

PRODUCT DATA SHEET

SikaBiresin® CR105

Composite resin system for the production of high performance composites with T_g up to 98 °C

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties	Component A SikaBiresin® CR105	Component B SikaBiresin® CH105-10
Chemical base	Epoxy resin	Amine hardener
Color	Translucent	Colorless-transparent
Density	1.16 kg/l	0.94 kg/l
	cured	1.15 kg/l
Mixing ratio	by weight	100 : 32
	by volume	100 : 39
Viscosity (CQP029-4)	11 000 mPa·s	10 mPa·s
	mixed	730 mPa·s
Application temperature	18 – 25 °C	
Pot life (CQP021-3 / Gel Timer TECAM)	340 minutes	
Curing conditions	8 hours	80 °C
Tensile strength (CQP036-2 / ISO 527)	75 MPa	
Tensile modulus (CQP036-2 / ISO 527)	2800 MPa	
Tensile elongation (CQP036-2 / ISO 527)	4.4 %	
Flexural strength (CQP027-2 / ISO 178)	111 MPa	
Flexural modulus (CQP027-2 / ISO 178)	3000 MPa	
Compressive strength (CQP028-5 / ISO 604)	100 MPa	
Shore D hardness (CQP023-1 / ISO 868)	85	
Impact resistance (CQP038-2 / ISO 179)	24 kJ/m ²	
Glass transition temperature (CQP301-5 / ISO 11357)	98 °C	
Heat deflection temperature (CQP030-1 / ISO 75B)	95 °C	
Heat deflection temperature (CQP030-1 / ISO 75C)	88 °C	
Shelf life	24 months	12 months

CQP = Corporate Quality Procedure

DESCRIPTION

SikaBiresin® CR105 is an epoxy resin system with a long pot life, suited for the production of high performance composite parts.

PRODUCT BENEFITS

- Long pot life enables winding of large structures in one pass
- Less filling and cleaning of impregnation bath due to long pot life
- Low exotherm

AREAS OF APPLICATION

SikaBiresin® CR105 is designed for the filament winding process due to its very long pot life. It can be used in general industrial and marine composite areas.

This product is suitable for experienced professional users only. Tests under actual processing conditions and with additional materials such as fibers 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 processing temperatures between 18 °C – 25 °C. Consider the change in processing parameters if the resin system is processed at different temperatures. The curing must be performed at temperature ≥ 18 °C.

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® CR105 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® CR105 (A)

Pail	10 kg
Hobbock	30 kg
Drum	200 kg

SikaBiresin® CH105-10 (B)

Can	3.2 kg
Hobbock	19.2 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

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