Product Overview – All RAKU-TOOL products at a glance.





Epoxy Systems

Epoxy Resin	Epoxy Hardener	Mix ratio (pbw)	Color	Pot life at 25 °C (Min)	Layer thickness	Density g/cm ³	Key Properties	Applications
				25 6 ((V))	(mm)	(ISO 1183)		
RAKU-TOOI	Epoxy Gelcoa	at Systems						
				250 ml				
EG-2100	EH-2901	100:14	light blue	15	_	1.4	RT curing, thixotropic, can be polished and sanded, good interlayer adhesion, fast reactivity	negatives, models, jigs and fixtures
	EH-2950	100:14	light blue	35	_	1.4	RT curing, thixotropic, can be polished and sanded, good interlayer adhesion, slow reactivity	negatives, models, jigo and intores
EG-2101	EH-2901	100:12	white	25	_	1.4	RT curing, thixotropic, polishable, easy to apply, fast reactivity	negatives, models, jigs & fixtures, plaster working molds (ceramics)
	EH-2950	100:12	white	60	_	1.4	RT curing, thixotropic, polishable, easy to apply, slow reactivity	
EG-2102	EH-2901	100:8	blue	25	-	1.8	RT curing, abrasion resistant, chemical resistant, fast reactivity	foundry patterns, foam molds, UP forming
	EH-2950	100:8	blue	60	-	1.8	RT curing, abrasion resistant, chemical resistant, slow reactivity	tools, tools and tooling aids
EG-2103	EH-2903	100:11	black	25	-	2.2	RT curing, iron filled, wear resistant, thixotropic, hard but workable	foundry patterns, metal forming tools, wear resistant tooling aids
EG-2104	EH-2950	100:10	black	45	-	1.7	temperature resistant (105 °C), very easy to apply, can be polished to a high gloss	gelcoat for laminate structures and other build-up methods, vacuum forming molds, RTM molds
EG-2105	EH-2950	100:20	green	35	-	1.3	temperature resistant (120 °C), excellent styrene resistance, can be polished	laminate structures, vacuum forming molds, UP laminated molds/press tools, RTM molds
EG-2107	EH-2951	100:20	black	2–2.5 h	-	1.6	temperature resistant (180 °C), easy to apply, good workability	gelcoat for high temperature molds, prepreg lay up tools
RAKU-TOOI	_® Epoxy Lamina	ating/Epoxy Co	upling Layer					
				500 ml				
EL-2209	EH-2950	100:10	gray	30	-	1.6	prefabricated, two component coupling coat, temperature resistant (115 °C)	production of tools, molds and tooling aids with various systems like epoxy and polyurea

Epoxy Resin	Epoxy Hardener	Mix ratio (pbw)	Color	Pot life at 25 °C (Min)	Layer thickness (mm)	Density g/cm ³ (ISO 1183)	Key Properties	Applications		
RAKU-TOOL	Epoxy Lamina	ating Systems								
				500 ml	500 ml					
EL-2200	EH-2900	100:20	clear	70	8	1.1	RT curing, unfilled, low viscosity, good compatibility with glass fibres and fillers	general tool building and tooling aids, binder for quartz sand and fabrics		
EL-2201	EH-2904	100:50	clear	35	8	1.1	RT curing, unfilled, high mechanical properties at RT cure, fast reactivity			
	EH-2905	100:50	clear	65	8	1.1	RT curing, unfilled, high mechanical properties at RT cure, medium reactivity	jigs, foundry patterns, tooling aids, UP lay up tools, backing structures		
	EH-2906	100:50	clear	145	8	1.1	RT curing, unfilled, high mechanical properties at RT cure, slow reactivity			
EL-2203	EH-2952	100:25	clear	60	8	1.1	temperature resistant (120 °C), unfilled, low viscosity, very good wetting properties, fast reactivity	laminated molds, RTM or RIM tools, glas or		
	EH-2953	100:25	clear	100	8	1.1	temperature resistant (120 °C), unfilled, low viscosity, slow reactivity	carbon fibre laminates, resin infusion		
EL-2204	EH-2954	100:40	amber	2 h 15 min	8	1.2	temperature resistant (180 °C), unfilled, good wetting properties, fast reactivity	high temperature resistant glas or carbon fibre reinforced tools, high temperature		
	EH-2955	100:40	amber	6 h	8	1.2	temperature resistant (180 °C), unfilled, good wetting properties, slow reactivity	prepreg lay up tools, backing structures		
RAKU-TOOL	_® Epoxy Lamina	ating Pastes								
			T	500 ml		Г				
EL-2207	EH-2907	100:10	blue	90	15–25	1.2	laminating paste, RT curing	reinforcement of molds and tooling aids, backing structures, jigs, fixtures		
EL-2208	EH-2952	100:10	black	120	15–25	0.8	laminating paste, low density, high temperature resistance (115 °C)	backing structures for molds and tooling aids, laminated shells, jigs and fixtures		

