

# PRODUCT DATA SHEET



TENCATE ADVANCED COMPOSITES

## TenCate AmberTool® HX32-1 Tooling prepreg

### PRODUCT TYPE

65-80°C (149-176°F) cure  
Epoxy tooling prepreg

### TYPICAL APPLICATIONS

- Large tooling applications requiring long outlife.

### KEY PROPERTIES



Drapeable



Smooth surface

### SHELF LIFE

#### Tack life

30 days @ 18°C (64°F)

#### Storage life

12 months @ -18°C (0°F)

Tack life is time during which the prepreg retains enough tack, drape and handling for easy tool lay-up.

#### 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 AmberTool® HX32-1 is an epoxy resin system that can be pre-impregnated into high performance fibres such as carbon and glass.

After a suitable post-cure an end-use temperature of 140°C (284°F) is achieved. TenCate AmberTool® HX32-1 is ideal for large tooling applications.

### TENCATE AMBERTOOL® HX32-1 PREPREG BENEFITS/FEATURES

- Long tack life of 30 days at 18°C (64°F) for large tooling applications
- Versatile curing options from 65-80°C (149-176°F)
- Recommended cure of 12 hours at 70°C (158°F)
- Free standing postcure capability
- 140°C (284°F) end use temperature
- Low volatile content giving excellent surface finish from an autoclave cure
- Controlled tack for improved handleability

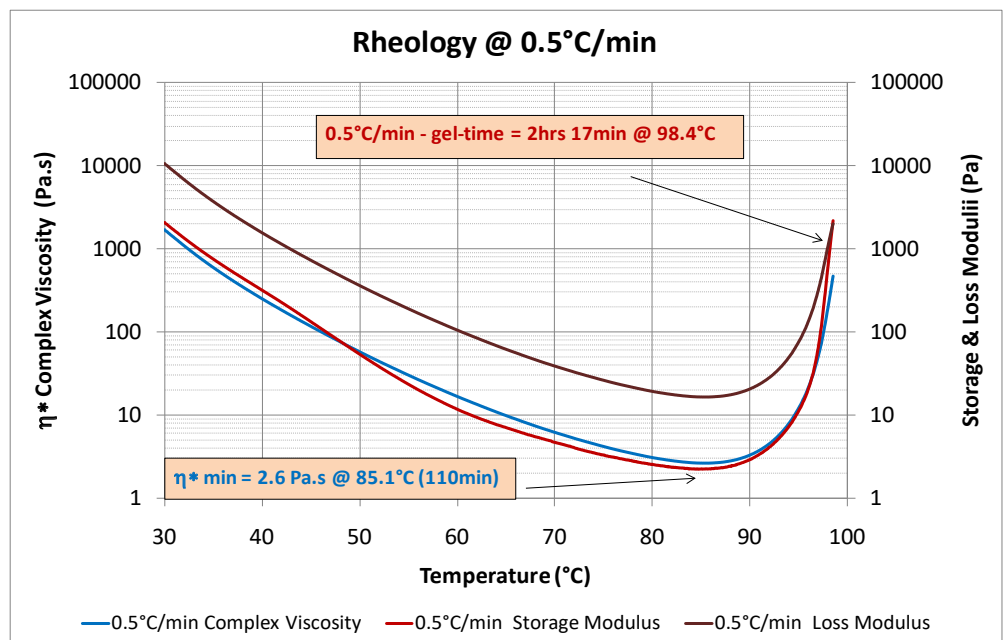
### TYPICAL NEAT RESIN PROPERTIES

T<sub>g</sub> (DMTA) 6 hrs at 150°C (302°F) postcure..... Onset: 162°C (323°F), Peak tan δ: 181°C (357°F)

T<sub>g</sub> (DMTA) 6 hrs at 120°C (248°F) postcure..... Onset: 137°C (278°F), Peak tan δ: 156°C (312°F)

