HIGH-PERFORMANCE EP AND PUR SYSTEMS FOR TOOLING AND COMPOSITES

MOVE YOUR BUSINESS FORWARD WITH
SikaBiresin® AND SikaBlock® SOLUTIONS

BUILDING TRUST

CREATING A STRONG FUTURE

YOUR ADDED VALUE

Reliability and Safety
Sika Industry 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 Industry 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.

"As a global leader in Tooling and Composites, it is our aim to provide our customers with best in class innovative and tailor-made solutions. Being close to our customers is not only a word for us: Worldwide production and on-site support of our experts is the basis of our success. Every day, we are looking forward to create new and better solutions together with our customers."

MORTEN MUSCHAK
Head Corporate Automotive & Industry

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 IS 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 Advanced Resins
PRODUCT GROUPS

BLOCK MATERIALS AND MODEL PASTES

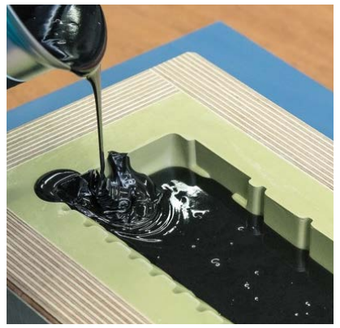
CNC milling 3D models and moulds

- Design and Styling Boards
- Model and Tooling Boards
- Model and Mould Making Pastes
- Adhesive and putties for boards and pastes

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 high quality, joint free, near net shapes in styling design, cubing models and diverse moulds.

These materials have for decades provided beneficial alternative solutions technically and/or economically versus traditional methods using wood or metal.



EPOXY AND PUR CASTING SYSTEMS

Everything made in one casting

- Fastcast Systems
- Epoxy Casting Systems
- PUR Casting Systems

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 vacuum forming 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.

VACUUM CASTING 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 shape 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.

ELASTOMERIC CASTING SYSTEMS

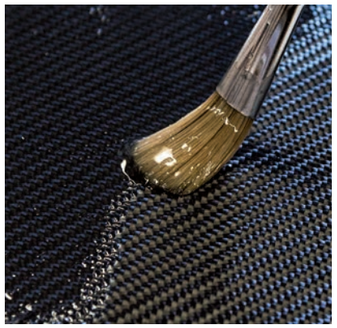
Flexible also in regard to possible applications

- Elastomeric Casting Systems for Mould Making
- Elastomeric Casting Systems for Foundry Pattern Making
- Elastomeric Casting Systems for Ceramics
- Elastomeric Casting Systems 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 30–D 67) 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.



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 200 °C.

Excellent processing and good resistance to external influences are the deciding features of our gelcoat range.

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.

Please refer to your local Sika representative regarding product availability in your country.

CONTENT

DESIGN AND STYLING BOARDS

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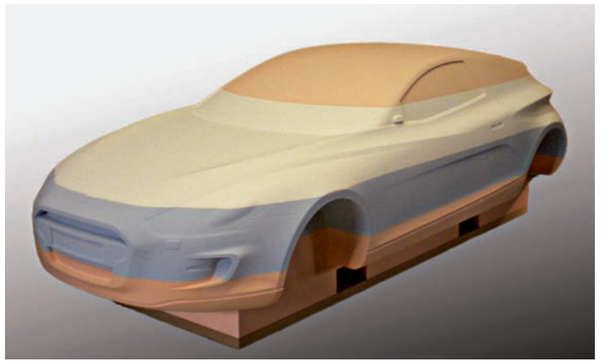
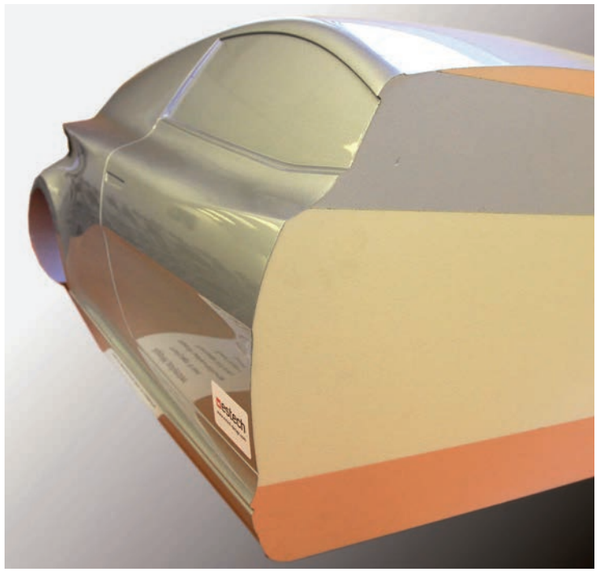
Light PUR foam boards are most favored materials that designers prefer to work with to create shaped forms or styling prototypes/models.

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 SikaBiresin® B200 enables an easy painting without showing glue lines.
Credit: Estech Design

DESIGN AND STYLING BOARDS

	SikaBlock® M80	SikaBlock® ML8 GY	SikaBlock® M150	SikaBlock® ML15 IY	SikaBlock® M330	SikaBlock® ML25 YW	SikaBlock® M440	SikaBlock® ML35 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 and non-powdery surface; easily workable; low dust formation when milled				excellent surface quality; very good milling behaviour; with low dust formation			
Physical data (approx. values)								
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, α_T [1/K]	60 x 10^{-6}	40 x 10^{-6}	65 x 10^{-6}	65 x 10^{-6}	65 x 10^{-6}	60 x 10^{-6}	65 x 10^{-6}	60 x 10^{-6}
Processing data (approx. values)								
Dimensions [mm] other dimensions on request	2000 x 1000 x thickness: 100/200/300/400	2000 x 1000 x thickness: 50/100/150/200/300/400	2000 x 1000 x thickness: 100/150/200/250/300/400	2000 x 1000 x thickness: 50/100/150/200	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				2000 x 1000 x thickness: 50/100/150/ 200	2000 x 1000 x thickness: 50/100/150/200	2000 x 1000 x thickness: 100/150/200	2000 x 1000 x thickness: 50/100/150/200
Adhesive	SikaBiresin® B200				SikaBiresin® B200 / SikaBiresin® B260			
Filler	SikaBiresin® B370							

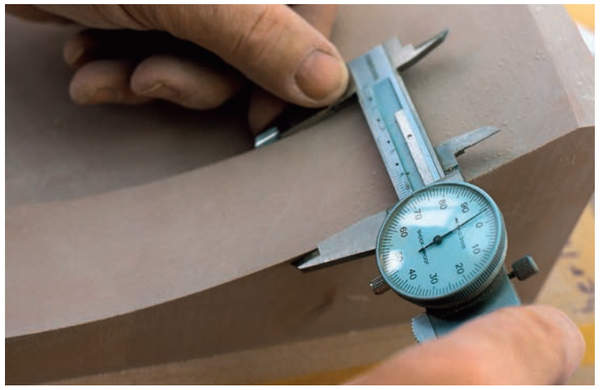
MODEL BOARDS

MODEL BOARDS

Medium density brown boards are the ideal material for making master models or moulds for short series of parts. From 0.45 to 0.78 g/cm³ we offer a complete range to satisfy every preference of model makers in mechanical strength, thermal resistance and of course surface aspect.

SikaBlock® Prolab 65 N displays the smoothest surface aspect in such category in the market place.

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



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

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

MODEL BOARDS

	SikaBlock® M450	SikaBlock® ML45 PK	SikaBlock® M455	SikaBlock® M600 N	SikaBlock® PROLAB 65 N	SikaBlock® M700 N
Density [g/cm³]	0.45			0.60	0.78	0.70
Colour	orange	pink	apricot	light brown	brown	light brown
Characteristics	good economical grade	superior surface quality; good edge stability	superior surface quality; good edge stability	easily workable; fine, dense surface; good compressive strength and edge stability; good heat distortion temperature		
Physical data (approx. values)						
Shore hardness	D 45			D 58	D 65	D 64
Flex. strength [MPa]	12			19	30	25
Compressive strength [MPa]	10			–	–	25
HDT [°C]	78	65		77	90	78
CTE, α_T [1/K]	55 x 10^{-6}			55 x 10^{-6}	64 x 10^{-6}	55 x 10^{-6}
Processing data (approx. values)						
Dimensions [mm]	1500 x 500 x thickness: 50/75/100/150/200	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	1495 x 500 x thickness: 30/50/75/100/150 1490 x 500 x thickness: 150/200	1500 x 500 x thickness: 30/50/75/100/150/200
Adhesive	SikaBiresin® B200 / SikaBiresin® B260			SikaBiresin® B260		
Filler	SikaBiresin® B370					

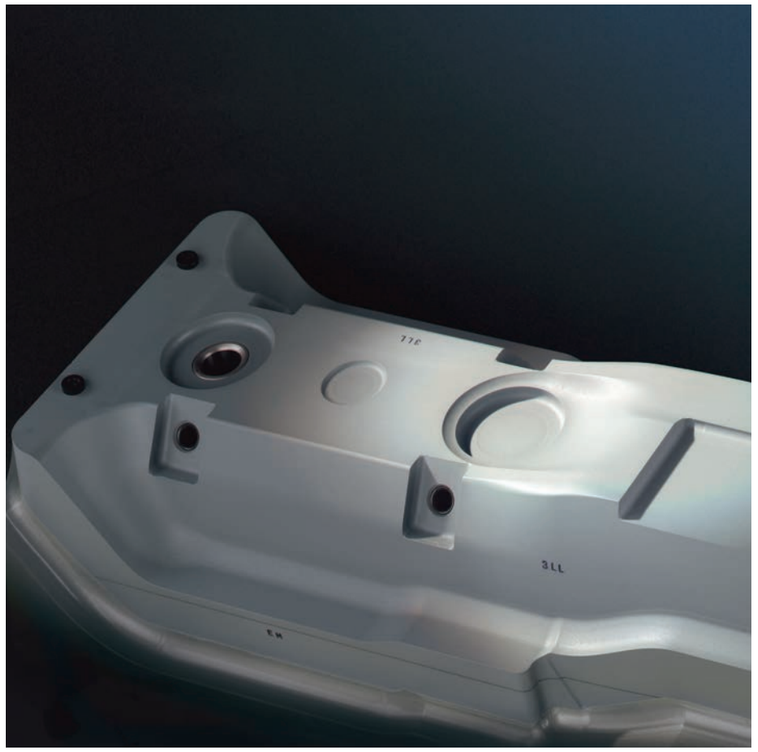
TOOLING BOARDS

TOOLING BOARDS

For composite 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 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

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

FOUNDRY TOOLING BOARDS

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

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.

SikaBlock® M945 provides excellent milling behaviour with low dust formation

BOARDS FOR HIGHEST DIMENSIONAL STABILITY

	LAB 975 NEW	SikaBlock® M976 EP	SikaBlock® M1000	SikaBlock® M1050	SikaBlock® LAB 1000
Density [g/cm³]	0.70	0.73	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	premium epoxy tooling board; extremely low surface porosity minimizing surface finish/ sealing; high temperature resistance and dimensional stability	medium density, good compressive strength and edge stability; low thermal expansion and high dimensional stability		heavy-duty high density tooling board
Physical data (approx. values)					
Shore hardness	D 75 (D 68 @ 130 °C)	D 74	D 75	D 76	D 89
Flex. strength [MPa]	37	42	48	50	90
Compressive strength [MPa]	50	67	47	48	110
HDT [°C]	130	120	85	90	Tg= 92
CTE, α_1 [1/K]	35–42 x 10^{-6}	38 x 10^{-6}	55 x 10^{-6}	55 x 10^{-6}	45 x 10^{-6}
Processing data (approx. values)					
Dimensions [mm] 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	SikaBiresin® B176		SikaBiresin® B180		

