

PRODUCT DATA SHEET

# SikaBiresin® CR111 (Formerly EL-300)

Epoxy Laminating System for Room Temperature Applications

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

Properties	SikaBiresin® CR111 (A) Resin	SikaBiresin® CH111-1 (B) Hardener
Composition	Epoxy	Amine
Mix ratio – by weight	100	13
Aspect	Liquid	Liquid
Color	Clear	Light amber
Color (mixed)	Clear light amber	
Viscosity – Brookfield (mixed)	1,950 - 2,250 cps	
Specific gravity at 77°F (25°C) (mixed)	9.18 lbs./gal (1.10 g/cc)	
Gel time (113 g) at 77°F (25°C)	28 Minutes	

**DESCRIPTION**

SikaBiresin® CR111 is a clear, 100% solids, two-component epoxy laminating system developed for all types of composite and civil engineering applications. SikaBiresin® CR111 exhibits good wet-out and can also be used as an adhesive or coating due to its ability to cure in a thin film, creating a very strong and durable bond between several substrate types.

**PRODUCT BENEFITS**

- Low viscosity for good wet-out
- Clear, light amber for good clarity
- Approved for U.S. Food contact under regulation 21 CFR 175.300
- Very good adhesive bond
- Low odor

**AREAS OF APPLICATION**

Typical applications include the production of high performance laminates for composite and civil engineering applications. SikaBiresin® CR111 is suitable for wet-layup processing, along with vacuum bagging and RTM processes. It can also function as a coating adhesive, giving a strong and durable bond to many substrates such as wood, several metals, FRP composite, and others.

**TYPICAL MECHANICAL AND THERMAL PROPERTIES**

Properties, Test Method	SikaBiresin® CR111 (A) Resin	SikaBiresin® CH111-1 (B) Hardener
Hardness - Shore D, ASTM 2240	85	
Tensile strength, ASTM D638	11,400 psi (79 MPa)	
Tensile elongation, ASTM D638	4%	
Flexural strength, ASTM D790	13,900 psi (96 MPa)	
Flexural modulus, ASTM D790	440,000 psi (3,034 MPa)	
Compressive Strength, ASTM D695	16,300 psi (112 Mpa)	
Heat Deflection Temperature (HDT), 66 psi	232 °F (111°C)	

Cured 7 days at 77°F (25°C)

**CHEMICAL RESISTANCE**

Results - 120 day immersion - Mass % weight change	SikaBiresin® CR111 (A) Resin	SikaBiresin® CH111-1 (B) Hardener
Sulfuric Acid (30% solution)		3.1%
Sulfuric Acid (3% solution)		2.66%
Hydrochloric Acid (36% solution)		5.58%
Hydrochloric Acid (10% solution)		3.15%
Nitric Acid (40% solution)		Failed
Nitric Acid (10% solution)		3.95%
Ammonium Hydroxide (28% solution)		1.79%
Ammonium Hydroxide (10% solution)		1.73%
Acetic Acid (25% solution)		14.2%
Ethyl Alcohol (95% solution)		0.86%
Citric Acid (10% solution)		1.65%
Distilled Water		1.70%

**PROCESSING**

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). Keep containers 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](mailto: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](http://usa.sika.com) or by contacting SIKA’s Technical Service Department via email at [tsmh@us.sika.com](mailto: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

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