

# High-Performance EP and PUR Systems for TOOLING AND COMPOSITES

- BLOCK MATERIALS AND MODEL PASTES
- VACUUM CASTING RESINS AND RIM-SYSTEMS
- COMPOSITE AND LAMINATING SYSTEMS
- EP- AND PUR-CASTING RESINS
- ELASTOMERIC CASTING RESINS
- AUXILIARY MATERIALS



### CREATING A STRONG FUTURE

### YOUR ADDED VALUE

### **Reliability and Safety**

Sika Advanced Resins is by your side as a strong global player. As an inherent part of the Swiss concern Sika AG you can rely on us.

### **Quality and Innovation**

Our clients expect high-quality end products. Benefit from over 75 years of intensive expertise in the development of high-quality PUR and EP resins. With innovative and coordinated PUR and EP product systems, we help you to achieve end user satisfaction.

### Flexibility and integrated solutions

As individual as your task. The comprehensive and integrated product range of Sika Advanced Resins offers you even more solutions for your applications.

### Professional global support worldwide

Local experts provide you with personal on-site support in all issues relating to product processing and plant technology.

### **Global Availability**

The consolidation of worldwide production sites, several development departments and our global dealer network maximizes the availability of our products – wherever you are located.







## CUSTOMIZED SOLUTIONS FOR ...

- Foundry model making
- Automotive industry
- Transportation industry
- Sports and leisure
- Industrial applications
- Boat and yacht building industry
- Aviation industry
- Renewable energies
- Dielectrics



ADVANCED RESINS AS PART of Sika Industry and with over 75 years of experience, is a world leading provider and developer of high-performance resins, block materials and pastes for model and mould making. It offers customized solutions for the composite industry as well as structural adhesives. In addition, Advanced Resins offers technical casting for industrial filters.

Sika Industry is a part of Sika AG, which is headquartered in Baar Switzerland. Sika has subsidiaries in 100 countries worldwide with 300 manufacturing sites. It has approx. 25,000 employees, who generated annual turnover of CHF 8,1 billion.

# Sika Advanced Resins PRODUCT GROUPS







### BLOCK MATERIALS AND MODEL PASTES

CNC milling 3D models and moulds

- Design and Styling Boards
- Model and Tooling Boards
- Model and Mould Making Pastes
- Mass-Casting

Specially formulated machinable boards with associated adhesives and putty fillers can be used for the construction of design/master models as well as for various manufacturing moulds and tools.

Extrudable pastes and mass-casting systems are tailor-made products for making joint-free, near net shapes in styling design, cubing models and diverse moulds in high-quality.

These materials provide since decades beneficial alternative solutions technically and/or economically versus traditional methods using wood or metal.

### COMPOSITE AND LAMINATING SYSTEMS

Together they are strong

- High-Performance Composite Systems
- Gelcoats
- Laminating Systems

Composite resins are specially designed for the production of high-performance composites also giving good wetting of difficult fibre materials, variable viscosity for different production processes and application temperature ranges up to 225 °C.

Excellent processing and good resistance to external influences are the deciding features of gelcoats.

Our laminating and multipurpose resins can be used in different stages of manufacture in the construction of models, negatives, moulds and tools and result in high-grade laminates with excellent strength.

### VACUUM CASTING RESINS AND RIM-SYSTEMS

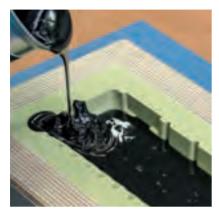
Time and cost-efficient production of complex mouldings

- Vacuum Casting Systems
- Low Pressure RIM-Systems

For rapid production our vacuum casting systems based on polyurethane are the perfect solution. They simulate the majority of characteristics of thermoplastic series materials without limits in shapes intricacy.

The same applies for low pressure RIM-systems, which are processed with the help of 2-component-mixing and metering machines. Our RIM products can be used for small and large volume parts and are suitable for high-class prototypes as well as short runs and serial production.

Regarding the availability of the products in your country please refer to your contact person.





### **EP AND PUR CASTING SYSTEMS**

Everything made in one casting

- Fastcast Resins
- EP Casting Resins
- PUR Casting Resins

The large range of tooling resins can be used in many different ways. They are suitable for the quick and inexpensive manufacture of production equipment such as foam-, RIM- and vacuumforming moulds or foundry patterns and metal sheet forming tools.

There are also suitable casting resins for making auxiliary items such as master and core models or negatives.

Some fastcast resins are particularly dedicated to make scale models production, mock ups and prototypes.

The system selected depends on the casting procedure in question, e.g. mass casting, backfill or facecasting.

### **ELASTOMERIC CASTING RESINS**

Flexible also with regard to possible applications

- Elastomeric Casting Resins for Mould Making
- Elastomeric Casting Resins for Foundry Pattern Making
- Elastomeric Casting Resins for Ceramics
- Elastomeric Casting Resins for Concrete Moulds and Building Tools

The range of elastomeric PUR-casting resins includes high-quality synthetic resin systems with a variety of shore hardness levels (Shore A 40–D 66) and possible applications.

The soft elastic types are used for making flexible moulds and mouldings.

The tough elastic and tough hard types are suitable for impact resistant parts and abrasion resistant liners in foundry pattern making and special mechanical engineering.

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## DESIGN AND STYLING BOARDS

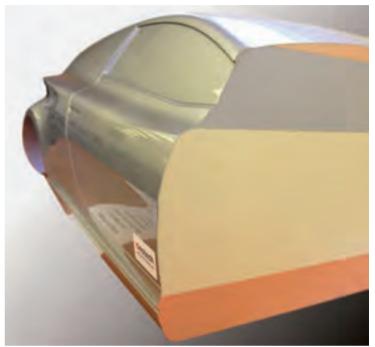
### **DESIGN AND STYLING BOARDS**

Light PUR foam boards are most favored materials that designers prefer to work with to create shaped forms or styling prototypes/models.

These specially formulated boards are offered from 0.08 to 0.35 g/cm³ density with optimum balanced mechanical and thermal properties.

All boards feature excellent machinability by hand or CNC milling, producing mainly shavings and minimal dust while delivering a fine and non-powdery surface.





Automotive design model made of Labelite range. The combination of superior surface quality and the use of dedicated adhesive Labelite Glue enables an easy painting with lowest appearance of glue lines.

Credit: Estech Design

DESIGN AND S	STYLIN	G BOARDS								
		SikaBlock® M80	Labelite 8 GY	SikaBlock® M150	Labelite 15 IY	SikaBlock® M330	Labelite 25YW	SikaBlock® M440	Labelite 35 OE	
Density	[g/cm³]	0.	08	0.	15	0.24	0.25	0.35	0.35	
Colour		yellowish	grey	light green	ivory	siena	peach yellow	apricot	orange	
Characteristics		fine		surface; easily work tion when milled	able;	excellen		very good milling be st formation	haviour;	
Physical data (ap	prox. va	ues)								
Shore hardness		-	A 28	-	A 65	D 25	D 25	D 38	D 35	
Flex. strength	[MPa]	1.1	1.0	2.2	2.2	5	5.4	9	9	
Compressive strength	[MPa]	0.8	0.7	1.6	1.6	4	3.8	8	7	
HDT	[°C]	130	115	80	80	60	75	60	70	
CTE, $\alpha_T$	[1/K]	60 x 10 <sup>-6</sup>	40 x 10 <sup>-6</sup>	65 x 10 <sup>-6</sup>	65 x 10 <sup>-6</sup>	65 x 10 <sup>-6</sup>	60 x 10 <sup>-6</sup>	65 x 10 <sup>-6</sup>	60 x 10 <sup>-6</sup>	
Processing data	(approx.	values)								
<b>Dimensions</b> other dimensions on request		2000 x 1000 x thickness: 100/200/300/ 400/450	2000 x 1000 x thickness: 100/200		2000 x 1000 x thickness: 100/150/200	thickness:	1500 x 500 x thickness: 50/100/200	1500 x 500 x thickness: 50/75/100/150/ 200	1500 x 500 x thickness: 50/100/150/200	
		2400 x 1300 x thickness: 100/200/400				thickness:	2000 x 1000 x thickness: 100/150/200	2000 x 1000 x thickness: 50/100/150/200	2000 x 1000 x thickness: 50/100/150/200	
Adhesive			SikaBire	sin® B200			SikaBiresin® B200	/ SikaBiresin® B260	)	
Filler					SikaBire	sin® B370				

### MODEL AND TOOLING BOARDS

### MODEL AND TOOLING BOARDS

Medium density brown boards are the ideal material for making master models or moulds for short series of parts. From 0.45 to 0.70 g/cm³ we offer a complete range to satisfy every preference of model makers in mechanical strength, thermal resistance and of course surface aspect. Prolab boards display the smoothest surface aspect in such category in the market place while SikaBlocks® are thermally the most resistant and stable.



Full scale car model made of SikaBlock® M330 boards bonded with SikaBiresin® B260





Models milled out of SikaBlock® PROLAB 65 fulfil highest demands of surface quality

High-quality master models made of SikaBlock® M600 N / 700 N provides highest dimensional accuracy

MODEL AN	ND TOC	DLING BOARDS					
		SikaBlock® M450	Labelite 45 PK	SikaBlock® M455	SikaBlock® M600 N	SikaBlock® PROLAB 65	SikaBlock® M700 N
Density	[g/cm³]		0.45		0.60	0.70	0.70
Colour		orange	pink	apricot	light brown	brown	light brown
Characterist	ics	good economical grade	superior surface quality; good edge stability	superior surface quality; good edge stability		, dense surface; good com lity; good heat distortion t	
Physical dat	a (appro	ox. values)					
Shore hardn	ess		D 45		D 58	D 65	D 64
Flex. strengt	h [MPa]		12		19	29	25
Compressive strength	e [MPa]		10		-	-	25
HDT	[°C]	78	6	55	77	77	78
CTE, $\alpha_{\scriptscriptstyle T}$	[1/K]		55 x 10 <sup>-6</sup>		55 x 10 <sup>-6</sup>	75 x 10 <sup>-6</sup>	55 x 10 <sup>-6</sup>
Processing d	lata (app	prox. values)					
Dimensions		1500 x 500 x thickness: 50/75/100/150/200 2000 x 1000 x thickness: 50/100/150/200	1500 x 500 x thickness: 50/75/100/150	1500 x 500 x thickness: 50/75/100/150/200	1500 x 500 x thickness: 30/50/75/100/150/200	1500 x 500 x thickness: 30/50/75/100/150	1500 x 500 x thickness: 30/50/75/100/150/ 200
Adhesive		SikaBiresin® B260	SikaBiresin® B200	/ SikaBiresin® B260		SikaBiresin® B260	
Filler				SikaBires	sin® B370		

### TOOLING BOARDS

### **TOOLING BOARDS**

For composites tooling we offer epoxy boards with very compact surface aspect, high dimensional stability under heat and pressure to produce prepreg moulds or parts in autoclave and up to 130 °C.