BOARDS FOR TOOLS AND FOUNDRY

	SikaBlock® M935	SikaBlock® M945	SikaBlock® M960	SikaBlock® LAB 925	SikaBlock® LAB 850	SikaBlock® M980	SikaBlock® M995
Density [g/cm³]	1.2	1.35	1.2	1.25	1.18	1.35	1.2
Colour	light green	green	blue	green	dark blue	blue	orange
Characteristics	high dimensional stability; easy to mill; large length for less bonding points	good abrasion resistance; easy to mill; high strength	good abrasion resistance; easy to mill; good impact resistance		high abrasion resistance; excellent milling behavior; very high strength	excellent combination between good abrasion resistance and dimensional stability; very high strength	very high abrasion and impact resistance
Physical data (approx. values)							
Shore hardness	D 82	D 83	D 78	D 84	D 79	D 86	D 86
Flex. strength [MPa]	74	100	80	100	57	145	126
Compressive strength [MPa]	74	95	70	92	47	120	105
Impact resistance	18	25	30	66	70–80	35	80
HDT [°C]	89	80	80	78	70	85	85
CTE, α_1 [1/K]	56 x 10^{-6}	65 x 10^{-6}	85 x 10^{-6}	78 x 10^{-6}	110 x 10^{-6}	60 x 10^{-6}	68 x 10^{-6}
Abrasion resistance	+	++	+++	++	+++	+++	++++
Processing data (approx. values)							
Dimensions [mm] other dimensions on request	1500 x 500 x thickness: 30/50/75/100	1000 x 500 x thickness: 30/50/75/100	1000 x 500 x thickness: 30/50/75/100	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	1000 x 500 x thickness: 50/75/100
Adhesive	SikaBiresin® B180						

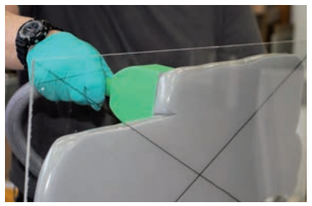
MODEL AND MOULD MAKING PASTES

MODEL & MOULD MAKING PASTES

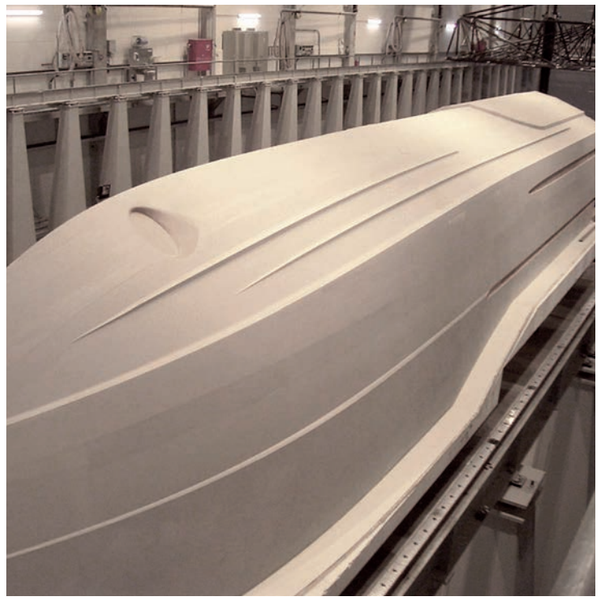
Large size models and tools are made with extrudable PUR and epoxy pastes providing a workable surface applied onto a stable core substructure. This technique is widely used to make plugs for boats or wind blades as well as automotive or architectural designs. This technology is beneficial versus boards 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 AND MOULD MAKING PASTES

Component	A	Biresin® M72	SikaBiresin® SC175	SikaBiresin® SC180	SikaBiresin® SC380	SikaBiresin® SC390	SikaBiresin® SC258
Component	**B**	**Biresin® M70**	**SikaBiresin® SC175**	**SikaBiresin® SC180**	**SikaBiresin® SC380**	**SikaBiresin® SC390**	**SikaBiresin® SC258**
Mixing ratio [g]	A	100	100	100	100	100	100
	B	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 hardness 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 up to 40 mm; quick hardening in thin coat and good adhesion on various supports (wood, PS/PUR foams, boards and on itself)
Processing data (approx. values)							
Viscosity [Pa s]	A	15,000 mPas	800	1,000	900	800	–
	B	175 mPas	800	900	800	800	–
Mixed viscosity [Pa s]		pasty	800	1,000	800	800	pasty
Pot life [min]		10 (after machine application)	–	–	–	–	65
Workable after [h]		8	24–48	16–18	24	12–16	12–18
Physical data (approx. values)							
Density [g/cm³]		0.9	0.63	0.81	0.82	1.08	0.60
Shore hardness		D 65	D 53	D 58	D 67	D 75	D 60
Flexural strength [MPa]		20	13	17	24	36	15
Compressive strength [MPa]		–	13	20	–	36	23
T_g [°C]		47	83	84	83	91	51
CTE, α_T [1/K]		–	70	80	60	58	48
Putty filler		SikaBiresin® B370	SC175/GC11	SC180/GC11	SC380/GC11	SC390/GC11	SikaBiresin® B370

ADHESIVE AND PUTTY FILLER SYSTEMS FOR BOARDS & PASTES

ADHESIVE FOR BOARDS

	A	SikaBiresin® B200	SikaBiresin® B260	SikaPower®-730	SikaBiresin® B180	SikaBiresin® B176
	B	**–**	**SikaBiresin® RG530**	**SikaPower®-730**	**SikaBiresin® B180**	**–**
Mixing ratio [g]	A	–	100	100	100	100
	B	–	65	100	32	15
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 90 min	2K thixotropic epoxy adhesive for easy application for large bonding works or for applications requiring heat resistance	dedicated adhesive system for bonding of SikaBlock® M976 EP 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	most medium to high density boards		LAB 975 NEW and SikaBlock® M976 EP
Processing data (approx. 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	45 min
Setting time		2 h	6 h	90 min	16 h	16 h
Physical data (approx. values)						
Density [g/cm³]		1.15	0.8	1.15	1.16	0.82
Shore hardness		–	D 63	D 80	D 82	D 79
T_g [°C]		80	–	–	HDT: 90 °C	122

PUTTY FILLERS FOR BOARDS AND PASTES

	A	SikaBiresin® B370	SikaBiresin® B375	SikaBiresin® SC175 / SC180 / SC380 / SC390
	B	**BPO-Paste**	**BPO-Paste**	**SikaBiresin® GC11**
Mixing ratio [g]	A	100	100	100
	B	2	2	20 / 13 / 17 / 15
Colour		brown	white	grey, brown
Basis		polyester		Epoxy
Characteristics		good adhesion; fast curing and non-tacky; easily sanded		epoxy mastic with similar properties as extrudable paste
Suitable for boards/ paste references		SikaBlock® PROLAB 65, SikaBlock® M600 N / M700 N	all medium to high density boards	SikaBiresin® SC175 / SC180 / SC380 / SC390
Processing data (approx. values)				
Pot life [min]		5	5	10
Setting time [min]		> 20	> 20	4 h
Physical data (approx. values)				
Density [g/cm³]		1.6	1.9	0.62 / 0.75 / 0.75 / 0.90
Shore hardness		D 70	D 75	D 57 / D 63 / D 64 / D 70

ADHESIVE AND PUTTY FILLER SYSTEMS FOR BOARDS AND PASTES

The adhesive and putty filler systems are specially adapted to SikaBlock® boards. This relates mainly to mechanical-physical properties. This results in a similar behaviour regarding machinability and subsequent use in application.

FASTCAST SYSTEMS

FILLED FASTCAST SYSTEMS

Filled fastcast systems are 2-components PU systems that are suitable for making up to medium-size masters, negatives, core-models or patterns with minimal shrinkage.

SikaBiresin® F230 considered by many as “chemical plaster” to make masters with smooth, workable, polishable and durable surface

SikaBiresin® F40 an ideal choice for foundry patterns needing quick making and good abrasion resistance

UNFILLED FASTCAST SYSTEMS

Unfilled fastcasts systems are meant for similar applications as filled fastcasts but with the capability for users to add fillers by themselves.

Choosing among suitable types of fillers recommended by Sika and obtaining various cured properties according to the intended usage. It also possible to use unfilled fascasts without adding fillers to make decorative small to medium size objects.

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

SikaBiresin® F180 architectural reduced scale model of landmarks

SikaBiresin® F190 tinted black with SikaBiresin Colour Paste to make jewelry displays

FASTCAST SYSTEMS – FILLED

POLYOL	A	SikaBiresin® F230	SikaBiresin® F40	SikaBiresin® F10	SikaBiresin® F21
ISOCYANATE	B	SikaBiresin® F230	SikaBiresin® F40	SikaBiresin® F10	SikaBiresin® F21
Mixing ratio [g]	A	100	100	100	100
	B	20	20	100	15
Colour		white	blue	ivory, green, black	light grey or black
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
Applications		tools and parts: thermoforming 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
Processing data (approx. values)					
Mixed viscosity [mPas]		900	2.000	2.500	2.100
Pot life [min]		4.25–5.25	5.25–6.30	4.45	5–6
Demoulding time [min]		30	60	45	30
Physical data (approx. values)					
Density [g/cm³]		1.58	1.70	1.64	1.7
Shore hardness		D 80	D 84	D 73	D 80
Flexural strength [MPa]		47	61	35	35
Compressive strength [MPa]		63	57	33	75
T_c [°C]		60	69	71	80

FASTCAST SYSTEMS – UNFILLED

POLYOL	A	SikaBiresin® F160	SikaBiresin® F27			SikaBiresin® F180	SikaBiresin® F190
ISOCYANATE	B	SikaBiresin® F160	SikaBiresin® F27	SikaBiresin® F27 w.	SikaBiresin® F55	SikaBiresin® F180	SikaBiresin® F190
Mixing ratio [g]	A	100	100			100	100
	B	100	100	100	80	100	100
Colour		beige	beige	white		off white	beige
Characteristics		quick setting system; low viscosity; good temperature resistance after heat curing; easy-to-use mix ratio; adjustable filler content	easily workable; short demoulding time; very fine structure; high filler loading			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; high filler content possible
Applications		mainly used with filler for tools: moulds, masters, negatives; thermoforming tools; thermal conductivity	models, core models, negatives, pattern, small and medium size art and craft articles with detailed shapes			mainly used for mock-ups and decorative parts using the unfilled product or filled with RZ 30150	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	80	125
Pot life [min]		2´20´´	2´15´´	2´15´´	1´30´´	3´25´´	7–9
Demoulding time [min]		30	> 20	> 20	> 15	45	90
Physical data (approx. values)							
Density [g/cm³]		1.08	1.1			1.08	1.07
Shore hardness		D 75	D 70	D 70	D 75	D 70	D 68
Flexural strength [MPa]		60	55	42	60	38	40
Impact resistance [kJ/m²]		14	25	60	50	18	20
HDT [°C]		–	80	75	75	–	–
T_c [°C]		110	–	–	–	97	90

FASTCAST SYSTEMS

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® F46 ready-to-use and both refillable F48 or F50, are slow systems allowing manual casting of very large size negatives, patterns or moulds with minimal shrinkage

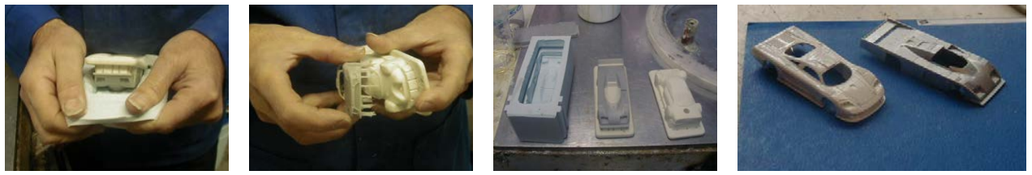
PUR CASTING SYSTEMS WITH LONG POT LIFE

POLYOL	A	SikaBiresin® F46	SikaBiresin® F48			SikaBiresin® F50	
ISOCYANATE	B	SikaBiresin® F46	SikaBiresin® F55			SikaBiresin® F50	
FILLER	C	–	–	TE-Füller	Al-Pulver	–	RZ 30150
Mixing ratio [g]	A	100	100	100	100	100	100
	B	25	100	100	100	50	50
	C	–	–	350	250	–	180–240
Colour		beige	opaque	beige	grey	beige	
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 workable; can be cast in thick sections; high compressive strength		very low shrinkage; low exothermic reaction; casting in high thickness (400 mm) when filled	
Applications		master and core models, negatives, foundry patterns	facecasting layer for metal sheet forming tools and foundry patterns	backfilling for metal sheet forming tools and foundry patterns		unfilled for negatives, moulds and masters; filled version for higher volume casting; with RZ 209/6 for stamping tools with better surface gliding	
Processing data (approx. values)							
Mixed viscosity [mPas]		3,000	1,500	castable		350	7,500
Pot life [min]		40	45–60			35–50	–
Demoulding time [h]		16–24	16–24			6–12	
Physical data (approx. 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_c [°C]		–	–	–	–	–	65

FASTCASTS FOR PRODUCTION OF PARTS

Premium fastcasts mostly unfilled are used to produce parts in series manually or with minimal equipment and exhibit high strength, sharp details and textured parts also easily pigmented.

