

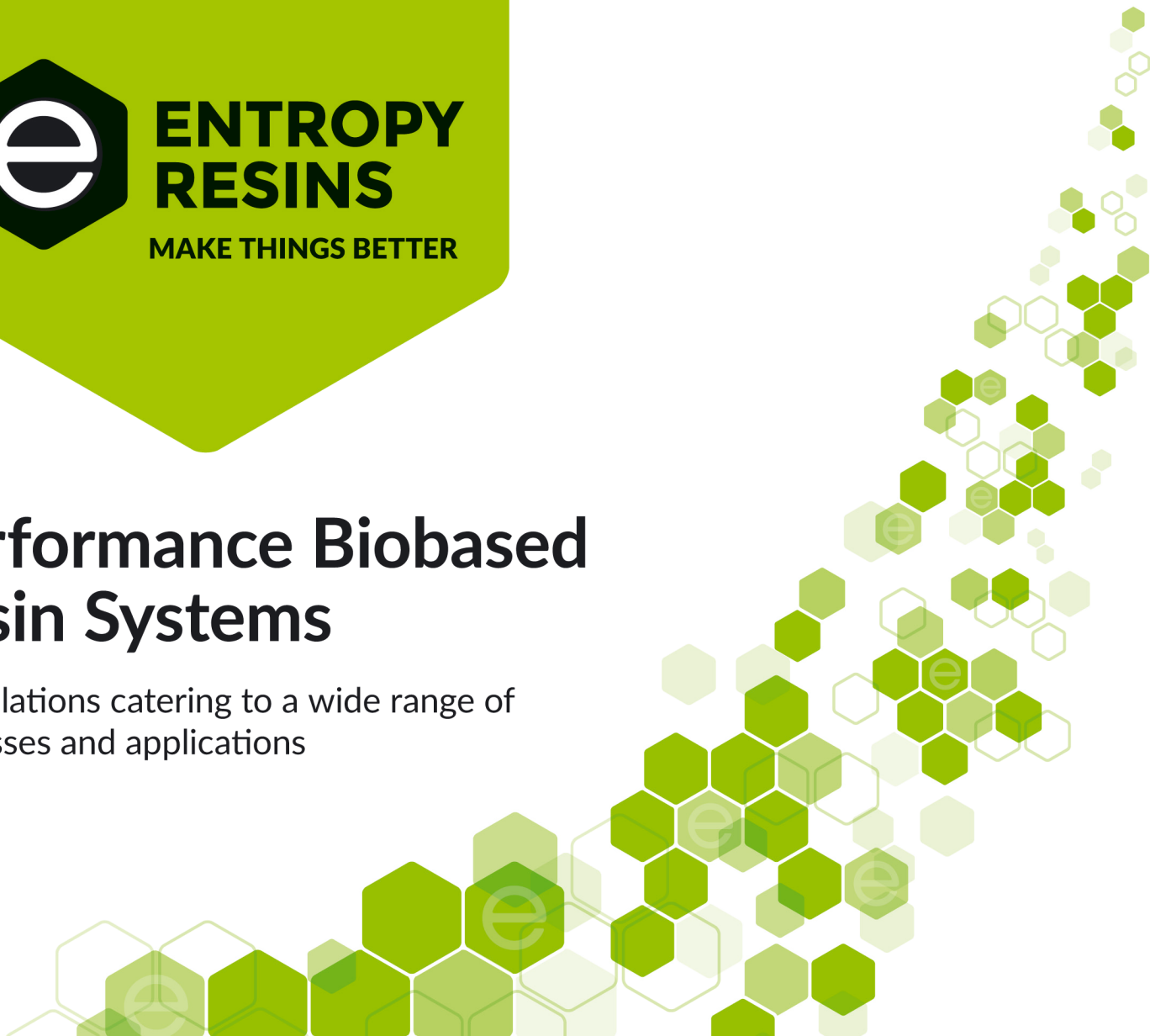


**ENTROPY
RESINS**

MAKE THINGS BETTER

Performance Biobased Resin Systems

Formulations catering to a wide range of
processes and applications





SUPER SAP

PROCESSES

- ▶ Hand Layup
- ▶ Compression Molding
- ▶ Castings
- ▶ Infusion
- ▶ Prepregs

APPLICATIONS

- ▶ Sports and Rec
- ▶ Transportation
- ▶ Art and Hobby
- ▶ Solid Surfaces
- ▶ Coatings

