CHASE Corporation

We make a material difference

PRODUCT GUIDE

PCBA INDUSTRIAL ELECTRONICS

SOLUTIONS

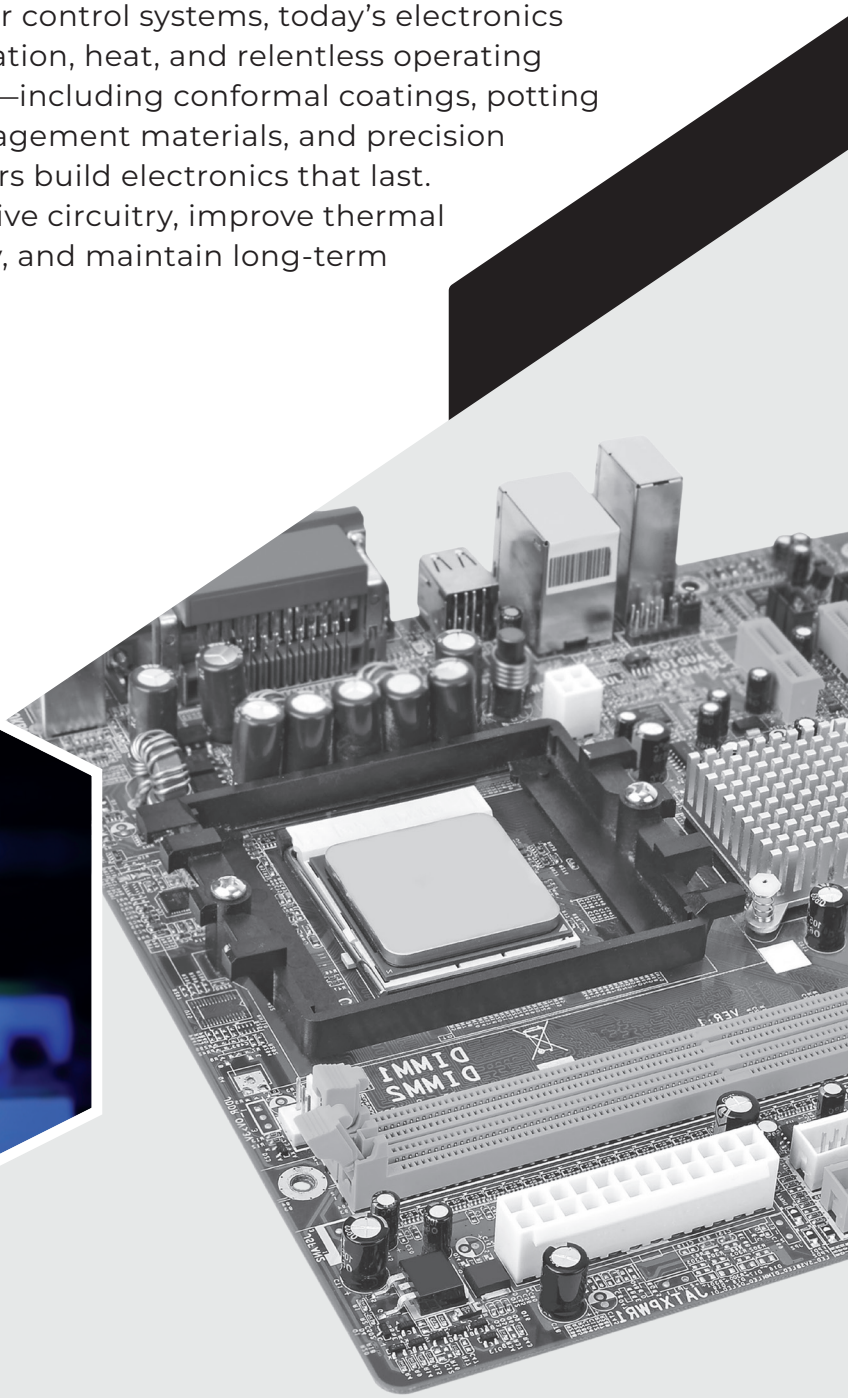
Conformal Coatings • Potting • Encapsulation • Damming & Filling • Thermal Management • Anti-Vibration Adhesives • Masking • Cleaning

