Epoxy Resins (Ad-Tech)

Kindt-Collins handles a wide variety of epoxy resins to meet just about any application. Typical uses include the creation of vacuum form molds, prototype injection moldings, foam molds, compression and RT molds and other high temperature cast applications.

The Kindt-Collins Company is your single best source for the complete line of Ad-Tech epoxy surface coats, epoxy laminating systems and epoxy casting systems. Totally committed to the highest product quality and performance, Ad-Tech is one of the world's leading producers of thermoset plastics systems.

Ad-Tech products are designed to assist customers in achieving maximum efficiency and optimum results for every application with exceptional formulations, batch-after-batch quality and the most demanding production standards.

Most importantly, Kindt-Collins can provide invaluable assistance in helping you select the Ad-Tech product best suited for your specific application. Offering hundreds of products and many new formulations, Kindt-Collins professionals can quickly help you make the right product selection. Call us toll free today at 1-800-321-3170.

Features

Hardness – Most epoxies are generally hard in the 60 to 90 Shore D Hardness range.

Adherence – They adhere to nearly any material such as wood, plastics, metals.

Packaging – Kindt-Collins Ad-Tech products are available in quarts, gallons and 5-gallon pails.

Epoxy Surface Coats – Typical Properties

	Catalog Number	Size	Color	Product Description	ASTM-D 2240-68 Shore Hardness	Mix Ratio by Weight	Mix Ratio/ Volume	Density, Lbs./ Cu. In.
ES-201-PC	964-201PC1QU 964-201PC1GU 964-201PC5GU	Quart Gallon 5-Gallon	White	Room Temp. Easy Spreadability	85 D	100R/14H	5.9R/1H	0.047
ES-204-SC	964-204SC1QU 964-204SC1GU	Quart Gallon	Black	Room Temp. Silicon Carbide	90 D	100R/10H	6.64R/1H	0.051
ES-211	964-2111QU 964-2111GU	Quart Gallon	White	Plastic Faced Plasters Room Temp. Great Detail Heat Resistant	90-92 D	100R/10H	8.33R/1H	0.046
ES-215-1	964-21511QU 964-21511GU 964-21515GU	Quart Gallon 5-Gallon	Black	Short Work Life, 350˚F Plus	88-90 D @ Room Temp.	100R/18H	4.4R/1H	0.047
ESR-217-AL	964-2171QU	Quart	Gray	High Temp. Repair, Aluminum	89-91 D	100R/9H	6.49R/1H	0.063
ES-218	964-2181GU 964-2185GU	Gallon 5-Gallon	White	Room Temp. Sandable Fast	80-85 D	100R/14H	5.9R/1H	0.050
ES-219	964-2191QU 964-2191GU 964-2195GU	Quart Gallon 5-Gallon	Gray	High Temp. Aluminum Filled	90-92 D	100R/10H	9.1R/1H	0.043
ES-220	964-2201QU 964-2201GU	Quart Gallon	Black or White	High Temp. Polishable Mineral Filled	90-92 D	100R/10H	8.33R/1H	0.046

Types for Every Application

To order any Ad-Tech epoxy resins, please specify catalog number, color, container size and quantity.

Specific Gravity Grams/CC	Viscosity, CPS	Work Life, Min.	Compressive Strength PSI	Flexural Strength PSI	Tensile Strength PSI	CTE. In./In./˚F	Shrinkage In./In.	
1.32	40,000 Thixotropic	15	15,100	11,900	6,350	$1.94x10^{-5}$	0.0002	ES-201-PC
N/A	Thixotropic	25	19,200	11,300	5,600	$2.5x10^{-5}$	0.0004	ES-204-SC
1.29	Thixotropic	30-35	13,600	15,750	7,000	$22.3x10^{-6}$	N/A	ES-211
1.31	Thixotropic	30-35	21,700	35,000	7,101	$3.1x10^{-5}$	Nil	ES-215-1
1.76	Thixotropic	50-60	15,900	8,400	6,000	$1.16x10^{-5}$	.003	ESR-217-AL
1.39	14,500	16	15,100	11,900	4,132	$7.39x10^{-6}$	.0002	ES-218
1.20	Thixotropic	30-40	27,500	8,000	5,000	$7.39x10^{-5}$	.0002	ES-219
1.29	Thixotropic	30-35	14,000	7,400	7,000	$22.3x10^{-6}$	N/A	ES-220

Epoxy Resins (Ad-Tech)