SikaBiresin® F150 & F155 cold-curing systems for small to large size climbing holds with good wear resistance



SikaBiresin® F38 is ideal system to produce small figurines with sharp details and excellent resistance in thin layers

FASTCASTS FOR PRODUCTION OF PARTS

POLYOL	A	SikaBiresin® F31	SikaBiresin® F320	SikaBiresin® F38	SikaBiresin® F150	SikaBiresin® F155
ISOCYANATE	B	SikaBiresin® F31	SikaBiresin® F320	SikaBiresin® F38	SikaBiresin® F150	SikaBiresin® F150
Mixing ratio [g]	A	100	100	100	100	100
	B	100	100	85	100	100
Colour		beige	beige	off-white	off-white	off-white
Characteristics		very quick setting; friendly use mix ratio (1:1 by weight); low aggressiveness toward silicone moulds; opaque even in small thickness; good ability to being painted	very quick setting; friendly use mix ratio; low aggressiveness toward silicone moulds; opaque even in small thickness; good ability to being painted; odorless	good impact resistance; short demoulding time; low viscosity; thermoplastic aspect; low shrinkage; easy mix ratio; good ability for being painted	high abrasion resistance; high impact resistance; quick setting; easy processing; can be easily pigmented with SikaBiresin® Colour Paste	high abrasion resistance; high impact resistance; quick setting; easy processing; can be easily pigmented with SikaBiresin® Colour Paste
Applications		manufacturing of prototype parts and scale models	manufacturing of prototype parts and scale models	manufacturing of models and prototypes in the model building	production of wear resistant and impact resistant climbing holds	production of wear resistant and impact resistant climbing holds
Processing data (approx. values)						
Mixed viscosity [mPas]		40	53	35	500	600
Pot life [min]		110–120	130	2	2–3	7
Demoulding time [min]		20	20	20–25	20	90–120
Physical data (approx. values)						
Density [g/cm³]		1.07	1.10	1.07	1.18	1.19
Shore hardness		D 73	D 74	D 70	D 80	D 81
Flexural strength [MPa]		44	36	750	65	87
Impact resistance [kJ/m²]		16	31	30	70	78
HDT [°C]		-	90	55	-	50
T_c [°C]		95	103	-	75	64

FILLER MATERIALS AND SURFACE PRE-TREATMENT

FILLER MATERIALS

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

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

Please refer to your local Sika representative regarding product availability in your country.

FILLING MATERIALS

	Aluminium grit	Aluminium powder / RZ 209/6	RZ 1476	LF-Füller / RZ 30002	TE-Füller / RZ 30150
Colour	silver to matt grey	silver to matt grey	white	grey	white
Delivery unit	25 kg paper bag	6 x 5/50 kg; 25 kg paper bag	7 kg paper bag	20 kg paper bag	5 kg ; 25 kg paper bag
Description	aluminium granulate	Aluminium powder	hollow glass microballon	aluminium silicate micro balloons	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
Physical data (approx. values)					
Particle size [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
Density Normal Density	2.7	2.7	0.25	0.6-0.7	2.4
Density Bulk Density	1-1.5	1.0	0.15	0.4	1.2

SURFACE PRE-TREATMENT

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

SURFACE PRE-TREATMENT

	SikaBiresin® RA827	SikaBiresin® RA841	SikaBiresin® RA851	SikaBiresin® RA870	Sika® Handclean	Sika® Reinigungsmittel	Sika® Activator 205
Colour	white	off white	off white	transparent	orange/white	clear transparent	colourless
Delivery unit	12x1 kg; 1 kg	0,7 kg; 7 kg	0,7 kg ; 7 kg	6x400ml	70pcs/unit	1 l; 10l	1l; 0,25l
Description	solid pasty wax	wax in solvent phase	heavy wax in spirit suspension	heavy wax in aerosol	impregnated cloths with hand cleaning formula	mild solvent blend	primer with low viscosity for nonporous surfaces
Applications	release agent for PU and EP mould systems with slightly porous surfaces	release agent for EP, PU and silicone mould systems with slightly porous and closed surfaces, not suitable for epoxy laminating and surface resins	release agent for PU and EP mould systems; suitable for RIM and elastomer casting process	release agent fo PU, EP and silicone mould systems, not suitable for epoxy laminating and surface resins	time saving fast cleaning of machines, tools and accessoires	cleaning of tools and surfaces	increasing of bonding of elastomers PUR-systems (SikaBiresin® UR132) on prepared aluminium substructures
Processing data (approx. values)							
Drying time [min]	5 - 10	5 - 10	5 - 10	5 - 10	-	-	10
Physical data (approx. values)							
Density [g/cm³]	0.71	0.71 - 0.73	0.73 - 0.82	0.75	-	-	-
Temperature resistance [°C]	up to 80	up to 90	up to 100	up to 100	-	-	-

* 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 / RZ 55	SikaBiresin® AX586	SikaBiresin® AX498	SikaBiresin® AX493	SikaBiresin® ColourPaste	CP Color
Colour	white	light yellow	light yellow	light yellow	white, black, green, red, blue, yellow, dar blue, pink, orange	white, black, green, red, blue, yellow
Delivery unit	1.0 kg; 10 kg paper bag	0.5 kg	1 kg	1 kg	1 x 1 kg	1 x 0,5kg
Description	thixotropic agent	amine catalyst	amine catalyst	organobismuth catalyst	colour paste	colour paste
Applications	lightweight, non dusty powder for thixotroping of EP- and PUR-systems	acceleration of selected PUR-systems based on MDI technology in order to obtain shorter demoulding time	acceleration of selected PUR-systems based on MDI technology in order to obtain shorter demoulding time	acceleration of polyurethane polyurea systems in order to obtain shorter demoulding time	colouring of EP- and PUR-systems	colouring and pigmenting of PUR vacuum casting resins, specific for the PX range

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

Axle boot of SikaBiresin® PX761

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

Side mirror of SikaBiresin® PX22

Colors for PX systems

Matching colors for the vacuum casting system can be found on page 17.

SOFT TO SEMI-RIGID SYSTEMS

Component	ISOCYANATE	A	SikaBiresin® PX761	SikaBiresin® PX840	SikaBiresin® PX205	SikaBiresin® PX22	SikaBiresin® PX11
Component	POLYOL	B	SikaBiresin® PX761	SikaBiresin® PX840	SikaBiresin® PX205	SikaBiresin® PX212 L5	SikaBiresin® PX100
Component	EXTENDER	C	–	SikaBiresin® PX840 Extender	–	–	–
Mixing ratio [g]		A	100	100	100	100	100
		B	45	100	50	100	100
		C	–	0–500	–	–	–
Colour			amber	off-white	amber to dark amber	translucent	off-white
Characteristics			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 properties; 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 data (approx. values)							
Mixed viscosity	[mPas]		1,500	–	1,600	800	100
Pot life	[min]		8–12	13–15	12–15	4–6	15–20
Demoulding time	[min]		60–90	120	60	60–75	240
Physical Data (approx. values)							
Density	[g/cm³]		1.02	1.14	1.08	1.15	1.06
Shore hardness			A 60	A 95	D 70	D 76	D 78
E-Modulus	[MPa]		–	–	500	1,200	1,700
Tensile strength	[MPa]		–	19.6	25	40	38
Flexural strength	[MPa]		–	–	30	80	67
Elongation at break	[%]		1,000	660	100	25	4
Impact strength	[kJ/m²]		–	–	unbreakable	> 50	25
HDT	[°C]		–	–	55	78	–
T_c	[°C]		–	–	90–100	90	75

TOUGH-HARD TO STIFF SYSTEMS

Component	ISOCYANATE	A	SikaBiresin® PX221	SikaBiresin® PX22	SikaBiresin® PX226		SikaBiresin® PX300	SikaBiresin® PX245	
Component	POLYOL	B	SikaBiresin® PX221	SikaBiresin® PX225 L4	SikaBiresin® PX2645 L4	SikaBiresin® PX2645 L9	SikaBiresin® F55	SikaBiresin® PX2645 L4	SikaBiresin® PX2645 L9
Mixing ratio [g]		A	100	100	100		80	100	
		B	45	80	50		100	40	
Colour			off-white	opalescent	white		yellowish-translucent	off-white	
Characteristics			high reproduction accuracy; can be easily pigmented with colouring CP; high impact resistance	good impact and flexural resistance; very easy coloring with all kind of pigments (non water based)	good impact and flexural resistance; available in two reactivity; high thermal resistance; can be easily coloured with CP pigments		very stiff; high flexural strength; impact resistance; simulates ABS, PVC	high flexural modulus of elasticity; high reproduction accuracy; available in two reactivities; can be easily coloured with CP pigments; fast demoulding	
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 parts and mock-ups with mechanical properties similar to thermoplastics like filled ABS		very stiff housings with high strength and impact resistance	prototype parts with mechanical properties similar to thermoplastics like polyoxymethylene and polyamide	
Processing data (approx. values)									
Mixed viscosity	[mPas]		350	600	2,000		600	2,200	
Pot life	[min]		7	4–5	4	7.5	4	4	8
Demoulding time	[min]		30–40	45	25	60	60–90	45	60
Physical Data (approx. values)									
Density	[g/cm³]		1.20	1.20	1.20		1.1	1.22	
Shore hardness			D 81	D 85	D 82		D 84	D 85	
E-Modulus	[MPa]		2,100	2,500	2,500		2,800	4,500	
Tensile strength	[MPa]		60	70	70		75	85	
Flexural strength	[MPa]		105	110	105		120	150	
Elongation at break	[%]		7.5	9	15		7	3	
Impact strength	[kJ/m²]		71	50	70		> 100	30	
HDT	[°C]		–	–	92		80	92	
T_c	[°C]		95	100	105		–	95	

VACUUM CASTING SYSTEMS

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

Demoulding of an optical part made of SikaBiresin® PX521 / PX522

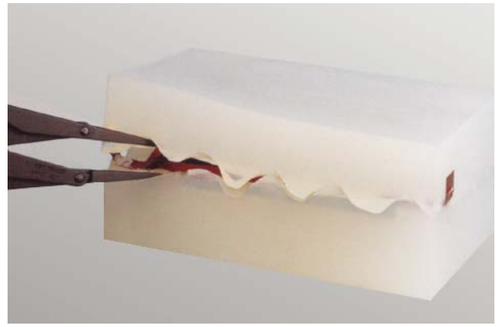
Front light lens made of SikaBiresin® PX521 / PX522

TRANSPARENT OR SPECIFIC USE SYSTEMS

Component	ISOCYANATE	A	SikaBiresin® PX521		SikaBiresin® PX223 HT	SikaBiresin® PX234 HT	SikaBiresin® PX280	SikaBiresin® PX331
Component	POLYOL	B	SikaBiresin® PX522	SikaBiresin® PX523	SikaBiresin® PX223 HT	SikaBiresin® PX234 HT	SikaBiresin® PX280	SikaBiresin® PX331
Mixing ratio [g]		A	100	100	100	100	100	100
		B	50	62	80	50	80	100
Colour			transparent	transparent	black	light amber	off-white	off-white
Characteristics			high transparency (water clear); easy polishing; high reproduction accuracy; good UV resistance; easy processing; high stability under temperature		low viscosity for easy casting; good impact and flexural resistance; temperature resistance above 120 °C	good thermal resistance up to 190 °C; low viscosity; 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 25 certified, UL 94 V0 in 3 mm according NF EN 60695-11-10; can be easily coloured with CP pigments
Applications			transparent parts until 10 mm thickness: 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 chemical resistance	all parts with very good thermal resistance such as: PA6.6, PPS, 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 aeronautic when requiring a fire classification
Processing data (approx. values)								
Mixed viscosity [mPas]			500	500	850	250	450	700
Pot life [min]			8	20	6–7	5	20	5–7
Demoulding time [min]			60	45	45–75	60	120	45
Physical Data (approx. values)								
Density [g/cm³]			1.06	1.06	1.14	1.19	1.19	1.35
Shore hardness			D 85	D 86	D 80	D 80	D 85	D 86
E-Modulus [MPa]			2,400	2,100	2,300	1,850	2,800	3,700
Tensile strength [MPa]			66	68	60	61	75	55
Flexural strength [MPa]			110	100	80	80	117	133
Elongation at break [%]			7.5	6	11	13	5	4
Impact strength [kJ/m²]			48	42	> 60	41	25	26
HDT [°C]			80	85	110	190–195	–	90
T_c [°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



Elastic mould produced by addition curing silicone SikaBiresin® SI291for optical parts

