

# Biresin<sup>®</sup> CR132 with Biresin<sup>®</sup> CH172-6 hardener Composite resin system

## Product Description

Biresin<sup>®</sup> CR132 (A) with hardener Biresin<sup>®</sup> CH172-6 (B) is a medium viscosity epoxy resin system suitable for the production of high performance fibre reinforced composite parts and moulds by hand lay-up especially where a higher thermal performance of greater than 150°C is required

## Application Areas

Biresin<sup>®</sup> CR132 is especially suited to the hand lay-up process with optimised viscosity profile leading to good fibre wetting and non-drainage properties. It can be used in general industrial composite areas

## Features / Advantages

- Excellent wet-out of fabrics and non-wovens due to optimised viscosity and good wetting characteristics
- Glass transition temperatures up to approx. 159°C depending on curing conditions

Physical Data		Resin (A)	Hardener (B)
Individual Components		Biresin <sup>®</sup> CR132	Biresin <sup>®</sup> CH172-6
Mixing Ratio, parts by	Weight	100	20
Mixing Ratio, parts by	Volume	100	24
Colour		translucent	colourless to yellow
Viscosity, 25°C	mPa.s	~1,900	~10
Density, 25°C	g/ml	1.14	0.94
		<b>Mixture</b>	
Potlife, 100 g / RT, approx. value	hr	~3	
Mixed viscosity, 25°C, approx. value	mPa.s	~550	

## 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".

<b>Mechanical Data, neat resin specimen: approx. values after 8 h / 140°C</b>			
<b>Biresin® CR132 resin (A)</b>	<b>with hardener (B)</b>		<b>Biresin® CH172-6</b>
Tensile strength	ISO 527	MPa	80
Tensile E-Modulus	ISO 527	MPa	2.700
Elongation at break	ISO 527	%	4,5
Flexural strength	ISO 178	MPa	136
Flexural E-Modulus	ISO 178	MPa	3.050
Compressive strength	ISO 604	MPa	132
Density	ISO 1183	g/cm <sup>3</sup>	1,17
Shore hardness	ISO 868	-	87
Impact resistance	ISO 179	kJ/m <sup>2</sup>	24

### 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 (T<sub>g</sub>)
- 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 T<sub>g</sub> potential of the system in question is reached.

<b>Thermal data of neat resin specimen after postcuring 8hr / 140°C</b>			
<b>Biresin® CR132 resin (A)</b>	<b>with Biresin® CH172-6 hardener (B)</b>		
Heat distortion temperature	ISO 75A	°C	~152
	ISO 75B	°C	~155
	ISO 75C	°C	~133
Glass transition temperature	ISO 11357	°C	~159

### Packaging (net weight, kg)

Biresin® CR132 resin (A)	1,000	200	10
Biresin® CH172-6 hardener (B)		180	1.9

### Storage

- Minimum shelf life of Biresin® CR132 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 (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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