

PRODUCT DATA SHEET

SikaBiresin[®] L84 (Biresin[®] L84)

LAMINATING AND MULTI-PURPOSE RESIN

APPLICATIONS

- Epoxy resin tooling system which has been especially formulated to produce high performance moulds of various types with excellent heat and mechanical resistance.
- With three different hardeners for flexible processing.
- Suitable for the manufacture of many types of moulds including laminated moulds reinforced with either glass or carbon fibres.
- SikaBiresin[®] L84 can also be used to produce heat resistant backstamped moulds, models and negatives and for the production of vacuumforming moulds.
- The resin systems can also be used to manufacture highly filled polymer concrete.

MAIN PROPERTIES

- Multi-purpose application with different hardeners
- Resin has excellent wetting properties for both reinforcing fibres and fillers
- High glass fibre and filler content are possible
- Good heat resistance and mechanical resistance, especially after post curing: With hardener SikaBiresin[®] GC12 for faster curing and earlier demoulding
- With hardener SikaBiresin[®] L84 T extended potlife and higher heat distortion temperature are achievable. A post cure is necessary to obtain the higher heat resistance

DESCRIPTION

Basis	Two-component-epoxy-system
Component A	SikaBiresin[®] L84 , epoxy resin, translucent
Component B	SikaBiresin[®] L84 , amine, colourless to transparent
Component B	SikaBiresin[®] GC12 , amine, amber
Component B	SikaBiresin[®] L84 T , amine, colourless to transparent

PHYSICAL PROPERTIES

Components		Resin (A)	Hardener (B)	Hardener (B)	Hardener (B)
		SikaBiresin[®] L84	SikaBiresin[®] L84	SikaBiresin[®] GC12	SikaBiresin[®] L84 T
Viscosity, 23 °C	mPa.s	~ 1,600	< 10	~ 140	< 10
Density, 25 °C	g/ml	~ 1.15	~ 1.1	~ 1.0	~ 0.92
Mixing ratio	in parts by weight	100	25	20	24
	in parts by volume	100	26	23	30

		Mixture		
Viscosity, 25 °C	mPa.s	~ 390	~ 1,090	~ 590
Potlife, RT, 500 g	min	~ 40	~ 20	~ 60
Demoulding time, RT	h	24	24	24 + postcure

MECHANICAL PROPERTIES

approx. values		SikaBiresin® L84	SikaBiresin® GC12	SikaBiresin® L84 T
Density	ISO 1183	g/cm ³	1.1	
Shore hardness	ISO 868	D 82	D 84	D 86
E-Modulus	ISO 178	MPa	3,600	3,400
Flexural strength	ISO 178	MPa	76	130
Compressive strength	ISO 604	MPa	118	120
Tensile strength	ISO 527	MPa	87	74*
Impact resistance	ISO 179	kJ/m ²	18	21

THERMAL AND SPECIFIC PROPERTIES

approx. values			SikaBiresin® L84	SikaBiresin® GC12	SikaBiresin® L84 T
Heat distortion temperature	ISO 75B	°C	100*	91*	110**
Glass transition temperature	ISO 11357	°C	104***	-	123***

*values after post curing 2 h / 80 °C, **values after post curing 15 h / 80 °C, *** values after 12 h / 100 °C

PACKAGING UNITS

■ Resin (A), SikaBiresin® L84	220 kg; 50 kg; 10 kg net
■ Hardener (B), SikaBiresin® L84	50 kg; 12.5 kg; 2.5 kg net
■ Hardener (B), SikaBiresin® GC12	15 kg; 2.5 kg; 9 x 0.4 kg; 0,4 kg net
■ Hardener (B), SikaBiresin® L84 T	53 kg; 15 kg; 2.5 kg net

PROCESSING DATA

- The material, processing and mould temperature must be from 18 to 25 °C.
- Component A must be stirred thoroughly before use.
- Weigh the components precisely according to the indicated ratio.
- Both components have to be mixed thoroughly with a spatula or slow-running stirrer according to mixing ratio.
- Do not forget to wipe the vessel bottom and wall and mix again.
- After mixing of component A and B it is possible to mix desired additives easily.
- SikaBiresin® L84 is applied quickly and easily due to its low viscosity. It will easily wet out fibres and incorporate high levels of fillers and powders with high binding force. Fibre laminates with thickness of more than 2 - 3 mm a break of 2 h is necessary to remove temperature peaks. With hardeners (B) SikaBiresin® L84 and SikaBiresin® L84 T working without break is possible.
- With hardener (B) SikaBiresin® L84 T demoulding is possible after room temperature curing of 24 h and approx. 4 - 5 h at 40 – 50 °C. Complete cure is achieved by post curing approx. 15 h at 80 °C.
- The ratio between resin and selected fibre must be determined and reliably controlled.
- For laminats glass fibres with binding twill are better than binding cloth because of its better suppleness.
- To clean tools immediately, Sika® Reinigungsmittel 5 is recommended.

