BUILDING TRUST

PRODUCT DATA SHEET

SikaBiresin® CR141 CH100-1

Composite resin system for injection process with T_g up to 148 °C

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties		Component A SikaBiresin® CR141	Component B SikaBiresin® CH100-1
Chemical base		Epoxy resin	Amine hardener
Color		Translucent	Colorless to yellowish
Density	liquid	1.16 kg/l	1.00 kg/l
	cured	1.17 kg/l	
Mixing ratio	by weight	100 : 20	
	by volume	100 : 23	
Viscosity (CQP029-4)		8250 mPa·s	100 mPa·s
	mixed	1500 mPa·s	
Pot life (CQP021-3 / Gel Timer TECAM)		80 minutes	
Curing conditions	8 hours	140 °C	
Tensile strength (CQP036-2 / ISO 527)		69 MPa	
Tensile modulus (CQP036-2 / ISO 527)		2350 MPa	
Tensile elongation (CQP036-2 / ISO 527)		5.0 %	
Flexural strength (CQP027-2 / ISO 178)		120 MPa	
Flexural modulus (CQP027-2 / ISO 178)		2700 MPa	
Compressive strength (CQP028-5 / ISO 604)		117 MPa	
Shore D hardness (CQP023-1 / ISO 868)		85	
Impact resistance (CQP038-2 / ISO 179)		24 kJ/m²	
Glass transition temperature (CQP301-5 / ISO 11357)		148 °C	
Heat deflection temperature (CQP030-1 / ISO 75A)		141 °C	
Heat deflection temperature (CQP030-1 / ISO 75B)		145 °C	
Heat deflection temperature (CQP030-1 / ISO 75C)		122 °C	
Shelf life		24 months	12 months

CQP = Corporate Quality Procedure

DESCRIPTION

SikaBiresin® CR141 CH100-1 is an epoxy resin system suitable for the production of high performance FRP components by RTM process.

PRODUCT BENEFITS

- Low viscosity and good wetting characteristics at elevated temperatures
- High temperature resistance
- Short curing cycles

AREAS OF APPLICATION

SikaBiresin® CR141 CH100-1 is especially suited to injection processes due to its viscosity and reactivity. It is suited for applications where higher temperature resistance and short cycle times are required.
This product is suitable for experienced professional users only. Tests under actual processing conditions and with additional materials such as fibres and release agents must be performed to proof material compatibility.

METHOD OF APPLICATION

Mixing process

The components must be mixed homogeneously by using the common mixing techniques for composite resins. To get full performance, the indicated mixing ratio must be respected precisely.
The temperature of the mixture has a direct influence on the viscosity and pot life of the resin system.
Note: Release agents or other additives can influence the material properties and performance.

Application

The resin system is optimized for injection temperatures between 45 °C – 80 °C. Consider the change in processing parameters if the resin system is processed at different temperatures. Depending on the process, the mould temperature can be 60 °C – 140 °C for an isothermal process and 60 °C – 180 °C for a variothermal process.

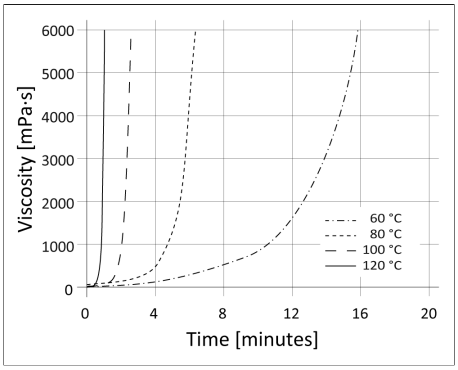

Diagram 1: Viscosity development at different temperatures

Prior to application, check both components for crystallization. The crystallization process can be reversed by heating the product to 60 °C – 70 °C until the crystals are no longer visible.
Containers must be closed tightly immediately after each use to prevent moisture ingress.

Postcuring

Mechanical and thermal values of the laminated part depend on various factors, such as laminate thickness, fiber volume content, reactivity of the resin system as well as chosen curing cycle. For information concerning suitable curing cycles consult the General Guideline for Composite Resins.

Removal

Uncured SikaBiresin® CR141 CH100-1 can be removed from tools and equipment with Sika® Reinigungsmittel 5 or another suitable solvent. Once cured, the material can only be removed mechanically. Hands and exposed skin shall be washed immediately using industrial hand cleaner and water.
Do not use solvents on skin.

STORAGE CONDITIONS

All components must be stored between 15 °C – 30 °C.
Prior to use check the material for homogeneity and crystallization and make sure to temper it to processing temperature.

FURTHER INFORMATION

The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of Sika Industry.
Copies of the following publications are available on request:

- Safety Data Sheets
- General Guideline
  For Composite Resins

PACKAGING INFORMATION

SikaBiresin® CR141 (A)

Pail	10 kg
Drum	220 kg
IBC	1000 kg

SikaBiresin® CH100-1 (B)

Can	4 kg
Drum	180 kg

BASIS OF PRODUCT DATA

All technical data stated in this document are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

HEALTH AND SAFETY INFORMATION

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

DISCLAIMER

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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