

# SikaBiresin® CR225 (former Epolam 2092) Composite resin system

## Product Description

SikaBiresin® CR225 with hardener Biresin® CH122-9 is an epoxy resin system for the production of composite tooling and structures by wet lay-up and infusion process.

## Application Areas

SikaBiresin® CR225 can be used for composite tools and parts, that require a high thermal stability.

## Features / Advantages

- Thermal resistance up to approx. 210°C
- Can be used for infusion and wet lay-up processing

Physical Data		Resin (A)	Hardener (B)
Individual Components		SikaBiresin® CR225	Biresin® CH122-9
Mixing Ratio, parts by	Weight	100	50
Mixing Ratio, parts by	Volume	100	63
Colour		amber	blue
Viscosity, 25°C	mPa.s	~1,600	~100
Density, 25°C	g/ml	1.2	0.95
		Mixture	
Potlife, 500 g / RT, approx. values	min	400	
Mixed viscosity, 25°C, approx. values	mPa.s	~550	

## Processing

- The material and processing temperatures should be in the range 18 - 35°C.
- Before mixing the two components, stir the resin component to homogenize it.
- 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".

Typical Mechanical Properties of Fully Cured Neat Resin			
SikaBiresin® CR225 resin (A)		with Biresin® CH122-9 hardener (B)	
Tensile strength	ISO 527	MPa	26
Tensile E-modulus	ISO 527	MPa	4,600
Elongation at break	ISO 527	%	1.0
Flexural strength	ISO 178	MPa	73
Flexural E-Modulus	ISO 178	MPa	2,900
Density	ISO 1183	g/cm³	1.15

Typical Thermal Properties of Fully Cured Neat Resin, approx. values after 8h/180°C			
SikaBiresin® CR225 resin (A)		with Biresin® CH122-9 hardener (B)	
Glass transition temperature	ISO 11357	°C	~210
Coefficient of thermal expansion (CTE)	ISO 11359	10 <sup>-6</sup> .K <sup>-1</sup>	~67

### 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 Tg (max. curing 180°C)
- 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)

SikaBiresin® CR225 resin (A)			19	
Biresin® CH122-9 hardener (B)	900	180	20	4

### Storage

- Minimum shelf life of SikaBiresin® CR225 resin (A) is 6 months, stored at a temperature between 15°C and 25°C, and 12 months if stored at -18°C. Minimum shelflife of Biresin® CH122-9 hardener (B) is 12 month under room conditions (18 - 25°C) 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

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:

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