

PRODUCT DATA SHEET

SikaBiresin® CR216 (Formerly EPOLAM 2090)

Epoxy Laminating and Infusion System for High Temperature Applications

TYPICAL PHYSICAL PROPERTIES (FOR FURTHER VALUES SEE SAFETY DATA SHEET)

Properties	SikaBiresin® CR216 (A) Resin	SikaBiresin® CH216-50 (B) Hardener
Composition	Epoxy	Amine
Mix ratio – by weight	100	53
Mix ratio – by volume	100	65
Aspect	Light amber liquid	Clear liquid
Color (mixed)	n/a	Clear light amber
Viscosity – Brookfield (mixed)	n/a	700 cps
Pot life (150g) at 77°F (25°C)	n/a	1,500 Minutes

DESCRIPTION

SikaBiresin® CR216 is an epoxy-based laminating and infusion system designed for use in the production of high temperature use composite tooling and structures by typical impregnation methods (infusion, wet-lay-up).

PRODUCT BENEFITS

- Very high Tg
- Low mixed viscosity
- Very long pot life
- Excellent final properties after post-cure

AREAS OF APPLICATION

SikaBiresin® CR216 is used for high temperature use composite tools and parts for aerospace and a variety of other industries. It is suitable for infusion processing, wet-layup, and vacuum bagging processes.

TYPICAL MECHANICAL AND THERMAL PROPERTIES (NEAT FORM)

Properties, Test Method	Mixed with SikaBiresin® CR216 (A) Resin	
	SikaBiresin® CH216-50 (B) Hardener ^A	SikaBiresin® CH216-50 (B) Hardener ^B
Shore D hardness, ASTM D2240	93	91
Flexural strength, ASTM D790	11,823 psi (82 MPa)	12,442 psi (86 MPa)
Flexural modulus, ASTM D790	414,085 psi (2,857 MPa)	489,574 psi (3,378 MPa)
Tensile strength, ASTM D638	6,210 psi (43 MPa)	5,084 psi (35 MPa)
Tensile modulus, ASTM D638	243,690 psi (1,681 MPa)	292,640 psi (2,019 MPa)
Tensile elongation, ASTM D638	3.1%	1.9%
Glass Transition Temperature (Tg), ASTM E1545	347°F (175°C)	396°F (202°C)

^A Cured 24 hours at 77°F (25°C) + 1 hour at 122°F (50°C) + 1 hour at 176°F (80°C) + 2 hours at 250°F (121°C) + 4 hours at 300°F (149°C).

^B Cured 24 hours at 77°F (25°C) + 1 hour at 150°F (66°C) + 1 hour at 200°F (93°C) + 2 hours at 250°F (121°C) + 4 hours at 356°F (180°C).

PROCESSING

After mixing according to the required ratio, carry out impregnation of the reinforcements. To ensure an optimal and good impregnation, material must be used at a temperature above 68°F (20°C). Do not allow large masses of material (more than 1" thickness) to cure in mixing cup at temperatures greater than or equal to room temperature, as this can lead to exotherm or possible smoke generation of the material.

Preliminary self-support cure schedule:

In order to avoid any risk of distortion or tooling shrinkage, a precise curing cycle must be implemented. Demolding should take place only after a 16 hour pre-curing phase at 122°F-140°F (50°C-60°C), prior to further post cure treatment.

Alternative post-cure options can be used, if needed, in processing. Contact Sika Corporation's Industry Technical Services Department at tsmh@us.sika.com for additional information and advice.

Heating and cooling rates during post-cure:

Always allow tools made with Sika® high temperature systems to gel at room temperature before subjecting them to post cure (24 hours is usually sufficient). This will prevent excessive exotherm and shrink stress from occurring. When oven curing laminated molds, always place mold in a room temperature oven and increase temperature at a rate of no more than 50°F (30°C) per hour. When heat cure is completed, turn off oven and allow molds to remain in the oven. Never remove mold from oven until mold temperature has been lowered to less than 100°F (38°C).

Normal health and safety precautions should be observed when handling these products:

- Ensure adequate ventilation
- Wear gloves, glasses, and protective clothes

For further information, please consult the Safety Data Sheets

STORAGE CONDITIONS

Shelf life of resin is 6 months and hardener is 24 months when stored in original, unopened containers between 65-77°F (15 - 25°C). Any opened can must be tightly closed.

PACKAGING INFORMATION

Packaging information is available upon request. Please contact your local Sika sales representative.

FURTHER INFORMATION

Advice on specific applications will be given on request. To contact Sika Corporation's Industry Technical Services Department, send an email to tsmh@us.sika.com. Copies of Safety Data Sheets and Product Data Sheets are available upon request.

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.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current

actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by contacting SIKA's Technical Service Department via email at tsmh@us.sika.com. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product. SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.** Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at <https://usa.sika.com/en/group/SikaCorp/termsandconditions.html> or by calling +1 800-933-7452.