HumiSeal® AB Chimie PCBA protection ResinDesigns™ ThermoSink

CHASECORP.COM

A COMPLETE SOLUTION

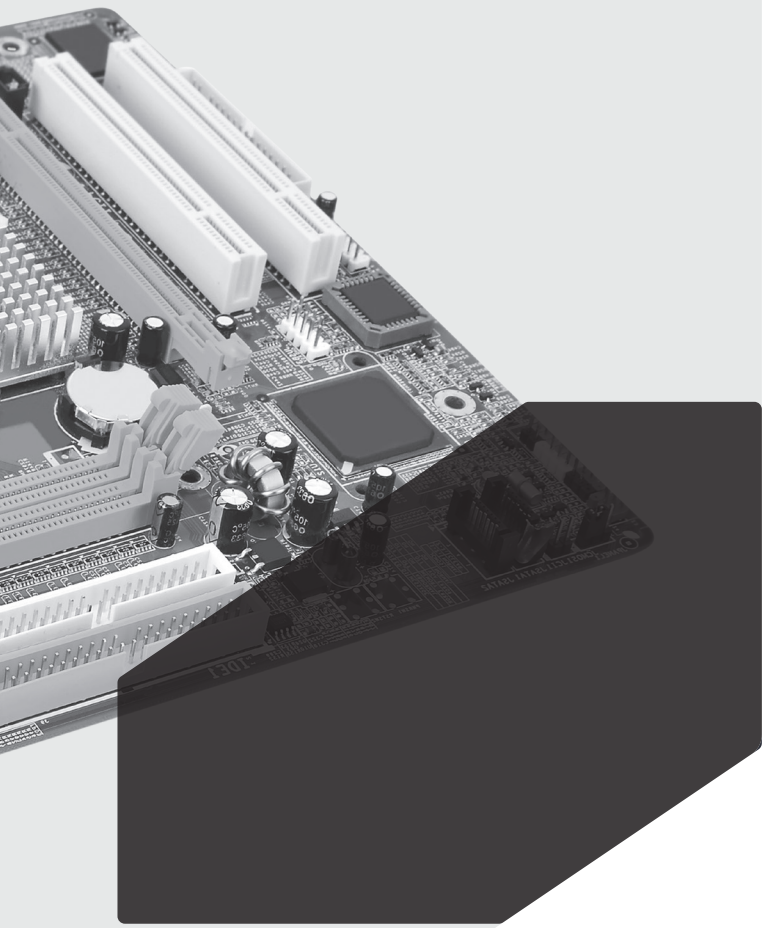
Industrial electronics are becoming smarter, faster, and more connected—yet they face tougher environments than ever. From factory floor automation to mission critical IoT devices and high power control systems, today's electronics must withstand moisture, chemicals, vibration, heat, and relentless operating cycles. Our advanced protection portfolio—including conformal coatings, potting and encapsulation systems, thermal management materials, and precision cleaning chemistries—helps manufacturers build electronics that last. These engineered solutions defend sensitive circuitry, improve thermal performance, enhance electrical reliability, and maintain long-term stability in demanding industrial settings.



CONFORMAL COATINGS

THE RESULT

Cleaner boards, tougher assemblies, and dependable performance that keeps your automation and power systems running without interruption.



POTTING

ENCAPSULATION, DAM & FILL

THERMAL MANAGEMENT

ANTI-VIBRATION ADHESIVES

MASKING

CLEANING

CONFORMAL COATINGS

Our conformal coating portfolio is engineered to make protection simple, reliable, and accessible for every level of production.

With easy-to-use formulations designed for smooth processing and consistent results, we help manufacturers streamline coating operations without compromising performance. Our innovative chemistries deliver proven protection against moisture, chemicals, and environmental stress across demanding industrial applications.

Backed by global availability and responsive logistics, we ensure you get the materials you need—where and when you need them.

And with on-demand, on-site technical support, our experts stand ready to help optimize your process and keep your lines running smoothly.

