

Biresin® CR172 Composite resin system

Product Description

Biresin® CR172 is an epoxy resin system designed for the hand lay-up process and injection processes and is especially for applications when a very high thermal resistance is needed.

Application Areas

Biresin® CR172 can be used in many areas including high temperature composite mouldmaking and in general industrial composites.

Features / Advantages

- Biresin® CR172 has an optimized viscosity designed for with good impregnation and non-draining properties.
- The system can be used in hand lay-up and injection
- Glass transition temperatures up to 175°C can be achieved depending on curing conditions

| Physical Data | | Resin (A) | | Hardener (B) | |
|---------------------------------------|---------------|----------------|------------------------|------------------|--|
| Individual Components | | Biresin® CR172 | Biresin® CH170-3 | Biresin® CH172-6 | |
| Mixing ratio, parts by | Weight | 100 | 17 | 19 | |
| Mixing ratio, parts by | Volume | 100 | 21 | 23.5 | |
| Viscosity, 25°C | mPas | ~ 6,000 | ~ 10 | ~ 10 | |
| Density, 25°C | g/ml | 1.16 | 0.94 | 0.94 | |
| Colour | | translucent | colourless to brownish | | |
| Mixture | | | | | |
| Potlife, 100 g / RT, approx. values | | min | 110 | 220 | |
| Mixed viscosity, 25°C, approx. values | | mPa.s | 800 | 800 | |

Mechanical Data, neat resin specimen: approx. values after 8 h / 160°C

| Biresin® CR172 resin (A) | | with hardener | Biresin® CH170-3 | Biresin® CH172-6 |
|--------------------------|----------|---------------|------------------|------------------|
| (B) | | | | |
| Tensile strength | ISO 527 | MPa | 70 | 76 |
| Tensile E-Modulus | ISO 527 | MPa | 2,900 | 2,750 |
| Elongation at break | ISO 527 | % | 3.0 | 3.9 |
| Flexural strength | ISO 178 | MPa | 140 | 130 |
| Flexural E-Modulus | ISO 178 | MPa | 2,900 | 2,950 |
| Compressive strength | ISO 604 | MPa | 140 | 140 |
| Density | ISO 1183 | g/cm³ | 1.17 | 1.17 |
| Impact resistance | ISO 179 | kJ/m² | 28 | 26 |

Thermal Data, neat resin specimen: approx. values after 8 h / 160°C

| Biresin® CR172 resin (A) | | with hardener | Biresin® CH170-3 | Biresin® CH172-6 |
|------------------------------|-----------|---------------|------------------|------------------|
| (B) | | | | |
| Heat distortion temperature | ISO 75A | °C | 162 | 165 |
| | ISO 75B | °C | 168 | 170 |
| Glass transition temperature | ISO 11357 | °C | 170 | 174 |

Further information available at:

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Processing

- The material and processing temperatures should be in the range 18 - 35°C.
- The mixing ratio must be followed accurately to obtain best results. Deviating from the correct mix ratio will lead to lower performance.
- The final mechanical and thermal values are dependent on the applied postcuring cycles.
- It is recommended to clean brushes or tools immediately after use with Sika Reinigungsmittel 5.
- Additional information is available in "Processing Instructions for Composite Resins".

Packaging (net weight, kg)

| | | | |
|-------------------------------|-----|----|-----|
| Biresin® CR172 resin (A) | | | 10 |
| Biresin® CH170-3 hardener (B) | 180 | 16 | 1.7 |
| Biresin® CH172-6 hardener (B) | | | 1.9 |

Storage

- Minimum shelf life of Biresin® CR172 resin (A) is 24 months and of Biresin® CH170-3 hardener (B) and Biresin® CH172-6 hardener (B) is 12 months under room conditions (18 - 25°C), when stored in original unopened containers.
- After prolonged storage at low temperature, crystallisation of resin (A) may occur. This is easily removed by warming up for a sufficient time at a minimum of 60°C.
- Containers must be closed tightly immediately after use. The residual material needs to be used up as soon as possible.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety related data.

Disposal considerations

Product Recommendations: Must be disposed of in a special waste disposal unit in accordance with the corresponding regulations.

Packaging Recommendations: Completely emptied packagings can be given for recycling. Packaging that cannot be cleaned should be disposed of as product waste.

Value Bases

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Legal Notice

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