Epoxy Resin	Epoxy Hardener	Mix ratio (pbw)	Color	Pot life at 25 °C (Min)	Layer thickness (mm)	Density g/cm ³ (ISO 1183)	Key Properties	Applications
RAKU-TOOL	.® Epoxy Castin	g Systems						
				1000 ml		1		
EC-2400	EH-2909	100:6	blue	45	30	1.9	abrasion resistant, good chemical resistance, easy to pour, fast reactivity	foundry patterns, copy models, foam molds
	EH-2952	100:6	blue	3.5–4 h	60	1.9	abrasion resistant, temperature resistant (110–115 °C), slow reactivity	
EC-2401	EH-2904	100:20	ivory	45	10	1.6	with mineral filler, flows very well, fast reactivity	foundry patterns, copy models, direct casting (negatives), jigs, fixtures, galvanobath models, working models for the ceramics industry
	EH-2905	100:20	ivory	90	20	1.6	with mineral filler, flows very well, medium reactivity	
	EH-2906	100:20	ivory	180	80	1.6	with mineral filler, flows very well, slow reactivity	
EC-2402	EH-2904	100:15	black	45	10	2.2	RT curing, with metal fillers, workable hard surface, fast reactivity	
	EH-2905	100:15	black	90	20	2.2	RT curing, with metal fillers, workable hard surface, medium reactivity	foundry patterns, copy models, metal forming, general modeling
	EH-2906	100:15	black	180	80	2.2	RT curing, with metal fillers, workable hard surface, slow reactivity	metal forming, general modeling
	EH-2902	100:15	black	140	40	2.2	RT curing, with metal fillers, impact resistant	
EC-2404	EH-2952	100:9	gray	145	60	1.7	temperature resistant (120 °C), aluminum filled, chemical resistant	vacuum forming molds, jigs, injection molds, foam molding tools
RAKU-TOOL	. Epoxy Infusio	n Systems						
				500 ml				
EI-2500	EH-2970	100:25	clear	60	8	1.1	temperature resistant (115 °C), flows well, unfilled, low viscosity, good wetting properties	resin infusion, RTM