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We make a material difference

CONFORMAL COATINGS

	MIL-I-46058C	IPC-CC-830C	UL746E	UL94	Tack-Free Time	Cure Time at 22°C	Optimum Properties	Max Operating Temp (°C)	Dielectric Constant	Thermal Cycling	Dielectric Withstand	Insulation Resistance	Abrasion Resistance	Chemical Resistance	Recommended Stripper
Acrylic 1B18	-	✓	-	-	30 min	24 hr	1 week	125	2.6	Med	>1500	5.5×10^{14}	High	Low	1080 (EU)
Acrylic 1B66	-	✓	-	-	10 min	24 hr	1 week	125	2.5	Med	>1500	8×10^{14}	High	Low	1080 (EU)
Acrylic 1B73	✓	✓	✓	V0	30 min	24 hr	1 week	125	2.6	Med	>1500	5.5×10^{14}	High	Low	1080 (EU)
Acrylic AVR80BA	✓	✓	-	V0	15 min	24 hr	1 week	150	-	Med	>1500	1×10^{12}	High	Low	SND
Synthetic Rubber 1B51NSLU	-	✓	-	V0	10 min	24 hr	24 hr	125	2.5	High	>1500	2×10^{14}	Med	Low	1080 (EU)
Synthetic Rubber 1B58LU	-	✓	-	V0	10 min	24 hr	24 hr	125	1.9	High	>1500	5×10^{14}	Med	Low	1080 (EU)
Synthetic Rubber 1B59LU	-	✓	-	V0	10 min	24 hr	24 hr	150	1.9	High	>1500	8×10^{12}	Med	Low	1080 (EU)
Polyurethane 1A20R	✓	✓	-	-	60 min	24 hr	1 week	125	3.5	Med	>1500	3×10^{14}	High	High	1063
Polyurethane 1A27	-	-	✓	V0	30 min	1 month	1 month	125	3.6	Med	>1500	2×10^{14}	High	High	1063
Polyurethane 1A33	✓	✓	✓	V0	15 min	1 month	1 month	125	3.6	Med	>1500	2×10^{14}	High	High	1063
Polyurethane 1A33LOF	-	-	✓	V0	30 min	1 month	1 month	125	3.6	Med	>1500	2×10^{14}	High	High	1063
UV UV40	✓	✓	✓	V0	0.5 min	UV	72 hr	125	2.5	Low	>1500	8×10^{14}	High	High	1100, Mech
UV UV40LED	-	✓	✓	V0	0.5 min	UV or LED	1 week	125	-	Low	>1500	5×10^{14}	High	High	1100
UV UV50-LV	-	RevA	✓	V0	0.5 min	UV	1 week	125	-	Med	>1500	-	High	High	1100
UV UV80LED	-	RevA	✓	V0	0.5 min	UV or LED	1 week	150	-	Med	>1500	3×10^{10}	High	High	1072, Mech
UV UV500-2	-	RevA	-	V1	0.5 min	UV	1 week	150	3.07	Med	>1500	9×10^{10}	Med	Med	1072, Mech
UV UV526	-	✓		V0	0.5 min	UV	1 week	150	-	Med	>1500	1×10^{12}	High	High	DVP
UV UV836	✓	✓	✓	V0	0.5 min	UV or LED	1 week	150	-	Med	>1500	3.6×10^{10}	High	High	DVP
UV UV550	-	RevA	-	-	10 min	UV or LED	1 week	125	5.48	High	>1500	1×10^{11}	Med	Med	1072, Mech

POTTING MATERIALS

Rather than forcing designs to fit the limitations of a single material, Chase offers over 30 formulations of epoxy, polyurethane, and silicone potting solutions to ensure every application receives the right level of protection.

Engineered for industrial electronics, these systems deliver exceptional mechanical strength, thermal stability, and long-term reliability. Unlike fast-cure materials that introduce internal stress and premature failure, our controlled-cure epoxies minimize shrinkage and component strain for superior performance.

With global availability supported by local distribution partners, customers can count on consistent supply, responsive service, and a potting solution precisely matched to their technical and production requirements.

Additional notes:

1. *Cure schedules are dependent on potting mass, thickness, and ambient temperature. Larger volumes and higher temperatures cause material to cure faster.*
2. *Additional resins available to meet specific material targets.*

UNFILLED EPOXY SYSTEMS

HumiSeal® E20 series

Characterized by lower viscosity and excellent flow, this line is ideal for applications requiring clarity, intricate detail penetration and good air release. Best for protecting delicate components without adding significant stress.

Unfilled

FILLED EPOXY SYSTEMS

HumiSeal® E10 series

Formulated with mineral fillers to enhance key properties like thermal conductivity, thermal shock resistance, strength and flame retardancy. The standard for high performance and high-heat application.

