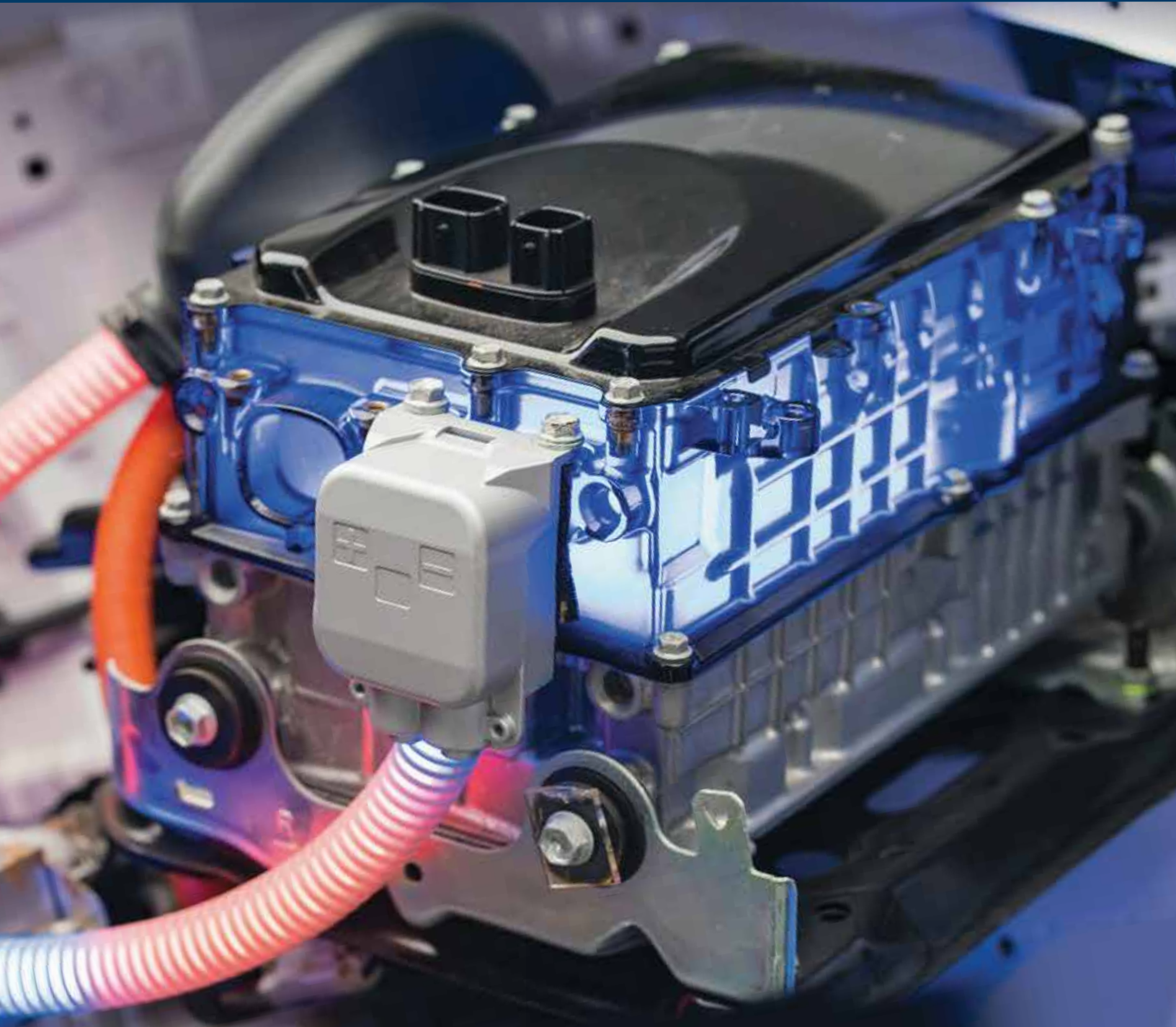


ThreeBond

PRODUCT SERIES GUIDE

3000/3100 | UV CURE MATERIALS

ThreeBond offers a wide range of
UV CURE ADHESIVES & SEALANTS



THREBOND OFFERS A WIDE RANGE OF UV CURE MATERIALS

FROM BEAUTY CARE TO MANUFACTURING, WE'VE GOT THE IDEAL UV CURING PRODUCT FOR YOU!