Polyurethane Systems

Polyurethane Resin	Polyurethane Hardener (Isocyanate)	Mix ratio (pbw)	Color	Pot life at 25 °C (Min)	Layer thickness (mm)	Density g/cm³ (ISO 1183)	Key Properties	Applications					
RAKU-TOO	RAKU-TOOL® Polyurea Gelcoats Systems												
				250 ml									
PG-3100	PH-3952	100:50	green	45–50	_	1.09	high abrasion and impact resistance, Shore D 50-55, both components are without skull and crossbones label	pattern plates, core boxes, foundry patterns					
RAKU-TOO	RAKU-TOOL® Polyurea Casting Systems												
				1000 ml									
PC-3451	PH-3952	100:60	light beige	20–25	10	1.1	high abrasion resistance and high impact strength, shore D 60–65, no brittle phase, both components are without skull and crossbones label	pattern plates, core boxes, foundry patterns					
RAKU-TOO	L ® Polyurethane	Casting Syster	ns										
				1000 ml									
PC-3403	PH-3903	100:80	beige	30–40	20	1.2	mass casting system for face casting	metal forming tools, molds for prototyping,					
	PH-3903 (AC-9004)	100:80 (380-400)	beige	60	> 300	1.6–1.7	mass casting system with filler AC-9004 for large volume castings	prototypes and backing for foundry patterns					
PC-3406	PH-3906	100:12	beige	25–30	20	1.1	soft/flexible, high tear propagation resistance, Shore A 55–60	soft/flexible casting molds, plaster molds for the ceramics industry					
PC-3407	PH-3906	100:30	ivory	25–30	20	1.3	soft/flexible, high tear propagation resistance, Shore A 65–70	soft/flexible casting molds, plaster molds for the ceramics industry					



RAMPF Tooling RAKU-TOOL Product Overview

PF-3704

100:100

blue

8

Polyurethane Resin	Polyurethane Hardener (Isocyanate)	Mix ratio (pbw)	Color	Pot life at 25 °C (Min)	Layer thickness (mm)	Density g/cm ³ (ISO 1183)	Key Properties	Applications
RAKU-TOC)L ® Polyurethan	e Rapid Prototy	oing System	S				
			1	1000 ml		1		
PR-3600	PH-3900	100:40	black	90 sec.	4	1.14	simulates rubber, Shore A 80–85, fast demold time	functional prototype parts, short run
	PH-3904	100:33	black	90 sec.	4	1.14	simulates rubber, Shore A 65–70, high elongation at break, fast demold time	production, rapid prototyping
PR-3602	PH-3904	100:80	black	65 sec.	4	1.14	simulates PE / PP, very good impact resistance, fast demold time	functional prototype parts & bumpers, short run production, rapid prototyping
	PH-3905	100:80	black	60 sec.	4	1.14	simulates PE / PP, good impact strength, temperature resistant (90 °C), fast demold time	
PR-3604	PH-3905	100:100	black	90 sec.	5	1.17	simulates ABS / PP, temperature resistant (115 °C)	
PR-3605	PH-3905	100:100	black	60 sec.	4	1.17	simulates ABS / PP, temperature resistant (115 °C), fast demold time	functional prototype parts, short run production, rapid prototyping
PR-3606	PH-3905	100:100	black	65 sec.	4	1.18	simulates ABS / PP, temperature resistant (135 °C), fast demold time	
RAKU-TOC	L ® Polyurethan	e Fast Cast Sys	tems					
				1000 ml				
PF-3700	PH-3970	100:100	beige	2–3	10	1.0–1.2	unfilled two component system, mix ratio 1:1, fast curing	
	PH-3970 (AC-9004)	100:100 (300)	beige	4–5	10	1.6–1.7	unfilled two component system with filler AC-9004	
PF-3701	PH-3971	100:100	beige	5–6	20	1.0–1.2	unfilled two component system, mix ratio 1:1, slow curing	foundry patterns and core boxes, negatives
	PH-3971 (AC-9004)	100:100 (300)	beige	8–9	20	1.6–1.7	unfilled two component system with filler AC-9004	and various tooling aids, checking castings, prototype parts
PF-3702	PH-3972	100:15	white	4–5	20	1.7	two component system with filled polyol	

