PRODUCT DATA SHEET

SikaBiresin® LS100 (Biresin® LS)

LAMINATING AND MULTI-PURPOSE RESIN

APPLICATIONS

- Manufacture of precise, robust laminates with glass and/or carbon fibres
- Manufacture of laminated foam and compression moulds
- Backstampings of moulds, models, negatives and tools
- Also used for coupling layers

MAIN PROPERTIES

- Multi-purpose application with different hardeners
- Good soaking and wetting properties
- For high addition of fillers
- With SikaBiresin® F04 (B) for longer potlife and lower viscosity
- Additional hardeners: see separate leaflet

DESCRIPTION

Basis	Two-component-epoxy-system
Component A	**SikaBiresin® LS100**, epoxy resin, yellowish-transparent, unfilled
Component B	**SikaBiresin® LS100,** standard hardener, amine, colourless-transparent, unfilled
Component B	**SikaBiresin® F04**, amine, colourless, unfilled
Component B	**SikaBiresin® GC11**, amine, amber, unfilled
Component B	**SikaBiresin® GC12**, amine, amber, unfilled

PHYSICAL PROPERTIES

		Component A	Component B			
Components		**SikaBiresin® LS100**	**SikaBiresin® LS100**	**SikaBiresin® F04**	**SikaBiresin® GC11**	**SikaBiresin® GC12**
Viscosity, 23 °C	mPa.s	~ 1,250	~ 40	< 10	~ 1,210	~ 180
Density, 25 °C	g/ml	~ 1 14	~ 0.98	~ 0.87	~ 1.08	~ 1.0
Mixing ratio	in parts by weight	100	12	18	19	16

		Mixture			
Viscosity, 23 °C	mPa.s	~ 580	~ 350	~ 2,150	~ 1,200
Potlife, RT, 500 g	min	55	80	16	60
Demoulding time, RT	h	12	16	8	12

MECHANICAL PROPERTIES

approx. values

Density	ISO 1183	g/cm³	1.2							
Curing conditions		time temperature	14 d RT	2 h 80 °C	14 d RT	2 h 80 °C	14 d RT	2 h 80 °C	14 d RT	2 h 80 °C
Shore hardness	ISO 868		D 83	D 83	D 80	D 82	D 84	D 85	D 82	D 84
E-Modulus	ISO 178	MPa	2,420	2,630	2,440	2,570	2,500	3,200	2,500	2,500
Flexural strength	ISO 178	MPa	95	107	88	94	95	116	96	103
Tensile strength	ISO 527	MPa	69	74	67	69	62	81	71	74
Impact resistance	ISO 179	kJ/m²	10	14	18	44	12	13	19	16
Compressive strength	ISO 604	MPa	104	106	91	94	104	113	102	98

THERMAL AND SPECIFIC PROPERTIES

approx. values

Heat distortion temperature	ISO 75B	°C	51	70	46	53	50	61	52	72

PACKAGING UNITS

■ Resin (A), **SikaBiresin® LS100**	220 kg; 50 kg; 20 kg net
■ Hardener (B), **SikaBiresin® LS100**	2.4 kg net
■ Hardener (B), **SikaBiresin® F04**	2.5 kg net
■ Hardener (B), **SikaBiresin® GC12**	15 kg; 2.5 kg net
■ Hardener (B), **SikaBiresin® GC11**	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 the two components it is easily possible to incorporate additives if necessary.
- SikaBiresin® LS100 (A) with SikaBiresin® F04 (B) 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.
- The ratio between resin and selected fibre must be determined and reliably controlled.
- For laminates glass fibres with binding twill are better than binding cloth because of its better suppleness.
- It is adviced to lay up a balanced laminate to avoid distortion when demoulding.
- Void-free glass and carbon fibre laminates are possible by processing under vacuum bag conditions to remove excess air and resin.
- To clean tools immediately, Sika® Reinigungsmittel 5 is recommended.

STORAGE CONDITIONS

Shelf life	■ Resin (A), **SikaBiresin® LS100**	24 months
	■ Hardener (B), **SikaBiresin® LS100**	12 months
	■ Hardener (B), **SikaBiresin® F04**	12 months
	■ Hardener (B), **SikaBiresin® GC12**	12 months
	■ Hardener (B), **SikaBiresin® GC11**	12 months
Storage temperature	■ Resin (A), **SikaBiresin® LS100**	18 – 25 °C
	■ Hardener (B), **SikaBiresin® LS100**	18 – 25 °C
	■ Hardener (B), **SikaBiresin® F04**	18 – 25 °C
	■ Hardener (B), **SikaBiresin® GC12**	18 – 25 °C
	■ Hardener (B), **SikaBiresin® GC11**	18 – 25 °C
Crystallization	■ After prolonged storage at low temperature, crystallization of the resin may occur. ■ This is easily removed by warming up for a sufficient time to a maximum of 70 °C. ■ Allow to cool to requested processing temperature before use.	
Opened packagings	■ 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

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