Our UV curable resins are materials that are polymerized and cured in a short time by the energy radiated from ultraviolet irradiation devices. We offer our UV curing adhesives in many variations to meet almost any industrial need. Curing is completed in several seconds through UV light irradiation. Our UV resins are created via several different chemistries with varying curability rates including mercury bulb, LED, and secondary curing types.

We offer various different types of UV curing adhesives and have gone the extra mile to create solutions that translate for each and every application. We fully understand that UV cured resins are materials that must cure quickly to help your team work more efficiently. That is why we offer UV curable silicone, resin and acrylic to make sure our solutions work for your unique challenges. Choose from various colors, hardness, viscosity levels, lap shear strength and cure depth.



UV RESINS ARE USED THROUGHOUT MANY MANUFACTURING INDUSTRIES

Consumer Electronics



Lenses and Cameras



Nail Polish Adhesion

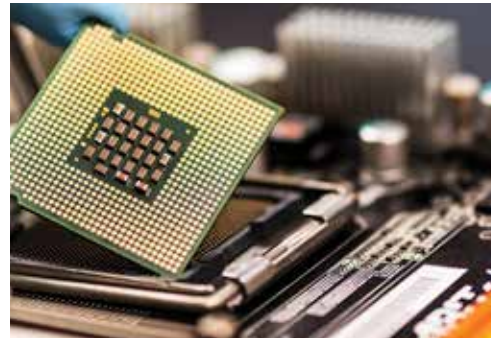


Automotive Manufacturing

ELECTRICAL AND ELECTRONIC PARTS

With the increase of digitalizing in every industry, our UV Resins can be used for bonding, sealing, encapsulating and coating to protect your electronic parts from humidity, vibration, thermal shock and chemical resistance.

PRODUCTS: TB3012D, TB3012E, TB3013U, TB3015B



LEAD WIRES, LENS, GLASS AND OPTICAL PICK-UP PARTS

From bonding lead wires to securing optical pick-up parts our UV Resins excel in protecting your electronics. We offer products with secondary cure to ensure 100% cure even in shadow areas. Our products can bond metals, glass and plastics with impact resistance to ensure your components are securely attached.

PRODUCTS: TB3060H, TB3067H, TB3067J, TB30N115



CAMERA AND LCD WINDOWS

A key to bonding in camera and LCD manufacturing is using products with high optical clarity. ThreeBond has you covered from bonding components to sealing LCD displays. Our products offer low haze, non-yellowing, highly flowable and tack-free surface after curing.

PRODUCTS: TB3023C, TB3027L



RELAYS, CONTROL MODULES, CONNECTORS

These electronic components all require excellent Thermal Cycle Resistance and bonding to metal and plastics. Our UV silicone based products are the answer. These products are dual cure allowing for a quick UV cure to set the material and a secondary cure for shadow and deep cure. They are flexible to ensure they seal in the coldest to the hottest environments. The UV silicone will not affect metals and an added fluorescence allows for post application inspections.

PRODUCTS: TB3164F, TB3164H



SOME OF OUR MOST POPULAR PRODUCTS AND THEIR FEATURES

TB3027L

This is a high optical clarity UV curing adhesive with great adhesion to a variety of substrates. Because of the high transparency, TB3027L can achieve deep through cure and leaves a hard, tack-free surface after curing.

APPLICATIONS: Ideal For Camera Lens Fixing, Sensor, LCD, Battery Cell Secure



TB3015B

This is a UV curing resin with deep UV cure capability, good bonding to polycarbonate and good vacuum sealing properties and is also non-yellowing.