Filled

FLAME-RETARDENT & HIGH-TEMP EPOXY

Unfilled & Filled Systems

UL-V0 flame retardant and high temperature (200°C) systems.

High-Temp

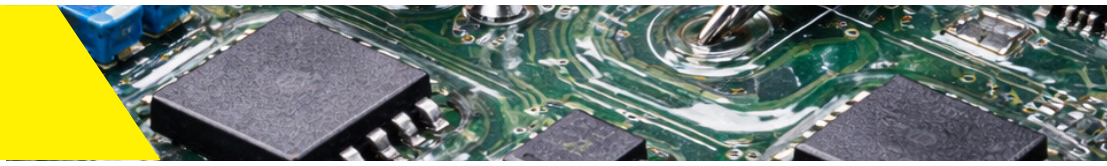
SILICONE

Thermally Conductive Thermosink™ Series

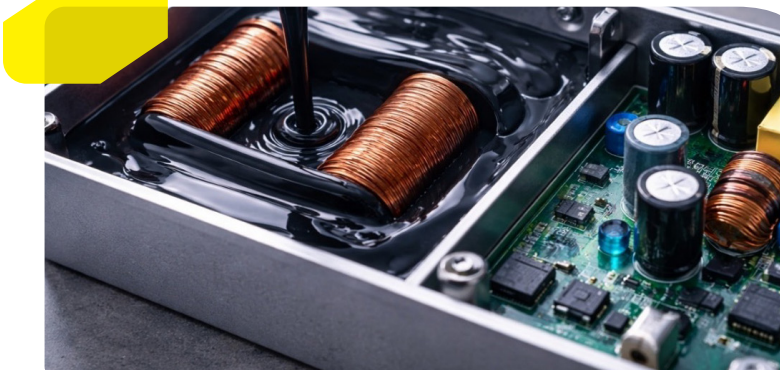
Thermal conductivities of 2.8-3.5W/mK in an easily flowable, resin system.

Silicone

POTTING MATERIALS



			Color	Mix Ratio by Weight	Viscosity (cPs)	Pot Life @ 22°C (min) (100g)	Durometer	Max Operating Temp (°C)	Cure Schedule @ 22 °C	Cure Schedule, Heated
Unfilled Epoxy	E21CLR-H15	Good flow, excellent adhesion, Low CTE (57ppm/C)	Clear	3:1	600	180	D77	95	24-48 hr	-
	E21CLR-H17	Softer material for reworkability, faster cure	Clear	1:1	1,200	60	D40	120	<24 hr	-
	E21CLR-H50	Good flow, excellent adhesion, long pot life	Clear	2:1	1,500	330	D77	95	48 hr	-
	E22CLR-H15	Rigid with good adhesion and low CTE (67ppm/C)	Clear	3:1	4,000	120	D79	125	24-48 hr	-
	E22CLR-H17	Soft & clear for reworkability of LED's	Clear	5:4	7,000	50	A70	95	<24 hr	-
	E22CLR-H18	High temp capability and extreme vol resistivity	Clear	5:1	7,000	40	D83	150	<24 hr	-
	E22CLR-H23	General purpose, very low CTE (41ppm/C)	Clear	4:1	3,600	45	D80	125	<24 hr	-
	E22CLR-H50	Extended pot life	Clear	2:1	9,100	180	D78	95	24-48 hr	-
	E22CLR-H28	Good for vibration, impact and thermal shock	Clear	5:4	14,000	150	D73	125	24-48 hr	-
Filled Epoxy	1E17BLK	One-part, superior electricals and chemical resistance	Black	N/A	26,000	TBD	D83	125	-	60 min @ 80°C 10 min @ 125°C
	E11AMB	High strength bond to metal & plastic	Amber	1:2	10,000	60	D40	150	24-48 hr	1 hr @ 65°C
	E12BLK-H15	Low exotherm for large void filling, long pot life	Black	8:1	11,500	270	D79	125	48 hr	22 min @ 65°C
	E12BLK-H17	Reworkability & large void filling	Black	2:1	4,160	70	D21	125	24 hr	30 min @ 65°C
	E12BLK-H18	Good thermal shock & air release	Black	10:1	7,600	120	D80	175	24-48 hr	-
	E12BLK-H23	General purpose material for multiple uses	Black	7.7:1	8,000	70	D75	125	<24 hr	-
	E12BLK-H41	UL-HB, high gloss finish, excellent bonding	Black	7.7:1	16,000	60	D75	150	<24 hr	-
	E12BLK-H42	Fast cure, small applications - excellent w/ needle mix	Black	7.7:1	17,400	20	D80	150	<24 hr	-
	E12BLK-H50	Provides high temperature stability	Black	4:1	8,800	300	D80	150	48 hr	-
	E15BLK-H11	0.4W/m.K, great adhesion, minimal shrinkage	Black	6.7:1	32,000	180	D84	205	24-48 hr	-
	E16BLK	Moisture and chemical resistance	Black	1:1	30,000	60	D55	155	24-48 hr	120 min @ 65°C 60 min @ 85°C

