



SikaAxson

LOW PRESSURE RIM-SYSTEMS

INNOVATIVE SOLUTIONS FOR HIGH-CLASS PROTOTYPES AND SHORT RUNS



BUILDING TRUST



LOW PRESSURE RIM-SYSTEMS

APPLICATION:

Injection under low pressure with help of a 2 components dosing machine for simulation and substitution of materials of serial production (like rubber, polyethylene, polypropylene, ABS, PVC and others) in stage of development and preproduction for automotive industry, for household appliances, for rail vehicles, in aviation, in boat building and for other technical parts

- for production of few parts until serial production
- for small parts (< 0.1 Liter) to large volume parts (appr. 20 Liter)

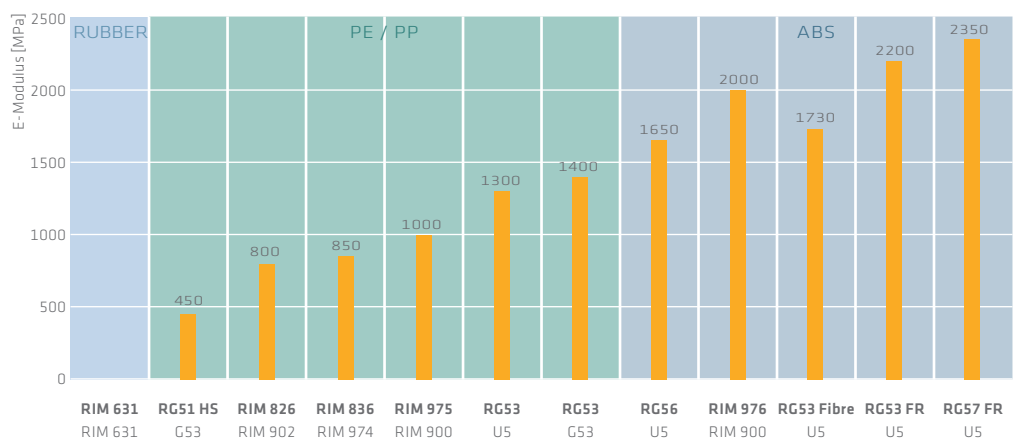
RANGE OF APPLICATION:

- Natural (colourable) and coloured resins
- Biresin® RG53 Fibre as fibre filled products with high stiffness for special applications, e. g. in automotive industry
- Biresin® RG53 FR and Biresin® RG57 FR for flame retardant parts
- RIM 836/974 with very long potlife for parts with very high volume or to slow down the other RIMs
- RIM 631 for rubber like aspect parts with a short demoulding time and high tear strength
- RIM 826/902 is designed to cast impact resistant parts like bumpers or protection parts
- RIM 975/900 is a black high temperature system for under the bonnet applications
- Biresin® RG51 HS with a high impact resistance to manufacture shock-resistant mouldings

LOW PRESSURE RIM-SYSTEMS

Component	A	RIM 631	RG51 HS	RIM 826	RIM 836	RIM 975	RG53		RG56	RIM 976	RG53 Fibre	RG53 FR	RG57 FR
Component	B	RIM 631	G53	RIM 902	RIM 974	RIM 900	U5	G53	U5	RIM 900	U5	U5	U5
Mixing ratio [g]	A	100	100	100	100	100	100		100	100	100	100	100
	B	100	50	100	60	75	75	80	80	100	60	54	44
Colour		black	black / beige	black	beige	black	black / beige		black	black	black	black / beige	black
Characteristics		flexible, quick curing	very impact resistant	very high impact resistance, easy to use	very easy processing, quick demoulding	very temperature resistant	very temperature resistant	good mechanical properties	very temperature resistant	very temperature resistant	fibre filled with good impact resistance	UL94 V-0 tested	DIN EN 45545-2 tested
Potlife [sec]		50-70	60	80-100	9-11 (min.)	35-40	60		50	35-40	50	70	55
Demoulding time [min]		15-20	> 10	25	2-4	10	> 10		4 - 6**	10	> 10	> 10	> 10
Shore hardness		A 73	D 65	D 73	D 75	D 75	D 78	D 80	D 82	D 80	D 81	D 84	D 80**
E-Modulus [MPa]		-	450	800	850	1000	1300	1400	1650	2000	1730	2200	2350**
Flexural strength [MPa]		-	20	35	-	-	54	58	67	-	55	70	70**
Elongation at break		300	150	50	-	18	20	25	15**	10	11	5	4**
Impact resistance [kJ/m ²]		-	-	100	> 50	> 50	95	90	60	40	48	35	20**
HDT [°C]		-	65	-	-	-	120	110	125	-	125	110	90*
TG [°C]		-	-	95	95	150	-	-	-	150	-	-	-