Epoxy Laminating Systems – Typical Properties

	Catalog Number	Size	Color	Product Description	ASTM-D 2240-68 Shore Hardness	Mix Ratio by Weight	Mix Ratio/ Volume	Density, Lbs./ Cu. In.
EL-301	964-3011GU	Gallon	Amber	Room Temp. Unfilled	86 D	100R/25H	3.4R/1H	0.040
EL-301-LP	964-301LP1GU	Gallon	Amber	Unfilled, Long Work Life	86 D	100R/33H	2.6R/1H	0.039
EL-302	964-3021QU 964-3021GU 964-3025GU	Quart Gallon 5-Gallon	White	Room Temp. Resin	88 D	100R/10H	7.5R/1H	0.049
EL-302-PC	964-302PC1QU 964-302PC1GU 964-302PC5GU 964-302PCDU	Quart Gallon 5-Gallon Drum	White	Improved Wet-Out	85 D	100R/16H	4.3R/1H	0.051
EL-302-PC-LP	964-302PCLP1QU 964-302PCLP1GU 964-302PCLP5GU	Quart Gallon 5-Gallon	White	Moderate Work Life	85 D	100R/12H	5.7R/1H	0.051
EL-323-TC	964-323TC1QU 964-323TC1GU 964-3232GU 964-3235GU	Quart Gallon 2-Gallon 5-Gallon	Green	Composite Tooling Compound	60 D	100R/110H	1.0R/1.0H	0.023
EL-324-SC	964-324SC2GU 964-324SC5GU	2-Gallon 5-Gallon	Gray	Styling Compound	60-65 D	100R/60H	1.0R/1.0H	0.018
EL-325-HTTC	964-3252GU 964-3255GU	2-Gallon 5-Gallon	Gray	High Temp. Tooling	65-70 D	100R/25H	3.7R/1H	0.023
EL-325-1-HTTC	964-32515GU	5-Gallon	Gray	Long Work Life	65-70 D	100R/29H	3.8R/1H	0.023
EL-326	964-3261GU	Gallon	Amber	Improved High Temp. Unfilled	88 D	100R/14H	6.21R/1H	0.039
EL-327	964-3271GU	Gallon	Gray	Improved High Temp. Filled	90-94 D	100R/11H	7.1R/1H	0.047

Epoxy Casting Systems – Typical Properties

	Catalog Number	Size	Color	Product Description	ASTM-D 2240-68 Shore Hardness	Mix Ratio by Weight	Mix Ratio/ Volume	Density, Lbs./ Cu. In.
EC-428	964-428QU 964-428GU	Quart Gallon	Gray	Alum. Filled, Moderate	88 D	100R/8.5H	7.2R/1H	0.056
EC-428-1	964-42811QU 964-42811GU 964-42815GU	Quart Gallon 5-Gallon	Gray	Alum. Filled, Slow	87-90 D	100R/20H	2.77R/1H	0.052
EC-433-2	964-43321QU 964-43321GU 964-43325GU	Quart Gallon 5-Gallon	Gray	Alum. Filled, High Temp. Fast	89-90 D	100R/12H	4.75R/1H	0.0584
EC-433-3	964-43331QU 964-43331GU 964-43335GU	Quart Gallon 5-Gallon	Gray	Alum. Filled, High Temp. Medium	90 D	100R/13H	4.38/1H	0.0575
EC-433-4	964-43341QU 964-43341GU 964-43345GU	Quart Gallon 5-Gallon	Gray	Alum. Filled, High Temp. Slow	91 D	100R/13H	4.38R/1H	0.0575
EC-440	964-440DU 964-4405GU	5-Gallon 55-Gallon Drum	Amber	Unfilled, High Temp. Slow	92 D	100R/30H	2.67R/1H	0.041

