Biresin® CR83 with Biresin® CH94-2 hardener
Composite resin system

Product Description

Biresin® CR83 is an epoxy resin system with a low viscosity designed specifically for the infusion process for the production of high performance fibre reinforced composite parts and moulds. The system has thermal properties up to 80°C. Biresin® CR83 epoxy resin has a low tendency to crystallize.

Application Areas

Biresin® CR83 is especially suited to the infusion and injection processes due to its low viscosity range. It can be used in the marine and general industrial composite areas. With the hardener (B) Biresin® CH94-2, the system is particularly good when the ambient temperature is low, say 15 - 18°C, and cannot be increased such as in a boatyard in winter

Features / Advantages

- Fast infusion and good wet-out of fabrics and non-wovens due to low viscosity and good wetting characteristics even at low temperatures, 15 - 18°C
- Glass transition temperatures up to 80°C depending on curing conditions
- Biresin® CR83 (A) resin has a low tendency to crystallize

Physical Data		**Resin (A)**	**Hardener (B)**
Individual Components		**Biresin® CR83**	**Biresin® CH94-2**
Mixing ratio	**weight**	100	24
Mixing ratio	**volume**	100	27
Colour		translucent	colourless to yellowish
Viscosity, 25°C	mPa.s	~510	~30
Density, 25°C	g/ml	1.14	1.00
		Mixture	
Potlife, 100 g / RT, approx. values	min	60	
Mixed viscosity, 25°C, approx. values	mPa.s	320	

Processing

- The material and processing temperatures should be in the range 15 - 25°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”.

Thermal data of neat resin specimen at different post curing conditions				
Biresin® CR83 resin (A)	with hardener (B) **Biresin®**		**CH94-2**	
Post curing conditions			14 days/RT	8 h/80°C
Heat distortion temperature	ISO 75A	°C	56	93
	ISO 75B	°C	57	96
	ISO 75C	°C	54	83
Glass transition temperature	ISO 11357	°C	63	97

Mechanical Data, neat resin specimen at different post curing conditions				
Biresin® CR83 resin (A)	with hardener (B) **Biresin®**		**CH94-2**	
Post curing conditions			14 days/RT	8 h/80°C
Tensile strength	ISO 527-2	MPa	81	78
Tensile-E-Modulus	ISO 527-2	MPa	3,550	2,950
Elongation at break	ISO 527-2	%	2.8	4.6
Flexural strength	ISO 178	MPa	129	119
Flexural-E-Modulus	ISO 178	MPa	3.750	2.900
Density	ISO 1183	g/cm³	1,18	1,18
Impact resistance	ISO 179	kJ/m²	18	41

Packaging (net weight, kg)				
Biresin® CR83 resin (A)	1,000	200		10
Biresin® CH94-2 hardener (B)			24	2.4

Storage

- Minimum shelf life of Biresin® CR83 resin (A) is 24 month and of Biresin® CH94-2 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 to at least 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 and storage of products, users should refer to the current Safety Data Sheet 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

Further information available at:

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