We offer medium to high density PUR tooling boards from 0.78 to 1.7g/m³ with high mechanical strength and sufficient heat resistance up to 100 °C combined with high dimensional stability. Their performance package makes them suitable for applications such as checking fixtures, gauges, vacuum forming tools, low pressure RIM-moulds as well as

metal sheet stamping tools.



Gauge with high dimensional accuracy milled out of SikaBlock® M1050

DO A D D C	. FOD 1116	SUEST DIMENSIONAL ST	NOU ITY				
ROARDS	FUR HIL	GHEST DIMENSIONAL STA					
		LAB 975 NEW	LAB 973	SikaBlock® M1000	SikaBlock® M1050	SikaBlock® LAB 1000	
Density	[g/cm³]	0.70	0.75	1,0	1.0	1.67	
Colour		light green	blue	white	light grey	grey	
Characteristics		new low density epoxy board with high dimensional stability under pressure and heat up to 130 °C; excellent performance/ price ratio	low density epoxy board with high dimensional stability under pressure and heat up to 125 °C; superior machinability and surface aspect	edge stability; low th	ompressive strength and nermal expansion and ional stability	heavy-duty high density tooling board	
Physical d	lata (appro	x. values)					
Shore hard	dness	D 75 (D 68 @ 130 °C)	D 73 (D 63 @ 130 °C)	D 75	D 76	D 89	
Flex. stren	gth [MPa]	37	30	48	50	90	
Compress strength	ive [MPa]	50	50	47	48	110	
HDT	[°C]	130	125	85	90	Tg= 92	
CTE, $\alpha_{\scriptscriptstyle T}$	[1/K]	35-42 x 10 <sup>-6</sup>	35-45 x 10 <sup>-6</sup>	55 x 10 <sup>-6</sup>	55 x 10 <sup>-6</sup>	45 x 10 <sup>-6</sup>	
Processing	g data (app	orox. values)					
<b>Dimensions [mm]</b> other dimensions on request		1500 x 500 x thickness: 50/75/100/150/200	1500 x 500 x thickness: 50/75/100/150/200	1500 x 500 x thickness: 50/75/100	1500 x 500 x thickness: 50/75/100	830 x 500 x thickness: 30/50/75/100	
Adhesive		H 8	973		SikaBiresin® B180		



High durability with SikaBlock® M980 for foundry core boxes even in complicated shapes

SikaBlock® M945 provides excellent milling behaviour with low dust formation

### **FOUNDRY TOOLING BOARDS**

Sika Advanced Resins offers a wide range of tooling boards specially dedicated to make foundry patterns and cold core

Model-makers can select the most suitable board for their requirement in durability: abrasion resistance level from low to higher series of sand mouldings to be made as well as strength and dimensional stability.

These boards are cost-effective alternative solutions to metallic patterns and cold core boxes for most foundry processes up to medium size series.



BOARDS FOR TO	OOLS AND FOUNDRY					
	SikaBlock® M935	SikaBlock® M945	SikaBlock® M960	SikaBlock® LAB 920	SikaBlock® LAB 850	SikaBlock® M980
Density [g/cm³]	1.2	1.35	1.2	1.30	1.18	1.35
Colour	light green	green	blue	green	dark blue	blue
Characteristics	high dimensional stability; easy to mill; large length for less bonding points	good abrasion resistance; easy to mill; high strength	good abrasion resis good impac	stance; easy to mill; t resistance	high abrasion resistance; excellent milling behavior; very high strength	excellent combination between good abrasion resistance and dimensional stability; very high strength
Physical data (appr	ox. values)					
Shore hardness	D 82	D 83	D 78	D 83	D 79	D 86
Flex. strength [MPa]	74	100	80	70	57	145
Compressive strength [MPa]	74	95	70	69	47	120
Impact resistance	18	25	30	40	70-80	35
HDT [°C]	89	80	80	90	70	85
CTE, $\alpha_T$ [1/K]	56 x 10 <sup>-6</sup>	65 x 10 <sup>-6</sup>	85 x 10 <sup>-6</sup>	88 x 10 <sup>-6</sup>	110 x 10 <sup>-6</sup>	60 x 10 <sup>-6</sup>
Abrasion resistance	+	++	+++	++	+++	+++
Processing data (ap	prox. values)					
<b>Dimensions [mm]</b> other dimensions on request	1500 x 500 x thickness: 30/50/75/100	1000 x 500 x thickness: 30/50/75/100	thickness:	1000 x 500 x thickness: 30/50/75/100	1000 x 500 x thickness: 50/75/100	1000 x 495 x thickness: 30/50/75/100
Adhesive			SikaBire	sin® B180		

# MODEL AND MOULD MAKING PASTES

### **MODEL & MOULD MAKING PASTES**

Large size models and tools are made with extrudable PUR and epoxy pastes providing a workable surface applied onto a stable core substructure. This technique is widely used to make plugs for boats or wind blades as well as automotive or architectural designs. This technology is beneficial versus boards as offering lighter models with a smooth and seamless surface (joint-free unlike boards).

The PUR base allows for standard performance the fast-making of models without any post-curing.

The epoxy range provides higher dimensional stability and heat resistance for models or direct tooling applications in composite parts making.



Biresin® M72 paste can be milled easily with low dust formation



SikaBiresin® SC175 thixotropy enables vertical application in single layer and without sagging



43 m long boat hull made of SikaBiresin® SC175 with a perfectly smooth and seamless surface

MODEL AN	ID M	OUL	D MAKING PASTE	5				
Component		Α	Biresin <sup>®</sup> M72	SikaBiresin® SC175	SikaBiresin® SC180	SikaBiresin® SC380	SikaBiresin® SC390	SikaBiresin® SC258
Component		В	Biresin® M70	SikaBiresin® SC175	SikaBiresin® SC180	SikaBiresin® SC380	SikaBiresin® SC390	SikaBiresin® SC258
Miving ratio	[g]	А	100	100	100	100	100	100
Mixing ratio	ſ81	В	45	100	100	100	100	100
Colour			brown	light grey	brown	grey	grey	light brown
Characteristics			PUR paste; fast curing; easily workable; fine, dense surface; easy to varnish	epoxy paste; very good surface aspect; good behaviour on vertical support up to 30 mm; high thermal resistance	medium density epoxy paste and hard- ness with short time before machining for epoxy; good thermal resistance	multi-purpose epoxy paste with good strength and heat resistance for high- quality models and moulds	medium density epoxy paste with high strength and heat resistance ideal for direct tooling	manual epoxy paste (hand or planetary mixer) applicable until 40 mm; quick hardening in thin coat and good adhesion on various supports (wood, PS/PUR foams, boards and on itself)
Processing da	ata (ap	ppro	x. values)					
Viscosity [Pa	c1	Α	15,000 mPas	800	1,000	900	800	-
VISCUSITY [Pa	2]	В	175 mPas	800	900	800	800	-
Mixed viscosi	ty [Pa	as]	pasty	800	1,000	800	800	pasty
Pot life	[r	nin]	10 (after machine application)	-	-	-	-	65
Workable aft	er	[h]	8	24-48	16-18	24	12-16	12-18
Physical data	(appr	rox. v	/alues)					
Density	[g/c	:m³]	0.9	0.63	0.81	0.82	1.08	0.60
Shore hardne	SS		D 65	D 53	D 58	D 67	D 75	D 60
Flexural stren	gth [N	/IPa]	20	13	17	24	36	15
Compressive strength [N		/IPa]	-	13	20	-	36	23
$T_g$	T <sub>g</sub> [°C		47	83	84	83	91	51
CTE, $\alpha_{\scriptscriptstyle T}$	CTE, $\alpha_T$ [1/		-	70	80	60	58	48
Putty filler			SikaBiresin® B370	SC175/GC11	SC180/GC11	SC380/GC11	SC390/GC11	SikaBiresin® B370

### MASS CASTING PRODUCTS

### NEAR NET SHAPE CAST BLANKS OUT OF MODEL CAST RESIN Biresin® M67

The model casting resin based on polyurethane is casted by a specialized Sika Advanced Resins partner based on your requested dimensions to near net shape cast blanks. After postcuring this blanks can be milled easily and with only low dust generation to the final shape. The outstanding properties of the final products, e.g. design models are fine and dense surfaces without seams and with high dimensional accuracy which can be painted subsequently very good.





Near net shape casting with Biresin® M67 in thin wall thicknesses results in models of light weight

### Services offered:

- «Made-to-size» forms = pick your preferred material from medium to high density boards and request a customized mass-casting
- Block Mass-Casting (BMC)
- Shape Mass-Casting (SMC)

In-house service and/or provided with dedicated partners. Sika Advanced Resins offers service on project-basis but also regular partnerships are welcomed. Consult and make Sika Advanced Resins your partner of choice for a customized solution.

### Benefits:

- Reduced material costs
- Joint-free castings
- Sustainable as less waste
- Wide choice of technical performance as offered in boards range to match any application from modeling to tooling
- Quality
- Confidence

ET SHAPE CAST BLANKS							
Biresin <sup>®</sup>	M67						
light brown							
low dust formation; goo	d adhesion of paints;						
x. values)							
SikaBiresin® B370	SikaBiresin® SC258						
100:2	100:100						
5 min	65 min						
> 20 min	12-18 h						
values)							
0.86							
D 67							
30							
Flexural strength [MPa] 30 CTE, $α_{T}$ [1/K] $78 \times 10^{-6}$							
	excellent surface quality; very low dust formation; goo good mechanic: design, styling or light weight lamin x. values)  customized casting up to mor specialized Sika partner, please SikaBiresin® B370  100 : 2 5 min > 20 min  values)  0.86 0 67						



out of Biresin® M67 in one shot

### **GELCOATS**

### **GELCOATS**

Sika's specially formulated gelcoat for mould making offers high-quality products with easy application and required strength such as mechanical, thermal or chemical stress to resist to tooling constraints. Some grades in the range are polishable to obtain a shining mold surface that will transfer on the final part.

