



SikaAxson

LOW PRESSURE RIM-SYSTEMS

INNOVATIVE SOLUTIONS FOR HIGH-CLASS PROTOTYPES AND SHORT RUNS



BUILDING TRUST



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Biresin® RG53:

- Proven allrounder system with very easy processing
- Offers high impact resistance for housings with PE/PP aspect
- With U5 hardener for housings and coverings with good heat resistance

RIM 975 and RIM 976:

- Black RIM system for impact and heat resistant parts in the motor compartment

- RIM 975 for parts with PP aspect, RIM 976 for stiffer parts with ABS aspect
- Both can be mixed to reach E-modulus in between 1,000 and 2,000 MPa

Biresin® RG53 FR and RG57 FR:

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

LOW PRESSURE RIM-SYSTEMS

Component	POLYOL	A	RIM 631	RG51 HS	RIM 826	RIM 836	RIM 975
Component	ISOCYANATE	B	RIM 631	G53	RIM 902	RIM 974	RIM 900
Mixing ratio	[g]	A	100	100	100	100	100
		B	100	50	100	60	75
Colour			black	black / beige	black	beige	black
Characteristics			flexible, quick curing, rubber aspect	very impact resistant, wear resistant	very high impact resistance, easy to use	impact resistant, for rotational technique	very temperature resistant
Applications			flexible parts, overmoulding of glass panels for peripheral seals	shock-resistant housings and covers	prototype parts requiring high impact resistance: automobile face panels, cowlings and interior panels	hollow decorative parts, impact resistant massive parts, rotomoulded or cast	under-the-hood parts; air cleaner ducting; heater system ducting; instrument housings
Potlife	[sec]		50-70	60	80-100	9-11 (min.)	38-42
Demoulding time	[min]		15-20	> 10	25	2-4 (hours)	10
Shore hardness			A 73	D 65	D 73	D 75	D 75
E-Modulus	[MPa]		-	450	800	850	1,000
Flexural strength	[MPa]		-	20	35	-	-
Impact resistance	[kJ/m ²]		-	-	100	> 50	> 50
HDT	[°C]		-	65	-	-	110
TG	[°C]		-	-	95	95	150

* after appropriate treatment

LOW PRESSURE RIM-SYSTEMS

Component	POLYOL	A	RG53		RG56	RG53 Fibre	RIM 976	RG53 FR	RG57 FR
Component	ISOCYANATE	B	U5	G53	U5	U5	RIM 900	U5	U5
Mixing ratio	[g]	A	100		100	100	100	100	100
		B	75	80	80	60	100	54	44
Colour			black / beige / grey		black	black	black	black / beige	black / beige
Characteristics			allrounder system, high impact and good heat resistance		stiff, high flexural strength	fibre filled with good impact resistance	very temperature resistant	UL94 V-0 tested	DIN EN 45545-2 tested
Applications			housings and covers of medium stiffness		housings and covers with high mechanical properties	stiff housings and covers	prototype parts and small series: housings, coverings, face panels	stiff housings and covers with UL 94 V-0	stiff housings and covers with DIN EN 45545-2
Potlife	[sec]		60		50	50	35-40	75	55
Demoulding time	[min]		> 10		4-6	> 10	10	> 10	> 10
Shore hardness			D 78	D 80	D 82	D 81	D 80	D 84	D 80
E-Modulus	[MPa]		1,300	1,400	1,650	1,730	2,000	2,200	2,350
Flexural strength	[MPa]		54	58	67	55	-	70	70
Impact resistance	[kJ/m ²]		95	90	60	48	40	35	20
HDT	[°C]		120*	110*	125*	125*	-	110*	90
TG	[°C]		-	-	-	-	150	-	-

* after appropriate treatment

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 Polyol	F190 Polyol	Biresin G38
Component	B	GC 11	GC 13	Epopast 400	F 50 Isocyanate	F190 Isocyanate	Biresin G38
Mixing ratio [g]	A	100	100	100	100	100	100
	B	10	10	14	50	100	7
Colour		blue/white/green	blue/white	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 [min]		12	20	120	35-50	12-14	120
Demoulding time [h]		3	24	24	6-12	1,5	16-24
Density [g/m ³]		1.73		0.91	1.24	1.07	1.8
Shore hardness		D 91	D 89	D 81	D 83	D 70	D 90*
Flexural strength [MPa]		74		43	80	47	68*
Compressive strength [Mpa]		-	-	65	85	36	112*
HDT [°C]		-	-	-	-	-	> 130*
TG [°C]		100*	85*	68	65	90	-

* after appropriate treatment

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]		-	80
TG [°C]		85	-

With milling of boards it is possible to achieve the complete tool (male and female pieces) or milling one part used as a model and produce the opposite half of the mould by layer construction process





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 97 countries world-wide, with more than 170 manufacturing sites. It has approx. 17,000 employees, who generated an annual turnover of CHF 5.7 billion in 2016.



Sika Deutschland GmbH – SikaAxson

Stuttgarter Strasse 139
D-72574 Bad Urach, Germany
Phone: + 49 (0) 7125 94 04 92
Fax: + 49 (0) 7125 94 04 01
Email: tooling@de.sika.com
www.sikaaxson.com

AXSON FRANCE SAS

ZI des Béthunes – 15, Rue de l'Equerre
CS 40444 Saint-Ouen-l'Aumône
95005 CERGY PONTOISE Cedex
Phone: +33 (0) 134 40 34 60
Fax: +33 (0) 134 21 97 87
Email: axson@axson.com
www.sikaaxson.fr



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