

## Biresin® G36 All-purpose EP resin casting system

### Areas of Application

- Manufacture of heat resistant moulds and tools as well as backfillings of foundry patterns
- With B component **Biresin® G36** or **Biresin® P7** casting of heat resistant moulds, e. g. vacuum- forming moulds
- With B component **Biresin® CH170-3** for manufacture of injection moulds for prototypes and small series

### Product Benefits

- Good flowability and long potlife
- With B component **Biresin® G36** up to 100 mm in open moulds, with B component **Biresin® CH170-3** up to 40 mm casting thickness
- With B component **Biresin® P7** noticeably shorter potlife and faster curing
- Only low shrinkage
- Good mechanical properties after post curing, at elevated temperatures too
- Cured mouldings mechanically workable

### Description

- Basis Two component epoxy system
- Component A **Biresin® G36**, epoxy resin, grey
- Component B **Biresin® G36**, standard hardener (B), amine, amber
- Component B **Biresin® CH170-3**, amine, colourless to amber
- Component B **Biresin® P7**, amine, yellowish

Processing Data		Component A		Component B	
Individual components		Biresin® G36	Biresin® G36	Biresin® CH170-3	Biresin® P7
Viscosity, 25°C	mPa.s	~ 80,000	~ 35	< 10	~ 20,000
Density	g/ml	1.79	0.96	0.94	1.09
Mixing ratio A : B	in parts by weight	100	10	6	8
Mixtures					
Mixed viscosity, 25°C	mPa.s	~ 18,000	~ 6,700	pasty	
Potlife, 500 g, RT	min	60 - 120	60 - 120	30	
Demoulding time, RT	h	24*	24/RT + 3/60°C	16 - 24	

### Physical Data (approx.-values)

Biresin® G36 (A)		with component B	Biresin® G36	Biresin® CH170-3	Biresin® P7
Density	ISO 1183	g/cm³	1.7		
Curing conditions (heating rate of 10 K/h)			4 h / 100°C	3 h / 60°C + 3 h / 140°C	4 h / 60°C + 2 h / 100°C
Shore hardness	ISO 868	-	D 89	D 89	D 89
E-Modulus	ISO 178	MPa	7,300	8,700	
Flexural strength	ISO 178	MPa	80	89	
Compressive strength	ISO 604	MPa	130	135	130
Impact resistance	ISO 179	kJ/m²	11	12	
Heat distortion temperature	ISO 75B	°C	141*	> 220*	141*
Linear shrinkage, Al-mould	internal	%	0,04		
CTE value, $\alpha_T$	DIN 53 752	K <sup>-1</sup>	35 - 40 x 10 <sup>-6</sup>	35 x 10 <sup>-6</sup>	

\* values after post curing: 4 h / 120°C

## Packaging

Individual components	<b>Biresin® G36 (A)</b>	20 kg; 5 kg net
	<b>Biresin® G36 (B)</b>	2 kg; 0.5 kg net
	<b>Biresin® CH170-3 (B)</b>	1,7 kg net
	<b>Biresin® P7 (B)</b>	6 x 0.5 kg net in a box

## Processing

- The material, processing and mould temperature must be from 18 to 25°C.
- Component A must be mixed thoroughly before use.
- Take care that component A and component B is mixed thoroughly without air entrapment.
- After mixing allow some minutes for the product to naturally degas prior to casting.
- Porous surfaces (wood) have to be well sealed before processing.
- The resin mix can be poured, beginning at the lowest point into previously released moulds (e. g. with Sika® Liquid Wax-815 or Sika® Pasty Wax-818, for more information see Technical Data Sheet).
- Before demoulding of surfaces with difficult geometry made of Biresin® G36 (A) and Biresin® G36 (B), or of surfaces made of Biresin® CH170-3 (B) generally we recommend an additional pre-curing of approx. 3 h at 60°C.
- After curing time 24 h at RT complete curing is realised with post curing of some hours at elevated temperatures.
- Add up to 50% Aluminium powder to Biresin® G36 (A) and Biresin® CH170-3 (B) to achieve maximum casting thickness.
- For facecasting of Biresin® G36 (A) and Biresin® CH170-3 (B) the heat resistant gelcoat Biresin® S19 is applicable.
- For cleaning of cured mouldings from wax residues we recommend Sika® Reinigungsmittel 5. Before application of other cleaners test their compatibility with resin.

## Storage

- Minimum shelf life is 12 month under room condition (18 - 25°C), when stored in original un-opened containers.
- After prolonged storage at low temperature, crystallisation 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.
- Containers must be closed tightly immediately after use to prevent moisture ingress. The residual material needs to be used up as soon as possible.

## Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety related data.

## Disposal considerations

Product Recommendations: Must be disposed of in a special waste disposal unit in accordance with the corresponding regulations.

Packaging Recommendations: Completely emptied packagings can be given for recycling. Packaging that cannot be cleaned should be disposed of as product waste.

## Value Bases

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## 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.

Further information available at:

Sika Deutschland GmbH  
Subsidiary Bad Urach  
Stuttgarter Str. 139  
D - 72574 Bad Urach  
Germany

Tel: +49 (0) 7125 940 492  
Fax: +49 (0) 7125 940 401  
Email: [tooling@de.sika.com](mailto:tooling@de.sika.com)  
Internet: [www.sika.com](http://www.sika.com)