### SikaBiresin® GC050:

- Proven standard gelcoat (white) for models and negatives
- SikaBiresin® GC14 hardener with longer pot life
- Good spreading and covering properties
- Easily workable

### SikaBiresin® GC080:

- Blue gelcoat with good workability
- With SikaBiresin® GC11 hardener applicable on wet plaster (previously treated)
- With SikaBiresin® GC14 hardener better chemical and heat resistance for ceramic and RTM moulds (polyester)

GELCOA	ATS W	/ITH	EASY WORKABILIT	ГҮ			
		Α	SikaBires	in® GC050	SikaBires	in <sup>®</sup> GC080	SikaBiresin® GC108
		В	SikaBiresin® GC11	SikaBiresin® GC14	SikaBiresin® GC11	SikaBiresin® GC14	SikaBiresin® GC08
Mixing		Α	100	100	100	100	100
ratio	[g]	В	10	10	10	10	20
Colour			white	white	blue / white	blue / white	black
Character	Characteristics			covering properties; vorkable	can be applied on wet plaster (previously treated), sandable and polishable	high resistance to chemicals; easy to apply	polishable to high gloss; heat resistant; good styrene resistance
Applicati	Applications		master models, r	negatives, gauges	ceramic moulds; applicable on plaster models (previously treated)	ceramic moulds, RTM moulds (polyester)	vacuumforming moulds; master models; moulds for composite production
Processin	ng data	a (app	rox. values)				
Pot life	[r	nin]	19	35	12	25	30
Geltime	[r	nin]	60	120	40	60	60
Demouldi time	3	[h]	16	24	16	24	16-24
Physical (	data (a	appro	x. values)				
Density	[g/c	m <sup>3</sup> ]	1,57	1.45	1,73	1,72	1.22
Shore har	rdness	5	D 88	D 88	D 91	D 90	D 86*
Flexural strength	[[]	IPa]	72	66	74	82	90*
HDT		[°C]	°C]		-		136*
$T_G$		[°C]	85*	53	100*	104*	-

<sup>\*</sup> after appropriate treatment



Tool for making reinforcements of bonnets made of SikaBiresin® GC080



Easy application of SikaBiresin® GC119

GELCOA	TS V	VITH	I EASY WORKABILITY						
		Α	SikaBiresin® GC112	SikaBiresin® GC119					
		В	SikaBiresin® GC12	SikaBiresin® GC19					
Mixing		Α	100	100					
ratio	[g]	В	8	12					
Colour			grey	black					
Character	istics		heat resistant; abrasion resistant; good solvent and styrene resistance	high heat resistance					
Application	Applications		vacuumforming moulds, foundry patterns, moulds for composite production	vacuumforming moulds, prototype / test injection moulds, moulds for composite production					
Processin	g dat	a (ap	prox. values)						
Pot life	1]	nin]	30	45-60					
Geltime	1]	min]	45	150-180					
Demouldi time	ing	[h]	16-24	24					
Physical o	data (	appr	ox. values)						
Density	[g/c	:m³]	2,1	1.65					
	Shore hardness		D 92	D 89*					
Flexural strength	[N	1Pa]	78	85*					
HDT		[°C]	>100*	145*					
T <sub>G</sub>		[°C]	-	158*					

<sup>\*</sup> after appropriate treatment

### LAMINATING SYSTEMS

### **LAMINATING AND MULTIPURPOSE RESINS**

Sika Advanced Resins laminating systems result in high-grade laminates with excellent strength.

### SikaBiresin® LS100 / SikaBiresin® L202 :

- Proven standard laminating systems for multipurpose use (ordinary laminates, coupling layer and backfillings)
- SikaBiresin® LS100 with different hardeners to reach various viscosity and pot life
- SikaBiresin® L202 with low exothermic temperature for large moulds in ceramic industry

### SikaBiresin® L402:

- Green standard laminating pastes which are easy to mix and to apply
- For fast reinforcement of large negatives, foundry patterns and diverse moulds of low weight
- SikaBiresin® L402 offers lowest density of 0.72 g/l for large lightweight laminates

### SikaBiresin® L84:

- High-grade laminating system for multipurpose use
- Different hardeners to reach various viscosity and pot life
- With SikaBiresin® L84 T hardener for heat resistant moulds (e.g. vacuumforming)

Mixing ratio [g] A 100 100 100 100 100  B 12 18 19 16 12 15 15 12 14 14  Colour yellowish-transparent clear transparent yellowish-transparent amber green blue  Characteristics all-purpose; variable pot life and viscosity low exothermic temperature; good dimensional stability shigh dimensional accuracy very easy to mix; very low shrinkage very easy to mix; very low shrinkage one operation of large negatives, models and moulds of low weight (e.g. foundry and tools; true temperature) and models of low weight (e.g. foundry and tools; true temperature) and models of low weight (e.g. foundry and tools; true temperature) and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gauges and models of low weight (e.g. foundry and tools; true to-size laminates for gau		Α		SikaBires	in <sup>®</sup> LS100		SikaBiresin® L202		ikaBiresin® L8		SikaBiresin® L402	SikaBiresin® L90
The composition of the composi		В					SikaBiresin® L202				SikaBiresin® L400	SikaBiresin® L90
Colour yellowish-transparent Clear transparent yellowish-transparent amber green blue Characteristics all-purpose; variable pot life and viscosity low door, low exothermic temperature; good dimensional stability were low; shigh dimensional accuracy very low shrinkage very easy to mix; very low shrinkage ve		А		10	00		100		100		100	100
Applications  ordinary laminates, coupling layers and backfillings  Dig moulds and negatives in ceramic industry  Denote the coupling layers and backfillings  Dig moulds and negatives in ceramic industry  Denote the coupling layers and backfillings  Dig moulds and negatives in ceramic industry  Denote the coupling layers and backfillings  Dig moulds and negatives in ceramic industry  Denote the coupling layers and backfillings  Dig moulds and negatives in ceramic industry  Denote the coupling layers and backfillings  Dig moulds and negatives in ceramic industry  Denote the coupling layers and backfillings  Dig moulds and negatives in ceramic industry  Denote the coupling layers and backfillings  Dig moulds and negatives in ceramic industry  Denote the coupling layers and backfillings  Denote the colour; filled, high dimensional accuracy, we reason this denotes the layer and models and model		В	12	18	19	16	12	15	15	12	14	14
Company   Comp	olour	yellowish-transparent					clear transparent	yellowish-t	ransparent	amber	green	blue
And negatives in ceramic industry	haracteristi	CS	all-purp	oose; variable	pot life and vi	scosity	low exothermic temperature; good dimensional				laminating paste, very easy to mix;	high dimensiona accuracy; very smooth and wit good adhesion, very easy to mix high thickness i one operation
Mixed	Applications		ordinary lan	ninates, coupl	ing layers and	backfillings	and negatives in	true-to-si		or gauges	of large negatives, models and moulds of low weight (e.g. foundry and	for reinforcement of big negatives models, moulds and tools; true-to-size laminate for difficult reinforcement layers
Pot life   [min]   55   80   16   60   45   45   75   60   120   60	Processing da	ata (	approx. value	s)								
Demoulding		Pas]	580	350	2,150	1,230	950	2,200	1,600	2,000	4,000	pasty
Time   Similar   Final   Fin		nin]	55	80	16	60	45	45	75	60	120	60
Density [g/cm³]   1.2   1.17   1.37   1.35   0.72   1.0		[h]	12	16	8	12	-	16-24	16-24	16-20	24	24
Shore hardness         D 83         D 80         D 84         D 82         D 86         D 86         D 86         D 85         D 80         D 73           Flexural strength [MPa]         95         88         95         96         90         85/100         90/100         75/80         42         50           HDT         [°C]         51/70*         46/53*         50/61*         72*         -         52/70*         52/70*         54/80*         -         60	hysical data	(ap	prox. values)									
Flexural strength [MPa]         95         88         95         96         90         85/100         90/100         75/80         42         50           4DT         [°C]         51/70*         46/53*         50/61*         72*         -         52/70*         52/70*         54/80*         -         60	ensity [g/c	m³]		1	.2		1.17	1.	37	1.35	0.72	1.0
trength [MPa] 95 88 95 96 90 85/100 90/100 75/80 42 50 HDT [°C] 51/70* 46/53* 50/61* 72* - 52/70* 52/70* 54/80* - 60	hore hardne	SS	D 83	D 8 0	D 84	D 82	D 86	D 86	36 D 86 D		D 80	D 73
	trength [M	_						, i	·	,		
			51 / 70*	46 / 53*	50 / 61*	72*		52 / 70*	52 / 70*	54 / 80*		60

<sup>\*</sup> after appropriate treatment



High-grade laminates with excellent strength can be achieved with Sika Advanced Resins laminating resins.

LAMINATI	ING S'	YSTEMS WITH HIGHI	ER HEAT RESISTANCE					
	Α		SikaBiresin® L84		SikaBiresin® CR172	SikaBiresi	n <sup>o</sup> CR190	
	В	SikaBiresin® L84	SikaBiresin® GC12	SikaBiresin® L84 T	SikaBiresin® CH170-3	SikaBiresin® CH190-4	SikaBiresin® L205	
Mixing ratio [g	A [		100		100	100	100	
	В	25	20	24	17	41	35	
Colour			yellowish-transparent		colourless to brownish	amber	dark green	
Characterist	tics	all-purpose, hig	h mechanical strength and	heat resistance	high heat resistance after post curing	MDA free; very good to	emperature resistance	
Application	S	laminating moulds, va	cuumforming moulds, hea	t resistant backfillings	injection moulds and other heat resistant moulds, prototype injection	heat resistant mo and composit		
Processing o	data (a	pprox. values)						
Mixed viscosity [n	nPas]	390	1,090	590	800	2,000	650	
ot life	[min]	40	20	60	110	150	300	
Demoulding ime	[h]	24	24	24+ post curing	24+ post curing	24/RT + 24 h 60 °C	24/RT + 24 h 60 °C	
Physical dat	ta (app	rox. values)						
Density [g	/cm³]		1.1		0.94	1.12	1.09	
Shore hardn	iess	D 82	D 84	D 86	D 85	D 90		
lexural trength [	[MPa]	76	130	131*	140	62	105	
IDT	[°C]	100*	91*	110*	162	-		
Γ <sub>G</sub>	[°C]	104*	-	123*	170	190*	185	

<sup>\*</sup> after appropriate treatment

## **COMPOSITE SYSTEMS** FOR WET LAY-UP

Systems especially designed for wet lay-up applications. Good degassing behavior and non-draining properties support the best quality of the final result.

