

# Biresin<sup>®</sup> CR132 ST with Biresin<sup>®</sup> CH 172-6 Hardener

## Composite resin system

### Product Description

The Biresin<sup>®</sup> CR132 ST with Biresin<sup>®</sup> CH172-6 hardener is a modified epoxy resin system with high viscosity, designed for processing as a coupling layer in FRP tooling

### Application Areas

Biresin<sup>®</sup> CR132 ST processes as a low flow resin system for use between the gelcoat and structural layers of an epoxy FRP tool to assist the processing and working time. Best used where large, flat areas are produced.

### Features / Advantages

- Optimized processing properties enables good workability of system
- Excellent mechanical properties
- Glass transition temperatures >150°C are achievable

Physical Data		Resin (A)	Hardener (B)
Individual Components		Biresin <sup>®</sup> CR132 ST	Biresin <sup>®</sup> CH172-6
Mixing Ratio, parts by	<b>Weight</b>	100	19
Mixing Ratio, parts by	<b>Volume</b>	100	22
Colour		white	colourless
Viscosity, 25°C	mPa.s	120,000	10
Density, 25°C	g/ml	1.11	0.94
		Mixture	
Potlife, 100 g / RT, approx. values	min	187	
Mixed viscosity, 25°C, approx. values	mPa.s	10.000	

### Mechanical Data, neat resin specimen: approx. values

Biresin <sup>®</sup> CR132 ST resin (A)			with Biresin <sup>®</sup> CH172-6 hardener (B)
Curing Conditions	Time / Temperature		8 h / 140°C
Tensile strength	ISO 527	MPa	36
Tensile E-Modulus	ISO 527	MPa	2.450
Elongation at break	ISO 527	%	2,3
Flexural strength	ISO 178	MPa	46
Flexural E-Modulus	ISO 178	MPa	2.700
Compressive strength	ISO 604	MPa	110
Density	ISO 1183	g/cm <sup>3</sup>	1,13
Shore hardness	ISO 868	-	D 83
Impact resistance	ISO 179	kJ/m <sup>2</sup>	8

### 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.
- Before demoulding precuring of at least 2 h at 60°C is recommended.
- 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".

Thermal data of neat resin specimen: approx. values		
Biresin® CR132 ST resin (A)	with hardener (B)	Biresin® CH172-6
Curing conditions	Time / Temperature	8 h / 140°C
Heat distortion temperature	ISO 75B °C	154
Glass transition temperature	ISO 11357 °C	159

### Postcuring

The suitable cure cycle and the attainable mechanical and thermal values depend on various factors, such as laminate thickness, fibre volume, reactivity of the resin system etc.

An appropriate cure cycle could look as follows:

- Heat-up rate of ca. 0.2°C/Minute until approx. 10°C below the required glass transition temperature (Tg)
- Followed by a dwell at that temperature of between 2 and 12 hours.
- Part(s) should then be cooled at ~0.5°C per minute

The specific postcure should be adapted to the required technical and economic requirements.

To measure the mechanical performance of the resin system a Sika Advanced Resins standard cycle is used to ensure that the full Tg potential of the system in question is reached.

### Packaging (net weight, kg)

Biresin® CR132ST resin (A)		5
Biresin® CH172-6 hardener (B)	180	1,9

### Storage

- Minimum shelf life of Biresin® CR132 ST resin (A) is 24 month and of Biresin® CH172-6 hardener (B) is 12 month under room conditions (18 - 25°C), when stored in original unopened containers.
- After prolonged storage at low temperature, crystallisation of resin may occur. This is easily removed by warming up for a sufficient time to 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

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

Further information available at:

Sika Deutschland GmbH

Subsidiary Bad Urach

Stuttgarter Str. 139

D - 72574 Bad Urach

Germany

Tel: +49 (0) 7125 940 492

Fax: +49 (0) 7125 940 401

Email: [tooling@de.sika.com](mailto:tooling@de.sika.com)

Internet: [www.sika.com](http://www.sika.com)

