

Biresin® CR170 with Biresin® CH125-1 hardener Composite resin system

Areas of Application

- For injection processing

Product Benefits

- Short cycle times for RTM processing
- Glass transition temperatures up to 116°C dependent on curing conditions

Description

- Basis Two-component-epoxy-system
- Resin (A) **Biresin® CR170**, epoxy resin
- Hardener (B) **Biresin® CH125-1**, amine

Physical Data	Resin (A)	Hardener (B)
Individual Components	Biresin® CR170	Biresin® CH125-1
Mixing ratio in parts by weight	100	24
Mixing ratio in parts by volume	100	28
Colour	translucent	colourless to yellowish
Viscosity, 25°C mPa.s	~13,000	~900
Density, 25°C g/cm³	~1.14	~1,02
	Mixture	
Potlife, 100 g / RT, approx. values min	24	
Mixed viscosity, RT, approx. values mPa.s	1,250	

Mechanical Data of neat resin specimen

Biresin® CR170 resin (A) with hardener (B)			Biresin® CH125-1	
Curing conditions	time/temperature		9 min / 110°C	2 h / 120°C
Tensile strength	ISO 527	MPa	75	75
Tensile E-Modulus	ISO 527	MPa	2,400	2,400
Elongation at break	ISO 527	%	8	8
Flexural strength	ISO 178	MPa	100	100
Flexural E-Modulus	ISO 178	MPa	2,500	2,500
Shore hardness	ISO 868	-	D 85	D 84
Impact resistance	ISO 179	kJ/m²	85	90

Processing

- The temperature of the resin system should be 30 - 40°C to achieve good mixing of components.
- The processing temperature of the mould should be between 60 and 120°C.
- To clean brushes or tools immediately Sika Reinigungsmittel 5 is recommended.
- Additional information are available in "Processing Instructions for Composite Resins".

Packaging (net weight, kg)

Biresin® CR170 resin (A)	200	30	10
Biresin® CH125-1 hardener (B)	180		3

Thermal Data of neat resin specimen				
Biresin® CR170 resin (A)		with hardener (B)	Biresin® CH125-1	
Curing conditions		time / temperature	9 min / 110°C	2 h / 120°C
Heat distortion temperature	ISO 75B	°C	110	115
	ISO 75C	°C	85	100
Glass transition temperature	ISO 11357	°C	110	115

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.

Storage

- Minimum shelf life of Biresin® CR170 resin (A) is 24 month and of Biresin® CH125-1 hardener (B) is 12 month under room conditions (18 - 25°C), when stored in original unopened containers.
- After prolonged storage crystallisation of resin 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 to prevent moisture ingress. 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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