T<sub>g</sub> (DMTA) 6 hrs at 105°C (221°F) postcure..... Onset: 121°C (249°F), Peak tan δ: 143°C (289°F)

### VISCOSITY PROFILE



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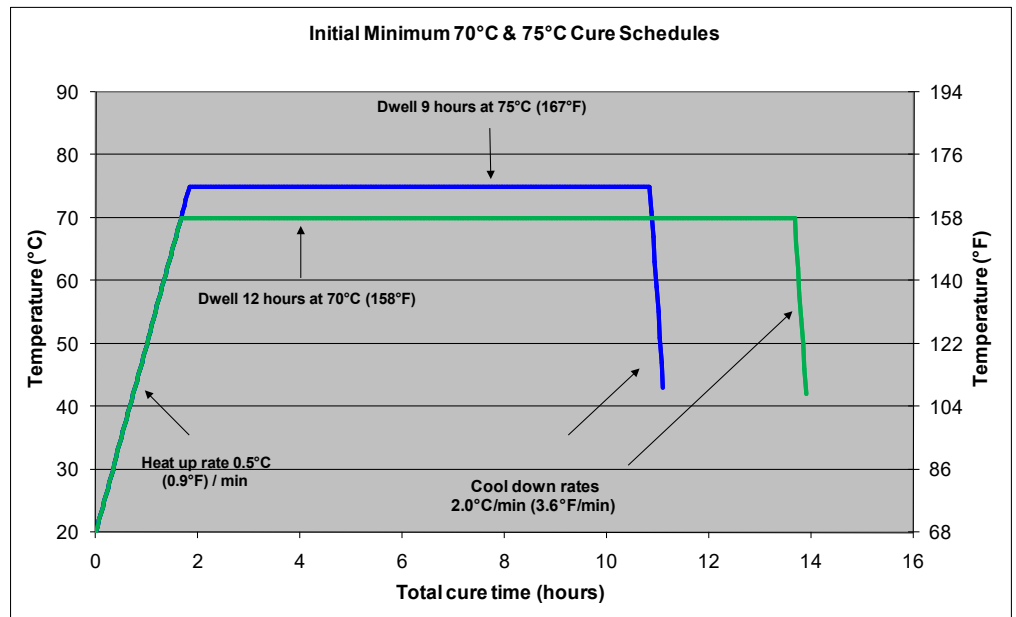
### REINFORCEMENT AVAILABLE

Fibre type	Weight (gsm)	Weave style	Standard resin content w/o
High strength carbon 3k	205	2x2 twill	46 (surface ply)
High strength carbon 12k	650	2x2 twill	37
E glass (EC9 yarn)	280	2x2 twill	38 (surface ply)
E glass (EC6 yarn)	300	8 harness satin	38 (surface ply)
E glass (1200 tex WR)	600	2x2 twill	28
E glass (EC9 yarn)	850	8 harness satin	28
E glass (1200 tex WR)	870	2x2 twill	28

Other fabrics and resin weights available on request.

### INITIAL MINIMUM CURE TIMES

Temperature °C (°F)	Time (hrs)
65 (149)	20
70 (158)	12
75 (167)	9
80 (176)	6



**Caution:** TenCate AmberTool HX32-1 contains a reactive resin system and care must be taken to avoid exothermic heating during the initial cure. Avoid exceeding 80°C (176°F) for the initial cure.

### POST-CURE

#### Post-cure schedule A:

Ramp	1°C (1.8°F) / min to 90°C (194°F)	Dwell for 2 hours
Ramp	1°C (1.8°F) / min to 120°C (248°F)	Dwell for 1 hours
Ramp	1°C (1.8°F) / min to 150°C (302°F)	Dwell for 6 hours

Cool to 60°C (140°F) at 2.5°C / min (4.5°F / min)

