



EPOBIOX™

Natural oil based BioEpoxy System



EPOBIOX™ is a liquid epoxy system tailor-made for windmill blades and composites industry. It is suitable for infusion, laminating and especially for glue applications.

EPOBIOX™ is made 70 % from industrially grown and harvested natural oils like, for example, epoxidised pine oil waste. Our natural resins have an exceptionally high hydroxyl group content and

very long polymers with high molecular weight. This results in exceptionally good elongation at break and adhesion to all kinds of substrates.

TABLE 1: Process data

| Before mixing | Mixing | Curing |
|--|--|---|
| Clear the surface from dust, grease and moisture. | Mix the resin with curing agent properly for minimum 1 – 2 min. | The product cures even at RT but higher temperature gives better cure and properties. |
| The higher the temperature of the object the better flow and wetting are achieved. | Let the air come out and settle for min 2 – 5 min. (Use vacuum if possible) | Recommended heat cure is 80 °C. |
| If possible preheat the resin component to 30 – 40 °C before use. | | |

Vertical surfaces in hand laminating :

The system can be thickened with 2 % HDK / Aerosil for laminating vertical surfaces. This helps especially against sagging/draining. Also available in all RAL colours and as a filled 2-K glue.

The system does not crystallize and has a long storage stability of at least 3 years when properly stored in closed containers.

EPOBIOX™



TABLE 2: The System

| EPOBIOX™ resin medium viscosity | | The Curing Agent – part b – medium viscosity | |
|---------------------------------|-----------------------------|--|-----------------------------|
| Resin Viscosity (20 °C) | 1000 – 1500 mPa·s | Viscosity (20 °C) | 1000 – 2000 mPa·s |
| Resin Viscosity (40 °C) | 200 – 400 mPa·s | Resin Viscosity (40 °C) | 200 – 500 mPa·s |
| Density | 1.0 – 1.1 g/cm ³ | Density | 0.9 – 1.0 g/cm ³ |
| Flash point | >100 °C | Flash point | >100 °C |

TABLE 3: Mix System Technical Data with curing agent AMROY CA 35

| | Low Viscosity/ LV | High Viscosity/ HV |
|--------------------------------|--------------------------------|--------------------|
| EGC, mmol/kg | 4500 | 4250 |
| Mix ratio (by weight) | 100:27 | 100:25 |
| Mix Viscosity 25 °C, mPa·s | 300 | 2500 |
| Mix Viscosity 40 °C, mPa·s | 150 | 500 |
| Density, kg/l | 1.06 | 1.06 |
| Colour | Clear brown / yellow in liquid | |
| Gel Time 25 °C (150 g) | 8 hours | 8 hour |
| Cure time 80 °C | minimum 1 hour | hours |
| Min Cure Temperature, °C | 30 | 30 |
| Recommended cure time at 80 °C | minimum 1 – 2 hours | minimum 30 min |
| Max Tg, °C | 70 | 80 |
| Modulus, GPa | 2.5 | 3 |
| Elongation at break, % | 15 | 12 |

EpoBioX systems can be tailor-made with different curing agents and accelerators to meet required properties.

Storage Data

The products can be stored at temperatures between 0 – 60 °C in closed containers in dry place protected from direct sunlight. Storage time is at least 3 years.

Sales Packages

| | | | |
|--------------|-------------|-------------|------------|
| Resin | 1100 kg IBC | 240 kg drum | 20 kg cans |
| Curing agent | 900 kg IBC | 180 kg drum | 18 kg cans |

Reference 2009

Entropy Sports (USA) Surfboards and skis USA

Available from factories in Finland (EUROPE) and from 2009 onwards also from USA (Entropy Research Labs).

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