100

1.7

filled two component system for casting thick layers

Polyurethane Resin	Polyurethane Hardener (Isocyanate)	Mix ratio (pbw)	Color	Pot life at 25 °C (Min)	Layer thickness (mm)	Density g/cm ³ (ISO 1183)	Key Properties	Applications			
RAKU-TOOL® Accessories											
AC-9001	_	_	white	_	_	_	mineral filler, bulk density 1.0 g/cm³.	filler for EP- and PU systems			
AC-9002	_	-	gray	_	_	_	light mineral filler, bulk density 0.35–0.4 g/cm ³	filler for EP- and PU systems			
AC-9004	_	_	white	_	_	_	inorganic filler, bulk density 1.6 g/cm³	filler for EP- and PU systems			
AC-9102	_	_	white	-	_	0.8	paste release agent, wax based, can be polished	models made out of wood and board materials			
AC-9103	-	-	white	-	_	0.72	liquid release agent, wax based, can be polished	tooling aids and tools made out of EP, PU and metal			
AC-9500	-	-	yellow	-	0.5–5.0	_	temperature resistant up to 135 °C-140 °C	self adhesive wax sheets for tooling aids			

EG	Epoxy Gelcoat/Resin
EL	Epoxy Laminating/Resin
EC	Epoxy Casting/Resin
El	Epoxy Infusion/Resin
EH	Epoxy Hardener
AC	Ancillaries

Polyurea Gelcoat/Resin
Polyurethane or Polyurea Casting/Polyol/Resin
Polyurethane Rapid Prototyping/Polyol
Polyurethane Fast Cast/Polyol
Polyurethane/Isocyanate

temperature resistant up to 90 °C
temperature resistant up to 105 °C
temperature resistant up to 115 °C
temperature resistant up to 120 °C
temperature resistant up to 135 °C
temperature resistant up to 180 °C



RAMPF Tooling

RAKU-TOOL Product Overview

Resin	Hardener	Mix ratio (pbw)	Color	Pot life at 25 °C (Min)	Layer thickness (mm)	Density g/cm³ (ISO 1183)	Key Properties	Applications				
RAKU-TOOI	L [®] Epoxy Pastes	s (hand applied))	1000 ml								
EP-2300	EH-2930	100:100	brown	60	40	0.65	multipurpose modeling paste (hand applied paste)	styling and design models, master models, patterns				
RAKU-TOOI	RAKU-TOOL® Close Contour Pastes (machine applied)											
CP-6050 R	CP-6050 H	100:100	light brown	30–40	40	0.5	smooth, homogeneous surface, easy to machine, very little dust	design and styling models, molds				
CP-6070 R	CP-6070 H	100:100	brown	30–40	40	0.75	fine, homogeneous surface	design and styling models, master models, molds				
CP-6071 R	CP-6070 H	100:100	gray	30–40	40	0.75	fine, homogeneous surface	design and styling models, master models, molds				
RAKU-TOOL® Adhesives for Boards												
EL-2210	EH-2910	100:60	clear	60	_	1.1	multipurpose adhesive, RT curing, long pot life, easy to mix	universally applicable, especially suited for our working boards (except WB-700)				
EP-2304	EH-2934	100:20	green	90	-	0.9	similar shore hardness	bonding of working board WB-0700				
EP-2305	EH-2904	100:30	apricot	25	-	0.8	similar shore hardness, RT curing, slow reactivity	bonding of styling boards (SB)				
	EH-2903	100:25	apricot	15	_	0.8	similar shore hardness, RT curing, fast reactivity, thixotropic	with a density < 0.55 g/cm³				
EP-2306	EH-2904	100:30	brown	35	-	0.8	similar shore hardness, RT curing, slow reactivity	bonding of modeling boards (MB) with a				
	EH-2903	100:25	brown	20	_	0.8	similar shore hardness, RT curing, fast reactivity, thixotropic	density 0.55–0.72 g/cm³				
RAKU-TOOI	L® Polyester Rep	oair Pastes for I	Boards									
UP-4300	UH-4900	100:1–3	light brown	4–6	_	-	RT curing, similar density and hardness as board material	repair of styling boards (SB) with a density < 0.55 g/cm³				
UP-4310	UH-4900	100:1–3	brown	4–6	_	-	RT curing, similar density and hardness as board material	repair of modeling boards (MB) with a density 0.55-0.72 g/cm³				
UP-4320	UH-4920	100:3–5	green	4–6	_	_	similar density and hardness as board material	repair of tooling board WB-0700				