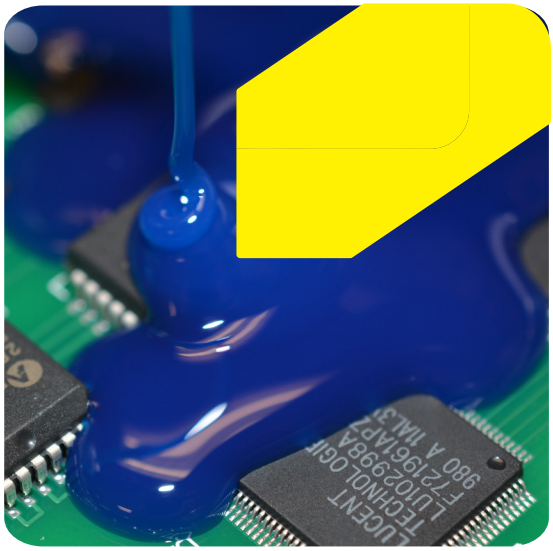


POTTING MATERIALS

		Filled	Color	Mix Ratio by Volume	Viscosity (cPs)	Pot Life @ 22°C (min) (100g)	Durometer	Max Operating Temp. (°C)	Cure Schedule @ 22°C	Cure Schedule, Heated
Fire Retardant/High Temp. Epoxy										
E13BLK-H40	UL94-V0, 0.85W/m.K, high gloss finish	Yes	Black	1:1	26,000	60	D78	125	24 hr	-
E14BLK-H17	UL94-V0, 0.2W/m.K, softer for reworkability	Yes	Black	2:1	5,000	180	D26	95	24-48 hr	-
E14BLK-H18	UL94-V0, 0.5W/m.K, higher temperature	Yes	Black	6.6:1	6,000	120	D84	205	24 hr	-
E23CLR-H25	UL94-V0, self extinguishing, high gloss finish	No	Clear	4.1:1	1,300	90	D78	95	24 hr	-
Urethanes										
UR41WHT-H81	High performance flexible bonding, low viscosity	No	White	1:1	7,000	5	D45	120	12-24 hr	-
UR41WHTHV-H81	High performance flexible bonding, high viscosity	No	White	1:1	60,000	5	D45	120	12-24 hr	-
UR42AMB-H82	Soft and flexible room temperature or heat cure	No	Amber	1:2	9,000	7	A50	120	24-48 hr	2 hr @ 65°C
UR43CLR-H83	Tough flexible room temp cure for pot and sealing	No	Clear	1:2	20,000	2	A60	120	24 hr	-
UR45BLU-H85	Flexible, fast cure high performance potting	No	Blue	1:2	2,500	10	A90	120	24 hr	-
UR44BLK-H84	Tough flexible room temperature cure	No	Black	1:2	40,000	2	A90	120	24-48 hr	-
Silicones										
Thermosink 35-4	Pedigreed product for automotive inverters, 3.4W/m.K	Yes	Pink	1:1	40,000	10	A50	200	2 hr	5 min @ 125°C
Thermosink 35-6	High-performing electricals and E595 compliant, 3.5W/m.K	Yes	Gray	1:1	30,000	30	A70	200	2 hr	45 min @ 100°C
Thermosink 35-7H	Best in class flow for intricate circuitry & E595, 2.8W/m.K	Yes	Gray	1:1	9,000	60	A20	200	4-6 hr	45 min @ 100°C

THERMAL GAP FILLERS AND PADS

Thermal gap fillers and thermal gap pads are used to efficiently transfer heat away from critical electronic components, improving performance and reliability in thermally-demanding applications. By filling air gaps between heat-generating components and heat sinks or enclosures, these materials provide enhanced thermal conductivity while accommodating surface irregularities and tolerances. Their range of form factors—from dispensable materials to pre-formed pads—enables flexible integration into automated assembly processes and consistent thermal management across designs.



