

PRODUCT DATA SHEET

SikaBiresin® CR108 FR (Formerly AL 2020)

Flame Retardant, Epoxy Laminating System

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

Properties	SikaBiresin® CR108 FR (A) Resin	SikaBiresin® CH108-1 (B) Hardener	SikaBiresin® CH108-4 (B) Hardener	SikaBiresin® CH108-8 (B) Hardener
Composition	Epoxy	Amine	Amine	Amine
Mix ratio – by weight	100	22	24	30
Aspect	Clear liquid	Liquid	Liquid	Liquid
Color (mixed)	Clear	Light Amber	Light Amber	Light Amber
Viscosity – Brookfield (mixed)	n/a	1,000 cps	1,375 cps	1,300 cps
Density at 77°F (25°C)	9.74 lbs./gal	7.99 lbs./gal	7.91 lbs./gal	7.97 lbs./gal
Gel time, 130g at 77°F (25°C)	n/a	61 minutes	222 minutes	480 minutes

DESCRIPTION

SikaBiresin® CR108 FR is a premium performance, flame retardant, epoxy laminating system. It is suitable for use with glass, carbon, and aramid fabrics. SikaBiresin® CR108 FR can be heated immediately after application to achieve a faster processing time.

PRODUCT BENEFITS

- Flame retardant
- Halogen-free
- Self-extinguishing
- Low viscosity for good wet-out
- Bonds well to all fabrics
- Three hardener choices for process flexibility
- Excellent physical and mechanical properties

AREAS OF APPLICATION

SikaBiresin® CR108 FR is suitable for manufacturing flame retardant, epoxy-based composite parts. Recommended applications include high-performance automotive body panels for NASCAR and other transportation areas, aviation, aerospace, marine, and general industrial applications. With three hardener options providing a wide range of working times, SikaBiresin® CR108 FR is suitable for several processing techniques, including wet-layup, vacuum-bagging, RTM, VARTM, and filament winding.

Tests with actual materials and conditions have to be performed to ensure satisfactory performance.

TYPICAL MECHANICAL AND THERMAL PROPERTIES (NEAT FORM)

Properties, Test Method	Mixed with SikaBiresin® CR108 FR (A) Resin		
	SikaBiresin® CH108-1 (B) Hardener	SikaBiresin® CH108-4 (B) Hardener	SikaBiresin® CH108-8 (B) Hardener
Shore D hardness, ASTM D2240	85 ^A 87 ^B	88 ^A 87 ^B	79 ^A 87 ^B
Glass Transition Temp. (Tg), ASTM D3418	126°F (52°C) ^A 131°F (55°C) ^B	103°F (39°C) ^A 154°F (68°C) ^B	124°F (51°C) ^A 140°F (60°C) ^B
Glass Transition Temp. (Tg), ASTM D3418 Ultimate DSC Tg build	226°F (108°C) ^C	203°F (95°C) ^C	199°F (93°C) ^C
Tensile strength, ASTM D638	5,875 psi (41 MPa) ^A 11,750 psi (79 MPa) ^B	4,475 psi (31 MPa) ^A 8,500 psi (51 MPa) ^B	8,373 psi (58 MPa) ^A 7,500 psi (52 MPa) ^B
Tensile modulus, ASTM D638	311,990 psi (2,153 MPa) ^A 315,000 psi (2,179 MPa) ^B	253,897 psi (1,752 MPa) ^A 275,000 psi (1,900 MPa) ^B	245,785 psi (1,696 MPa) ^A 245,000 psi (1,690 MPa) ^B
Tensile elongation, ASTM D638	2.2% ^A 5.1% ^B	2.0% ^A 4.0% ^B	6.0% ^A 3.7% ^B
Flexural strength, ASTM D790	10,175 psi (70 MPa) ^A 15,500 psi (107 MPa) ^B	11,303 psi (78 MPa) ^A 18,800 psi (130 MPa) ^B	11,390 psi (79 MPa) ^A 12,500 psi (86 MPa) ^B
Flexural modulus, ASTM D790	490,440 psi (3,005 MPa) ^A 495,000 psi (3,410 MPa) ^B	338,972 psi (2,339 MPa) ^A 490,000 psi (3,380 MPa) ^B	352,557 psi (2,433 MPa) ^A 380,000 psi (2,629 MPa) ^B

^{A)} Cure schedule: 7 Days at 77°F (25°C)

^{B)} Cure schedule: 3 Hours at 150°F (66°C)

^{C)} Cure schedule: 3 Hours at 170°F (77°C)

PROCESSING

Mix resin and hardener components to the required mix ratio, then impregnate the reinforcement according to the selected process.

Normal cure schedule: Allow material to set 24 hours at room temperature, then post-cure up to 180°F, or heat-cure according to the accelerated cure schedule, if needed.

Accelerated cure schedule: The laminate can be immediately placed into an oven at a temperature up to 150°F (66°C) for three hours.

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 and hardeners is 12 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.

Sika Corporation
30800 Stephenson Highway
Madison Heights, MI 48071
U.S.A.
Telephone: +1 248-577-0020
Email: tsmh@us.sika.com
www.sikausa.com

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