USDA BIOPREFERRED CERTIFIED

Industries only epoxy formulations that meet USDA BioPreferred Certification standards

REDUCED ENVIRONMENTAL IMPACT

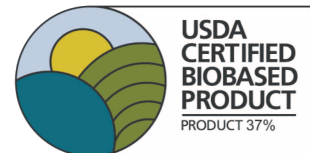
Biobased materials sourced as a co-product or waste stream of other industrial processes

50% reduction in GHG production from use of green chemistry

CONTACT US

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Technical Data

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Room Temperature Systems

Epoxy/ Hardener	Key Features	Applications	Potential Use	PERFORMANCE DATA										PROCESSING DATA					
				Tensile Modulus (psi)	Tensile Strength (psi)	Elongation (%)	Flexural Modulus (psi)	Flexural Strength (psi)	Compression Strength (psi)	Tg Onset (°C)	Tg Ultimate (°C)	Hardness (Shore D)	Bisbased Carbon Content	Mix Ratio by Volume	Mix Ratio by Weight	Viscosity (A/B/Mixed, cPs @ 25°C)	Pot Life (mins @ 25°C)	Tack Free Time (hrs @ 25°C)	Recommended Fall Cure
ONE/ ONF	▶ USDA BioPreferred Certified ▶ High elongation ▶ Slight amber color	▶ General laminating/adhesive/coating system ▶ Hand layup ▶ Vacuum Molding	▶ Woodworking ▶ Wood laminates ▶ Marine Surfboards	380k	8,200	7	330k	11,170	10,460	47	86	70-80	37%	2:1	100:48	650/450/600	22	3	7 days @ 25°C
CLR/ CLX	▶ Best in class clarity ▶ UV stability ▶ Yellowing Resistance	▶ Professional laminating ▶ Coating system ▶ Hand layup	▶ Clear coatings ▶ Marine Surfboards	450k	9,500	6	440k	14,000	11,330	43	77	70-80	17%	2:1	100:47	1850/100/580	15	2	7 days @ 25°C
CLR/ CLF	▶ Excellent clarity ▶ UV stability ▶ Low yellowing	▶ General laminating/adhesive/coating system ▶ Hand layup ▶ Vacuum Molding	▶ Clear coatings ▶ Tooling ▶ Marine Surfboards	440k	9,500	5	440k	13,500	11,330	39	65	70-80	17%	2:1	100:47	1850/265/725	25	4	7 days @ 25°C
CLR/ CLS	▶ Excellent clarity ▶ UV stability ▶ Low yellowing ▶ Long working time	▶ General laminating/adhesive/coating system ▶ Hand layup ▶ Vacuum Molding	▶ Clear coatings ▶ Tooling ▶ Marine Surfboards	468k	9,800	6	430k	14,580	12,520	43	77	70-80	25%	2:1	100:48	1850/500/1030	50	8	7 days @ 25°C Post cure recommended
CCR/ CCF	▶ Excellent clarity ▶ UV stability ▶ Excellent air release	▶ Casting ▶ Potting ▶ Embedments at thicknesses < 1 in. or volumes < 1 qt.	▶ Pour-on coatings ▶ Art/hobby projects	448k	8,140	6	390k	11,850	12,380	32	48	70-80	18%	2:1	100:43	1850/35/280	90	24	7 days @ 25°C Post cure recommended
CCR/ CCS	▶ Excellent clarity ▶ UV stability ▶ Excellent air release ▶ Low exotherms	▶ Casting ▶ Potting ▶ Embedments at thicknesses > 1 in. or volumes > 1 qt.	▶ Pour-on coatings ▶ Art/hobby projects	440,850	7,910	6.5	409,670	11,100	10,860	36	53	70-80	18%	2:1	100:43	1850/25/195	360	72	7 days @ 25°C Post cure recommended