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Issued 01/2017

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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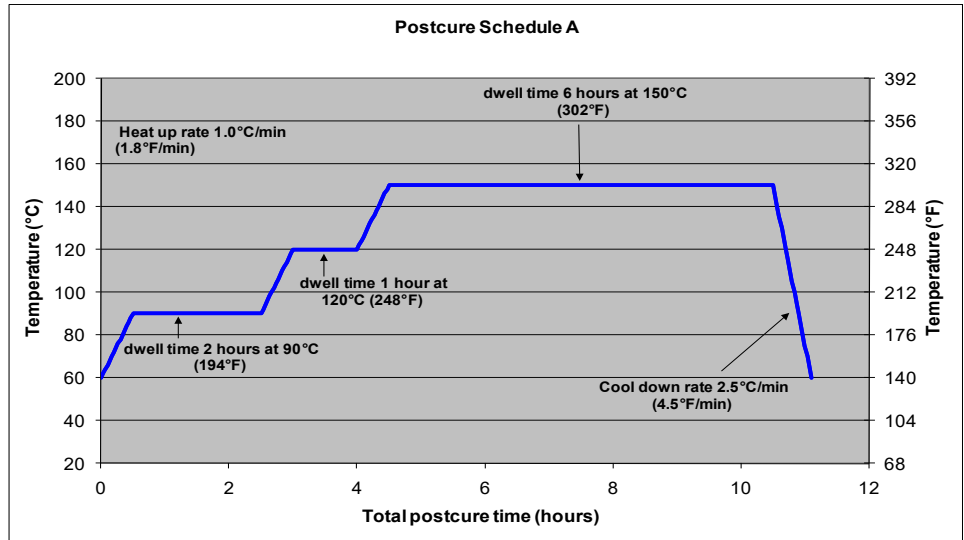
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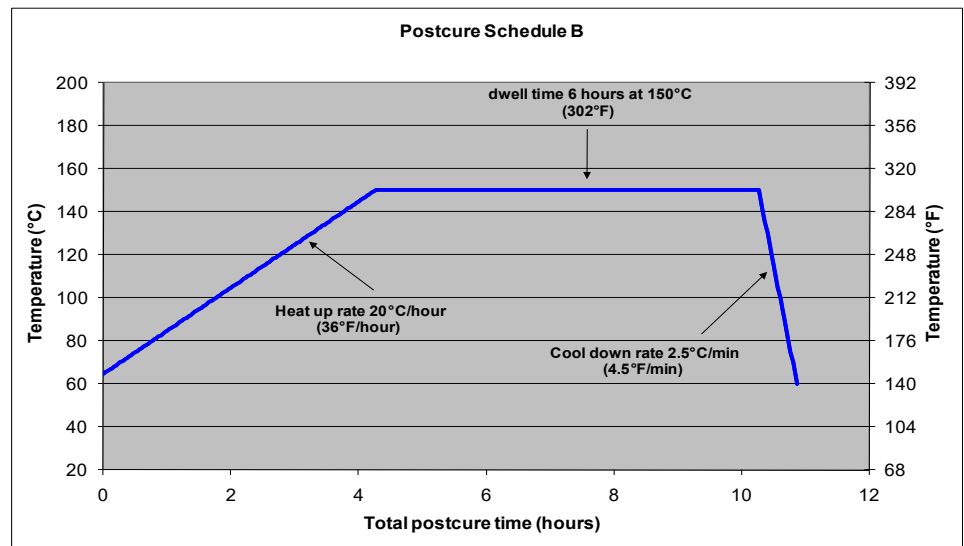
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An alternative post-cure schedule may also be used as follows:



### HANDLING SAFETY

Observe established precautions for handling epoxy resins and fibrous materials. Ensure adequate ventilation, wear gloves and protective clothing. For further information refer to our Material Safety Data Sheet available from TenCate Advanced Composites, Langley Mill.

### PROCESSING

Processing parameters and instructions are provided in the TenCate AmberTool material processing information guide from TenCate Advanced Composites or at [www.tencate.com/tooling](http://www.tencate.com/tooling)