BUILDING TRUST

PRODUCT DATA SHEET

# SikaBiresin® CR144 CH125-1

Composite resin system for injection processing with $T_g$ up to 115 °C

## TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

| Properties | | Component A<br>SikaBiresin® CR144 | Component B<br>SikaBiresin® CH125-1 |
|---|---|---|---|
| Chemical base | | Epoxy resin | Amine hardener |
| Color | | Translucent | Colorless to yellowish |
| Density | | 1.14 kg/l | 1.02 kg/l |
| Mixing ratio | by weight<br>by volume | 100 : 24<br>100 : 28 | |
| Viscosity (CQP029-4) | | 12 000 mPa·s | 20 mPa·s |
| | mixed | 1250 mPa·s | |
| Application temperature | | see section "APPLICATION" | |
| Pot life (CQP021-3 / Gel Timer TECAM) | | 24 minutes | |
| Curing conditions | 2 hours | 120 °C | |
| Tensile strength (CQP036-2 / ISO 527) | | 75 MPa | |
| Tensile modulus (CQP036-2 / ISO 527) | | 2400 MPa | |
| Tensile elongation (CQP036-2 / ISO 527) | | 8.0 % | |
| Flexural strength (CQP027-2 / ISO 178) | | 100 MPa | |
| Flexural modulus (CQP027-2 / ISO 178) | | 2500 MPa | |
| Shore D hardness (CQP023-1 / ISO 868) | | 84 | |
| Impact resistance (CQP038-2 / ISO 179) | | 90 kJ/m$^2$ | |
| Glass transition temperature (CQP301-5 / ISO 11357) | | 115 °C | |
| Heat deflection temperature (CQP030-1 / ISO 75B) | | 115 °C | |
| Heat deflection temperature (CQP030-1 / ISO 75C) | | 100 °C | |
| Shelf life | | 24 months | 12 months |

CQP = Corporate Quality Procedure

## DESCRIPTION

SikaBiresin® CR144 CH125-1 is an epoxy resin system for resin transfer molding applications. It enables very fast curing cycles and thus high output rates in production.

## PRODUCT BENEFITS

- Very fast curing
- Glass transition temperature up to 115 °C
- Very good mechanical properties

## AREAS OF APPLICATION

SikaBiresin® CR144 CH125-1 is suited for injection processes such as resin transfer molding. Due to the high reactivity it is used especially for small high performance parts.
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 injection temperatures between 45 °C – 60 °C. Consider the change in processing parameters if the resin system is processed at different temperatures. The mold temperature can vary depending on the process, for an isothermal process it can be 60 °C – 100 °C and for a variothermal process 60 °C – 140 °C.

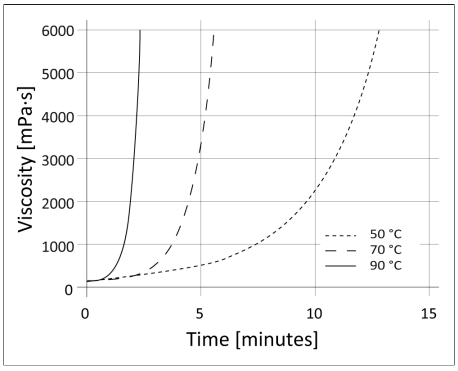


Diagram 1: Viscosity development at different temperatures

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® CR144 CH125-1 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® CR144 (A)

| | |
|---|---|
| Pail | 10 kg |
| Drum | 200 kg |
| IBC | 1000 kg |

SikaBiresin® CH125-1 (B)

| | |
|---|---|
| Can | 3 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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