

Biresin® CR84 with fast cure hardeners

Thixotropic composite resin system

Product Description

This family of epoxy resin systems with Biresin® CR84 epoxy resin (A) and selected hardeners (B) has been specially designed for the fast production of sport and leisure articles.

Application Areas

High volume production of sport and leisure goods such as skis, snowboards, skateboards, wakeboards, surfboards etc. especially those which include a variety of materials such as glass fibre, wood, metal, plastic etc.

Features / Advantages

- The thixotropic A-Component provides an optimal mixed viscosity combined with a good wetting behaviour and good non draining properties
- Glass transition temperatures with all hardeners (B) approx. 90 - 100°C depending on the curing conditions
- A variety of curing speeds and system viscosities allows for a variety of processing methods and conditions
- With S12 and G30 hardener (B): good impregnation properties with dry fabrics and good curing behaviour even at room temperature
- With G30 hardener (B): equivalent properties to that of S12 but with a longer potlife
- With P7 hardener (B): as a pasty bonding system
- Typically, curing cycles of 12 minutes at 80°C are possible

Physical Data		Resin (A)		Hardener (B)	
Individual Components		Biresin® CR84	Biresin® S12	Biresin® G30	Biresin® P7
Mixing ratio	in parts by weight	100	20	32	24
Mixing ratio	in parts by volume	100	23	38	26
Colour		translucent	yellowish to amber		
Viscosity, 25°C	mPa.s	~4,000	~120	~2,350	~ 20,000
Density, 25°C	g/ml	1.16	1.00	0.98	1.09
		Mixture			
Potlife, 100 g / RT, approx. values	min		60	100	16
Mixed viscosity, 25°C, approx. values	mPa.s		1,600	2,950	6,700

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.
- 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					
Biresin® CR84 resin (A)	with hardener (B)		Biresin® S12	Biresin® G30	Biresin® P7
Tensile strength	ISO 527	MPa	86	75	46
Tensile E-Modulus	ISO 527	MPa	3,050	2,550	2,800
Elongation at break	ISO 527	%	5.5	5.2	1,7
Flexural strength	ISO 178	MPa	126	112	120
Flexural E-Modulus	ISO 178	MPa	3,050	2,800	3,000
Compressive strength	ISO 604	MPa	109	100	107
Density	ISO 1183	g/cm ³	1.18	1.16	1.19
Impact resistance	ISO 179	kJ/m ²	31	42	12

Thermal Data, neat resin specimen (approx. values after optimum post curing)					
Biresin® CR84 resin (A)	with hardener (B)		Biresin® S12	Biresin® G30	Biresin® P7
Heat distortion temperature	ISO 75B	°C	101	96	103
Glass transition temperature	ISO 11357	°C	100	98	108

Packaging (net weight, kg)				
Biresin® CR84 resin (A)	1,000	200		10
Biresin® S12 hardener (B)		15	2.5	box of 9 x 0,4
Biresin® G30 hardener (B)			2.5	box of 6 x 0.15
Biresin® P7 hardener (B)			2.4	box of 6 x 0.5

- Storage**
- Minimum shelf life of Biresin® CR84 resin (A) is 24 month and of hardeners (B) Biresin® S12, Biresin® G30 and Biresin® P7 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 a maximum of 80°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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