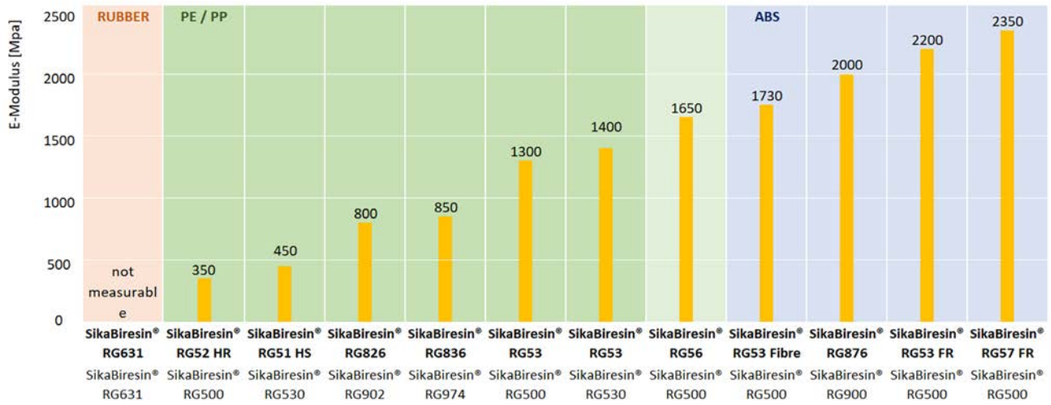
SILICONES

Resin	A	SikaBiresin® SI291		ESSIL 125		ESSIL 222	SikaBiresin® SI255
Catalyst	B	SikaBiresin® SI292	SikaBiresin® SI291	ESSIL 125	ESSIL 124	ESSIL 222	SikaBiresin® SI255
Mixing ratio [g]	A	100		100		100	100
	B	10		5		100	5
Colour		transparent		white		light blue	white
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	self bleeding silicone. Improve moulds ageing; oily surface for better releasing and demoulding	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)		vulcanized by polyaddition; very good temperature resistance; high tear strength; very low viscosity; quick setting time	polyaddition; very low shrinkage if polyaddition at room temperature; very good PUR resistance
Applications		soft negatives, flexible moulds for the prototype industry; ESSIL 291 silicone is particularly suitable for casting resins (PX range) in a vacuum casting machine; Essil 292 catalyst is advised to increase the number of parts in a same mould		achievement of soft negatives by casting process and soft skin moulds dedicated to detailed shapes with undercuts; prototyping applications or small-scale serial production for art and deco parts		flexible moulds for prototypes industry (gravity casting or under vacuum); self-demoulding moulds for decorative concrete parts	production of negatives and flexible moulds; for shapes having complex contours and undercuts
Processing data (approx. values)							
Mixed viscosity [mPas]		40,000	38,000	–	–	4,000	25,000
Pot life [min]		60		80	40	10	90
Demoulding time [h]		16		24	12	1	12
Physical Data (approx. values)							
Density [g/cm3]		–		1	1	1.13	1.3
Shore hardness (A)		A 38		A 24	A 25	A 22	A 55
Tear strength [N/mm]		24		17	19	20	4.8
Elongation at break [%]		350		500	550	380	275

LOW PRESSURE RIM-SYSTEMS

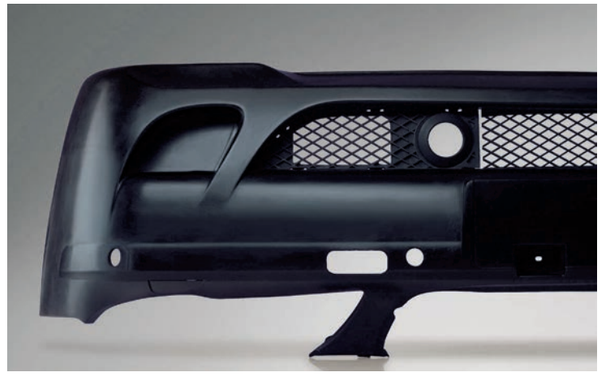
LOW PRESSURE RIM-SYSTEMS

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 and RG56:

- Proven allrounder systems with very easy processing
- High mechanical properties for PE/PP and ABS housings and covers
- With hardener SikaBiresin® RG500 for parts with good heat resistance



Automotive RIM part with complex geometry made of SikaBiresin® RG53

Housing of a lawn-mower with high mechanical properties out of SikaBiresin® RG56

SOFT TO SEMI RIGID SYSTEMS

Component	POLYOL	A	SikaBiresin® RG631	SikaBiresin® RG51 HS	SikaBiresin® RG826
Component	ISOCYANATE	B	SikaBiresin® RG631	SikaBiresin® RG530	SikaBiresin® RG902
Mixing ratio [g]		A	100	100	100
		B	100	50	100
	[ltr.]	B	92	43	88
Colour			black	black / translucent	black
Characteristics			simulation of rubber and soft PVC; very flexible	high impact resistance; wear resistant	very high impact resistance
Applications			rubber like, flexible parts and mouldings; sealings and bellows	shock-resistant housings and covers	parts requiring high impact resistance: automotive face panels, cowlings and interior parts
Processing data (approx. values)					
Viscosity (Resin)	[mPas]		1,300 - 1900	1,300	2,000
Pot life	[sec]		50 - 70	60	80 - 100
Demoulding time	[min]		15 - 20	10 - 20	25
Physical data (approx. values)					
Density	[g/cm3]		1.05 - 1.09	1.15	1.12
Shore hardness			A 73	D 65	D 73
E-Modulus	[MPa]		**not measurable**	**450**	**800**
Flexural strength	[MPa]		-	20	35
Impact strength	[kJ/m²]		-	NO BREAK	100
HDT	[°C]		-	65	-
T_c	[°C]		-	-	95*

* after appropriate treatment

RIGID TO STIFF SYSTEMS

SikaBiresin® RG53		SikaBiresin® RG56	SikaBiresin® RG53 Fibre	SikaBiresin® RG876
SikaBiresin® RG500	SikaBiresin® RG530	SikaBiresin® RG500	SikaBiresin® RG500	SikaBiresin® RG900
100		100	100	100
75	80	80	60	100
62	66	-	-	86
black / beige / grey		black / grey	black	black
allrounder system; very easy processing; high impact and good heat resistance		stiff, high flexural and impact strength; thermal resistant	stiff, low shrinkage; good heat resistance	stiff, good impact resitance; good heat resistance
housings and covers of medium stiffness		housings and covers with high mechanical properties	stiff housings and covers	stiff housings and covers; impact resistant technical parts
2,200		2,900	6,000	2,000
60		50	50	60 - 70
> 10		> 10	> 10	15
1.2		1.18	1.2	1.12
D 78	D 80	D 82	D 81	D 80
1,300	**1,400**	**1,650**	**1,730**	**2,000**
54	58	67	55	-
95	90	60	48	40
63 / 120*	60 / 110*	100 / 125*	63 / 125*	-
–	–	-	-	100*

LOW PRESSURE RIM-SYSTEMS

SikaBiresin® RG836:
- System suitable to produce high impact resistant technical and thin walled parts with complex structures
- Due to its long pot life this system is suitable for producing large, hollow parts by using rotomoulding

Mannequin out of SikaBiresin® RG836 produced by using rotomoulding technique

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 potlife for bigger parts
- SikaBiresin® RG57 FR tested according to DIN EN 45545-2

Headlight housing of a train made out of SikaBiresin® RG57 FR

ROTOMOULDING AND FIRE RESISTANT SYSTEMS

Component	POLYOL	A	SikaBiresin® RG836	SikaBiresin® RG53 FR	SikaBiresin® RG57 FR
Component	ISOCYANATE	B	SikaBiresin® RG974	SikaBiresin® RG500	SikaBiresin® RG500
Mixing ratio	[g]	A	100	100	100
		B	60	54	44
	[ltr.]	B		52	-
Colour			beige	black / beige	black / beige
Characteristics			impact resistant, for rotational technique	flame retardant; thermal resistant; high stregnth and stiffness	
Applications			hollow decorative parts, impact resistant massive parts, rotomoulded or cast	stiff housings and covers with UL 94 V-0	stiff housings and covers with DIN EN 45545-2
Processing data (approx. values)					
Viscosity (Resin)	[mPas]		2,000	3,500	3,800
Pot life	[sec]		9 - 11 (min)	75	55
Demoulding time	[min]		2 - 4 (hours)	> 10	> 10
Physical data (approx. values)					
Density	[g/cm3]		1.25	1.27	1.30
Shore hardness			D 75	D 84	D 80*
E-Modulus	[MPa]		**850**	**2,200**	**2,350**
Flexural strength	[MPa]		-	70	70*
Impact strength	[kJ/m²]		> 50	35	20*
HDT	[°C]		-	110	90*
T_c	[°C]		95	-	-

* after appropriate treatment

EDGE CASTING SYSTEMS

Sika provides a high-class PUR casting technology, which is used for direct casting of safety edges and decorative elements in furniture inudustry as well as in railway, coach and automotive market.

Table edge made out of SikaBiresin® KL100 FR

EDGE CASTING SYSTEMS

SikaBiresin® RG52 HR	SikaBiresin® KV260	SikaBiresin® KL100 FR
SikaBiresin® RG500	SikaBiresin® RG10	SikaBiresin® KL100
100	100	100
50	32	54
-	-	70
beige	beige	beige
good impact resitance, short demoulding time	fast curing, low modulus of elasticity	very good UV stability, flame retardant and thermal resistant
direct edge casting of furniture, manufacture of impact resistant part, can be used for low and high pressure processing	direct edge casting of safety edges in furniture and door in-dustry, manufacure of removable mould parts	direct edge casting of safety edges in furniture and door industry where UV stability and flame retardancey according to DIN EN 45545-2; R3 is required
1,400	2,000	5,800
40 - 50	150	140
≥ 5	15 - 25	-
1.2	1.35	1.4
D 62	D 70	D 74
350	**550**	**750**
14	20	17
-	65	-
-	-	-
-	-	-

ELASTOMERIC SYSTEMS

Elastomeric Casting Resins are high-quality PUR systems with a wide range of shore hardness levels (Shore A 30 to D 67) used in manifold application areas.

ELASTOMERIC CASTING SYSTEMS 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 the 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

SikaBiresin® UR390:
- Provides higher shore hardness (D 67) and good heat resistance besides its good abrasion resistance
- Favourite product for match plates

Core box made of SikaBiresin® UR132

ELASTOMERIC CASTING SYSTEMS FOR FOUNDRY PATTERN MAKING

ISOCYANATE	A	SikaBiresin® UR419		SikaBiresin® UR132 NT	SikaBiresin® UR390
POLYOL / AMINE	B	SikaBiresin® UR419	SikaBiresin® UR458	SikaBiresin® UR132 L Neu	SikaBiresin® UR390
Mixing ratio [g]	A	100		100	100
	B	16	18	40	50
Colour		coloured-transparent		beige	beige to dark beige
Characteristics		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, areas / spots opposite the shooting nozzles		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_c ~100 °C)
Processing data (approx. values)					
Mixed viscosity [mPas]		2,800	4,000	8,000	1,500
Pot life [min]		6–7	20	16	14
Demoulding time [h]		1–3	16	> 16	16
Physical data (approx. values)					
Density [g/cm³]		1.1	1.1	1.15	1.08
Shore hardness		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

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

Soft shift gaiter made by SikaBiresin® UR350

ELASTOMERIC CASTING SYSTEMS FOR GENERAL MOULD MAKING

ISOCYANATE	A	SikaBiresin® UR404		SikaBiresin® UR340	SikaBiresin® UR350		SikaBiresin® UR303	SikaBiresin® UR305	SikaBiresin® UR409
POLYOL / AMINE	B	SikaBiresin® UR404	SikaBiresin® UR434	SikaBiresin® UR340	SikaBiresin® UR350	SikaBiresin® UR360	SikaBiresin® UR402	SikaBiresin® UR305	SikaBiresin® UR409
Mixing ratio [g]	A	80	50	100	100	100	100	100	100
	B	100	100	50	35	40	35	60	100
Colour		reddish-transparent	light-beige	light amber	black	black	coloured-transparent	cream-white / black	beige
Characteristics		very soft; high elongation; 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 moisture; 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 industry, flexible moulds and components		production of parts requiring high properties (seals, soft moulds, sanding mask etc).	production of semi flexible moulds, forming tools or parts requiring good abrasion resistance and tear resistance properties		production of flexible moulds and components, ceramic and concrete industry	wear resistant coating, electronic encapsulation	flexible fixtures for parts for ultra sonic welding; elastic, flexible moulds
Processing data (approx. values)									
Mixed viscosity [mPas]		3,000	3,700	1,500	3,000	3,600	4,000	2,300	2,500
Pot life [min]		25	20	17	18	20	25	15–20	30
Demoulding time [h]		24	> 16	24	24	24	> 16	10–16	> 16
Physical data (approx. values)									
Density [g/cm³]		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/mm]		7	9	24	67	83	18	27	12
Elongation at break [%]		> 600	> 600	1,000	620	810	400	300	650

ELASTOMERIC SYSTEMS

ELASTOMERIC CASTINGS SYSTEMS FOR CERAMICS

Sika is providing special formulations dedicated to the specific process and constraints of ceramic case mould making applications that provide elastomeric and durable surface to allow demoulding of complex shapes in large series.