* after appropriate thermal treatment
** at 60°C mould temperature



MOULD MAKING PRODUCTS

LAYER-CONSTRUCTION PROCESSES

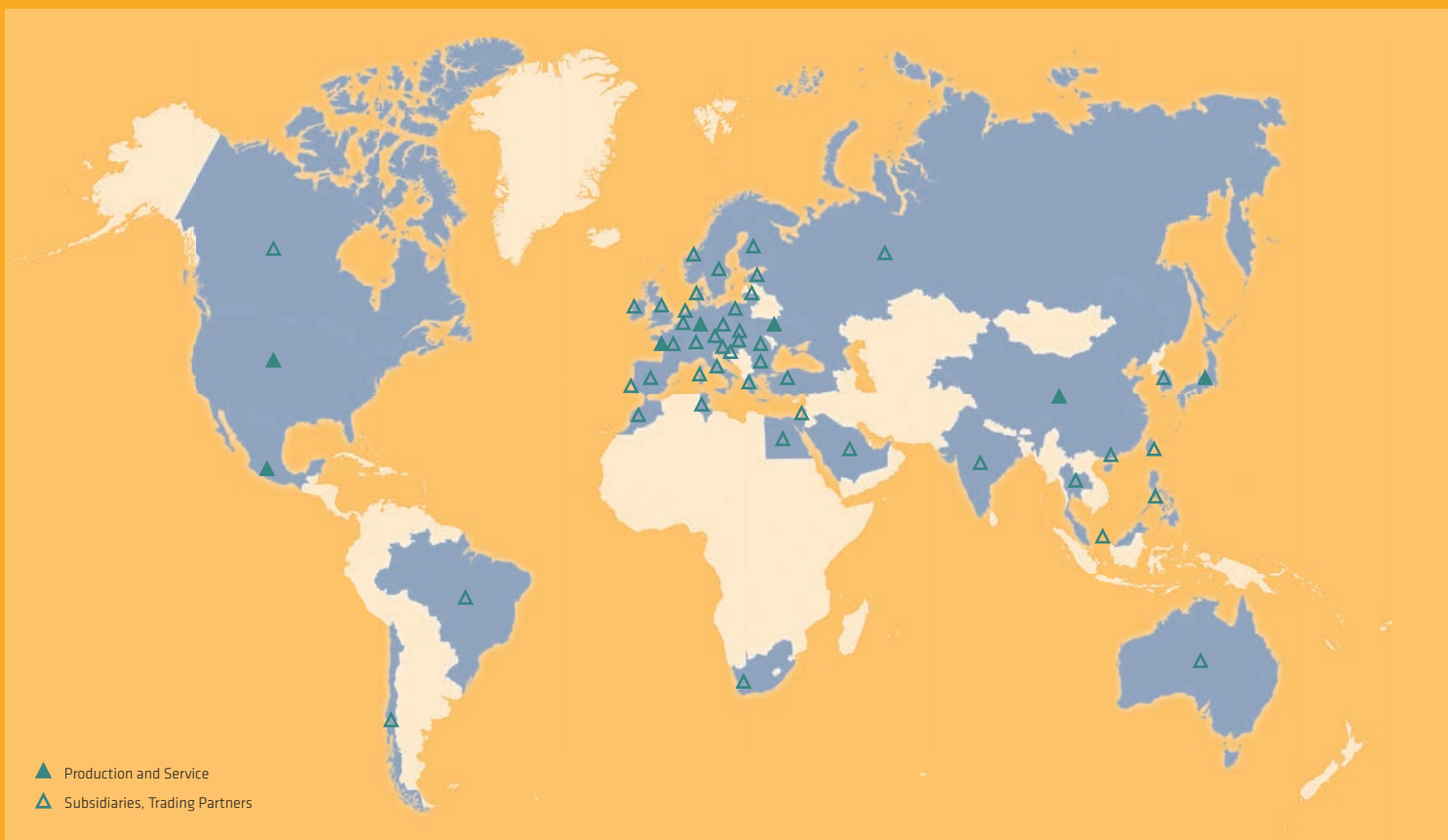
		GELCOATS		LAMINATING PASTE	EP- AND PUR-CASTING RESINS			
		In addition with laminating resin for large tools			Systems for direct casting of moulds dedicated to series production			
Component	A	GC1 080		Epopast 400	F 50	F190	Biresin G38	
Component	B	GC 10	GC 13	Epopast 400	F 50	F190	Biresin G38	
Mixing ratio	[g]	A	100	100	100	50	100	100
	B	10	10	14	100	100	7	
Colour		blue/white/green		green	beige	off-white	grey	
Characteristics		glossy aspect; could be sanded and polished		mechanically stable, high heat resistance	very low shrinkage; low exothermic reaction	very low shrinkage; low viscosity even filled	good flowing and degassing properties	
Potlife	[sec]	15	20	120	35-50	12-14	120	
Demoulding time	[min]	16		24	6-12	1,5	16-24	
Density	[g/m ³]	1.74		0.91	1.24	1.07	1.8	
Shore hardness		D 90	D 89	D 81	D 83	D 70	D 90	
Flexural strength	[MPa]	75		48	80	47	68	
Compressive strength	[Mpa]	-	-	49	85	-	112	
HDT	[°C]	-	-	-	-	-	> 130	
TG	[°C]	65		70	65	90	-	

DIRECT MILLING

		MODEL BOARD	TOOLING BOARD
		Prolab 75	M945
Density	[g/cm ³]	0.78	1.3
Colour		light grey	green
Characteristics		easily workable; fine, dense surface; good compressive strength; good heat distortion temperature	very abrasion resistant, excellent milling properties; very high strength
Shore hardness		D 73	D 83
Flexural strength	[MPa]	43	100
CTE, αT	[1/K]	50 x 10 ⁻⁶	65 x 10 ⁻⁶
HDT	[°C]	-	78
TG	[°C]	85	-

With boards milling it is possible to achieve the complete tool (male and female pieces) or milling one part used as a model for casting resin for the second half of the mould.





GLOBAL SOLUTIONS – LOCAL SERVICE

With over 60 years of experience, SikaAxson is the world leading provider and developer of high-performance resins, boards and pastes for model and mould making. SikaAxson offers customized solutions for the composites industry – from the model to the shape and finished parts up to the fitting structural adhesive. In addition, SikaAxson offers casting resins and functional coatings for industrial filters and dielectrics. SikaAxson generates an annual turnover of € 130 million with 450 employees.

SikaAxson is part of Sika AG, which is headquartered in Baar, Switzerland. Sika has subsidiaries in 90 countries world-wide, with more than 160 manufacturing sites. It has approx. 17,000 employees, who generated an annual turnover of CHF 5.6 billion in 2014.



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