

EPIKOTE™ Resin L 20

EPIKURE™ Curing Agent 960

Features

- LBA approval
- Pre curing at room temperature
- Low viscosity

Applications

EPIKOTE™ Resin L 20 epoxy resin with the hardener EPIKURE™ Curing Agent 960 produces a low viscosity laminating mixture with outstanding wetting and adhesion characteristics on glass, carbon and aramid fibres.

This system finds particular applications in glider and boat building. After a room temperature pre curing, a post curing at 50 - 60 °C is necessary before demoulding.

| Product Physical Properties (at time of Manufacturing*): | | | |
|--|-------------------|--------------------|---------------------------|
| Property | Unit | EPIKOTE™ Resin L20 | EPIKURE™ Curing Agent 960 |
| Viscosity at 25°C | mPa·s | 790 ± 150 | 90 ± 10 |
| Epoxy equivalent weight | g/equiv. | 168 - 177 | |
| Amine equivalent weight | g/equiv. | | 60 |
| Density at 20°C | g/cm ³ | 1.15 ± 0.01 | 0.95 ± 0.02 |
| Mixing Viscosity at 25°C | mPa·s | | |
| Pot life at 25°C (500 g) | minutes | 240 | |
| T _G (TMA) | °C | 130 | |

*The data in the tables are the values at the time of production. This information may differ for newly manufactured batches.

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Processing Details

Mixing ratio

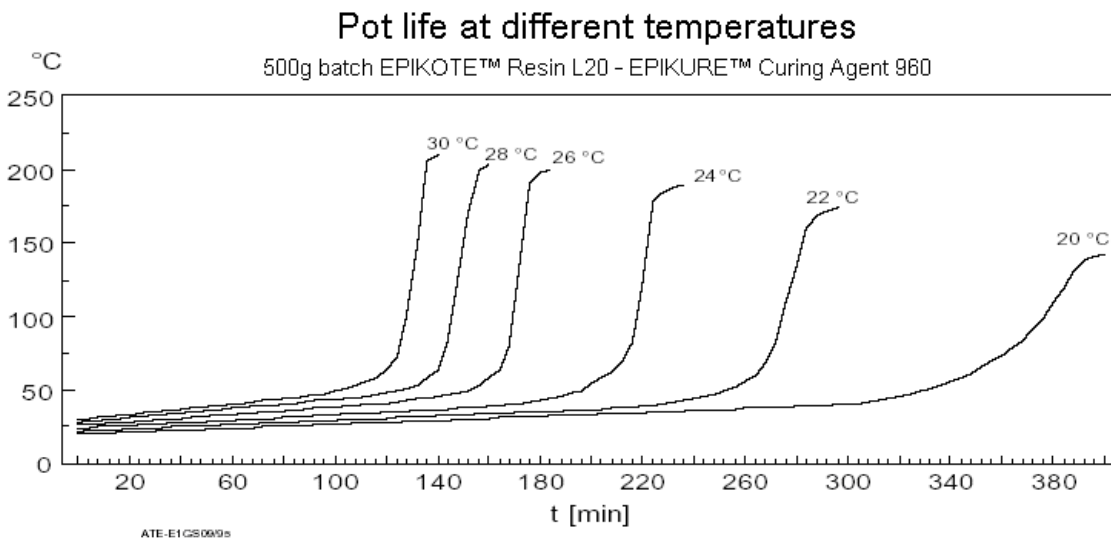
EPIKOTE™ Resin L 20 100 parts by weight
EPIKURE™ Curing Agent 960 34 parts by weight

Mixing tolerance

The maximum allowable mixing tolerance is ±2pbw, but it is particularly important to observe the recommend mixing ratio as exactly as possible. Adding more or less Hardener will not effect a faster or slower reaction - but an incomplete curing which cannot correct in any way. Resin and Hardener must be mixed very thoroughly. Mix until no clouding is visible in the mixing container. Pay special attention to the walls and the bottom of the mixing container.

Processing Temperature

A good processing temperature is in the range between 25°C and 35°C. Higher processing temperatures are possible but will shorten the pot life. A rise in temperature of 10°C reduces the pot life by approx. 50%. Different temperatures during processing have no significant effect on the strength of the hardened product.



Do not mix large quantities at elevated processing temperatures. The mixture will heat up fast because of the dissipating reaction heat (exothermic reaction). This can result in temperatures of more than 200°C in the mixing container.

Exemplify Curing Cycle:

4h 60°C/140 °F + 3h 130°C/265°F

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| Properties of the cured, non-reinforced Resin System: (Curing: 24 h RT and 15 h 60 °C) | | |
|--|--------------------|---------|
| Property | Unit | Value |
| Flexural strength | MPa | 125 |
| Tensile strength | MPa | 55 |
| Compressive strength | MPa | 130 |
| Ball indentation H 10 | MPa | 152 |
| Hardness H 60 | | 144 |
| Impact strength | mJ/mm ² | 35 - 40 |

| Properties of the cured, reinforced Resin System (Curing: 24 h RT and 15 h 60 °C) 4 mm laminates /16 layers glass fabric 181/Interglas 91745. | | |
|--|--------------------|-------|
| Property | Unit | Value |
| Flexural strength | MPa | 550 |
| Compressive strength | MPa | 390 |
| Modulus in flexure | MPa | 24000 |
| Tensile strength | MPa | 380 |
| Impact strength | mJ/mm ² | 225 |
| ILSS | MPa | 38.1 |
| Water absorption (24 h/22 °C) | % | 0.03 |

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Shelf Life

The Resin and Hardener can be stored at 20- 25°C for at least 24 months for the curing agent and 36 months for the resin in their carefully sealed original containers.

It is rarely possible that the resin or the hardener crystallize. The crystallisation is visible as a clouding or solidification of the content of the container. Before processing, the crystallisation must be removed by warming up. Slow warming up to 60-80°C in a water bath or oven and stirring or shaking will clarify the contents in the container without any loss of quality. Use only completely clarify products. Before warming up, open containers slightly to permit equalization of pressure. Caution during warm up! Do not warm up over open flame!

Precautions

For information about safe handling of EPIKOTE™ epoxy resins and EPIKURE™ Curing Agents, please note the corresponding Safety Data Sheet.