SikaBiresin® UR763:
- Special filled elastomer for ceramic case moulds
- No moisture sensitivity
- No shrinkage in volume

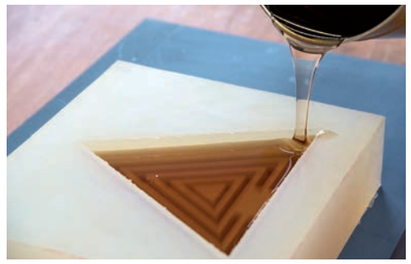
SikaBiresin® UR763 enabling the production of complex shapes of ceramic sanitaryware and tableware

ELASTOMERIC CASTING SYSTEMS FOR CERAMICS

ISOCYANATE	A	SikaBiresin® UR406	SikaBiresin® UR701	SikaBiresin® UR701	SikaBiresin® UR303
POLYOL / AMINE	B	SikaBiresin® UR406	SikaBiresin® UR757	SikaBiresin® UR763	SikaBiresin® UR302
Mixing ratio [g]	A	100	50	50	100
	B	30	100	100	40
Colour		yellowish-transparent	blue	pink	coloured-transparent
Characteristics		rubbery; high elongation at break; insensitive to moisture; excellent flowability at processing; good tensile strength and elasticity; very slow shrinkage	self-degassing; easy sanding after curing; low moisture sensitivity; chemical resistance to dedicated release agents for plaster	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	ceramic case moulds by hand casting	casting of flexural moulds for ceramic industry; moulds for concrete mouldings; flexible mouldings
Processing data (approx. values)					
Mixed viscosity [mPas]		2,800	2,500	3,000	3,800
Pot life [min]		15–20	25	20	25
Demoulding time [h]		> 16	16-24	16	> 16
Physical data (approx. values)					
Density [g/cm³]		1.05	1.30	1.34	1.03
Shore hardness		A 55	A55	A 63	A 73
Tear strength [N/mm]		5	13.5	16	15
Elongation at break [%]		450	1,300	850	550

ELASTOMERIC CASTING SYSTEMS FOR CONCRETE AND BUILDING

SikaBiresin® UR404/UR620:
- Unfilled medium hardness 60-65A
- Quick setting
- Self-standing flexible moulds not necessarily requiring supporting frame



Casting of SikaBiresin® UR404

SikaBiresin® UR548:
- Soft filled elastomer for concrete moulds
- High chemical resistance
- Dimensional stability

Release of SikaBiresin® UR548 soft mould for stone facing

ELASTOMERIC CASTING SYSTEMS FOR CONCRETE AND BUILDING INDUSTRY

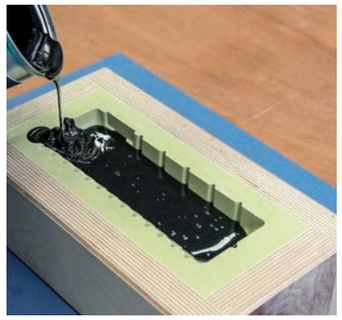
ISOCYANATE	A	SikaBiresin® UR703	SikaBiresin® UR404	SikaBiresin® UR503			SikaBiresin® UR505	
POLYOL / AMINE	B	SikaBiresin® UR730	SikaBiresin® UR745	SikaBiresin® UR620	SikaBiresin® UR530	SikaBiresin® UR548	SikaBiresin® UR563 L20	SikaBiresin® UR572	SikaBiresin® UR595
Mixing ratio [g]	A	40	70	100	10	30	35	30	55
	B	100	100	40	100	100	100	100	100
Colour		beige	beige	reddish-transparent	beige	ochre	grey or beige	beige	coloured
Characteristics		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 properties; 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 concrete industry; especially 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 data (approx. 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 SikaBiresin® UR563 S)	15-20	various
Demoulding time [h]		24	18	> 16	24	16	16-24	24	12
Physical data (approx. values)									
Density [g/cm³]		1,16	1.14	1.1	1.35	1.31	1.31	1.25	1.25
Shore hardness		A 30	A 50	A 60-65	A 30	A 50	A 65	A 75	A 94
Tear strength [N/mm]		8.5	18	13	6	14	16.5	31	64
Elongation at break [%]		1,500	1,200	300	900	550	670	700	400

EPOXY CASTING SYSTEMS

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

EPOXY CASTING SYSTEMS FOR TOOLING

SikaBiresin® G519:
- Black allrounder resin with good workability
- Offers good compressive strength and abrasion resistance (e. g. foundry patterns)



SikaBiresin® G519 pre-filled direct casting of heavy-duty parts or foundry patterns

HEAT RESISTANT EPOXY CASTING SYSTEMS

SikaBiresin® G36 N:
- New grey prefilled casting resin with good heat resistance
- Good self-degassing behavior
- Can be cast up to 100mm thickness
- High mechanical strength

SikaBiresin® G38:
- With good flowing behaviour can be cast up to 40 mm
- Does not require post cure before demoulding

Vacuum forming mould for blister packaging out of SikaBiresin® G38

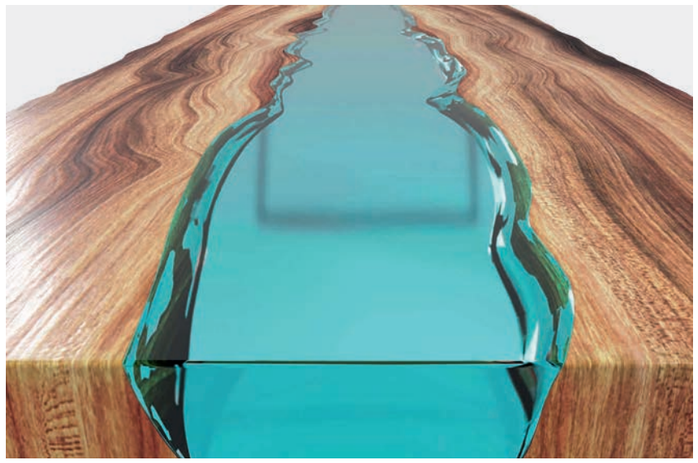
EPOXY CASTING SYSTEMS FOR TOOLING					HEAT RESISTANT EPOXY CASTING SYSTEMS	
Component	**A**	**SikaBiresin® G519**	**SikaBiresin® G32**	**SikaBiresin® G33**	**SikaBiresin® G36 N**	**SikaBiresin® G38**
Component	**B**	**SikaBiresin® G519**	**SikaBiresin® L4**	**SikaBiresin® GC115**	**SikaBiresin® G36**	**SikaBiresin® G38**
Mixing ratio [g]	A	100	100	100	100	100
	B	10	7	6	10	7
Colour		black	green	black	grey	grey
Characteristics		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 data (approx. values)						
Mixed viscosity [mPas]		24,500	2,100	6,000	18,000	10,500
Pot life [min]		80	70	45–60	240–270	120
Demoulding time [h]		24	24	16	24*	16–24
Physical data (approx. values)						
Density [g/cm³]		2.25	1.6	1.9	1.8	1.8
Shore hardness		D 90	D 90	D 90	D 88	D 90*
Compressive strength [MPa]		110	112	120	110	112*
HDT [°C]		–	51	60 / 95*	125	> 130*
T_c [°C]		74	–	–	–	–

* after appropriate treatment

TRANSPARENT EPOXY CASTING SYSTEMS

Sika's transparent epoxy systems offer 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 EPOXY CASTING SYSTEMS						
Component	**A**	**SikaBiresin® TD160**	**SikaBiresin® TD150**			
Component	**B**	**SikaBiresin® TD165**	**SikaBiresin® TD165**	**SikaBiresin® TD150**	**SikaBiresin® TD140**	**SikaBiresin® TD151**
Mixing ratio [g]	A	100	100	100	100	100
	B	50	50	50	50	100
Characteristics		high transparency; low viscosity; self-degassing behaviour; good UV stability	high transparency; easy mixing ratio (2:1); self-degassing behaviour; quick setting in thin layers; good UV resistance	high transparency; low viscosity; self-degassing behaviour; single pour casting up to 45mm @ 20°C; good UV restistance	high transparency; as deep as 75mm casting thickness achievable @ 20°C in single pour; low viscosity; selfdegassing behaviour; good UV stability	high transparency; low viscosity; self-degassing behaviour; good UV resistance; soft rubbery hardness to avoid stress cracking on glass container
Applications		art and decoration applications for transparent coatings or sealing surfaces in thin layers from 1 to 3 mm (wood, paper, ceramic, ...); to make small objects up to 10 mm thick in silicone moulds (jewelry, giftware)	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	furniture, art and decoration to make deep pour transparent and UV resistant castings such as river table, embeddings, mock-ups, trophies	furniture, art and decoration to make deep pour transparent and UV resistant castings such as river table, embeddings, mock-ups, trophies	decorative objects simulating water (vases for floral displays, colored liquids in glass bottles or inclusions of objects inside plexiglass frames)
Processing data (approx. values)						
Mixed viscosity [mPas]		1,100	500	300	220	220
Pot life [h]		40 [min]	60 [min]	17	17	6
Tack-free time [h]		6-7	8-9	-	-	-
Demoulding time [h]		< 16 (10mm)	48 (10mm)	-	-	-
Physical data (approx. values)						
Shore hardness		D 84	D 81	D 80	D 73	A 65
T_c [°C]		73	53	47	42	10

GELCOATS

GELCOATS

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

Tool for making reinforcements of bonnets made of SikaBiresin® GC080

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)

Easy application of SikaBiresin® GC155

GELCOATS MEDIUM HEAT RESISTANCE

	A	SikaBiresin® GC050		SikaBiresin® GC080	
	B	SikaBiresin® GC11	SikaBiresin® GC14	SikaBiresin® GC11	SikaBiresin® GC14
Mixing ratio [g]	A	100	100	100	100
	B	10	10	10	10
Colour		white	white	blue / white	blue / white
Characteristics		good spreading and covering properties; easily workable		can be applied on wet plaster (previously treated), sandable and polishable	high resistance to chemicals; easy to apply
Applications		master models, negatives, gauges		ceramic moulds; applicable on plaster models (previously treated)	ceramic moulds, RTM moulds (polyester)
Processing data (approx. values)					
Pot life [min]		19	35	12	25
Geltime [min]		60	120	40	60
Demoulding time [h]		16	24	16	24
Physical data (approx. values)					
Density [g/cm³]		1.57	1.45	1.73	1.72
Shore hardness		D 88	D 88	D 91	D 90
HDT [°C]		–	–	–	–
T_c [°C]		85*	53	100*	104*

* after appropriate treatment

GELCOATS WITH HIGH HEAT RESISTANCE

	A	SikaBiresin® GC112	SikaBiresin® GC115	SikaBiresin® GC120		SikaBiresin® GC108	SikaBiresin® GC155
	B	SikaBiresin® GC12	SikaBiresin® GC05	SikaBiresin® GC20	SikaBiresin® GC12	SikaBiresin® GC08	SikaBiresin® GC155
Mixing ratio [g]	A	100	100	100	100	100	100
	B	8	7	15	15	20	14
Colour		grey	green	green	green	black	black
Characteristics		heat resistant; abrasion resistant; good solvent and styrene resistance	very good chemical and heat resistant; good mechanical resistance	good abrasion and chemical resistance		polishable to high gloss; heat resistant; good styrene resistance	heat resistant
Applications		vacuumforming moulds, foundry patterns, moulds for composite production	polyester and foam models, gauges, negative and foundry patterns, laminates	foundry patterns and match plates, copy models and core boxes		vacuumforming moulds; master models; moulds for composite production	for production of large composite moulds
Processing data (approx. values)							
Pot life [min]		30	40	14	18	30	240
Geltime [min]		45	70	-	30	60	300–360
Demoulding time [h]		16–24	16	-	-	16–24	-
Physical data (approx. values)							
Density [g/cm³]		2.1	1.55	1.50	1.48	1.22	1.53
Shore hardness		D 92	D 88	D 90	D 89	D 86*	D 89
HDT [°C]		> 100*	103*	-	-	136*	145*
T_c [°C]		–	-	118	120	–	150