Thermal Gap Fillers

Solution	Product	W/mK	Key Features
Silicone Dispensable Gap Fillers	TG500R	5.0	Two-part silicone gel, low viscosity to fill gaps between electronic components or heat spreaders
	TG400	4.0	Electrically insulating, low bleed, 0.1mm min BLT, fully cured
	TG700	7.0	Electrically insulating, low bleed, 0.1mm min BLT, fully cured
	TG1200	12	Electrically insulating, low bleed, 0.1mm min BLT, fully cured

Thermal Pads

Solution	Product	W/mK	Key Features
Fiberglass Support	TP2200	1.6	Centered fiberglass support layer, fully cured/no silicone oil pumpout
Unsupported	TP4020	2.0	V0, 0030 Shore hardness, electrically insulating, highly compliant for reduced stress
	TP4021	2.0	V0, 0030 Shore hardness, electrically insulating, easily compresses between surfaces
	TP4050	5.0	V0, 0050 Shore hardness, electrically insulating, maintains performance from -50°C to 200°C
	TP4080	8.0	V0, 0055 Shore hardness, electrically insulating, power electronics and LED lighting modules
	TP4100	10	V0, 0055 Shore hardness, electrically insulating, industrial and automotive high heat output
	TP4150	15	V0, 0065 Shore hardness, electrically insulating, high-power industrial max heat management

ENCAPSULATION / DAM & FILL

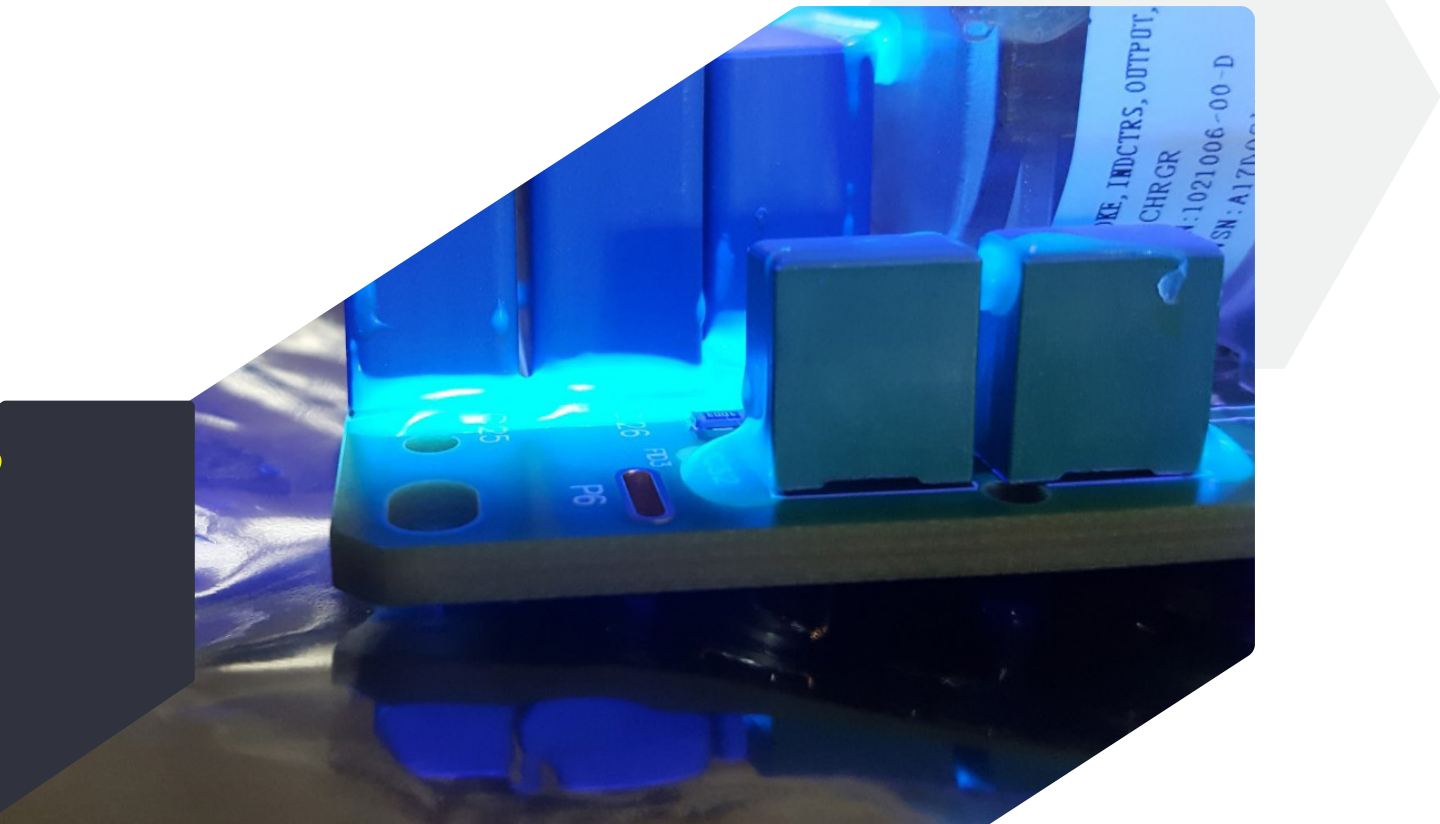
Encapsulants and dam-and-fill materials protect sensitive electronics from moisture, contamination, and mechanical stress while maintaining electrical insulation. Their targeted application improves reliability and process efficiency by minimizing material use and rework.

