

FASTCAST RESINS

FASTCAST RESINS – FILLED						
POLYOL	A	F 23-1	F 40-1	F10	Biresin® G21	Biresin® G23
ISOCYANATE	B	F 23	F 40	F1	Biresin® G21	Biresin® G23
Mixing ratio [g]	A	100	100	100	100	100
	B	20	20	100	15	15
Colour		white	blue	ivory, green, black	Light grey or black	lightblue
Characteristics		very good surface aspect after machining; easy to carve, to sand, to polish	high abrasion resistance; low shrinkage; low viscosity; quick setting; short potlife	1:1 mix ratio; short pot life; low viscosity; quick setting; good temperature resistance; low shrinkage	almost odourless, easy to mix by hand, very good flowability, very fine structure, very good mechanically workable	almost odourless, good mixable by hand, very good flowability, very low shrinkage, good adhesion to wooden materials, very good mechanically workable
Applications		tools and parts: 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	casting of master and core models, negatives and mouldings of larger dimensions. For high surface quality and mould precision
Processing data (approx. values)						
Mixed viscosity [mPas]		900	2.000	2.500	2.100	1.500
Potlife [min]		4.25 – 5.25	5.25 – 6.30	4.45	5 – 6	7 – 8
Demoulding time [min]		30	60	45	30	120
Physical data (approx. values)						
Density [g/cm³]		1.58	1.70	1.64	1.7	1.7
Shore hardness		D 80	D 84	D 73	D 80	D 80
Flexural strength [MPa]		47	61	35	35	45
Compressive strength [MPa]		63	57	33	75	60
T _c [°C]		60	69	71	80	70

FASTCAST RESINS – UNFILLED								
POLYOL	A	F160-1	Biresin® G27			Biresin® G27 LV	F180-1	F190-1
ISOCYANATE	B	F160	Biresin® G27	Biresin® G27 w.	Biresin® G55	Biresin® G26	F180	F190
Mixing ratio [g]	A	100	100			100	100	100
	B	100	100	100	80	100	100	100
Colour		beige	beige	white	beige	off white	beige	
Characteristics		quick setting system; low viscosity; good temperature resistance after heat curing; easy-to-use mix ratio (1:1 by weight); adjustable filler content	easily 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 (1:1 by weight); high filler content possible	
Applications		mainly used with filler for tools: Moulds, masters, negatives with RZ 30150 to get easy machining. Thermoforming tools with RZ 209/6 aluminium powder in order to increase thermal conductivity	models, 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 to get low shrinkage and easy machining	same as F 160 but able to cast up to 50 mm in one shot	
Processing data (approx. values)								
Mixed viscosity [mPas]		90	50	30	140	35	80	125
Potlife [min]		2'20''	2'15''	2'15''	1'30''	2'20''	3'25''	7 – 9
Demoulding time [min]		30	> 20	> 20	> 15	> 15	45	90
Physical data (approx. values)								
Density [g/cm³]		1.08	1.1			1.1	1.08	1.07
Shore hardness		D 75	D 70	D 70	D 75	D 70	D 70	D 68
Flexural strength [MPa]		60	55	42	60	45	38	40
Impact resistance [kJ/m²]		14	25	60	50	23	18	20
HDT [°C]		-	80	75	75	75	-	-
T _c [°C]		110	-	-	-	-	97	90

PUR CASTING RESINS

FILLED FASTCAST RESINS

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



F160-1 with additional fillers for casting of models with thicker sections

UNFILLED FASTCAST RESINS

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

PUR Casting systems with long potlife

Biresin® G46

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

Biresin® G48 and 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

PUR CASTING SYSTEMS WITH LONG POTLIFE

POLYOL	A	Biresin® G46	Biresin® G48		F50	
ISOCYANATE	B	Biresin® G46	Biresin® G55		F50	
FILLER	C	-	TE-Füller	Al-Pulver	-	RZ 30150
	A	100	100	100	100	100
Mixing ratio [g]	B	25	100	100	100	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		7,500
Potlife [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
Shore hardness		D 87	D 80	D 86	D 84	D 83
Compressive strength [MPa]		110	94	104	90	85
HDT [°C]		80	75	-	-	-
T _c [°C]		-	-	-	-	65