### SikaBiresin® CR122:

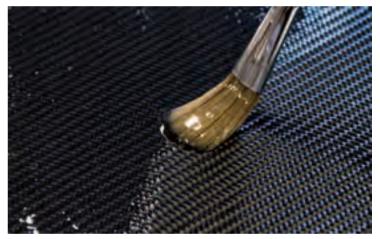
- High-performance 120 °C System
- Approved by the german aviation authority LBA (Luftfahrtbundesamt)
- Meets the standards of the European RHV-guidelines (Part 22)
- Can be used for the production of gliders, motor gliders and ultralights without any further approval

### SikaBiresin® CR172:

- T<sub>G</sub> potential of 174 °C
- Nontoxic system with a good price/performance ratio
- Very good wetting behavior for a high T<sub>G</sub> system
- Especially suitable for moulds and parts with a high heat resistance



Motorglider produced by Schempp-Hirth with SikaBiresin® CR122



SikaBiresin® CR82 with optimized viscosity for wet lay-up

COMPOS	ITE S	YSTEMS	FOR W	VET LAY	/-UP											
	1	V.	SikaBire	sin® CR8	2		SikaBires	in® CR122	2	9	SikaBires	in <sup>®</sup> CR132		SikaBires	in® CR172	SikaBiresin® CR190
	1	CH80-1	CH80-2	CH80-6	CH80-10	CH122-1	CH122-3	CH122-5	CH122-9	CH132-2	CH132-5	CH132-7	CH122-9	CH170-3	CH172-6	CH190-4
Mixing		4	1	00			100		100	10	00	100	100	100	100	100
ratio	[g]	3	2	27			30		40	28	8	32	38	17	19	41
Characteris	stics	GL-app	dular 80° roval; 4 h range of and app	nardeners	provide ig times	modular 120 °C system with GL-approval and excellent properties; additionaly approved by LBA/RHV to build gliders, motor gliders and ultralights				or high-p	up to 162 ' erformand d blades			c high T <sub>G</sub> o to 174°C	high T <sub>G</sub> system e.g. suitable for moulds in aviation market or prepreg tools	
т	[°	1 88	89	83	85	103	114	119	145	130 135 135 162				170	174	190
T <sub>G</sub> Pot life,	L															
100 g/RT	[mi	ı] <sup>30</sup>	50	220	330	30	90	150	330	60	150	210	480	110	220	150*
Mixed visco	osity, [mPa	1.100	800	400	390	310	370	380	680	360	550	550	940	800	800	2.000*
Impact resistance	[kJ/m	17 17	21	55	56	58	47	34	44	47	32	33	25	28	26	-
Tensile E-Modulus	-Modulus [GPa] 3.3 3.25 2.9 2.9 2.					2.9	2.8	2.8	2.6	2.7	2.6	2.4	2.4	2.9	2.8	2.8***
Tensile strength	[MP	a] 87	85	84	82	86	84	84	87	83	77	78	68	70	76	40
Elongation at break	1 [9	4.3	5.0	6.4	6.2	6.3	5.4	5.6	6.9	6.6	4.6	5.7	3.9	3.0	3.9	-

<sup>\* 500</sup>g, RT \*\* Brookfield LVT, RT

<sup>\*\*\*</sup> Flexural E-Modulus [GPa]

## **COMPOSITE SYSTEMS** FOR VACUUMINFUSION

Infusionsystems with optimized viscosity and wetting properties guarantee a fast and proper fibre wet out.



Vacuuminfusion of a wind blade with SikaBiresin® CR131

### SikaBiresin® CR83:

- System with extremely low mixed viscosity
- Especially designed for vacuuminfusion processes at lower temperatures (15-18 °C)
- GL-approved system with all 3 hardeners
- Very low tendency to cristallize
- Suitable for marine industry or for very big and/or complex





offers ideal flowing properties and good wetting behaviour

SikaBiresin® CR80

Lightweight transporter by Carbon Truck & Trailer

COMPOSITE SYSTEMS FOR INFUSION														
	Α	Sik	aBiresin® CI	R80		SikaBires	in® CR83		SikaBiresi	in® CR120		SikaBiresi	n <sup>®</sup> CR131	
	В	CH80-2	CH80-6	CH80-10	CH94-2	CH83-2	CH83-6	CH83-10	CH120-3	CH120-6	CH135-4	CH132-5	CH132-7	CH135-8
Mixing	А		100			10	00		10	00		10	10	
ratio [g	<b>]</b> B		30		24		30		3	0	26	28	32	21
Characteristic	5	GL-approva a wide ran	ar 80°C syste al; 3 hardene ge of proces nd applicatio	ers provide ssing times	extremely crystallize	O°C system w low viscosity e; especially f ures or for big	and a low to	endency to g at lower	syster GL-appro 2 harder a T <sub>G</sub> pote to 11	oval with ners and ential up	of process	vith 4 harder sing times ar g. suitable f	nd a T <sub>G</sub> potei	ntial up to
_	[o.e.]	0.3	0.5	0.5	07	0.4	0.0	0.4	443	445	4.20	4.2.5	4.27	420
T <sub>G</sub>	[°C]	93	85	85	97	84	80	81	113	115	138	136	127	138
Pot life, 100 g / RT	min]	60	190	330	60	60	180	300	90	180	160	140	260	260
Mixed viscosit	y, Pas]	500	230	210	320	155	170	155	240	250	540	450	450	360
Impact resistance [k]	/m²]	29	68	76	41	93	84	83	55	50	27	46	37	29
	GPa]	2.9	3.0	3.0	3.0	3.0	3.2	3.1	2.8	2.7	2.8	2.7	2.7	2.8
	ИРа]	83	83	80	78	84	91	86	80	80	89	86	84	89
Elongation at break	[%]	5.8	6.3	6.5	4.6	6.7	8.4	7.9	5.8	6.1	5.7	5.9	6.7	6.3

<sup>\* 500</sup>g, RT \*\* Brookfield LVT, RT \*\*\* Flexural E-Modulus [GPa]

### VACUUM CASTING SYSTEMS

### **VACUUM CASTING SYSTEMS**

Sika vacuum casting systems are the optimal solution for complicated moulds and rapid prototyping. Vacuum casting process provides parts with best visual appearance and highest mechanical properties.

### SikaBiresin® PX840:

- 3 components to cover all A shore range
- Low viscosity
- Easy to pigment

### SikaBiresin® PX212 L5:

- Filled PP similarity
- Perfectly suitable for automotive parts
- High impact resistance
- Available in two reactivities



Front light lens made of SikaBiresin® PX522

SOFT TO SE	MI-RIGID	SYS	STEMS _				
Component Is	SOCYANATE	Α	SikaBiresin® PX761	SikaBiresin® PX840	SikaBiresin® PX205	SikaBiresin® PX212 L5	SikaBiresin® PX100
Component F		В	SikaBiresin® PX761	SikaBiresin® PX840	SikaBiresin® PX205	SikaBiresin® PX212 L5	SikaBiresin® PX100
Component E	XTENDER	С	-	SikaBiresin® PX840 Extender	-	-	-
		А	100	100	100	100	100
Mixing ratio	[g]	В	45	100	50	100	100
		С	-	0-500	-	-	-
Colour			amber	off-white	amber to dark amber	translucent	off-white
Characteristic	S		fast demoulding; high reproduction accuracy; «moulded rubber» aspect; abrasion resistance; max. peak temperature: 100 °C	3 components for variable hardness; fixed mix ratio in between polyol & isocyanate; easy to tint; low silicone moulds agressiveness	very good impact resistance; quick hardening; thermoplastic aspect; easy processing	low viscosity for easy casting; excellent impact resistance; fast demoulding	low viscosity; long pot life good mechanical proper- ties; can be painted
Applications		soft technical parts under vacuum process	prototype and short series of soft parts to cover all A shore range; fully compatible with ESSIL 291 silicone moulds	parts with high impact and abrasion resistance; hinge effect	thermoplastic-like parts with a flexural modulus of elasticity close to filled PP	cast by hand or vacuum machine to achieve ABS type large parts	
Processing date	ta (approx. v	alue	s)				
Mixed viscosit	y [mF	as]	1,500	-	1,600	800	100
Pot life	[n	nin]	8-12	13-15	12-15	4-6	15-20
Demoulding ti	me [n	nin]	60-90	120	60	60-75	240
Physical Data	(approx. valu	ıes)					
Density	[g/c	m³]	1.02	1.14	1.08	1.15	1.06
Shore hardness	S		A 63	A 95	D 70	D 76	D 78
E-Modulus	[M	Pa]	-	-	500	1,200	1,700
Tensile streng	th [M	Pa]	-	19.6	25	40	38
Flexural stren	gth [M	Pa]	-	-	30	80	67
Elongation at I	break	[%]	1,000	660	100	25	4
Impact strengt	th [kJ/	m²]	-	-	unbreakable	> 50	25
HDT		[°C]	-	-	55	78	-
T <sub>G</sub>		[°C]	-	-	90-100	90	75

### SikaBiresin® PX226:

- Filled ABS or Nylon similarity
- Household appliances; electrical components production
- Excellent ratio pot life/demoulding time
- Available in two reactivities

### SikaBiresin® PX245:

- Stiffer product on the market
- Filled polyamide similarity
- High rigidity parts like electronic devices casings
- High reproduction accurancy
- Available in two reactivities



Pigmented stiff housing part



Vacuum casting process provides parts with best visual appearance and highest mechanical properties

