ENGINEERED TEXTILE SOLUTIONS & ASSOCIATES, LLC

SC01
TECHNICAL DATA SHEET

DESCRIPTION AND OVERVIEW

- SC01 series prepregs are based on a very fast curing ‘snap cure’, flow controlled, epoxy resin system.
- SC01 series prepregs can be cured at a range of temperatures, from 110°C (230°F) to 140°C (284°F), with a service temperature up to 120°C (248°F).
- SC01 series prepregs are designed to provide very fast cycling times compared to standard prepregs, ideal for mass production of composite components.
- SC01 series prepregs can therefore offer significant savings in energy costs, and significant increases in production output.
- SC01 series prepregs are available with a wide variety of woven and unidirectional, carbon fibre and E-glass reinforcements.
- SC01 series prepregs have good handleability and flexibility before curing, and a good combination of static and dynamic mechanical properties after curing.
- SC01 series prepregs can be used in many different composite manufacturing processes. Though designed primarily for press / compression moulding, the benefits also apply to autoclave / oven cure, table rolling / shrink tape.

- SC01 series prepregs have a guaranteed shelf life of 4 weeks at 20°C (68°F), and 12 months at -18°C (0°F).

FEATURES AND BENEFITS

- Very fast component curing times.
- Wide curing range; 110°C (230°F) to 140°C (284°F).
- Significant cost savings for mass produced composite components.
- Flexible, easy to handle prepreg.
- Good shelf life; 4 weeks at 20°C (68°F).

AVAILABILITY

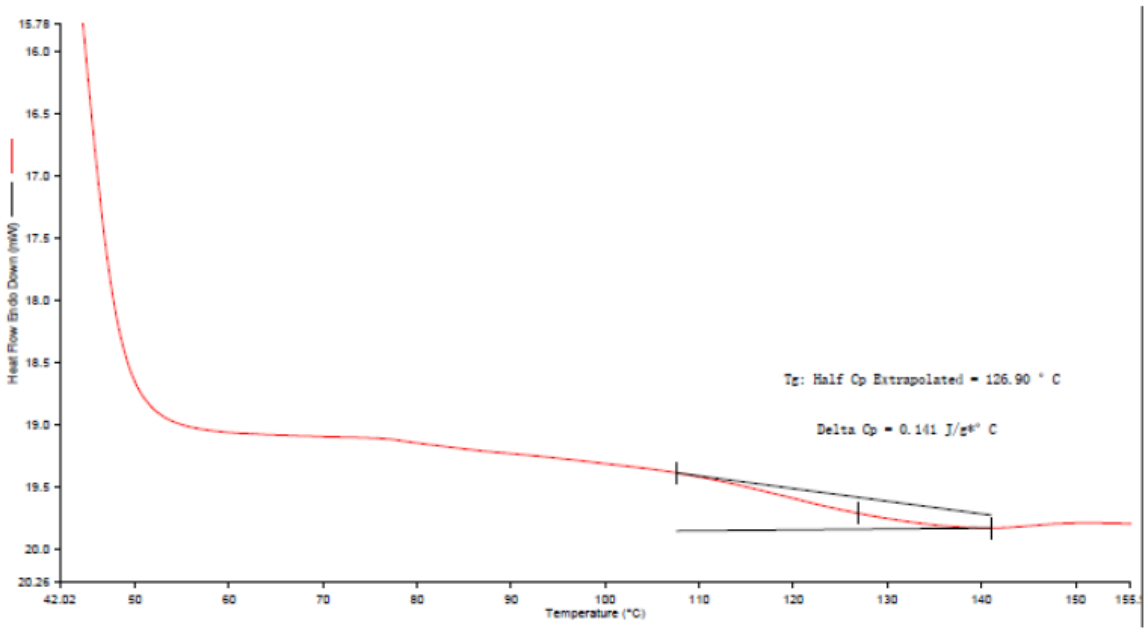
E15001 series prepregs are available with a wide variety of woven and unidirectional, carbon fibre and E-glass reinforcements.