Infusion Systems

Epoxy/ Hardener	Key Features	Applications	Potential Use	PERFORMANCE DATA										PROCESSING DATA				
				Tensile Modulus (psi)	Tensile Strength (psi)	Elongation (%)	Flexural Modulus (psi)	Flexural Strength (psi)	Compression Strength (psi)	Tg Onset (°C)	Tg Ultimate (°C)	Hardness (Shore D)	Biobased Carbon Content	Mix Ratio by Weight	Viscosity (A/B/Mixed, cPs @ 25°C)	Pot Life (mins. @ 25°C)	Tack Free Time (hrs. @ 25°C)	Recommended Full Cure
CLR/ INF	▶ Excellent mechanical properties ▶ Low viscosity	▶ Infusion ▶ RTM ▶ Lite RTM	▶ Marine Transportation	590k	10,600	2.5	525,500	18,050	16,890	50	77	70-80	19%	100:33	1850/ 42/ 490	45	8	7 days @ 25°C Post cure recommended
CLR/ CLS/ INH*	▶ Excellent clarity ▶ UV stability ▶ Low yellowing ▶ Low viscosity	▶ Infusion ▶ RTM ▶ Lite RTM	▶ Marine Transportation	476,500	8,920	3	445,500	14,270	-	-	57	70-80	17%	100:28:15*	630 (Mixed)*	120*	16-20*	7 days @ 25°C Post cure recommended
CLR/ CLX/ INH*	▶ Excellent clarity ▶ UV stability ▶ Low yellowing ▶ Low viscosity	▶ Infusion ▶ RTM ▶ Lite RTM	▶ Marine Transportation	472,500	8,530	2.5	458,500	14,500	-	-	61	70-80	17%	100:19:19*	360 (Mixed)*	75*	8-10*	7 days @ 25°C Post cure recommended

* Can be varied based on percentage of INH used in system



Heat-Assisted Systems

Heat-Assisted Systems

Epoxy/ Hardener	Key Features	Applications	Potential Use	PERFORMANCE DATA										PROCESSING DATA				
				Tensile Modulus (psi)	Tensile Strength (psi)	Elongation (%)	Flexural Modulus (psi)	Flexural Strength (psi)	Compression Strength (psi)	Tg Onset (°C)	Tg Ultimate (°C)	Hardness (Shore D)	Biobased Carbon Content	Mix Ratio by Volume	Mix Ratio by Weight	Viscosity (A/B/Mixed, cPs @ 25°C)	Pot Life (mins. @ 25°C)	Recommended Full Cure
ONE/ HVA	▶ High bio-content ▶ Excellent adhesion ▶ High elongation ▶ Good thixotropic properties	▶ General adhesive ▶ Compression molding ▶ Wood bonding	▶ Wood laminates ▶ Woodworking	220k	4,270	15	88k	3,100	-	-	-	-	51%	-	100:70	650/ 14,000/ 5100	150	30 minutes @ 82°C
CPM/ CPF	▶ USDA Biopreferred Certified ▶ Excellent adhesion ▶ High modulus ▶ Good elongation	▶ Compression molding	▶ Ski ▶ Snowboard ▶ Wakeboard ▶ Skateboard ▶ Wood laminates	435,700	8,860	6	405,790	13,560	12,630	43	68	70-80	28%	2:1	100:43	1300/ 2200/ 1230	20	15 minutes @ 82°C
CPM/ CPL	▶ USDA Biopreferred Certified ▶ Excellent adhesion ▶ High modulus ▶ High elongation ▶ Long working time	▶ Compression molding	▶ Ski ▶ Snowboard ▶ Wakeboard ▶ Skateboard ▶ Wood laminates	436k	8,990	6	412,510	13,450	11,410	45	69	70-80	31%	2:1	100:40	1300/ 450/ 880	50	18-20 minutes @ 82°C