Typical Properties

Specific Gravity Grams/CC	Viscosity, CPS	Work Life, Min.	Compressive Strength PSI	Flexural Strength PSI	Tensile Strength PSI	CTE. In./In./˚F	Shrinkage In./In.	
1.12	1,000-2,000	23-33	13,390	46,410	35,300	$2.42x10^{-5}$	0.005	EL-301
1.09	2,000-3,500	60	11,760	52,880	44,780	$2.67x10^{-5}$	0.0042	EL-301-LP
1.35	3,000-5,000	20-30	11,730	35,590	27,900	$2.8x10^{-5}$	0.0006	EL-302
1.40	3,000-6,500	28-34	13,840	33,220	27,930	$1.59x10^{-5}$	0.0002	EL-302-PC
1.41	2,000-4,000	40-50	12,490	35,290	29,970	$2.285x10^{-5}$	0.0002	EL-302-PC-LP
0.61	Syntactic	120-150	6,144	13,050	N/A	$3.2x10^{-6}$	Nil	EL-323-TC
0.47	Syntactic	120-150	6,100	1,641	909	$2.16x10^{-5}$	Nil	EL-324-SC
0.63	Syntactic	90-120	4,900	9,600	N/A	$0.9x10^{-5}$	Nil	EL-325-HTTC
0.63	Syntactic	180	4,900	9,600	N/A	$0.9x10^{-5}$	Nil	EL-325-1-HTTC
1.09	1,700-2,700	45-55	13,295	41,000	31,030	$2.82x10^{-6}$	0.0022	EL-326
1.306	4,000-5,000	45-55	29,000	34,500	25,000	$1.4x10^{-5}$	0.0006	EL-327

Specific Gravity Grams/CC	Viscosity, CPS	Work Life, Min.	Compressive Strength PSI	Flexural Strength PSI	Tensile Strength PSI	CTE. In./In./˚F	Shrinkage In./In.	
1.56	4,500	70	14,660	8,350	4,950	$32.7x10^{-6}$	0.0006	EC-428
1.44	5,000-6,000	140-180	11,480	7,480	5,600	$52.3x10^{-6}$	0.001	EC-428-1
1.62	9,000	120	16,300	10,620	5,750	$28.17x10^{-6}$	0.005	EC-433-2
1.59	15,000	200	16,100	10,280	6,185	$28.28x10^{-6}$	0.004	EC-433-3
1.59	15,000	270	18,650	11,670	7,990	$29.28x10^{-6}$	0.004	EC-433-4
1.13	760	80-100	15,780	19,480	9,924	$12.28x10^{-8}$	0.0009	EC-440

Epoxy Resins (by Hapco)

Surface Coats, Laminating Systems and Casting Systems

Surface Coats (Hapcoat) Physical Properties

Catalog Number	Product Description	Mix Ratio by Weight (parts B to 100 parts A)	Pot Life (minutes @ 75˚F)	Tack-up Time (minutes)	Cure Cycle	Service Temperature	Thickness per Coat
3720	WHITE. Machinable and compatible with wet plaster for plastic faced/ plastic backed tools.	15 pph range (12-18)	20-30	45-60	Overnight @ Room Temp.	200˚F	30-60 mils
3721	WHITE. High machinability with medium viscosity. High heat service.	12 pph range (10-12)	35-45	50-70	Overnight @ Room Temp.	250˚F	35-70 mils
3726/22	ALUMINUM GRAY. Room cure high heat service.	14 pph range (12-14)	45-60	60-90	24-36 hrs. @ Room Temp. Postcure 4-6 hrs. @ 225-250˚F	325˚F	30-60 mils

Laminating Systems (Haprez) Physical Properties

Catalog Number	Product Description	Mix Ratio by Weight (parts B to 100 parts A)	Pot Life (minutes @ 250˚C)	Mixed Viscosity (cps @ 250˚C)	Demold Time	Cure Cycle	Max. Service Temperature
3742/41	AMBER CLEAR. Very fast general purpose system.	20 pph range (16-24)	20-30	2,500	12-20 hrs. @ Room Temp.	16-24 hrs. @ Room Temp.	165˚F
3742/62	AMBER CLEAR. Medium speed, medium mass.	28 pph range (23-33)	45-50	1,500	18-24 hrs. @ Room Temp.	24-30 hrs. @ Room Temp.	160˚F
3744/63	BLUE. Laminating paste for thin walled, high strength applications. Eliminates fiber glass cloth.	15 pph range (12-20)	50-60	Smooth Paste	12-20 hrs. @ Room Temp.	16-24 hrs. @ Room Temp.	185˚F

Casting Systems (Hapcast) Physical Properties

Catalog Number	Product Description	Mix Ratio by Weight (parts B to 100 parts A)	Pot Life (minutes @ 75˚F)	Mixed Viscosity (cps @ 25˚F)	Hardness Shore D	Cure Cycle	Max. Service Temperature
3731/7	ALUMINUM. Thin, all purpose low viscosity casting resin.	5-9 pph	20-30	4,500	88	8 hrs. @ Room Temp.	240˚F
3736/7	Steel filled, low viscosity casting resin. High density, very high strength, machinable.	4-5 pph	20-40	5,000	90	16-24 hrs. @ Room Temp.	250˚F
3738/7	BLACK. Iron filled, machinable, high density casting resin.	7 pph	20-40	5,000	85-90	16-24 hrs. @ Room Temp.	275˚F

NOTE: Kindt-Collins Hapco Epoxy Resins are packaged in quarts, gallons and 5-gallon pails.

