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EPO- LHT™ 04282 Resin

EPO- LHT™ 04282 is designed for low temperature cure requirement. A wide range of composite curing processes can be adopted even for vacuum-only process. Different types of reinforcement (UD, woven and multi-axial fabrics), heavy or light are suitable for this resin system.

■ Description

- ◇ Good out life.
- ◇ A wide range of moulding processes: vacuum bag, autoclave and press moulding.
- ◇ VBO process is one of the characters.
- ◇ Low temperature cure. Standard curing temperature can be $65^{\circ}\text{C} \sim 80^{\circ}\text{C}$ with acceptable Tg.
- ◇ Good Tg development, which can be up to 135°C
- ◇ Free-standing postcure is available.
- ◇ Available for a wide range of reinforcements

■ Curing conditions



EPO- LHT™ 04282 can be cured at a temperature range from 65°C to 120°C depending on the individual requirement. Vacuum-only or external pressure supply may be applied during EPO- LHT™ 04282 curing process to obtain a proper curing condition and desired resin content. EPO- LHT™ 04282 system is quite reactive that would be able to undergo extreme exothermic reaction which might build up the heat during the initial curing process if an improper curing procedure has been decided. **Great attention should be paid on the heating rate, dwelling temperature and lay-up/bagging procedures especially for thick-walled curing parts.** The risk of uncontrolled exotherm is increased with thicker laminate thickness and higher curing temperature. A safe curing cycle should be specified included the consideration of thermal mass of moulds and tools, combined with the consideration of insulating effects from bagging materials for different circumstances in individual case. A recommended cure cycle is as below.

1. Applying vacuum (>730 mmHg) at room temperature.
 2. Increase the temperature to 75°C ~ 80°C at a heating rate of 2°C/min time. For larger curing structures, heating rate should be lower even to less than 1°C/min .
 3. Cure at 75°C ~ 80°C under vacuum condition for 5hrs.
 4. The curing profile can be 65°C/14 hours
 5. Cool down to room temperature slowly under vacuum condition with a rate not to exceed 3°C/min .
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- I. If cured parts need higher temperature resistance, it is necessary to develop higher Tg by post-cure with post-cure schedule below.
 - II. Increase the temperature to 120°C at a heating rate lower than 1°C/min time.
 - III. Dwell at 120°C for 1hrs to develop Tg up to about 135°C .
 - IV. Cool slowly down to room temperature.
 - V. Parts may be free standing post-cure.



■ 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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