

Biresin® CR132 ST

Composite resin system

Product Description

The Biresin® CR132 ST system is a modified epoxy resin system with high viscosity, designed for processing as a coupling layer in FRP tooling

Application Areas

Biresin® 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 >130°C are achievable

Physical Data		Resin (A)	Hardener (B)
Individual Components		Biresin® CR132 ST	Biresin® CH132-5
Mixing Ratio, parts by	Weight	100	26
Mixing Ratio, parts by	Volume	100	31
Colour		white	blue
Viscosity, 25°C	mPa.s	120,000	30
Density, 25°C	g/ml	1.11	0.93
		Mixture	
Potlife, 100 g / RT, approx. values	min	120	
Mixed viscosity, 25°C, approx. values	mPa.s	17,700	

Mechanical Data, neat resin specimen: approx. values

Biresin® CR132 ST resin (A)		with Biresin® CH132-5 hardener (B)		
Curing Conditions		Time / Temperature	8 h / 100°C	12 h / 125°C
Tensile strength	ISO 527	MPa	35	26
Tensile E-Modulus	ISO 527	MPa	2.500	2.400
Elongation at break	ISO 527	%	1,8	1,3
Flexural strength	ISO 178	MPa	70	64
Flexural E-Modulus	ISO 178	MPa	2.600	2.700
Compressive strength	ISO 604	MPa	101	101
Density	ISO 1183	g/cm³	1,14	1,14
Shore hardness	ISO 868	-	D 83	D 82
Impact resistance	ISO 179	kJ/m²	10	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® CH132-5	
Curing conditions	Time / Temperature	8 h / 100°C	12 h / 125°C
Heat distortion temperature	ISO 75B °C	119	136
Glass transition temperature	ISO 11357 °C	122	130

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® CH132-5 hardener (B) (blue)	900	180	2.8

Storage

- Minimum shelf life of Biresin® CR132 ST resin (A) is 24 month and of Biresin® CH132-5 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.

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