To order please specify catalog number, container size and quantity.

Polyurethane Elastomers (by Hapco)

Haplex 500 and 600 series are high performance hybrid elastomeric polymer alloys. They are suitable for molds, parts, master and tracing patterns, roll coverings, fixtures and bending tools. Hapco 500 Series are softer durometers from 45-95 Shore A. Hapco 600 Series yield hardness on the 50-78 Shore D scale.

Features

- Relatively fast, room curing systems
- Require no post curing
- Low viscosity
- Easy to handle and pour
- Precise duplication of surface details
- Excellent impact and shock resistance
- Thermal shock resistance (1 cycle to 100 cycles) PASS
- Superior abrasion resistance
- Insensitive to moisture after curing
- Outstanding dielectric features
- Dielectric constant @ 60hz is 4.4-8
- Dielectric strength 1/8" thick
- Volts/mil 420-480
- Volume resistivity @ 10^{14} ohms cm is 1.0-2.3
- Dissipation factor @ 60hz is .015-7

Physical Properties

Catalog Number	Color	Mix Ratio by Weight (parts B to 100 parts A)	Pot Life Minutes @ 25˚C	Mixed Viscosity cps @ 25˚C	Hardness Shore A/D (7 days)	Cure Cycle (70˚F)	Specific Gravity	Shrinkage (in./in.)	Coefficient Thermal Expansion Per ˚C x 10^{-5}	Tensile Strength (psi)
540	Black	100:50	20	12,800	45A	24 hrs.	1.01	.002-.003	10-20	500
541	Clear Amber	100:50	20	12,800	45A	24 hrs.	1.01	.002-.003	10-20	500
543	Green	100:50	20	12,800	45A	24 hrs.	1.01	.002-.003	10-20	500
560*	Black	100:55	45	2,250	60A	24 hrs.	1.06	.002-.003	10-20	1,300
561*	Clear Amber	100:55	45	2,250	60A	24 hrs.	1.06	.002-.003	10-20	1,300
562	White	100:65	45	3,000	60A	24 hrs.	1.10	.002-.003	10-20	1,100
564	Gray	100:55	45	2,250	60A	24 hrs.	1.06	.002-.003	10-20	1,300
565*	Black	100:100	20	670	65A	24 hrs.	1.05	.002-.003	10-20	900
566*	Clear Amber	100:100	20	670	65A	24 hrs.	1.05	.002-.003	10-20	900
570*	Black	100:40	45	3,900	70A	24 hrs.	1.07	.002-.003	10-20	1,900
571*	Clear Amber	100:40	45	3,900	70A	24 hrs.	1.07	.002-.003	10-20	1,900
573*	Orange	100:40	45	3,900	70A	24 hrs.	1.07	.002-.003	10-20	1,900
580*	Black	100:70	40	1,120	83A	24 hrs.	1.06	.002-.003	10-20	1,500
581*	Clear Amber	100:70	40	1,120	83A	24 hrs.	1.06	.002-.003	10-20	1,500
595*	Black	100:50	45	1,850	95A	24 hrs.	1.06	.002-.003	10-20	2,700
596*	Clear Amber	100:50	45	1,850	95A	24 hrs.	1.06	.002-.003	10-20	2,700
597	White	100:60	45	2,500	95A	24 hrs.	1.10	.002-.003	10-20	2,500
598	Clear Blue	100:50	45	1,850	95A	24 hrs.	1.06	.002-.003	10-20	2,700
599	Gray	100:50	45	1,850	95A	24 hrs.	1.06	.002-.003	10-20	2,700
650*	Black	100:85	25	870	50D	24 hrs.	1.03	.002-.003	10-20	1,800
651*	Clear Amber	100:85	25	870	50D	24 hrs.	1.03	.002-.003	10-20	1,800
661	Black	100:60	25	1,560	56D	24 hrs.	1.04	.002-.003	10-20	2,400
660	Clear Amber	100:60	25	1,560	56D	24 hrs.	1.04	.002-.003	10-20	2,400
665*	Black	100:50	25	2,550	65D	24 hrs.	1.02	.002-.003	10-20	3,300
666*	Clear Amber	100:50	25	2,550	65D	24 hrs.	1.02	.002-.003	10-20	3,300
667	White	100:60	25	3,500	65D	24 hrs.	1.10	.002-.003	10-20	3,300
668	Red	100:50	25	2,550	65D	24 hrs.	1.02	.002-.003	10-20	3,300
669	Gray	100:50	25	2,550	65D	24 hrs.	1.02	.002-.003	10-20	3,300
670	Black	100:65	18	2,000	70D	24 hrs.	1.06	.002-.003	10-20	4,200
671	Clear Amber	100:65	18	2,000	70D	24 hrs.	1.06	.002-.003	10-20	4,200
673	Red	100:65	18	2,000	70D	24 hrs.	1.06	.002-.003	10-20	4,200
676	Clear Amber	100:53	4	2,800	78	24 hrs.	1.06	.003-.006	10-11	5,400
676-2	Clear Amber	100:53	1.5	2,800	78	24 hrs.	1.06	.003-.006	10-11	5,400

