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ETC-MB™ 5M1P RESIN

INTRODUCTION

ETC-MB™ 5M1P is a functionalised BMI resin designed for the requirement of high temperature service above $200^{\circ}C$. In applications where the cured composites parts are lightly loaded, short period exposure above $250^{\circ}C$ can be sustained.

■ **Description**

- ◇ Solvent free
- ◇ Good tack
- ◇ Good mechanical properties
- ◇ Good hot performance
- ◇ High $T_g \approx 280^{\circ}C$
- ◇ Free standing postcure is available

■ **Curing conditions**

ETC-MB™ 5M1P can be cured at the temperature of $175-180^{\circ}C$. Low, medium and high curing pressure may be applied during *ETC-MB™ 5M1P* curing process to obtain a



proper surface condition and desired resin content. Recommended cure cycle for thin-walled structures are as below.

1. Adjustable curing pressure; ramp to $175 \sim 180^{\circ}C$; hold for 4 hrs plus post cure 4 hrs at $240^{\circ}C$, $T_g \approx 280^{\circ}C$.
2. For better thermal properties, curing cycle can be:
 - ◇ Ramp to $175 \sim 180^{\circ}C$; hold for 2 hrs plus 4 hrs at $190^{\circ}C$ and free standing postcure at $240^{\circ}C$ for 2~6hrs, $T_g \approx 280^{\circ}C$
 - ◇ Ramp to $175 \sim 180^{\circ}C$; hold for 2 hrs plus 4 hrs at $210^{\circ}C$ and free standing postcure at $240^{\circ}C$ for 6hrs, $T_g > 280^{\circ}C$
3. Typical cure conditions of resin castings or tooling application: 4 hrs at $175^{\circ}C$ and $240^{\circ}C$ for 4hrs.
 - I. The time applying pressure should be adjusted with varied shapes and cross-sections.
 - II. Heat-up rate for thicker wall structure would be recommended not to be more than $5^{\circ}C/min$. A dwell time would be recommended to avoid the resin exotherm usually at $130^{\circ}C$. The dwell time is dependent on the mass and the type of tool.
 - III. The effective pressure should be also adjusted with different requirements of cured products such as fibre/resin fraction, amendment of thickness etc.

■ Handling and storage

Storage temperature:

■ Resin system:

Shelf life: $-15^{\circ}C$ for 6 months.

■ Prepreg:

Out life: 4 weeks at $21^{\circ}C$

Shelf life: $4^{\circ}C$ for 3 months or $-15^{\circ}C$ for 6 months.

Handling: Wear protective mask /glasses/gloves/clothing. Wash thoroughly after handling.



■ Important

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