	Color	Density g/cm³ (ISO 1183)	Hardness Shore D (ISO 868)	Coefficient of thermal expansion (ISO 11359) 10 ⁻⁶ K ⁻¹	Deflection temperature (ISO 75) °C	Compressive strength (ISO 604) MPa	Flexural strength (ISO 178) MPa	Key Properties	Applications			
RAKU-	RAKU-TOOL® Boards											
SB-0080	white	0.08	_	_	_	_	_	» Very light, fine surface structure » Easily shaped and machined » Resistant to organic solvents	» Styling models			
SB-0140	light green	0.14	_	-	_	1.8–2	_	» Light weight and smooth surface » Easily shaped, low dust » Resistant to organic solvents	Design study Program proving Supporting structures for Close Contour Paste Negative molds for casting			
SB-0240	apricot	0.24	_	60–70	55–65	2–4	5–6	Good surface structure Easily shaped and machined Resistant to organic solvents	» Styling & design models			
SB-0310	sienna	0.31	_	60–65	60–70	7–8	7–8	» Good surface structure » Easily shaped and machined	» Styling & design models			
SB-0320	apricot	0.32	_	60–65	60–70	5–7	6–8	» Very good surface structure » Easily shaped and machined	» Styling & design models			
SB-0470	apricot	0.47	-	60–65	60–70	10–15	10–15	» Very good surface structure » Easily machined	» Styling & master models			
MB-0550	brown	0.55	55–60	50–55	75–80	15–20	15–20	» Very fine surface » Easily machined » Low coefficient of thermal expansion » Good dimensional stability	» Master models, cubing models, patterns			
MB-0670	brown	0.67	60–65	50–55	75–80	20	20–25	» Very fine surface » Easily machined » Low coefficient of thermal expansion » Good dimensional stability	» Master models, cubing models, patterns			
MB-0720	brown	0.72	60–65	50–55	75–80	20–25	25–30	Excellent surface structure Low coefficient of thermal expansion Good dimensional stability Good compressive and flexural strength	» Master models, cubing models, patterns			



RAMPF Tooling

RAKU-TOOL Product Overview

	Color	Density g/cm³ (ISO 1183)	Hardness Shore D (ISO 868)	Coefficient of thermal expansion (ISO 11359) 10 ⁻⁶ K ⁻¹	Deflection temperature (ISO 75) °C	Compressive strength (ISO 604) MPa	Flexural strength (ISO 178) MPa	Key Properties	Applications
WB-0700	light green	0.7	70–80	35–45	135–140	50–55	30–40	» Very fine surface structure » Very easily machined » Good dimensional stability » Temperature resistance up to 135 °C	» Lay up tools for pre-preg » High temperature applications » Vacuum forming molds
WB-1000	beige	1	75–85	50–55	70–80	45–50	50–55	Very easily machined Low coefficient of thermal expansion Good edge strength and abrasion resistance	» Tooling jigs » Fixtures
WB-1220	red	1.22	80–85	80–85	75–85	70–80	70–80	» Very easily machined » Good temperature resistance » High impact and good edge strength » High abrasion resistance	» Pattern plates » Core boxes » Tooling jigs
WB-1222	green	1.22	75–85	80–85	80–90	60–70	70–80	Very easily machined Good temperature resistance High impact and good edge strength High abrasion resistance	» Pattern plates » Core boxes » Tooling jigs » Hammer forms
WB-1404	olive	1.4	85–90	50–55	75–80	85–90	80–90	» Dense surface structure » Very easily machined » Good dimensional stability » Good abrasion resistance and impact strength	» Pattern plates and core boxes » Machined negatives and positives » Models, molds and tools » Hammer forms and jigs
WB-1600	ivory	1.6	85–90	45–50	75–80	90–100	55–65	» Dense surface » Easily machined » Low coefficient of thermal expansion » Very good compressive strength	» Metal forming tools » Jigs and fixtures
WB-1700	dark gray	1.7	85–90	45–50	120–125	125–130	80–85	Very dense surface structure, can be polished Easily machined Good temperature resistance Excellent compressive strength High abrasion resistance	» Metal forming tools » Vacuum forming molds, jigs » Foam molds, rapid prototyping molds