STORAGE CONDITIONS

Shelf life	<ul style="list-style-type: none">▪ Resin (A), SikaBiresin® L84 24 months▪ Hardener (B), SikaBiresin® L84 18 months▪ Hardener (B), SikaBiresin® GC12 12 months▪ Hardener (B), SikaBiresin® L84 T 18 months
Storage temperature	<ul style="list-style-type: none">▪ Resin (A), SikaBiresin® L84 18 – 25 °C▪ Hardener (B), SikaBiresin® L84 18 – 25 °C▪ Hardener (B), SikaBiresin® GC12 18 – 25 °C▪ Hardener (B), SikaBiresin® L84 T 18 – 25 °C
Crystallization	<ul style="list-style-type: none">▪ After prolonged storage at low temperature, crystallization of resin (A) may occur. This is easily removed by warming up for a sufficient time at a minimum 60 °C.
Opened packagings	<ul style="list-style-type: none">▪ Containers must be closed tightly immediately after use to prevent moisture ingress.▪ The residual material needs to be used up as soon as possible.

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 Advanced Resins. Copies of the following publications are available on request: Safety Data Sheets

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.

LEGAL NOTICE

The information, and, in particular, the recommendations relating to the application and enduse 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.

Contact

SIKA DEUTSCHLAND GMBH
Business Unit Industrie
Stuttgarter Straße 139
72574 Bad Urach
Phone: +49 7125 940-7692
E-Mail: industry@de.sika.com
Website: www.sika.de

SIKA AUTOMOTIVE FRANCE S.A.S.
ZI des Béthunes - 15, Rue de l'Equerre
95310 Saint-Ouen-l'Aumône
CS 40444
95005 Cergy Pontoise Cedex - FRANCE
Phone: +33 1 34 40 34 60
Fax: +33 1 34 21 97 87
E-Mail: advanced.resins@fr.sika.com
Website: www.sikaadvancedresins.fr

AXSON TECHNOLOGIES SPAIN, S.L. – Sika Advanced Resins
C/Guardaagullés, 8 – P.I. Congost - 08520
Les Franqueses del Valles (Barcelona) - SPAIN
Phone: +34 93 225 16 20
Fax: +34 93 225 03 05
E-Mail: sar-sales@es.sika.com
Website: www.sikaadvancedresins.es

AXSON ITALIA S.R.L. – Sika Advanced Resins
Via Morandi 15
21047 Saronno (Va) – ITALY
Phone: +39 02 96 70 23 36
Fax: +39 02 96 70 23 69
E-Mail: axson@axson.it
Website: www.sikaadvancedresins.it

AXSON UK LTD – Sika Advanced Resins
Unit 15 Studlands Park Ind. Estate
Newmarket Suffolk, CB8 7AU - UNITED KINGDOM
Phone: +44 1638 660 062
Fax: +44 1638 665 078
E-Mail: sales.uk@axson.com
Website: www.sikaadvancedresins.uk

SIKA AUTOMOTIVE SLOVAKIA S.R.O.
Tovarenska 49
953 01 Zlate Moravce - SLOVAKIA
Phone: +421 2 5727 29 33
Fax: +421 37 3000 087
E-Mail: SikaAdvancedResins@sk.sika.com
Website: www.sikaadvancedresins.com

SIKA ADVANCED RESINS US
30800 Stephenson Highway
Madison Heights, Michigan 48071 - USA
Phone: +1 248 588 2270
Fax: +1 248 616 7452
E-Mail: advanced.resins@us.sika.com
Website: www.sikaadvancedresins.us

SIKA AUTOMOTIVE EATON RAPIDS, INC.
1611 Hults Drive
Eaton Rapids, Michigan 48827 - USA
Phone: +1 517 663 81 91
Fax: +1 517 663 05 23
E-Mail: advanced.resins@us.sika.com
Website: www.sikaadvancedresins.us

SIKA MEXICANA SA de CV
Av. Gustavo Baz #309 Centrum Park
54060 Tlanepantla Estado de MEXICO
Phone: +52 442 238 5800
E-Mail: roman.octavio@mx.sika.com

SIKA AUTOMOTIVE SHANGHAI CO. LTD.
N°53 Tai Gu Road
Wai Gao Qiao
Free Trade Zone, Pudong
200131 Shanghai - CHINA
Phone: +86 21 58 68 30 37
Fax: +86 21 58 68 26 01
E-Mail: marketing.china@axson.com
Website: www.sikaaxson.cn

Sika Ltd.
10 F, Shinagawa Intercity Tower B.
2-15-2 Konan, Minato-ku
Tokyo 108-6110 - JAPAN
Phone: +81 3 6433 2314
Fax: +81 3 6433 2102
E-Mail: advanced-resins@jp.sika.com
Website: www.jpn.sika.com

SIKA INDIA PVT LTD,
Plot No. Pap-V-90/1,
Chakan Industrial Area,
Phase-II, Vasuli, Khed, PUNE,
Maharashtra – 410501
E-Mail: info.india@in.sika.com