TOUGH-HAF	RD TO STIF	F S	SYSTEMS						
Component IS	OCYANATE	Α	SikaBiresin® PX221	SikaBiresin® PX212 L5	SikaBiresi	n® PX226	SikaBiresin® PX300	SikaBires	in® PX245
Component P	OLYOL	В	SikaBiresin® PX221	SikaBiresin® PX225 L4	SikaBiresin® PX2645 L4		SikaBiresin® F55	SikaBiresin® PX2645 L4	SikaBiresin® PX2645 L9
Mixing ratio	[g]	А	100	100	10	00	80	10	00
MIXING FALIO	ſŝì	В	45	80	51	0	100	4	0
Colour			off-white	opalescent	wh	ite	yellowish-translucent	off-v	white
Characteristics		high reproduction accur can be easily pigment with colouring CP; hig impact resistance		good impact and flexural resistance; very easy coloring with all kind of pigments (non water based)	good impact resistance; two reacti thermal resi be easily col CP pigi	available in ivity; high istance; can loured with	very stiff; high flexural strength; impact resistance; simulates ABS, PVC	elasticity; high accuracy; ava reactivities; coloured with	I modulus of n reproduction ailable in two can be easily CP pigments; noulding
Applications			prototype parts and mock-ups with mechanical properties similar to thermoplastics such as HiPS	thermoplastic-like parts with a flexural modulus of elasticity close to 2,500 MPa (ex: polycarbonate, ABS).	prototype mock-ups wit properties thermoplast AE	h mechanical similar to ics like filled	very stiff housings with high strength and impact resistance	mechanical pro to thermop polyoxyme	parts with operties similar olastics like thylene and omide
Processing dat	a (approx. va	lue	25)						
Mixed viscosity	y [mP	as]	350	600	2,0	00	600	2,2	200
Pot life	[m	in]	7	4-5	4	7.5	4	4	8
Demoulding tir	me [m	in]	30-40	45	25	60	60-90	45	60
Physical Data (	approx. valu	es)							
Density	[g/cn	n³]	1.20	1.20	1.2	20	1.1	1.	22
Shore hardness	5		D 81	D 85	D 8	32	D 84	D	85
E-Modulus	[MI	Pa]	2,100	2,500	2,5	00	2,800	4,5	500
Tensile strength [MPa]			60	70	7	0	75	8	5
Flexural strength [MPa]		105	110	10	)5	120	1!	50	
Elongation at b	ongation at break [%] 7.5 9		1	5	7		3		
Impact strengt	mpact strength [kJ/m²] 71 50		7	0	> 100	3	0		
HDT	[°C] 9		2	80	9	2			
$T_G$	[	°C]	95	100	10	)5	-	9	5

### SikaBiresin® PX523

- Water clear transparency
- Perfect suitde for all parts with optical properties
- UV and weather resistant
- Casting up to 100 mm

### SikaBiresin® PX223 HT:

- Leader on the market
- Low aggressiveness on silicone moulds
- Temperature and thermal resistance



Jewelry articles made of transparently pigmented SikaBiresin® PX 523

TRANSPARENT OR SPECIFIC USE SYSTEMS									
Component	ISOCYANATE	E A	SikaBires	in® PX521	SikaBiresin® PX223 HT	SikaBiresin® PX234 HT	SikaBiresin® PX280	SikaBiresin® PX331	
Component	POLYOL	В	SikaBiresin <sup>o</sup> PX522	SikaBiresin <sup>®</sup> PX523	SikaBiresin <sup>®</sup> PX223 HT	SikaBiresin® PX234 HT	SikaBiresin® PX280	SikaBiresin® PX331	
Mixing ratio	[g	A A	100	100	100	100	100	100	
MIXING IALIO	ıg	В	50	62	80	50	80	100	
Colour			transparent	transparent	black	light amber	off-white	off-white	
Characteristics				igh reproduction	low viscosity for easy casting; good impact and flexural resistance; temperature resistance above 120 °C	good thermal resistance up to 190 °C; low visco- sity; fast demoulding; good impact resistance; two pot lifes available; colourable	compliance with directive 10/2011; compliance with directive 2007/19/CE regarding food contact; compliance with FDA 21 CFR 177.2600 regulation for repeated use; good mechanical properties	fast demoulding; good thermal properties; self-extinguishing FAR: certified, UL 94 VO in 3 mm according NF EN 60695-11-10; can be easily coloured with CP pigments	
Applications			transparent parts until 10 mm thick- ness: crystal glass like parts, fashion, jewellery, art and decoration parts, lenses for lights	transparent parts until 100 mm thickness: crystal glass like parts, art and decoration parts	universal system to match ABS type thermoplastic when temperature resistance is required; good che- mical resistance	all parts with very good thermal resistance such as: PA6.6, PP5, PEEK	can be cast by hand, 2K or vacuum machine to achieve ABS type parts; could be used for parts in contact with aqueous, acid and greasy foods; none homologated for liquid contact	all parts in general industry or aeronauti when requiring a fire classification	
Processing da	ta (approx.	value	es)						
Mixed viscosi	ty [m	Pas]	500	500	850	250	450	700	
Pot life	[	min]	8	20	6-7	5	20	5-7	
Demoulding t	ime [	min]	60	45	45-75	60	120	45	
Physical Data	(approx. val	lues)							
Density	[g/	cm³]	1.06	1.06	1.14	1.19	1.19	1.35	
Shore hardnes	is		D 85	D 86	D 80	D 80	D 85	D 86	
E-Modulus	[N	<b>ИРа</b> ]	2,400	2,100	2,300	1,850	2,800	3,700	
Tensile streng	gth [M	ИРа]	66	68	60	61	75	55	
Flexural strer	igth [M	<b>ИРа</b> ]	110	100	80	80	117	133	
Elongation at	break	[%]	7.5	6	11	13	5	4	
Impact streng	th [k]	/m²]	48	42	> 60	41	25	26	
HDT		[°C]	80	85	110	190-195	-	90	
T <sub>G</sub>		[°C]	95	100	> 120	220	80	100	

## **SILICONES**

### ESSIL 291:

- Compatibility with PUR casting resins
- High surface quality even for clear parts
- Dimensional stability in use
- Exists with self bleeding version for longer ageing





Art and Deco cats in SikaBiresin® PX

Elastic mould produced by addition curing silicone Essil 291 for optical parts

SILICONES							
Resin	Α	ESSIL	. 291	ESSI	L 125	ESSIL 222	
Catalyst	В	ESSIL 291	ESSIL 292	ESSIL 125 ESSIL 124		ESSIL 222	
Mixing ratio [g]	Α	10	00	1	00	100	
MIXIII I I I I I I I I I I I I I I I I I	В	1	0		5	100	
Colour	<b>Colour</b> transparent			wh	nite	light blue	
Characteristics	high transparency; good chemical resistance towards polyurethanes; vulcanized by polyaddition; very easy to mix and to cast; very low shrinkage when hardening at room temperature; dry surface  high transparency; good chemical resistance towards polyurethanes; vulcanized by polycondensation; high tear strength; available in slow and fast versions; high value for elongation at break; temperature resistance; thixotropic additive (ESSIL 126 THIXO)			and fast versions; in at break; temperature	vulcanized by polyaddition; very good temperature resistance; high tear strength; very low viscosity; quick setting time		
Applications		soft negatives, flexible n industry; ESSIL 291 silico for casting resins (PX rar machine; Essil 292 cataly the number of part	ne is particularly suitable nge) in a vacuum casting vst is advised to increase	and soft skin moulds ded with undercuts; proto	atives by casting process licated to detailed shapes otyping applications or tion for art and deco parts	flexible moulds for prototypes industry (gravity casting or under vacuum); self-demoulding moulds for decorative concrete parts	
Processing data (a	pprox	c. values)					
Mixed viscosity [m	ıPas]	40,000	38,000	-	-	4,000	
Pot life	[min]	61	0	80	40	10	
Demoulding time	[h]	1	6	24	12	1	
Physical Data (app	rox. \	ralues)					
Density [g/	cm3]	-		1	1	1.13	
Shore hardness	(A)	Α 3	38	A 24	A 25	A 22	
Tear strength [N/	mm]	24	4	17	19	20	
Elongation at breal	([%]	35	50	-	550	380	

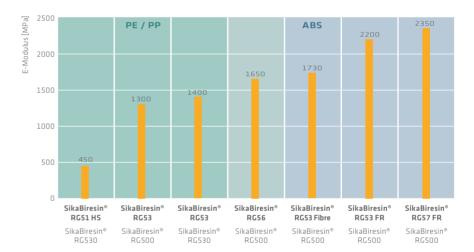
### LOW PRESSURE RIM-SYSTEMS

### **LOW PRESSURE RIM-SYSTEMS**

Sika offers a wide range of low pressure RIM systems for rapid production of small and medium series, covering the properties of thermoplastic systems.

### SikaBiresin® RG53:

- Proven allrounder system with very easy processing
- Offers high impact resistance for PE/PP aspect housings
- With hardener SikaBiresin® RG500 for housings with good heat coverings



LOW PRESS	SURE RIM	-SYS	STEMS		
Component P	OLYOL	Α	SikaBiresin® RG51 HS	SikaBires	iin® RG53
Component IS	OCYANATE	В	SikaBiresin® RG530	SikaBiresin® RG500	SikaBiresin® RG530
Mixing ratio [g] A		А	100	10	00
MIXING FALIO	[81	В	50	75	80
	[ltr.]	В	43	62	66
Colour			black / beige	black / be	ige / grey
Characteristics	5		high impact resistant; wear resistant	allrounder system; v high impact and go	ery easy processing; ood heat resistance
Applications shock-resistant housings and covers			shock-resistant housings and covers	housings ar medium	nd covers of stiffness
Processing dat	ta (approx. v	/alue	s)		
Viscosity (Res	in) [ml	Pas]	1,300	2,2	200
Pot life	[	sec]	60	6	0
Demoulding ti	me [r	min]	10-20	>:	10
Physical data (	(approx. val	ues)			
Density	[g/c	m3]	1.15	1	.2
Shore hardnes	S		D 65	D 78	D 80
E-Modulus	[N	(Pa]	450	1,300	1,400
Flexural streng	gth [M	(Pa]	20	54	58
Impact strengt	th [kJ/	'm²]	no break	95	90
HDT		[°C]	65	63 / 120*	60 / 110*
T <sub>G</sub>		[°C]	-	-	-

<sup>\*</sup> after appropriate treatment

### SikaBiresin® RG53 FR and RG57 FR:

- Flame retardant RIM systems for stiff ABS aspect housings and coverings with good heat resistance
- SikaBiresin® RG53 FR with UL94 V-0 offers longer pot life for bigger parts
- SikaBiresin® RG57 FR tested according to DIN EN 45545-2





Housing of a lawn-mower with high mechanical properties

Automotive RIM part with complex geometry

SikaBiresin® RG56	SikaBiresin® RG53 Fibre	SikaBiresin® RG53 FR	SikaBiresin® RG57 FR
SikaBiresin® RG500	SikaBiresin® RG500	SikaBiresin® RG500	SikaBiresin® RG500
100	100	100	100
80	60	54	44
-	-	52	-
black	black	black / beige	dark grey / beige
stiff, high flexural and impact strength; thermal resistant	stiff, low shrinkage; good heat resistance	flame retardant; thermal resistant; high strength and stiffness	flame retardant; thermal resistant; high strength and stiffness
housings and covers with high mechanical properties	stiff housings and covers	stiff housings and covers with UL 94 V-0	stiff housings and covers with DIN EN 45545-2
2,900	6,000	3,500	3,800
50	50	75	55
> 10	> 10	>10	>10
1.18	1.2	1.27	1.30
D 82	D 81	D 84	D 80*
1,650	1,730	2,200	2,350
67	55	70	70*
60	48	35	20*
100 / 125*	63 / 125*	110*	90*
-	-	-	-