Product	Description	Operating Temp. (°C)	Pot Life @ 22°C (min) (100g)	Cure Schedule	Durometer	Viscosity (cPs)
UV15K	Low viscosity, UV cure fill encapsulant	-50 to 150	N/A	UV or LED	D40	15,000
UV40GEL	Thixotropic UV gel for building coating thickness	-55 to 125	N/A	UV	-	Thixotropic
UV42K	Medium viscosity, can be used to build coating thickness	-50 to 150	N/A	UV or LED	D25	42,000
UV80K	High viscosity to locally build coating thickness, damming material	-50 to 150	N/A	UV or LED	A50	80,000
6028UV	Soft UV cure for sealing and encapsulation	-25 to 150	N/A	UV or LED	D45	Thixo
UR43CLR-H83	Two-component urethane connector, sealing & encapsulation	-60 to 125	1-3	24 hr @ 22°C	A60	10,000-30,000
1A33GEL	Thixotropic heat cure for increasing thickness	-55 to 125	20	20 hr @ 87°C	-	Thixotropic

ANTI-VIBRATION ADHESIVES

Staking and anti-vibration adhesives secure components on PCB assemblies to prevent movement from shock and vibration. This reduces stress on solder joints and supports reliable, repeatable manufacturing.

Product	Description	Chemistry	Color	Mix Ratio by Volume	Viscosity (cPs)	Pot Life (min) (100g)	Hardness	Cure Schedule	Cure Schedule, Heated
E43CLR-H10	Toughened epoxy with impact resistance and good thermal shock	Epoxy	Clear	1:1	34,000	18	D65	12-24 hr @ 22°C	-
E43CLR-H51	Soft, reworkable	Epoxy	Clear	1:1	20,000	90	D20	12-24 hr @ 22°C	-
E43CLR-H21	General purpose adhesive, thick bondline	Epoxy	Clear	2:1	28,000	23	D78	12-24 hr @ 22°C	-
E11AMB	Flexible with long pot life	Epoxy	Amber	1:2	10,000	60	D40	24-48 hr @ 22°C	1 hr @ 65°C
UV80K	High-viscosity damming	UV	Clear	1 Component	80,000	N/A	A94	UV or LED	-
UV20GEL	Gap bridging, highly thixotropic	UV	White	1 Component	Thixotropic	N/A	A60	UV	-
UV40GEL	Non-wetting dam & connector sealant	UV	Clear	1 Component	Thixotropic	N/A	D70	UV	-

