

PRODUCT DATA SHEET

SikaBiresin[®] GC112 (Biresin[®] S12)

EPOXY GELCOAT WITH VERY GOOD ABRASION AND HEAT RESISTANCE – GREY

APPLICATIONS

- Manufacturing of master models, vacuum forming tools and foundry patterns

MAIN PROPERTIES

- Good spreading properties and non-sagging up to 1 mm
- Good heat resistance and abrasion resistance
- Good solvent and styrene resistance

DESCRIPTION

Basis	Two component epoxy system
Component A	SikaBiresin[®] GC112 , epoxy resin, filled, grey
Component B	SikaBiresin[®] GC12 , amine, unfilled, amber

PHYSICAL PROPERTIES

		Resin (A)	Hardener (B)
Components		SikaBiresin[®] GC112	SikaBiresin[®] GC12
Viscosity, 23 °C	mPa.s	~ 100,000	~ 180
Density, 23 °C	g/cm ³	2.36	1.0
Mixing ratio A:B	in parts by weight	100	8
		Mixture	
Colour		grey	
Viscosity, 23 °C	mPa.s	~ 30,000	
Pot life, room temperature, 500 g	min	~ 30	
Geltime, room temperature	min	~ 45	
Demoulding time, room temperature	h	~ 16 – 24	
Curing time			
- at room temperature	d	5	
- at 40 °C	h	10	
- at 80 °C	h	2	

MECHANICAL PROPERTIES

approx. values

Density	ISO 1183	g/cm ³	2.2
Shore hardness	ISO 868	-	D 92
Flexural modulus	ISO 178	MPa	7,500
Flexural strength	ISO 178	MPa	78
Compressive strength	ISO 604	MPa	130
Impact resistance	ISO 179	kJ/m ²	10

THERMAL AND SPECIFIC PROPERTIES

approx. values; values after post curing 2 h / 80 °C

Heat deflection temperature	ISO 75B	°C	> 100
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PACKAGING UNITS

■ Resin (A), SikaBiresin® GC112	5 kg
■ Hardener (B), SikaBiresin® GC12	9 x 0.4 kg / 2.5 kg / 15 kg
■ Kit (AB), SikaBiresin® GC112	Box: 6 x 0.5 kg (A) + 6 x 0.04 kg (B)

PROCESSING DATA

- The material, processing and mould temperature should be at least 18 – 25 °C.
- Component A must be stirred thoroughly before use.
- Recommended release agents are Sika® Liquid Wax-815 or Sika® Pasty Wax-818. For more information, see Product Data Sheets of the release agents.
- Pay attention to dry conditions and dry mould surfaces while processing.
- Porous surfaces have to be well sealed before.
- Both components have to be mixed thoroughly according to mixing ratio with a spatula or slow speed mixing equipment.
- Apply the gelcoat in a homogenous thickness on the mould by using a flat, short-haired brush. We recommend to apply the material in a uniform direction in order to get a homogeneous, even and void-free surface coat.
- Within the geltime of gelcoat we recommend to apply a coupling layer or other backfilling layer in order to avoid adhesion problems.
- In order to improve resistance of gelcoat and final part against temperature influences, solvents as well as exposition of water, a post curing process of 2 h / 80 °C of the final part is recommended. In this case a slow increase and slow decrease of temperature is required.
- Further post curing of the demoulded part can improve the final mechanical properties.
- Depending on the geometry and weight of the part, it is recommended to use a conformer while post curing.
- For cleaning the final part from release agent residues, we recommend Sika® Reinigungsmittel-5. Before use of other cleaners, compatibility must be tested.

STORAGE CONDITIONS

Shelf life	<ul style="list-style-type: none">■ Resin (A), SikaBiresin® GC112 24 months■ Hardener (B), SikaBiresin® GC12 12 months
Storage temperature	<ul style="list-style-type: none">■ Resin (A), SikaBiresin® GC112 18 – 25 °C■ Hardener (B), SikaBiresin® GC12 18 – 25 °C
Crystallization	<ul style="list-style-type: none">■ After prolonged storage at low temperature, crystallization of components may occur.■ This is easily removed by warming up for a sufficient time to a maximum of 70 °C.■ Allow to cool to room temperature before use.
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.

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