# FASTCAST RESINS

FASTCAST RE	FASTCAST RESINS - FILLED								
POLYOL	Α	SikaBiresin® F230	SikaBiresin® F40	SikaBiresin® F10	SikaBiresin® F21	SikaBiresin® F23			
ISOCYANATE	В	SikaBiresin® F230	SikaBiresin® F40	SikaBiresin® F10	SikaBiresin® F21	SikaBiresin® F23			
Mixing ratio [g]	A	100	100	100	100	100			
MIXING FALIO [8.	В	20	20	100	15	15			
Colour		white	blue	ivory, green, black	light grey or black	lightblue			
Characteristics		very good surface aspect after machining; easy to carve, to sand, to polish	high abrasion resistance; low shrinkage; low viscosity; quick setting; short pot life	1:1 mix ratio; short pot life; low viscosity; quick setting; good temperature resistance; low shrinkage	almost odourless; easy to mix by hand; very good flowability; very fine structure; very good mechanically workable	almost odourless; good mixable by hand; very good flowability; very low shrinkage; good adhesion to wooden materials; very good mechanically workable			
Applications		tools and parts: thermo- forming tools; checking fixtures; positioning fixtures; decorative applications when marble aspect is needed	tools as foundry patterns; core boxes, model plates and any type of castings requiring a good abrasion resistance	multipurpose system for tools: thermoforming tools; checking fixtures; positioning fixtures; prototype parts; foundry negatives	casting of master and core models, negatives and mouldings of medium size	casting of master and core models, negatives and mouldings of larger dimensions; for high surface quality and mould precision			
Processing data	(approx.	values)							
Mixed viscosity	[mPas]	900	2.000	2.500	2.100	1.500			
Pot life	[min]	4.25-5.25	5.25-6.30	4.45	5-6	7-8			
Demoulding time	e [min]	30	60	45	30	120			
Physical data (ap	prox. va	lues)							
Density	[g/cm³]	1.58	1.70	1.64	1.7	1.7			
Shore hardness		D 80	D 84	D 73	D 80	D 80			
Flexural strength	ı [MPa]	47	61	35	35	45			
Compressive stre [MPa]	ength	63	57	33	75	60			
$T_G$	[°C]	60	69	71	80	70			

FASTCAST RE	SINS	- UNFILLED						
POLYOL	Α	SikaBiresin® F160	S	ikaBiresin® F2	27	SikaBiresin® F27 LV	SikaBiresin® F180	SikaBiresin® F190
ISOCYANATE	В	SikaBiresin® F160	SikaBiresin® F27	SikaBiresin® F27 w.	SikaBiresin® F55	SikaBiresin® F26	SikaBiresin® F180	SikaBiresin® F190
Mixing ratio [g]	А	100		100		100	100	100
MIXIIIS IACIO [8]	В	100	100	100	80	100	100	100
Colour		beige	beige	wh	iite	beige	off white	beige
Characteristics		quick setting system; low viscosity; good temperature resistance after heat curing; easy-to-use mix ratio (1:1 by weight); adjustable filler content	easily worka		noulding time; filler loading	very fine structure;	quick setting system; reduced viscosity; low shrinkage; adequate viscosity even with high rate of filler	very low shrinkage; low viscosity even filled; easy to use mix ratio (1:1 by weight); high filler content possible
Applications		mainly used with filler for tools: moulds, masters, negatives with RZ 30150 to get easy machining; thermoforming tools with RZ 209/6 aluminium powder in order to increase thermal conductivity	models, medium	, core models, size art and cr	negatives, pa aft articles wit	ttern, small and th detailed shapes	mainly used for mock-ups and decorative parts using the unfilled product or filled with RZ 30150 to get low shrinkage and easy machining	same as SikaBiresin® F160 but able to cast up to 50 mm in one shot
Processing data (	approx.	. values)						
Mixed viscosity	[mPas]	90	50	30	140	35	80	125
Pot life	[min]	2´20´´	2′15′′	2′15′′	1′30′′	2´20´´	312511	7-9
Demoulding time	[min]	30	> 20	> 20	> 15	> 15	45	90
Physical data (ap	prox. va	alues)						
Density [	g/cm³]	1.08		1.1		1.1	1.08	1.07
Shore hardness		D 75	D 70	D 70	D 75	D 70	D 70	D 68
Flexural strength	[MPa]	60	55	42	60	45	38	40
Impact resistance	[kJ/m²]	14	25	60	50	23	18	20
HDT	[°C]	-	80	75	75	75	-	-
$T_G$	[°C]	110	-	-	-	-	97	90

### PUR CASTING RESINS

### **FILLED FASTCAST RESINS**

Filled fastcast resins are especially suitable for making e.g. master, core models, negatives and patterns with large dimensions and are characterized by low shrinkage.



### **UNFILLED FASTCAST RESINS**

The unfilled fastcast resins are usually used for making detailed models and mouldings with thin walls due to their excellent flowability. They can, however, be cast in thicker layers by adding filling materials to them.

### PUR Casting systems with long pot life

### SikaBiresin® F46

- Prefilled casting resin can be cast in thick sections (e.g. backfilling)
- Results in durable core models with high dimensional accuracy

### SikaBiresin® F48 and SikaBiresin® F50

- Offer lower viscosity and are used unfilled by face casting process
- Both systems can be filled with high filler loading to use them as high-grade mass casting systems with high strength values

SikaBiresin® F160 with additional fillers for casting of models with thicker sections

PUR CASTING SYSTEMS WITH LONG POT LIFE									
POLYOL	Α	SikaBiresin® F46		SikaBiresin® F48		SikaBire	sin® F50		
ISOCYANATE	В	SikaBiresin® F46		SikaBiresin® F55	SikaBiresin® F50				
FILLER	С	-	-	TE-Füller	Al-Pulver	-	RZ 30150		
	А	100	100	100	100	100	100		
Mixing ratio [	<b>g]</b> B	25	100	100	100	50	50		
	С	-	-	350	250	-	180-240		
Colour		beige	opaque	beige	grey	bei	ge		
Characteristics		easily workable; can be cast in thick sections; high dimensional accuracy	easily workable; high filler loading; abrasion and impact resistant	very low shrinkage; easily thick sections; high c	y workable; can be cast in ompressive strength	very low shrinkage; lov casting in high thicknes			
Applications		master and core models, negatives, foundry patterns	facecasting layer for metal sheet forming tools and foundry patterns	backfilling for metal sl foundry	neet forming tools and patterns	unfilled for negatives, m version for higher volume for stamping tools with	casting; with RZ 209/6		
<b>Processing data</b>	(арр	rox. values)							
Mixed viscosity [r	ıPas]	3,000	1,500 castable		able	350	7,500		
Pot life	[min]	40		45-60		35-50	-		
Demoulding tin	ne [h]	16-24		16-24		6-3	12		
Physical data (a	ppro	c. values)							
Density [g	/cm³]	1.7	1.15	1.7	1.7	1.24	1.75		
Shore hardness		D 87	D 80	D 86	D 84	D 83	D 85		
Compressive strength	MPa]	110	94	104	90	85	90		
HDT	[°C]	80	75	-	-	-	-		
$T_G$	[°C]	-	-	-	-	-	65		

### **EP CASTING RESINS**

### **EP CASTING RESINS**

Typical advantages of EP resins are their good resistance to mechanical, chemical or thermal influence and easy processing due to low shrinkage and low moisture sensitivity.

### **EP CASTING RESINS FOR TOOLING**

### SikaBiresin® G519:

- Black allrounder resin with good workability
- Offers good compressive strength and abrasion resistance (e.g. foundry patterns)

### SikaBiresin® G32:

- Green filled casting resin for backfilling
- With SikaBiresin® L4 hardener for additional filler loading to reduce shrinkage

### SikaBiresin® G33:

 Black filled casting resin offers highest abrasion resistance and dimensional accuracy

### **HEAT RESISTANT EP CASTING SYSTEMS**

### SikaBiresin® G36:

- Grey prefilled casting resin with high heat resistance
- Can be cast up to 100 mm thickness with G36 hardener (B)
- Offers highest heat resistance with hardener CH170-3 (B)
- Can be used as gelcoat with P7 hardener (B)

### SikaBiresin® G38:

- With good flowing behaviour can be cast up to 40 mm
- Don't need to be post cured before demoulding



Vacuum forming mould for blister packaging out of SikaBiresin® G38

EP CASTIN	IG RESI	NS FOR TOOLING			HEAT RESISTANT EP CA	STING RESINS
	Α	SikaBiresin® G519	SikaBiresin® G32	SikaBiresin® G33	SikaBiresin® G36	SikaBiresin® G38
	В	SikaBiresin® G519	SikaBiresin® L4	SikaBiresin® GC115	SikaBiresin® G36	SikaBiresin® G38
Missinguntin	[-1 A	100	100	100	100	100
Mixing ratio	[g] B	10	7	6	10	7
Colour		black	green	black	grey	grey
Characteristic	cs	multi-purpose with good workability; low shrinkage; good compressive strength and abrasion resistance	low viscosity; high filler loading for higher casting thickness	very low shrinkage; high abrasion resistance and compressive strength	low shrinkage, good workability, can be cast in thick sections, very high heat resistance, use as gelcoat with P7 (B)	good flowing and degassing properties; high heat resistance; demoulding possible before post curing
Applications		production moulds, metal sheet forming tools, foundry patterns	backfilling in foundry pattern / mould making	abrasion resistant guiding rails and supports for engineering	vacuumforming moulds and other heat resistant tools	heat resistant moulds, e.g. vaccumforming moulds (blister pack)
Processing da	ata (appr	ox. values)				
Mixed viscosity	[mPas]	24,500	1,700	6,000	18,000	10,500
Pot life	[min]	80	70	45-60	60-120	120
Demoulding t	ime [h]	24	24	16	24*	16-24
Physical data	(approx	. values)				
Density	[g/cm³]	2.25	1.6	1.9	1.7	1.8
Shore hardne	SS	D 90	D 90	D 90	D 89	D 90*
Compressive strength	[MPa]	110	112	120	130*	112*
HDT	[°C]	-	51	60 / 95*	141*	>130*
$T_G$	[°C]	74	-	-	-	-

<sup>\*</sup> after appropriate treatment

### TRANSPARENT EP CASTING SYSTEMS

Sika's transparent EP systems offers high transparency and are mainly used for glass clear embedding and coatings of decorative arts and transparent parts.