* after appropriate treatment

LAMINATING AND MULTI-PURPOSE SYSTEMS

LAMINATING AND MULTI-PURPOSE SYSTEMS

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

SikaBiresin® L100 / 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® L90

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

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. vacuum forming)

STANDARD LAMINATING RESINS AND LAMINATING PASTES

	A	SikaBiresin® L100				SikaBiresin® L202	SikaBiresin® L80			SikaBiresin® L402	SikaBiresin® L90
	B	SikaBiresin® L100	SikaBiresin® L4	SikaBiresin® GC11	SikaBiresin® GC12	SikaBiresin® L202	SikaBiresin® CH80-1	SikaBiresin® CH80-2	SikaBiresin® GC12	SikaBiresin® L400	SikaBiresin® L90
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 odour; low exothermic temperature; good dimensional stability	white colour; filled; high dimensional accuracy			low density laminating paste, very easy to mix; very low shrinkage	high dimensional accuracy; very smooth and with good adhesion; very easy to mix; high thickness in one operation
Applications		standard laminates, coupling layers and backfillings				big moulds and negatives in ceramic industry	true-to-size laminates for gauges and models			for reinforcement of large negatives, models and moulds of low weight (e.g. foundry and ceramic industry)	for reinforcement of big negatives, models, moulds and tools; true-to-size laminate for difficult reinforcement layers
Processing data (approx. values)											
Mixed viscosity [mPas]		580	350	2,150	1,230	950	2,200	1,600	2,000	pasty	pasty
Pot life [min]		55	80	16	60	45	45	75	60	120	60
Demoulding time [h]		12	16	8	12	–	16–24	16–24	16–20	24	24
Physical data (approx. values)											
Density [g/cm³]		1.2				1.17	1.37		1.35	0.72	1.0
Shore hardness		D 83	D 80	D 84	D 82	D 86	D 86	D 86	D 85	D 80	D 73
HDT [°C]		51 / 70*	46 / 53*	50 / 61*	72*	–	52 / 70*	52 / 70*	54 / 80*	–	60
T_c [°C]		–	–	–	–	65	–	–	–	70	–

* after appropriate treatment

LAMINATING SYSTEMS WITH HIGHER HEAT RESISTANCE

	A	SikaBiresin® L84			SikaBiresin® CR172	SikaBiresin® CR215
	B	SikaBiresin® L84	SikaBiresin® GC12	SikaBiresin® L84 TP	SikaBiresin® CH172-6	SikaBiresin® CH122-9
Mixing ratio [g]	A	100			100	100
	B	25	20	24	19	53
Colour		yellowish-transparent			colourless to brownish	amber
Characteristics		all-purpose, high mechanical strength and heat resistance			good impregnation of dry fabrics and non-wovens as well as non-draining properties; hand lay-up process and vacuum infusion	good wetting of reinforcements, fast impregnation,
Applications		laminating moulds, vacuum forming moulds, heat resistant backfillings			injection moulds and other heat resistant moulds, prototype injection	injection moulds and other heat resistant moulds
Processing data (approx. values)						
Mixed viscosity [mPas]		390	1,090	590	800	650
Pot life [min]		40	20	60	220	850
Demoulding time [h]		24	24	24+ post curing	-	-
Physical data (approx. values)						
Density [g/cm³]		1.1			0.94	1.14
Shore hardness		D 82	D 84	D 86	D 82	D 89
HDT [°C]		100*	91*	110*	165	-
T_c [°C]		104*	–	123*	174	200

* after appropriate treatment

HIGH PERFORMANCE COMPOSITE SYSTEMS

Aimed for parts production as well as for mould making applications in versatile industries, these high performance composite resins are designed to meet the highest standards of production, process efficiency and end-use performance.

Our composite matrix systems are specially formulated to give the optimal viscosity as well as other processing parameters to meet the different specific processes in the composite industry like Wet Lay-up, Vacuum infusion, RTM, Pultrusion, Filament winding, etc.

These systems are specially designed for different working temperatures ranging from 80 °C up to ~ 200 °C. Additionally it is possible to adjust the reactivity of our systems by using different hardeners.

OVERVIEW COMPOSITE SYSTEMS

	Wet Lay-Up (+ optional vacuum bagging)	Vacuum-infusion	RTM	Press Processes	Filament Winding	Pultrusion	Tg [°C]		Characteristics
SikaBiresin® CR75	●	○					75–90		Partially bio-based, clear system for transparent laminates and good UV stability. Provides a glossy surface. (e.g. for surfboards)
SikaBiresin® CR80	○	●	○				85–93		DNV GL-approved, modular standard system for infusion and injection processes with 3 hardeners for a wide range of processing times and a Tg potential up to 93 °C
SikaBiresin® CR82	●			○			83–89		DNV GL-approved, modular standard system for wet lay-up with 4 hardeners for a wide range of processing times and a Tg potential up to 89 °C
SikaBiresin® CR83		●	○				80–84		DNV GL-approved, modular system with an extremely low viscosity and a low tendency to crystallize. Especially suitable for large and/or complex parts
SikaBiresin® CR84 / CH84-20, CH120-6	○			○	●		94–104		With hardeners CH84-20 and CH120-6: Thixoptropic DNV GL-approved system for filament winding with very long processing times and very good non-draining properties.
SikaBiresin® CR84 / G30, GC12	○			●			98–100		With hardeners G30 and GC12: Especially suitable for press processes to bond different substrates together (e.g. for ski and snowboard)
SikaBiresin® CR87		●	○				84–87		Partially bio-based standard system for infusion and injection processes. Comes with 3 hardeners for wide range of processing times and a Tg potential up to 87 °C
SikaBiresin® CR120		●	○				113–115		DNV GL-approved, modular standard system for infusion and injection processes with 2 hardeners and a Tg potential up to 115 °C.
SikaBiresin® CR122	●	○	○	○			103–145		Modular standard system for wet lay-up with excellent properties and with additional LBA/RHV approval to build gliders, motor gliders and ultralights.
SikaBiresin® CR132	●						130–159		Basic system of a 130 °C product family with standard hardeners for a wide range of processing times. The same hardeners can be used for SikaBiresin® CR132 FR and CR134 FR to use it as a flame retardant wet lay-up system or with SikaBiresin® CR131 to use it for infusion or injection processes.
SikaBiresin® CR132 FR	●			○			132–157		Flame retardant version of SikaBiresin® CR132 with UL94 V-0 classification (with CH132-2) for the production of structural parts in wet lay-up.
SikaBiresin® CR134 FR	●						125–132		Flame retardant version of SikaBiresin® CR132 with UL94 V-0 classification (with CH132-5) for the production of visual parts in wet lay-up.
SikaBiresin® CR131		●	○				127–150		Standard system for infusion and injection processes with 4 hardeners for a wide range of processing times and a Tg potential up to 140 °C. (e.g. for wind blade moulds)
SikaBiresin® CR135			●				152		RTM-System, which supports a high surface quality of carbon parts (Class A)
SikaBiresin® CR144			●		○		115–143		System for RTM prosess, which provides short cycle times (< 3 min.) in various thermal and isothermal processes. Suitable for parts, which have to run through the cathodic dip coating process. Also suitable for continous filament winding processes.
SikaBiresin® CR172	●	○					174		Non-toxic high Tg system for wet lay-up. Can also be used for vacuum infusion in certain cases.
SikaBiresin® CR215	○	●					200		High temperature resistant system for vacuum infusion process with Tg up to 200 °C
EP with Anhydride									
SikaBiresin® CR141 / CH141 / CA141					●	●	139		Anhydride cured system with DNV GL-approval for the production of FRP parts in continuous process. Especially suitable for putrusion and filament winding process (e.g. for printing rollers, pipes, high performance profiles)
SikaBiresin® CR144 / CH141 / CA144					●	●	151		Anhydride cured system with DNV GL-approval for the production of FRP parts in continuous process. Especially suitable for pultrusion processes with glass fibres due to its high elongation at break. (e.g. for printing rollers, pipes, high performance profiles)
SikaBiresin® CR144 / CH141 / CA141					●	●	138		Anhydride cured system for the production of FRP parts. Especially suitable for pultrusion and filament winding process (e.g. for printing rollers, pipes, high performance profiles)

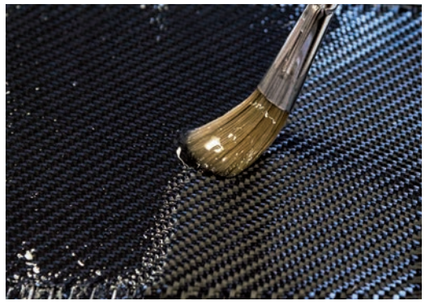
● highly recommended
○ recommended
○ conditionally possible

DETAILED INFORMATION: WET LAY-UP SYSTEMS

HIGH PERFORMANCE COMPOSITE SYSTEMS – WET LAY-UP

		Mixing ratio [g]		Tg [°C]	Potlife, 100 g, RT [min]	Mixed viscosity, RT [mPas]	Impact resist. [kJ/m²]	Tensile E-Modulus [GPa]		Tensile strength [MPa]	Tensile Elongation [%]	Characteristics
A	B	A	B									
Wet Lay-up												
SikaBiresin® CR75	CH 75-1	100	40	75	28*	500**	15	3.2***		60	5.0	Partially bio-based resin system for clear laminates and good UV stability. Provides a glossy surface. (e.g. for surfboards)
	CH80-3	100	29	90	82*	400	-	3		85	6.0	
SikaBiresin® CR82	CH80-1	100	27	88	30	1,100	17	3.3		87	4.3	DVN GL-approved, modular standard system for wet lay-up with 4 hardeners for a wide range of processing times and a Tg potential up to 89 °C
	CH80-2			89	50	800	21	3.3		85	5.0	
	CH80-6			83	220	400	55	2.9		84	6.4	
	CH80-10			85	330	390	56	2.9		82	6.2	
SikaBiresin® CR84	CH84-20	100	30	94	600	575	76	3.6		89	5.7	Thixotropic DNV GL-approved system for filament winding. Also suitable for wet lay-up, if a very long potlife or good non-draining propoerties are required
	CH120-6	100	28	104	300	850	32	3.2		85	4.2	
	GC12	100	20	100	60	1,600	31	3.0		86	5.5	Especially suitable for press process (e.g. for ski and snowboard) to bond different substrates together
	G30	100	32	98	100	2,950	42	2.6		75	5.2	
SikaBiresin® CR122	CH122-1	100	30	103	30	310	58	2.9		86	6.3	Modular standard system for wet lay-up with excellent performance and with LBA / RHV approval to build gliders, motor gliders and ultra-lights
	CH122-3			114	90	370	47	2.8		84	5.4	
	CH122-5			119	150	380	34	2.8		84	5.6	
	CH122-9	100	40	145	330	680	44	2.6		87	6.9	
SikaBiresin® CR132	CH132-2	100	28	130	60	360	47	2.7		83	6.6	Basic system of a 130 °C product family with standard hardeners for a wide range of processing times. The same hardeners can be used for SikaBiresin® CR132 FR, SikaBiresin® CR134 FR and SikaBiresin® R131
	CH132-5			135	150	600	32	2.7		77	4.6	
	CH132-7	100	32	135	210	550	33	2.5		78	5.7	
	CH122-9	100	38	162	480	940	25	2.4		68	3.9	Two hardener options for Tg potential > 150 °C and long potlife
	CH172-6	100	20	159	180	550	24	2.7		80	4.5	
SikaBiresin® CR172	CH172-6	100	19	174	260	810	26	2.8		76	3.9	Non-toxic high Tg system for Wet Lay-up.
Wet Lay-up – FR systems												
SikaBiresin® CR132 FR	CH132-2	100	20	132	60	1,300	13	3.6		52	1.6	Flame retardant version of SikaBiresin® CR132 with UL94 V-0 classification (with CH132-2) for the production of structural parts in wet lay-up
	CH132-5	100	20	142	160	2,100	10	3.6		43	1.4	
	CH132-7	100	23	133	200	1,900	12	3.5		42	1.4	
	CH122-9	100	28	157	460	2,100	15	3.1		48	1.8	
SikaBiresin® CR134 FR	CH132-2	100	23	125	60	900	29	3.0		62	3.3	Flame retardant version of SikaBiresin® CR132 with UL94 V-0 classification (with CH132-5) for the production of visual parts in wet lay-up
	CH132-5	100	24	132	115	1,000	21	3.0		65	3.9	
	CH132-7	100	27	129	150	1,000	22	2.9		58	3.0	

* 500g, RT ** Brookfield LVT, RT *** Flexural E-Modulus [GPa]



Top-down:
- Motorglider produced by Schempp-Hirth with SikaBiresin® CR122.
- SikaBiresin® CR82 with optimized mixed viscosity for Wet Lay-up.

