

Biresin® CR84 with Biresin® CH120-6 Hardener Composite resin system

Product Description

Biresin® CR84 (A) epoxy resin with hardener Biresin® CH120-6 (B) is a lightly thickened epoxy resin system having a potlife up to 5 hours with a reduced tendency to drip from reinforcing fibres during processing. The resin system can be cured at 80°C.

Application Areas

This high performance system is especially suited to the filament winding process due to its long open time and low drip properties. It can also be used where Tg of >100°C is needed.

Features / Advantages

- Long pot life enables winding of large structures in one pass
- Thixotropic nature reduces dripping and spray from impregnated fibres, also reduces mess and waste.
- The system is Germanischer Lloyd approved. Certificate No. WP 1420018 HH (attached)
- Low exothermic reaction temperature due to long pot life

Physical Data		Resin (A)	Hardener (B)
Individual Components		Biresin® CR84	Biresin® CH120-6
Mixing ratio, parts by	weight	100	28
Mixing ratio, parts by	volume	100	35
Colour		translucent	colourless to yellowish
Viscosity, 25°C	mPa.s	~4,450	~35
Density, 25°C	g/ml	1.15	0.93
		Mixture	
Potlife, 100 g / RT, approx. values	mins	300	
Mixed viscosity, 25°C, approx. values	mPa.s	850	

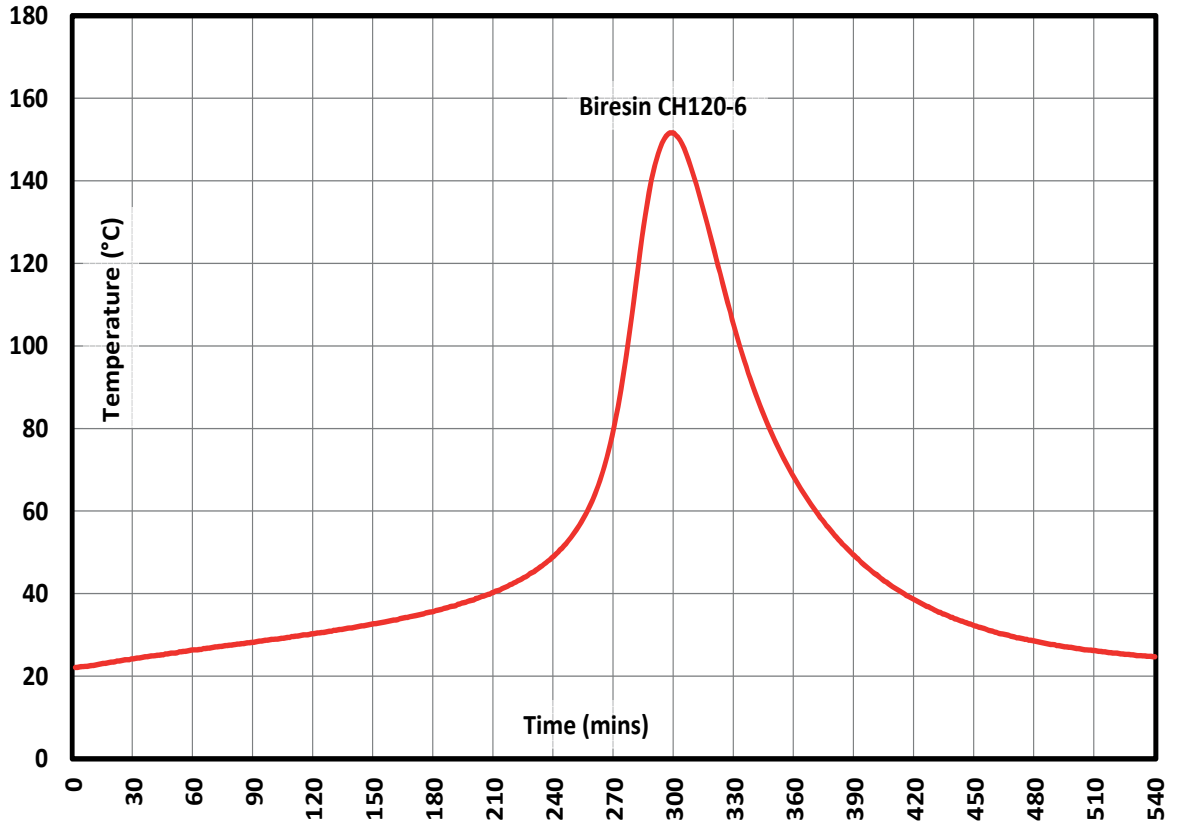
Processing

- 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".

Thermal data of neat resin after curing 8hr @ 80°C

Biresin® CR84 resin (A)		with Biresin® CH120-6 hardener (B)	
Heat distortion temperature	ISO 75A	°C	98
	ISO 75B	°C	101
	ISO 75C	°C	90
Glass transition temperature	ISO 11357	°C	104

Development of Exotherm of Biresin® CR84 (A) with Biresin® CH120-6 (B) 100g / RT, insulated



Mechanical Data, neat resin, approx. values after 8 h / 80°C (source: Sika internal)

Biresin® CR84 resin (A)			with Biresin® CH120-6 hardener (B)	
Tensile strength	ISO 527	MPa	85	
Tensile E-Modulus	ISO 527	MPa	3,200	
Elongation at break	ISO 527	%	4.2	
Flexural strength	ISO 178	MPa	132	
Flexural E-Modulus	ISO 178	MPa	3,200	
Compressive strength	ISO 604	MPa	116	
Density	ISO 1183	g/cm ³	1.14	
Shore hardness	ISO 868	-	D 86	
Impact resistance	ISO 179	kJ/m ²	32	

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_g)
- 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 SikaAxson standard cycle is used to ensure that the full T_g potential of the system in question is reached.

Packaging (net weight, kg)

Biresin® CR84 resin (A)	1,000	200	10
Biresin® CH120-6 hardener (B)	900	20	3

Storage

- Minimum shelf life of Biresin® CR84 resin (A) is 24 month and of Biresin® CH120-6 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 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, 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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