CURING PROPERTIES

TEMPERATURE (°C)	MINIMUM CURE TIME MINUTES	TG (°C)
110	45	120
120	30	125
130	10	127
140	6	130

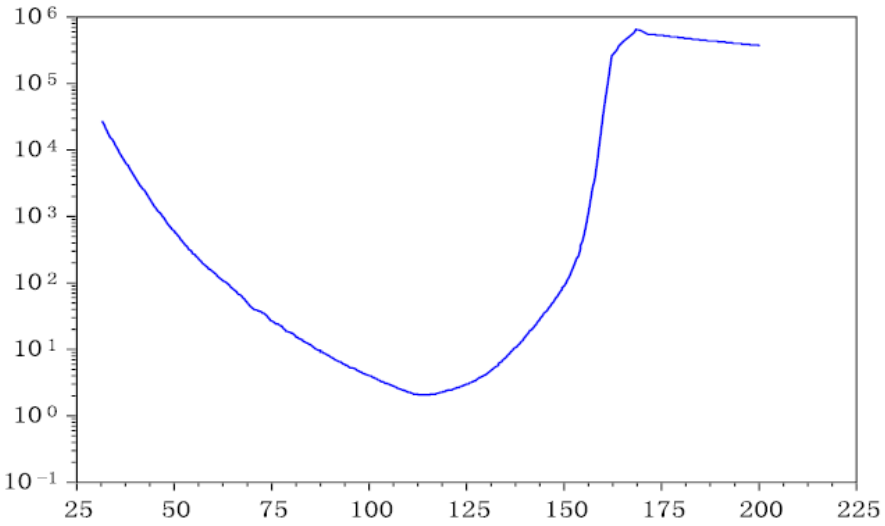
TG measured using DSC.

TG as measured by DSC after 10 minutes curing at 130°C (266°F).



RESIN RHEOLOGY

Complex viscosity (Pa.s) vs temperature (°C), when heated at 3°C per min.



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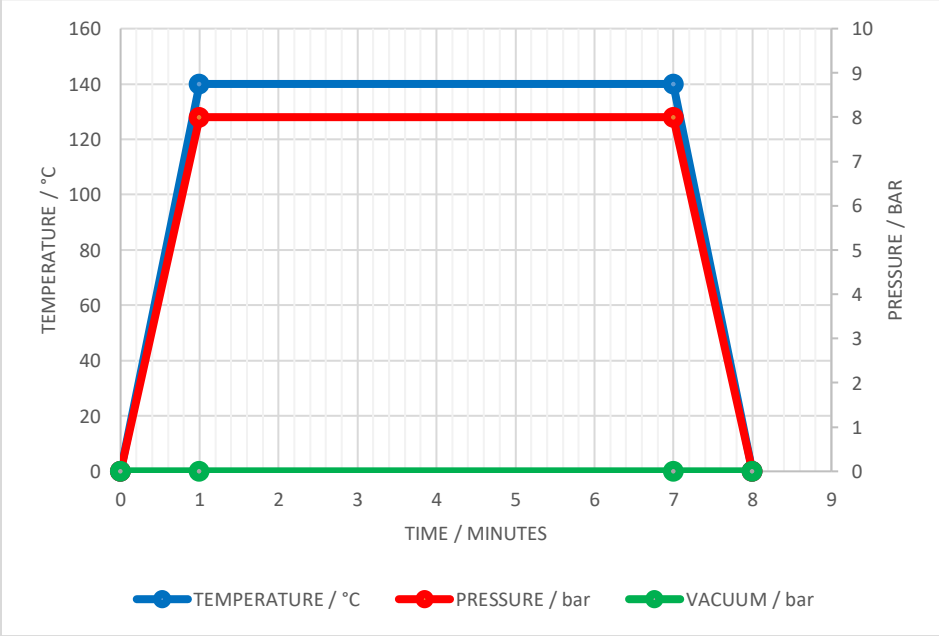
RECOMMENDED PROCESSING CONDITIONS AND HANDLING PROCEDURES

SC01 series prepregs are versatile, with a number of possible cure cycles. It is not possible to list them all, so a some recommendations are listed below:

- Note the minimum cure times at given temperatures, shown within this Technical Data Sheet. Especially when curing in an oven or autoclave, bear in mind the thermal lag between the air temperature, and the part itself. Always ensure that the part is exposed to any given temperature for at least the minimum recommended time.
- 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.

EXAMPLE CURE CYCLE: PRESS CURE / COMPRESSION MOULDING



HEALTH AND SAFETY

SC01 prepregs contain epoxy resin which can cause allergic reactions with skin contact. We recommend avoiding repeated and prolonged skin contact. Please refer to the product Safety Data Sheet before using SC01 prepregs. The following precautions are recommended when using SC01 prepregs:

- Wear overalls.
- Wear impervious gloves.
- Take care with thick laminates, to avoid excessive exotherm.

DISCLAIMER

Technical advice, instruction, data or recommendation, whether verbal or written, is given in good faith. In providing such advice, Engineered Textile Solutions & Associates LLC [ETS] gives no warranty or guarantee, either express or implied, in relation to it.
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.
Such testing should be performed under conditions identical to those to which the final component/product may be subjected.
Values listed in any ETS document are typical properties of the product in question and are not intended to be used in establishing either statistically valid engineering basis values. They do not constitute minimum or maximum values for the product in question.