### SikaBiresin® TD150 systems:

- Multipurpose transparent epoxy casting system
- One resin with several hardeners suitable for various applications from deep pouring to thin coating
- Easy-to-use manually
- Excellent transparency
- Good UV resistance



Excellent transparency with SikaBiresin® TD150 systems



TRANSPARENT EP CASTING RESINS								
	Α		SikaBiresin® TD150					
	В	SikaBiresin® TD140	SikaBiresin® TD150	SikaBiresin® TD165				
Mixing ratio	[g] A	100	100	100				
MIXING FALIO	IS1 B	50	45	50				
Colour		transparent	transparent	transparent				
Characteristic	CS	high transparency; low viscosity; self-degassing behaviour; good UV stability	high transparency; low viscosity; self-degassing behaviour; single pour casting up to 50 mm; good UV resistance	high transparency; easy mixing ratio 2:1; self-degassing behaviour; quick setting in thin layers; good UV resistance				
Applications		applications in art and decoration, embeddings, river tables, mock-ups	applications furniture, art and decoration to make deep pour transparent and UV resistant castings such as river table, embeddings, mock-ups, trophies	applications in art and decoration to make transparent objects from 1 mm up to 10 mm such as thin inclusions, embeddings, wood surface sealing and coatings				
Processing da	ata (appr	ox. values)						
Mixed viscosity	[mPas]	220	300	500				
Pot life	[min]	de	epending on thickness, volume and room temperatu	re				
Demoulding time	[h]	de	epending on thickness, volume and room temperatu	re				
Physical data	(approx	. values)						
<b>Density</b>	[g/cm³]	-	-	1.00				
Shore hardne		D 78	D 80	D 81				
T <sub>G</sub>	[°C]	42	39	53				

<sup>\*</sup> tack free time

### **ELASTOMERIC RESINS**

Elastomeric Casting Resins are high-quality PUR systems with a wide range of shore hardness levels (Shore A 40 to D 67) used in manifold application areas.

### ELASTOMERIC CASTING RESINS FOR FOUNDRY PATTERN MAKING

The tough elastic systems are mainly used for high abrasion resistant liners (face casting process) for core boxes and match plates with long working life.

### SikaBiresin® UR419:

- The low shore hardness of around A 97 offers highest abrasion resistance of core boxes also opposite the shooting nozzles due to the high rebound elasticity
- SikaBiresin® UR419 with 6-7 min pot life for small core boxes and short demoulding time

### SikaBiresin® UR132 NT:

- Proven market leader of nontoxic foundry resins for series core boxes
- Standard hardener SikaBiresin® UR132 L Neu (B) works also for big castings up to 100 kg
- Sika Cleaner 205 increases bonding on prepared aluminium substructures

Core box made of SikaBiresin® UR322 NT

ELASTOMERIC CASTING RESINS FOR FOUNDRY PATTERN MAKING								
ISOCYANATE	Α	SikaBiresi	n° UR419	SikaBiresin® UR132 NT	SikaBiresin® UR390			
POLYOL / AMIN	NE B	SikaBiresin® UR419	SikaBiresin® UR458	SikaBiresin® UR132 L Neu	SikaBiresin® UR390			
Mixing ratio	A	10	0	100	100			
MIXING FALLO	[g] B	16	18	40	50			
Colour		coloured-tr	ansparent	beige	beige to dark beige			
Characteristics	cteristics very high abrasion and impact resistance; high rebound elasticity; good flowability; fast demoulding		very high abrasion resistance; both components without toxic classifictation; simple hand casting without postcuring	good abrasion resistance and impact resistance; higher shore hardness and better heat resistance low toxicity				
Applications		smaller core boxes, area shooting		high abrasion resistant core boxes and match plates, also in larger sizes	core boxes and match plates with higher shore hardness and heat resistance (T $_{\text{G}}$ ~100 °C)			
Processing dat	ta (appro	x. values)						
Mixed viscosity [	[mPas]	2,800	4,000	8,000	1,500			
Pot life	[min]	6-7	20	16	14			
Demoulding ti	me [h]	1-3	16	> 16	16			
Physical data (	(approx. v	values)						
Density [g	g/cm³]	1.1	1.1	1.15	1.08			
Shore hardnes	SS	A 98 (D 54)	A 97 (D 45)	D 62	D 67			
Elongation at break	[%]	375	700	330	120			
Abrasion resistance	[mm³]	90	270	70	190			

SikaBiresin® UR390:

Provides higher shore hardness (D 67) and good heat

resistance besides its good abrasion resistance

Favourite product for match plates

### **ELASTOMERIC CASTING RESINS FOR MOULD MAKING**

The soft elastic types with very high elongation qualities are used for making flexible moulds (similar to silicone) and for castings made of the most varied of materials (even ceramic). The tough elastic products are suitable for more high-resistant moulds and mouldings as well as for wear-resistant coatings in special machine construction.

### SikaBiresin® UR350:

- Rubber like elastomer; black color
- High mechanical properties
- Chemical resistance
- Exists in Shore A 80 & 85 (SikaBiresin® UR360)

### SikaBiresin® UR409:

- New technology giving high properties
- Friendly use 1:1 ratio and low viscosity
- High frequency vibrations resistance



ELASTOMERIC CASTING RESINS FOR GENERAL MOULD MAKING									
ISOCYANATE	Α	SikaBiresi	in® UR404	SikaBiresin® UR340	SikaBiresin® UR350		SikaBiresin® UR303	SikaBiresin® UR305	SikaBiresin® UR409
POLYOL / AMINE	В	SikaBiresin® UR404	SikaBiresin® UR434	SikaBiresin° UR340	SikaBiresin® UR350	SikaBiresin® UR360	SikaBiresin® UR402	SikaBiresin® UR305	SikaBiresin <sup>®</sup> UR409
Mixing ratio [g]	Α	80	50	100	100	100	100	100	100
MIXIII GIALIO [8]	В	100	100	50	35	40	35	60	100
Colour		reddish- transparent	light-beige	light amber	black	black	coloured- transparent	cream-white / black	beige
<b>Characteristics</b> very soft; high elongs low shrinkage			low viscosity; low moisture sensitivity; good abrasion resistance; good dimensional stability	good tear resistance; very good hydrolysis and chemical resistance; high abrasion resistance; good elongation at break		intensitive to mois- ture; rubbery; good tensile strength and elasticity; low shrinkage	high abrasion resistance; can be accelerated by SikaBiresin® HC586	insensitive to moisture; good tear strength and elasticity	
Applications		ceramic indu moulds and	stry, flexible components	production of parts requiring high properties (seals, soft moulds, sanding mask etc).	moulds, forming tools or parts requiring good abrasion resistance ne		production of flexible moulds and compo- nents, ceramic and concrete industry	wear resistant coating, electronic encapsulation	flexible fixtures for parts for ultra sonic welding; elastic, flexible moulds
Processing data (a	аррі	rox. values)							
Mixed viscosity [mP	as]	3,000	3,700	1,500	3,000	3,600	4,000	2,300	2,500
Pot life [m	nin]	25	20	17	18	20	25	15-20	30
Demoulding time	[h]	24	> 16	24	24	24	> 16	10-16	> 16
Physical data (ap)	prox	. values)							
Density [g/ci	m³]	1.05	1.3	1.02	1.08	1.09	1.11	1.2	1.10
Shore hardness		A 40	A 55	A 63	A 80	A 85	A 81	A 89	A 92
Tear strength [N/m	ım]	7	9	24	67	83	18	27	12
Elongation at break	[%]	> 600	> 600	1,000	620	810	400	300	650

### SikaBiresin® UR763:

- Special filled elastomer for ceramic case moulds
- No moisture sensitivity
- No shrinkage in volume

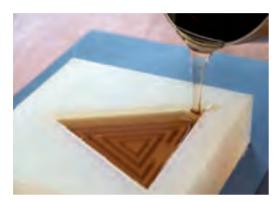


Release of SikaBiresin® UR548 soft mould for stone facing

ELASTOMERIC CASTING RESINS FOR CERAMICS							
ISOCYANATE A	SikaBiresin® UR406	SikaBiresin® UR701	SikaBiresin® UR303				
POLYOL / AMINE B	SikaBiresin® UR406	SikaBiresin® UR763	SikaBiresin® UR302				
Mixing ratio [g] A	100	50	100				
Mixing Latio [8]	30	100	40				
Colour	yellowish-transparent	pink	coloured-transparent				
Characteristics	rubbery; high elongation at break; insensitive to moisture; excellent flowability at processing; good tensile strength and elasticity; very slow shrinkage	easy sanding after curing; homogeneous material; low moisture sensitivity; chemical resistance to release agents	rubbery, insensitive to moisture; good tensile strength and elasticity; choice of polyols for different hardness levels; very low shrinkage				
Applications	casting of flexural moulds for ceramic industry; moulds for concrete mouldings; flexible mouldings	ceramic case moulds by hand casting	casting of flexural moulds for ceramic industry; moulds for concrete mouldings; flexible moulding				
Processing data (ap	prox. values)						
Mixed viscosity [mPas	2,800	3,000	3,800				
Pot life [min	15-20	20	25				
Demoulding time [h	> 16	16	> 16				
Physical data (appro	ox. values)						
Density [g/cm <sup>3</sup>	1.05	1.34	1.03				
Shore hardness	A 55	A 63	A 73				
Tear strength [N/mm	5	16	15				
Elongation at break [%	450	850	550				

### SikaBiresin® UR530:

- Soft filled elastomer for concrete moulds
- High chemical resistance
- Dimensional stability



Casting of SikaBiresin® UR404

### SikaBiresin® UR595:

- Semi rigid elastomer for tools and parts
- 3 reactivity and 8 colors available
- Dedicated for concrete stamps; soft rulers; inserts in concrete casting