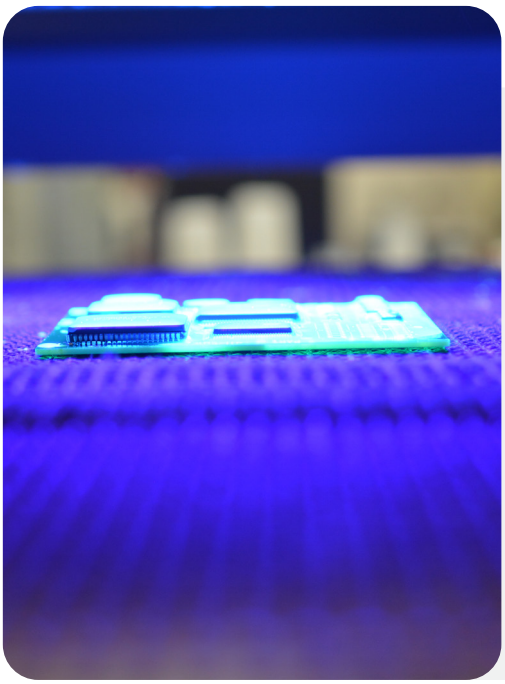


MASKING MATERIALS

PCBA masking materials are used during printed circuit board assembly (PCBA) to protect specific areas of a circuit board from unwanted processes such as soldering, coating, cleaning, or surface finishing. The goal is to ensure that only the intended areas are treated, while sensitive or functional areas remain clean and undamaged.

Product	Description	Operating Temp (°C)	Cure Type	Durometer	Viscosity (cPs)
UV91	100% UV curable low viscosity masking material. Easy application for complex surfaces and cures with effortless UV cure. Simple removal.	-50 to 150	UV	A45	13,000-24,000
UV92	100% UV curable non-sag material for masking and damming applications. Wide range of application methods and compatible with HumiSeal conformal coatings. Simple removal.	-50 to 150	UV or LED	A43	Thixotropic

BENEFITS OF STARTING WITH A CLEAN BOARD



Beginning with a clean PCB is essential for achieving reliable protection with any conformal coating or potting material. Residues from solder paste, flux, fingerprints, and handling can inhibit adhesion, create voids, or trap moisture—leading to delamination, electrical leakage, or corrosion over time. Proper cleaning ensures a chemically-receptive surface, allowing coatings to wet out uniformly and potting materials to flow and encapsulate components without interference. The result is stronger adhesion, fewer field failures, and long-term performance that reflects the true capability of the protective material and the electronic assembly it is designed to safeguard. **Reach out to the Chase team to discuss application suitability.**

CHASE Corporation
We make a material difference

SUPPORTING CONFORMAL COATING

Training modules that cover everything that you need to implement a successful conformal coating process.

A LIFETIME OF EXPERIENCE SUPPORTING & TRAINING CUSTOMERS

Definition & *Chemistries*

Covers the basics of what conformal coatings are, what they do as well as looking at the available chemistry types.

Application *Methods*

What is the best way to apply for your application and what considerations should be made?

Coatings *Selection*

Make the right choice in coatings material selection with greater understanding of material strengths, board design, and required standards/ specifications.

COATINGS ACADEMY

Learn from the coating experts with on-site or HumiSeal based training via the Coatings Academy.

Learn the strengths and weaknesses of the various coating chemistries, applications methods as well as industry standards plus much more.

Coatings Academy

Talk to us today

+01 781-750-0525

+44 (0)1189 442333

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AB Chimie PCBA protection

ResinDesigns

ThermoSink

Chase Corporation is a global specialty materials manufacturer headquartered in Westwood, Massachusetts. Founded in 1946, the company develops high-performance coatings, adhesives, pottings, sealants, tapes and other protective materials engineered to improve durability, reliability, and safety across critical applications. Innovation is at the core of Chase's approach—its teams focus on advanced material science, continuous product development, and process improvement to meet evolving industry demands.

Serving sectors including automotive, aerospace, industrial & commercial construction, energy and infrastructure, Chase is recognized for technical expertise, consistent quality, and collaborative partnerships that deliver long-lasting, high-value solutions worldwide.

Contact Us

375 University Ave. Westwood,
MA 02090, USA
T: +01 781-750-0525

505 Eskdale Road Winnersh, Wokingham
Berkshire RG41 5TU, UK
T: +44 (0) 1189 442 333

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