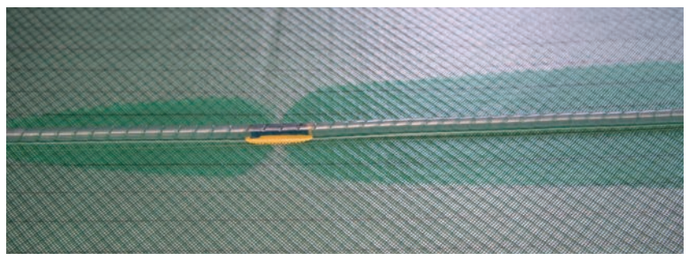
DETAILED INFORMATION: INFUSION AND RTM SYSTEMS

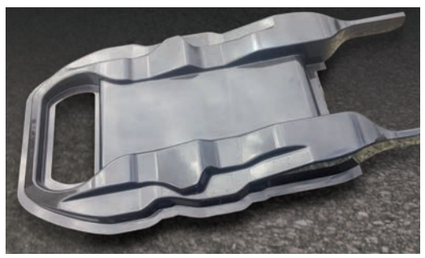
HIGH PERFORMANCE COMPOSITE SYSTEMS – INFUSION

		Mixing ratio [g]		Tg [°C]	Potlife, 100g, RT [min]	Mixed viscosity, RT [mPas]	Impact resist. [kJ/m²]	Tensile E-Modulus [GPa]		Tensile strength [MPa]	Tensile Elongation [%]	Characteristics
A	B	A	B									
Infusions												
SikaBiresin® CR80	CH80-2	100	30	93	60	500	29	2.9		83	5.8	DNV GL-approved. Modular standard system for infusion and injection processes with 3 hardeners for a wide range of processing times and a Tg potential up to 93 °C
	CH80-6			85	190	230	68	3.0		83	6.3	
	CH80-10			85	330	210	76	3.0		80	6.5	
SikaBiresin® CR83	CH83-2	100	30	84	60	155	93	3.0		84	6.7	DNV GL-approved. Modular system with an extremely low viscosity for infusion and injection processes and a low tendency to crystallize. Especially suitable for large and/or complex parts.
	CH83-6			80	180	170	84	3.2		91	8.4	
	CH83-10			81	300	155	83	3.1		86	7.9	
SikaBiresin® CR87	CH87-2	100	28	85	80	260	50	2.8		80	5.0	Partially bio-based (38 % within the resin). Modular standard system for infusion and injection processes with 3 hardeners for a wide range of processing times.
	CH87-6			84	180	220	50	2.7		75	5.0	
	CH87-10			87	400	200	50	2.7		75	5.0	
SikaBiresin® CR120	CH120-3	100	30	113	90	240	55	2.8		80	5.8	DNV GL-approved. Modular standard system for infusion and injection processes with 2 hardeners and a Tg potential up to 115 °C
	CH120-6			115	180	250	50	2.7		80	6.1	
SikaBiresin® CR131	CH135-4	100	26	138	160	540	27	2.8		89	5.7	Standard system for infusion and injection processes with 5 hardeners for a wide range of processing times and a Tg potential up to 150 °C. (e.g. for wind blade moulds)
	CH132-5	100	28	136	140	450	46	2.7		86	5.9	
	CH132-7	100	32	127	260	450	37	2.7		84	6.7	
	CH135-8	100	21	138	260	360	29	2.8		89	6.3	
	CH172-6	100	19	150	220	360	33	2.8		87	5.0	
SikaBiresin® CR215	CH122-9	100	53	200	850	650	9	3.5		53	1.7	High temperature resistant system for vacuum infusion process with Tg up to 200 °C

HIGH PERFORMANCE COMPOSITE SYSTEMS – RTM

		Mixing ratio [g]		Tg [°C]	Potlife, 100g, RT [min]	Mixed viscosity, RT [mPas]	Impact resist. [kJ/m²]	Tensile E-Modulus [GPa]		Tensile strength [MPa]	Tensile Elongation [%]	Characteristics
A	B	A	B									
RTM												
SikaBiresin® CR135	CH135-4	100	24	152	160	940	27	2.9		72	3.3	RTM-system which supports a high surface quality of carbon parts (Class A)
SikaBiresin® CR141	CH100-1	100	20	148	80	1,500	24	2.4		69	5.0	High Tg system for RTM process with low viscosity at elevated injection temperature.
	CH150-3		24	155	90	900	36	2.6		83	7.0	
Sika Biresin® CR144	CH100-1	100	20	143	40	2,600	28	2.4		72	5.0	High Tg system for RTM process, which provides short cycle times (< 3 min.) in various thermal and isothermal (< 15 min.) processes.
	CH135-4		24	153	140	2,000	24	2.8		91	6.0	
	CH150-3		24	143	60	1,600	42	2.7		87	6.6	





f.l.t.r.:
- SikaBiresin® CR80 offers ideal flowing properties and good wetting behaviour.
- Lightweight transporter made by Carbon Truck & Trailer.
- Monocoque of the lightweight transporter produced with SikaBiresin® CR120.

LARGE COMPOSITE MOULDS: HIGH END MOULD MAKING SYSTEM

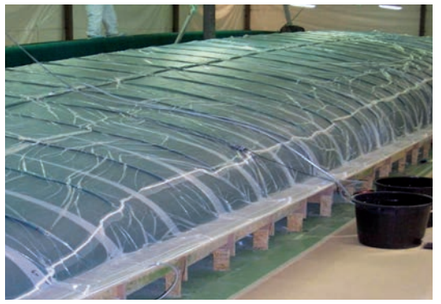
Building of large scale composite moulds requires a set of matching resin systems which is especially designed for this purpose.

Sika has a long-standing know-how in developing high-performance gelcoats, coupling layers and composite resin systems for mould production.

During development of this next generation mould making system we put our focus on improved workability, efficiency in production and processing safety.

Benefits:

- Significant time savings due to roller application of gelcoat and coupling layer (up to 50 % reduced working hours for skin coat)
- Long open time of gelcoat offers increased flexibility in production scheduling and ensures optimal bonding to the next layer
- Increased lifetime and number of mouldings due to higher strength
- 2 hardeners for different Tg range available



Vacuuminfusion with SikaBiresin® CR131

SikaBiresin® GC155 - HIGH TG EPOXY GELCOAT

		Mixing ratio [g]		Color	Tg [°C]	Potlife, 500 g, RT [h]	Geltime [h]	Time before next layer [h]	Shore hardness		Density [g/m3]	Characteristics
A	B	A	B									
SikaBiresin® GC155	GC155	100	30	black	150	4	5-6	max. 48*	D 89		1,53	High temperature epoxy Gelcoat with very long open time and increased adhesion to the backing laminate. Application by roller or brush.

* in dust-free environment at 23 °C / 50 %rH

Roller application of SikaBiresin GC155

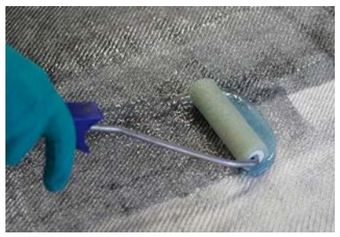
SikaBiresin® CR169 thix - “ready to use” coupling layer

		Mixing ratio [g]		Tg [°C]	Potlife, 100 g, RT [min]	Mixed viscosity, RT, [mPas]	Tensile E-Modulus [Gpa]	Tensile strength [Mpa]		Tensile Elongation [%]	Characteristics
A	B	A	B								
SikaBiresin® CR169 thix	CH132-5	100	23	156	90	thixotropic	2.7	57		2.6	“Ready to use” coupling resin system with thixotropic properties. Fast and easy application and low tendency to sag on vertical surfaces
	CH172-6	100	16	160	140	thixotropic	3.1	40		1.4	

Roller application of SikaBiresin CR169 thix

SikaBiresin CR168® - high Tg wet lay-up system

		Mixing ratio [g]		Tg [°C]	Potlife, 100 g, RT [min]	Mixed viscosity, RT, [mPas]	Tensile E-Modulus [Gpa]	Tensile strength [Mpa]		Tensile Elongation [%]	Characteristics
A	B	A	B								
SikaBiresin® CR168	CH132-5	100	27	135	150	1,000	2.5	81		7.6	High Tg wet lay-up system with slight thixotropic to prevent drainage from the fibres. Optimized for large structures
	CH172-6	100	19	150	180	600	2.7	75		3.0	



Wet lay-up with SikaBiresin CR168

SikaBiresin CR131® - high Tg infusion system

		Mixing ratio [g]		Tg [°C]	Potlife, 100 g, RT [min]	Mixed viscosity, RT, [mPas]	Tensile E-Modulus [Gpa]	Tensile strength [Mpa]		Tensile Elongation [%]	Characteristics
A	B	A	B								
SikaBiresin® CR131	CH135-8	100	21	138	260	360	2.8	89		6.3	High Tg infusion system for large structures.
	CH172-6	100	19	150	220	360	2.8	87		5.0	

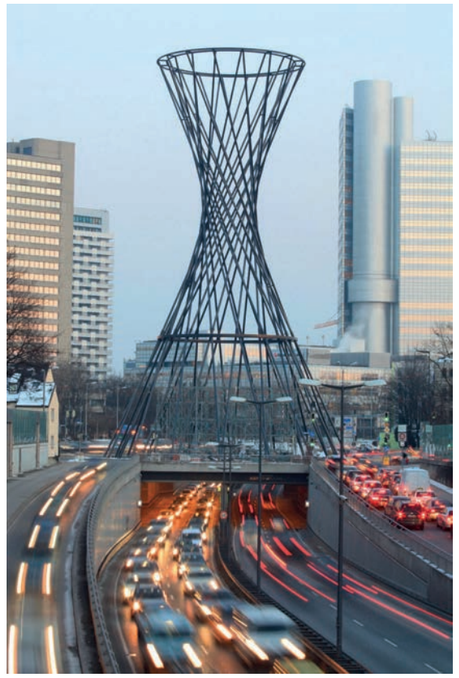
DETAILED INFORMATION: FILAMENT WINDING AND PULTRUSION SYSTEMS

HIGH PERFORMANCE COMPOSITE SYSTEMS – FILAMENT WINDING + PULTRUSION

			Chemistry	Mixing ratio [g]			Tg [°C]	Potlife, 100g, RT [h]	Mixed viscosity, RT [mPas]		Impact resist. [kJ/m²]	Tensile E-Modulus [GPa]	Tensile strength [MPa]	Tensile Elongation [%]	Characteristics
A	B	C		A	B	C									
Filament Winding + Pultrusion															
SikaBiresin® CR84	CH84-20	-	EP cured with amine	100	30	-	94	10 h	575		76	3.6	89	5.7	Thixotropic DNV GL-approved system for filament winding. Amine cured system with very long processing time and very good non-draining propoerties.
	CH120-6	-	EP cured with amine	100	28	-	104	5 h	850		32	3.2	85	4.2	
SikaBiresin® CR141	CH141	CA141	EP cured with anhydride + accelerator	100	90	2	139	> 24 h	600		18	3.2	78	3.3	Anhydride cured system with DNV GL-approval for the production of carbon fibre reinforced parts.
SikaBiresin® CR144	CH141	CA141	EP cured with anhydride + accelerator	100	90	2	138	> 24 h	800		15	3.2	95	5.4	Anhydride cured system for the production of fibre reinforced parts. Especially suitable for processing with glass fibres due to ist high elongation at break.
	CH141	CA144	EP cured with anhydride + accelerator	100	90	1-4	151	> 24 h	800		20	2.8	90	5.4	Anhydride cured system with DNV GL-approval for the production of fibre reinforced parts. Especially suitable for processing with glass fibres due to ist high elongation at break.
SikaBiresin® CR201	CH141	CA144	EP cured with anhydride + accelerator	100	115	0.5-2	201	> 24 h	100		8	2.9	50	1.9	Hot curing system with a very high Tg potential up to 201 °C
Functional resin system for winding process															
SikaBiresin® CR131 CB	CH135-4	-	EP cured with amine	100	25	-	135	100 min	900		40	2.9	85	4.8	Electrically conducting resin system for winding process. Filled with carbon black particles. Especially suitable for composite roller production to avoid electrostatic discharge in service.
	CH135-8	-		100	20	-	133	215 min	850		30	2.7	70	3.0	

HIGH PERFORMANCE FUNCTIONAL COATING FOR ROTARY PROCESSING

		Chemistry	Mixing ratio [g]		Potlife, 100g, RT [h]	Mixed viscosity, RT [mPas]	Shore Hardness	Tensile Elongation [%]	Electric surface resistance [Ohm]	Characteristics
A	B		A	B						
SikaBiresin® CR540	CH540	PU	100	60	140 sec	pasty	D 82	14	< 3 · 10^6	Electrically conducting PU coating for rotary application. Especially suitable for composite roller production to avoid electrostatic discharge in service.



f.l.t.r.
- Mae West Sculpture in Munich (Effnerplatz) produced with Sika Biresin® CR84.
- Segment of a 40 m pipe used for the Mae West sculpture.