NOTE: Kindt-Collins Hapco products are available in quarts, gallons and 5-gallon pails.
*Available in fire retardant.

To order please specify catalog number, container size and quantity.

Epoxy Resins by H.B. Fuller, Paraplasts

3300 and 3301 Epoxy Casting Compounds

Kindt-Collins H. B. Fuller products are available in a variety of Surface Coats, Laminating Compounds and Casting Compounds that are useful in foundry and pattern making applications. Fuller products are easy to mix and have long working times. Depending on the product, this varies from 15 minutes to over an hour. Various products have excellent features like outstanding detail of reproduction, excellent abrasion, impact and heat resistance. If application assistance is needed, call us toll free at 1-800-321-3170 and one of our plastics technicians will help you.

Shown below are two of H.B. Fuller's most popular epoxy resins. Should you be interested in one of the other epoxy resin compounds offered by H.B. Fuller, just let us know.

Product Description

3300: Black; general purpose; variable hardness; impact resistant casting compound.

3301: Black; general purpose; impact resistant casting compound. Excellent detail reproduction.

To order please specify catalog number, container size and quantity desired.

Physical Properties

Catalog Number	Size	Ratio by Weight	Curing	ASTM-D 2471-71 Pot Life (min.)	Hardening Time (hrs.)	ADTM-D 2393-68 Mixed Visc. (CPS)	ADTM-D 792-66 Density (lb./cu.in.)	ADTM-D 2240-68 Hardness Shore D	Machine-ability	ASTM-D 2566-69 Shrinkage (in./in.)
3300										
9803300QP 9803300PP 9803300QU	12-Quart Pack 5-Gallon Pack Quart Unit	100R 10-30H Variable	Room Cure	70	24 (1/2" Casting)	30,000	0.061-.070 Variable	85-36 Variable	Good	0.0002
3301										
9803301QP 9803301PP 9803301QU	12-Quart Pack Pail Pack Quart Unit	10R 1H	Room Cure	70	8	20,000	0.081	88	Good	0.0005

Surface Coat for Plastic Faced Plasters

Hexcel is a leading producer to the tooling plastic industry. Their 1350 is the favorite choice among tool makers when they need to create a high performance, durable surface coat on plastic faced plasters.

Catalog Number	Size	Ratio by Weight	Curing	ASTM-D 2471-71 Pot Life (min.)	Hardening Time (hrs.)	ADTM-D 2393-68 Mixed Visc. (CPS)	ADTM-D 792-66 Density (lb./cu.in.)	ADTM-D 2240-68 Hardness Shore D	Machine-ability	ASTM-D 2566-69 Shrinkage (in./in.)
1350 white										
98013550QP	Quart Unit	100R	Room	15	3	Thixotropic	0.044	88	Good	0.0003

Paraplasts

Paraplast products are dry, inorganic powders which melt upon heating. When melted, they become a liquid that can be cast by conventional means into heat resistant molds. Upon cooling, they solidify to produce smooth, hard, ceramic-like surfaces that can be demolded without the use of parting agents.

Paraplasts can be recycled after use by breaking or melting away from the part or they can be removed by flushing with water.

Mfr's. Number	Color	Heat Resistance (˚F)	Catalog Number
8100	Pink	275	980-8100

To order please specify catalog number and quantity.