									1
	Color	Density g/cm³ (ISO 1183)	Hardness Shore D (ISO 868)	Coefficient of thermal expansion (ISO 11359) 10 ⁻⁶ K ⁻¹	Deflection temperature (ISO 75) °C	Compressive strength (ISO 604) MPa	Compressive modulus (ISO 178) MPa	Key Properties	Applications
RAKU-	TOOL® C	lose Con	tour Cast	ing (CCC)*					
CC-6010	brown	0.8	65–70	65–70	75–80	35–40	1300–1600	» Fine surface structure » Easily machined » Similar properties to RAKU-TOOL modeling boards	» Master models, cubing models, patterns
CC-6015	beige	1.07	80–85	50–55	70–80	50–55	2500–3000	» Very easily machined » Dense surface structure » Low coefficient of thermal expansion » Good edge strength	» Wrapped models » Molds and tools for rapid prototyping » Tooling jigs
CC-6501	dark gray	1.62	85–90	65–75	75–80	70–80	4500–5500	» Easily machined » Good mechanical properties » Good abrasion resistance	» Hammer forms, metal sheet forming, molds and jigs
CC-6502	light gray	1.68	85–90	45–55	75–80	90–100	7000–8000	» Easily machined » Low coefficient of thermal expansion » High compressive strength » Good abrasion resistance	» Jigs
CC-6503	blue	1.85	85–90	40–45	80	95–105	9500	» Very dense structure » Very homogeneous, fine surface and as a result, very good surface of nickel bowl, i.e. little finishing required and therefore large cost savings » Easily machined** » Low coefficient of thermal expansion » Good abrasion resistance	» Galvanobath models, lay up tools, RIM tools
CC-6504	beige	1.87	85–90	40	80	90–100	10000	""> Very dense structure ""> Easily machined** ""> Low coefficient of thermal expansion ""> High compressive strength/stiffness ""> Good abrasion resistance ""> Tools do not need to be polished = time saving ""> Tools weigh less (vs Zamak) = easy handling and transport	» Metal sheet forming, jigs

Changes are easily possible
Very dense structure
Easily machined**

» Changes are easily possible

» High compressive strength

» Dense surface structure

» Good dimensional stability

» Very easily machined

» Good heat resistance

Low coefficient of thermal expansion
 High compressive strength/stiffness

» Good abrasion resistance
» Tools do not need to be polished = time saving
» Tools weigh less (vs Zamak) = easy handling and transport

» Very dense surface structure » Can be polished

» Good abrasion resistance and impact strength

"Good resistance to chemicals
 "Time savings through direct milling of mold via surface data
 "Better pressing of sheet metal parts

EP	Epoxy Paste/Resin
EH	Epoxy Hardener
CP	Close Contour Paste (R= Resin, H= Hardener)
UP	Unsaturated Polyester Resin
UH	Unsaturated Polyester Hardener
SB	Styling boards

CC-6505

CC-6506

CC-6507

light gray

dark

gray

olive

1.87

1.9

1.4

85-90

90-95

85-90

40

35

50-55

MB	Modeling boards				
WB	Working boards				
CCC	Close Contour Casting				
* done through RAMPF Tooling as customized castings					
** like board material WB-1600					

10000

13000

3500-4000

85-90

120-130

85-95

80

110

75-80

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tools, » Lay up tools

» Stretch dies, jigs, RTM tools

» Molds for ceramic pressure casting

» Pattern plates and core boxes » Machined negatives and positives

» Models, molds and tools

» Hammer forms and jigs

» Metal sheet forming, vacuum forming

RAMPF* Tooling world-wide.



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