ADHESIVES FOR COMPOSITES

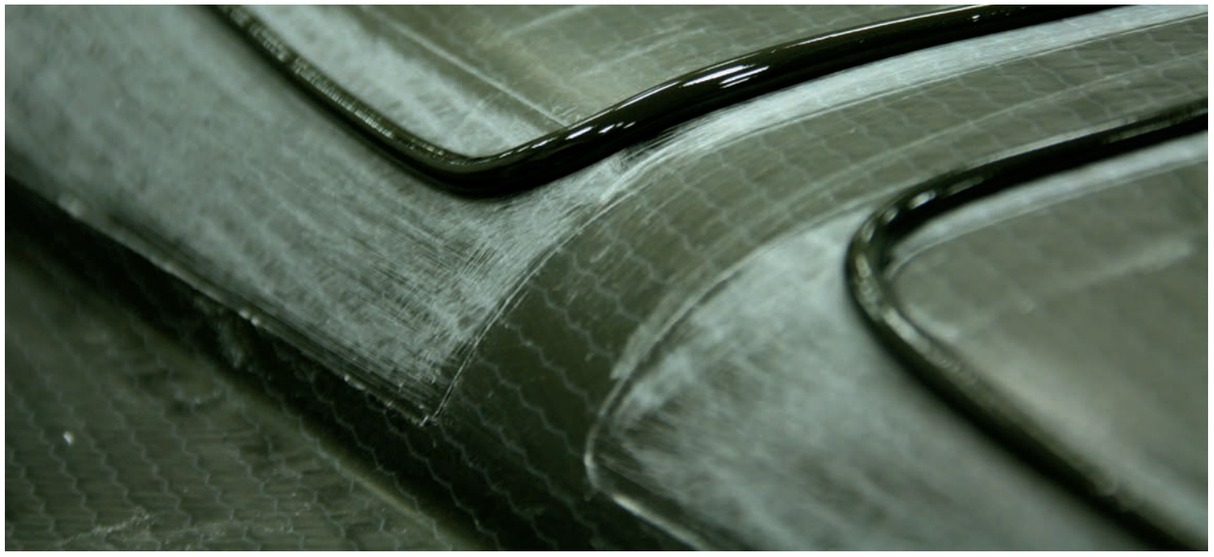
ADHESIVES

We have been formulating tailor-made polyurethane and epoxy adhesive systems for the past 70 years for a variety of highly demanding markets on a worldwide basis.
Today, we offer high end value adhesive resins for composite in automotive, aerospace, marine, general industry and wind mill industries.

Polyurethane – Structural bonding for dissimilar materials and high impact
We are offering a unique range of 2 component PUR adhesives offering a unique balance between structural properties and toughness. Polyurethane adhesives are used when dissimilar material has to be join (CTE gap absorption), or when strong impact resistance is required.

Epoxy – Structural bonding with high modulus or temperature resistance
Structural epoxy adhesives are suitable for assembly where stiffness is required. They also keep good performances with temperature increase and under chemical stress.

Methacrylate – Multipurpose bonding
MMA-adhesives are recommended for bonding metal or plastic when operating conditions (like temperature) are not regulate. This specific chemistry allows a curing at low temperatures.



f.l.t.r.
- Carbon body sport car bonding. Sikaforce-453 L04 structural 2 components PUR adhesive with high peel and elangation.
- Carbon part bonding.
- Bonding with SikaPower -752 L120 FR on the skin on honeycomb (nomex or alu).

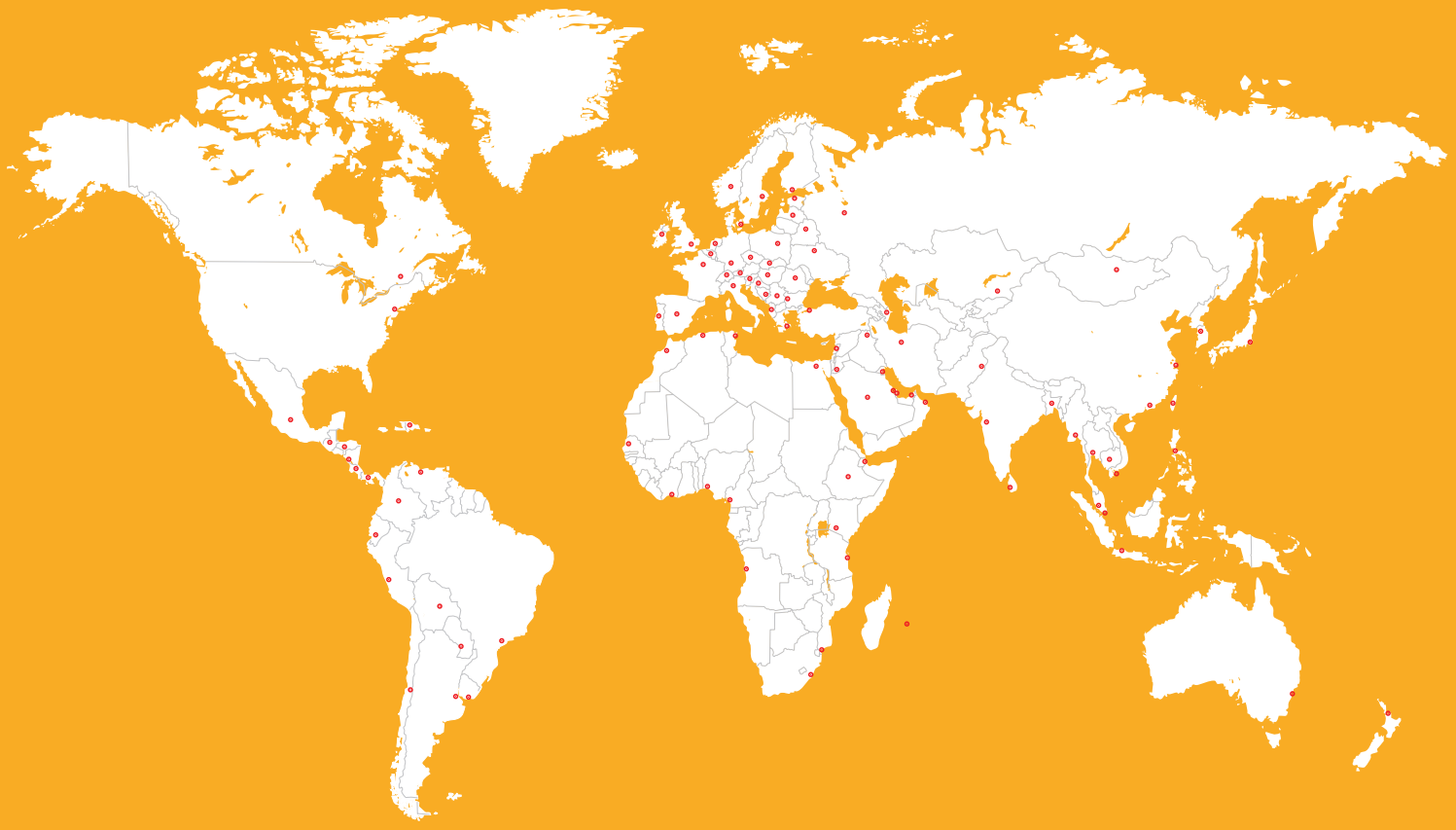
Flexible and semi rigid structural adhesives:
- Combination of flexibility & structural performance.
- Wide range of viscosities adapted to your application.
- vertical, thick, high-speed, robotic, thin layers or gap-filling.
- Shock resistance, vibration absorption.
- Approved for their performance and the durability of the assembly by rail, automotive & aerospace industries.
- High peel resistance.

High modulus and chemical resistant structural adhesives:
- Wide range of open times adjustable to the size of your parts & viscosities according to your application: vertical, thin layers or injection.
- Outstanding ageing resistance (humidity, temperature, solvent or UV).
- Manual or machine processes.

OVERVIEW ADHESIVES

	Open time	LSS (MPa)	Peel (N/mm)	Elongation (%)	Characteristics
PUR					
SikaForce®-490 L10 **SikaForce®-490 L03**	10' 3'	16	12	95	Structural bonding of spoiler, metallic inserts/big head to composites. Vibration absorbing. Good chemical resistance. Short handling with limited heating. Impact Resist: 30 N/mm
SikaForce®-453 L04	4'	12	9	300	Non sagging paste product suitable for vertical applications and to fill irregular joints. Fast setting product to reduce assembly time. High flexibility. Impact Resist: 50 N/mm
SikaForce®-457 L05	5'	5	10	350	Recommended for the bonding of plastics sensitive to the phenomena of bond line witness marks (thermoplastic, composite). Low hardness. Flexible product. Short handling with limited heating. Impact Resist: 55 N/mm
SikaForce®-436 L25 **SikaForce®-436 L120**	25' 120'	14	4	60	Allows production with gaps up to 40 mm and parts assembly with large dimensions (deck/hull, windmill). Available in various reactivity's and colours (white or grey). Lloyd's Register.
SikaForce®-840 L07 **SikaForce®-840 L15**	7' 15'	15	7	100	Combines structural properties and flexibility over a wide range of temperatures. Curing by design technology with fast curing at room temperature for quick assembly. Good non-sag behavior and compressibility. Low smell.
MMA					
SikaFast®-300 **SikaFast®-310**	5' 10'	24	9	30 35	Excellent mechanical and thermal performances up to 120 °C. Multipurpose product with thermoplastic aspect. Product able to bond dissimilar materials.
SikaFast®-555 L03 **SikaFast®-555 L05** **SikaFast®-555 L10** **SikaFast®-555 L25**	3' 5' 10' 25'	12	4	200	Adheres to a wide range of substrates with limited surface preparation. Develops strength within minutes after application. Lower odor than products containing MMA
EP					
SikaPower®-730 **SikaPower®-735**	6'	17	1.5	3	Fast cure at room temperature. Suitable for injection. Bonding of subtrates such as composites, metal, wood, concrete.
SikaPower®-740	40'	20	6	4	Multi-purpose with very good mechanical features. Pasty non sagging Gap filler material. Impact Resist: 10 N/mm
SikaPower®-755	60'	35	3	8.5	Pasty adhesive with long pot life. For large composite parts, repair and maintenance. Good mechanical performance & chemical and temperature resistance. Impact Resist: 15 N/mm
SikaPower®-711	100'	24	5	9	Multi-purpose liquid adhesive. Will bond most materials. For general industry and maintenance.
SikaPower®-751 **SikaPower®-751T**	50'	26	4	10	Non-filled adhesive for bonding large surfaces (ie panels) when mechanical, ageing as well as high peel resistance is needed. T for thixotropic product (hot cure process). Used in Railway.
SikaPower®-752 L120	120'	22	5	3	High shear/peel/ageing resistance. Filled with nano-particles. Short handling time with limited heating. Self extinguishable (EN45545 HL3 for R1, R2, R3, R6, R7, R17). Used in railway and aerospace applications.
SikaPower®-880	45'	23	6.5	3	Combines high strength and high resistance to fatigue. Long open time for composite bonding and metal bonding. Contains glass beads of 0.3 mm to ensure optimal bonding thickness

GLOBAL BUT LOCAL PARTNERSHIP



WE ARE SIKA

Sika AG, Switzerland, is a globally active specialty chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, facades). Sika is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting load bearing structures. Sika's product lines feature high quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

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