Mould out of SikaBiresin® UR503 for concrete casting

ELASTOMERIC CASTING RESINS FOR CONCRETE AND BUILDING INDUSTRY									
ISOCYANATE	Α	SikaBires	in® UR703	SikaBiresin® UR404		SikaBiresin® UR503			in <sup>®</sup> UR505
POLYOL / AMII	IE B	SikaBiresin® UR730	SikaBiresin® UR745	SikaBiresin® UR620	SikaBiresin® UR530	SikaBiresin® UR548	SikaBiresin® UR563 L20	SikaBiresin® UR572	SikaBiresin® UR595
A41	_, A	40	70	100	10	30	35	30	55
Mixing ratio	.gl B	100	100	40	100	100	100	100	100
Colour		beige	beige	reddish-transparent	beige	ochre	grey or beige	beige	coloured
Characteristic	5	low shrinkage after hardening; high elongation at break; low moisture sensitivity; good chemical resistance			high elongation at break; low hardness; chemical stability	high elongation at break; low viscosity; good mechanical resistance	high chemical resistance; good mechanical proper- ties; two pot lifes available	easy processing; excellent tear strength; good chemical resistance	easy processing; good tear strength; high impact resistance; quick setting; available in 8 colours
Applications		production of moulds or flexible parts, by hand casting or with help of 2K machine; large volumes possible in one shot with SikaBiresin® UR745		production of intricated moulds for concrete industry	production of moulds for concrete industry by hand casting or with a 2K machine	production of moulds and tools for the con- crete industry; espe- cially dedicated to make soft moulds to cast concrete part in mass production	production of moulds or flexible parts, by hand casting or with 2K machine	production of semi-flexible parts or moulds; pot life adapted to process (hand or 2K machine)	
Processing da	а (арр	rox. values)							
Mixed viscosity	mPas]	2,300	2,450	6,500	4,000	2,000	2,500	1,000	1,000
Pot life	[min]	40-60	40-50	10	15-20	15-20	15-20 (30 with Sika- Biresin® UR563 S)	15-20	various
Demoulding ti	me [h]	24	18	> 16	24	16	16-24	24	12
Physical data	appro	x. values)							
Density [	g/cm³]	1,16	1.14	1.1	1.35	1.31	1.31	1.25	1.25
Shore hardnes	5	A 30	A 50	A 60-65	A 30	A 50	A 65	A 75	A 94
Tear strength [N	I/mm]	8.5	18	13	6	14	16.5	31	64
Elongation at break	[%]	1,500	1,200	300	900	550	670	700	400

# ADHESIVE AND PUTTY FILLER SYSTEMS FOR BOARDS AND PASTES

### ADHESIVE AND PUTTY FILLER SYSTEMS FOR BOARDS AND PASTES

The adhesive and putty filler systems are specially adapted to Sika Advanced Resins boards. This relates to colour and mechanical-physical properties. This results in a similiar behaviour regarding machinability and subsequent use in application.

### **ADHESIVES**

In the development of adhesives, special attention is paid to achieving a sufficiently high degree of adhesive strength and rapid curing.



ADHESIVE FOR BOARDS									
А	Labelite Glue	SikaBiresin® B260	Adekit® A130	SikaBiresin® B180	H 8973				
В	-	SikaBiresin® RG530	Adekit® A130	SikaBiresin® B180	-				
Mixing ratio [g] A	-	100	100	100	100				
Mixing ratio [8]	-	65	100	32	14				
Colour	dark amber	orange / brown	light amber	amber	blue				
Basis	-	PUR		Epoxy					
Characteristics	dedicated 1K glue with no mixing; easy to apply and fast setting while giving same aspect as light density foams	dedicated glue for orange/ brown colored medium density boards with good balance open-time and setting time	2K quick setting epoxy adhesive for bonding small pieces together and alllowing to mill within 30 min	2K thixotropic epoxy adhesive for easy application for large bonding works or for applications requiring heat resistance	dedicated adhesive system for bonding of LAB 973 or LAB9 75 NEW boards to each other				
Suitable for boards references	all Labelite and M blocks from M80 till M450	Labelite 350E and 45PK, all Prolabs and M blocks from M440 till M700	all medium to hig	th density boards	LAB 975 NEW and LAB 973				
Processing data (app	rox. values)								
Consumption [kg/m²]	0.12-0.15	0.9	0.60-0.65	0.65-0.70	0.53				
Open time	-	20 min	10 min	15 min	60 min				
Setting time	2 h	6 h	30 min	16 h	16 h				
Physical data (approx	Physical data (approx. values)								
Density [g/cm³]	1.15	0.8	1.15	1.16	0.78				
Shore hardness	-	D 63	D 80	D 82	D 74				
T <sub>g</sub> [°C]	80	-	-	HDT: 90 °C	125				



### **PUTTY FILLERS**

The creamy-soft consistence of the putty fillers results in easy application properties. They are also suitable for levelling, repairing and moulding of models and negatives out of tooling resins, wood and metal etc. for model, mould and tool making.

Easymax perfect match repair putty to medium density boards having the same PUR chemistry with quick setting and odour-less

PUTTY FILLERS FOR BOARDS AND PASTES							
	А	SikaBiresin® B370	SikaBiresin® B375	Easymax	SikaBiresin® SC175 / SC180 / SC380 / SC390		
	В	BPO-Paste	BPO-Paste	Easymax R	SikaBiresin® GC11		
Mixing rati	io [g] A	100	100	100	100		
MIXIIIg rati	In ISI	2	2	100	20 / 13 / 17 / 15		
Colour		brown	white	grey, brown, beige	grey, brown		
Basis		poly	ester	PUR	Ероху		
Characteris	stics		curing and non-tacky; sanded	quick setting low density 2K PUR putty for medium density brown boards; odor-free	epoxy mastic with similar properties as extrudable paste		
Suitable for paste refer		SikaBlock® PROLAB 65, SikaBlock® M600 N / M700 N	all medium to high density boards	SikaBlock® PROLAB 65, SikaBlock® M600 N / M700 N	SikaBiresin® SC175 / SC180 / SC380 / SC390		
Processing	g data (app	rox. values)					
Pot life	[min]	5	5	5	10		
Setting tim	ne [min]	> 20	> 20	20	4 h		
Physical da	ata (approx	. values)					
Density	[g/cm³]	1.6	1.9	0.73	0.62 / 0.75 / 0.75 / 0.90		
Shore hard	lness	D 70	D 75	D 64	D 57 / D 63 / D 64 / D 70		

# FILLING MATERIALS AND SURFACE PRE-TREATMENT

### **FILLING MATERIALS**

These materials in powder and granulate form can modify different properties of laminating and casting resins:

- lower shrinkage and exothermic temperature and higher casting thickness
- higher compressive strength or thermal conductivity
- reducing of material costs

Regarding the availability of the products in your country please refer to your contact person.



FILLING MATERIALS							
	Aluminium grit	Aluminium powder		LF-Füller	TE-Füller		
		RZ 209/6	RZ 1476	RZ 30002	RZ 30150		
Colour	silver to matt-grey	silver to matt-grey	white	grey	white		
Delivery unit	25 kg paper bag	6 x 5 kg; 25 kg paper bag	7 kg paper bag	20 kg paper bag	25 kg paper bag		
Description	aluminium granulate	aluminium powder	hollow glass microballon	aluminium silicate microballon	aluminium hydroxide powder		
Applications	backfill castings with good thermal conductivity and good machinability	backfill castings and parts with good thermal conductivity and good machinability	syntactic foam	backfill casting with low density, light concrete mixes	backfill casting with good workability		
Processing data (ap	prox. values)						
Bulk density [g/cm	1-1.5	1.0	0.15	0.4	1.2		
Mixture for exampl	SikaBiresin® G32 (A) Resin : Filler (100 : 100)	SikaBiresin® F27 (A) Resin : Filler (100 : 300)	SikaBiresin® F46 (A) Resin : Filler (100 : 100)	SikaBiresin® F27 (A) Resin : Filler (100 : 100)	SikaBiresin® F26 (A) Resin : Filler (100 : 250)		
Physical data (approx. values)							
Density [g/cm	2.7	2.7	0.25	0.6-0.7	2.4		
Grain [mm	0.6-1.2	0-0.07 or < 0.063	0.1	0.01-0.25 or 0.3	0-0.032 or 0.07		

### **SURFACE PRE-TREATMENT**

High-grade release agents, cleaners and activators provide an optimal surface pre-treatment.



SURFACE PRE-TREATMENT									
		Sika® Liquid Wax-815 *	Sika® Pasty Wax-818 *	Sika® Liquid Wax-852 *	Sika® Liquid Spray-872 *	Sika® Handclean	Sika® Reinigungsmittel 5	Sika <sup>®</sup> Activator 205	
Colour		milky	whitish	whitish	transparent	orange/white	clear transparent	colourless	
Delivery unit		6 x 0,71kg; 3,55 kg	8 x 0.45 kg	6 x 0.73 kg; 7.3 kg	6 x 400 ml	70 pcs/unit	1  ; 10	1 l; 0.25 l	
Description		low viscosity wax dispersion; fast drying	pasty wax dispersion; fast drying	liquid greasy wax; fast drying	greasy wax in spray; silicone free	impregnated cloths with hand cleaning formula	mild solvent blend	primer with low viscosity for nonporous surfaces	
Applications		release agent for EP- and PUR-systems in model making; for sealed, lacquered and metallic surfaces	release agent for EP- and PUR-systems in model making; for sealed, lacquered and metallic surfaces	release agent for PUR-systems in model making and silicones; can be used for porous surfaces	release agent for PUR-systems in model making and silicones	time saving fast cleaning of machines, tools and accessories	cleaning of tools and surfaces	increasing of bonding of elastomeric PUR- system (SikaBiresin® UR320 NT) on prepared aluminium substructures	
Processing da	ta (appro	x. values)							
Material consumption	brushed coats	70	50-100	70	-	-	-	30-60	
[g/m²]	sprayed coats		-	30	30	-	-	-	
Drying time	[min]	5-10	5-10	5-10	5-10	-	-	10	
Physical data	Physical data (approx. values)								
Density	[g/cm³]	0.71	0.84	0.73	0.73	-	-	-	

 $<sup>\</sup>ensuremath{^{*}}$  Names of release agents vary from one country to another.

### **ADDITIVES**

Additives are added to liquid systems in order to reach a specific thixotropy, thinning, acceleration or colouring of products.



ADDITIVES (thixotroping, acceleration, colouring)							
	Stellmittel T	Biresin® HC 586 (catalyst)	Biresin® Colour Paste	CP Color			
	RZ 55						
Colour	white	light yellow	white, black, green, red, blue, yellow, dark blue, pink, orange	white, black, green, red, blue, yellow			
Delivery unit	1.0 kg	0.5 kg	8 x 0.5 kg	0.5 kg; Colorkit: 6 x 0,025 kg			
Applications	light weight, non dusty powder for thixotroping of EP- and PUR-systems	acceleration of selected PUR- systems based on MDI techno- logy in order to obtain a shorter demolding time	colouring of EP- and PUR- systems	Colouring and pigmenting of PUR vacuum casting resins, specific for the PX range			



# GLOBAL SOLUTIONS -LOCAL SERVICE

Our most current General Sales Conditions shall apply.

Please consult the Product Data Sheet prior to any use and processing.

Actual Product Data Sheets and information about additional products please find in: www.sika.com/advanced-resins





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