

PRODUCT DATA SHEET

SikaBiresin® CR77 FR with CH77-2 Fast and CH77-4 Slow Hardeners

(FORMERLY EL-319)

EPOXY LAMINATING SYSTEM

FLAME RETARDANT, MEETS FAR 25.853 FLAME TESTING

DESCRIPTION

SikaBiresin® CR77 FR is a UV stabilized **Halogen-Free Flame Retardant Epoxy Laminating System developed for use in fabricating parts or repairs on structures which require flame retardant, self-extinguishing properties with room-temperature curing capabilities (or post cure options).

SikaBiresin® CR77 FR resin is available with two hardener choices: SikaBiresin® CH77-2 Fast, a moderate work-life hardener for fast turnaround laminating of production parts and repairs, or SikaBiresin® CH77-4 Slow, a long work-life hardener for laminating and vacuum bagging of large parts and repairs.

**SikaBiresin® CR77 FR Resin does not contain PBDE or OBDE or DBDE Flame retardant additive

- Suitable for vacuum bagging or RTM
- Applications areas include - Aerospace, transportation, architectural and others

PROPERTIES

- Low viscosity for good wet-out
- Non-Halogen flame retardancy
- Self-extinguishing
- Two hardener choices (fast/slow)
- RoHS and REACH compliant
- Epoxy (non-styrene)
- Excellent bond to all fabrics

TYPICAL PHYSICAL PROPERTIES

	Units	SikaBiresin® CR77 FR (A) Resin	SikaBiresin® CH77-2 (B) Fast Hardener	SikaBiresin® CH77-4 (B) Slow Hardener
Composition		Epoxy	Amine	Amine
Mix ratio – by weight		100	12	19
Aspect		Clear Liquid	Clear Liquid	Clear Liquid
Color	Visual	Light Amber	Light Amber	Light Amber
Viscosity – Brookfield	Cps.	9,720	40	30
Viscosity – Brookfield (mixed)	Cps.		1,865	1,105

Density at 77°F (25°C) (mixed)	lbs./gal (g/cc)	9.78 (1.17)	8.10 (.97)	7.94 (.95)
Pot life (200g) at 77°F (25°C)	minutes		50	139

MECHANICAL PROPERTIES

MECHANICAL AND THERMAL PROPERTIES (NEAT FORM)						
Property	Test Method	Units(s)	SikaBiresin® CH77-2 (B) Fast Hardener*	SikaBiresin® CH77-2 (B) Fast Hardener**	SikaBiresin® CH77-4 (B) Slow Hardener**	SikaBiresin® CH77-4 (B) Slow Hardener**
Hardness	ASTM D2240	Shore D	87	88	87	87
Flexural strength	ASTM D790	psi (MPa)	13,040 (90)	14,593 (101)	11,535 (80)	17,006 (117)
Flexural modulus	ASTM D790	psi (MPa)	473,215 (3,265)	560,077 (3,864)	372,726 (2,572)	527,632 (3,641)
Tensile strength	ASTM D638	psi (MPa)	7,510 (52)	9,799 (68)	7,067 (49)	10,424 (72)
Tensile modulus	ASTM D638	psi (MPa)	341,734 (2,358)	349,476 (2,411)	250,994 (1,732)	309,786 (2,136)
Elongation	ASTM D638	%	2.6	3.3	4.0	4.4
Tg (TMA)	ASTM E1545	°F (°C)	113 (45)	170 (77)	98 (38)	115 (45)

*Cure schedule: *7 day at 77°F (25°C) **24-36 hr at 77°F (25°C) + 4 hr 212°F (100°C)

Flame Retardant Properties**		
Test Description	Test Method	Test Results
(F1) 60 second – Vertical Burn Test	FAR/JAR 25.853	Pass
(F2) 12 second- Vertical Burn Test Req.	FAR/JAR 25.853	Pass
(F5) 30 second-45°Angle Burn Test	FAR/JAR 25.853	Pass

** FAR/JAR 25.853 Appendix F, Part I(a)(1)(i), (ii), (v) (4 ply 7500 Style E-Glass Laminate),
Cure schedule: 7 days/77°F (25°C). Testing done at third party laboratory.

PROCESSING

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

- Ensure good ventilation.
- Wear gloves, glasses and protective clothes.

For further information, please consult the Safety Data Sheets.

STORAGE CONDITIONS

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

PACKAGING

Packaging information on request, please contact your local sales representative. or find your local contact on www.sikaindustry.com

LEGAL NOTICE

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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