curing modified epoxy component prepreg



TYPICAL CURE PROFILE 120°C (248°F) CURE TEMPERATURE

Initial minimum cure time 120°C (248°F) for 1 hour

Ramp rate [°C (°F) /min]	Details
3.0°C (5.4°F) / minute to 120°C (248°F)	Dwell for 1 hour
2.0°C (3.6°F) / minute to 50°C (122°F)	Followed by demould
Total time: 1 hour 50 minutes	

HANDLING SAFETY

Observe established precautions for handling epoxy resins and fibrous materials – wear gloves.

For further information refer to Material Safety Data Sheet.

PROCESSING

Cut patterns to size and lay up the laminate in line with design instructions taking care not to distort the prepreg. If necessary, the tack of the prepreg may be increased by gentle warming with hot air. The lay-up should be vacuum debulked at regular intervals using a P3 (pin pricked) release film on the prepreg surface, vacuum of 980 mbar (29 ins Hg) is applied for 20 minutes.

For autoclave cures, use of a non-perforated release film on the prepreg surface trimmed to within 25-30mm of prepreg edge is recommended for the cure cycle, a vacuum bag should be installed using standard techniques.

EXOTHERM

In certain circumstances, such as the production of thick section laminates rapid heat up rates or highly insulating masters, TenCate E726 can undergo exothermic heating leading to rapid temperature rise and component degradation in extreme cases.

Where this is likely, a cure incorporating an intermediate dwell of 1 hour at 90°C (194°F) is recommended in order to minimize the risk.

Revised 07/2014

All data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and TenCate Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties.

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