APPLICATIONS: Ideal for Potting needing Deep Cure and Encapsulation



TB3067J

TB3067J is a low viscosity UV curable coating material that will cure to a hard film in less than five seconds. It also has an anaerobic curing ability, and is suitable for coil terminating, component mounting applications, and bonding various materials such as metals, glass, and plastics.

APPLICATIONS: Ideal for Coil Terminating and Component Mounting



TB3164H

ThreeBond 3164H is a UV-curing silicone resin with moisture curability. It can cure in a short time under irradiation with UV light and, on areas not exposed to UV light, it can cure with moisture. After curing, it becomes a rubber-like elastic body. It is self-leveling for potting and non-corrosive to metals.

APPLICATIONS: Ideal for Potting, Sealing, Bonding and Fixing Electric and Electronic Parts.



CUSTOM PRODUCT DEVELOPMENT

With over 60 years of expertise, we are well equipped to work with you to create a broad spectrum of custom formulated adhesives or sealants. We visit you on site to better understand your needs, carefully craft formulations, and provide optimized samples for your internal lab testing. We value this collaboration and build lasting relationships through anticipation of market trends and providing smart, innovative solutions to address your challenge. Contact us at MKTG@threebond.com for more information.

PRODUCT	TB3012D	TB3012E	TB3013U	TB3015B	TB3021H	TB3022B	TB3023C	TB3027L
MAIN COMPONENT	Modified Urethane Acrylic	Modified Urethane Acrylic	Modified Urethane Acrylic	Modified Urethane Acrylic	Modified Urethane Acrylic	Modified Urethane Acrylic	Modified Urethane Acrylic	Modified Urethane Acrylic
FEATURES	Secondary thermal cure for deeper and shadow curing applications. Flexible and good heat resistance.	LED UV cure. Secondary thermal cure. Deeper and shadow curing applications.	Flexible UV material with adhesion to ceramic substrates and good thermal resistance. Secondary cure mechanism.	Deep UV curable adhesive. Good adhesion to polycarbonate. Good vacuum sealing properties.	Low odor. Good humidity and temperature resistance. Excellent bonding to a variety of substrates.	Flexible and deep UV curing material. Secondary thermal cure.	High transparency and low haze. Non-yellowing under heat. Highly flowable material. Good adhesion to metal, plastic, and glass.	High transparency and low haze. Non-yellowing under heat. Highly flowable material. Good adhesion to metal, plastic, and glass.
APPEARANCE	Blue Liquid	Blue Liquid	Blue Liquid	Transparent Liquid	Dark Blue Liquid	Blue Liquid	Transparent Liquid	Transparent Liquid
VISCOSITY	9.6 Pa-s	9 Pa-s	11 Pa-s	4.7 Pa-s	325 mPa-s	800 mPa-s	2.3 Pa-s	8.9 Pa-s
SPECIFIC GRAVITY	1.1	1.06	1.05	1.04	1.1	1.08	1.07	1.04
THIXOTROPIC INDEX	-	-	-	-	-	-	-	-
UV LIGHT SOURCE	High pressure mercury lamp ('D' Type Bulb)	LED UV 365 nm and/or Mercury Lamp ('D' Type Bulb)	High pressure mercury lamp ('D' Type Bulb)	High pressure mercury lamp ('D' Type Bulb)	High pressure mercury lamp ('D' Type Bulb)	High pressure mercury lamp ('D' Type Bulb)	LED UV 365 nm and/or Mercury Lamp ('D' Type Bulb)	LED UV 365 nm and/or Mercury Lamp ('D' Type Bulb)
UV EXPOSURE	3000 mJ/cm*2	3000 mJ/cm*2	3000 mJ/cm*2	2000 mJ/cm*2	2000-4000 mJ/cm*2	2000-4000 mJ/cm*2	3000 mJ/cm*2	3000 mJ/cm*2
PROJECTION DISTANCE	-	-	-	-	-	-	-	-
MOISTURE CURED	-	-	-	-	-	-	-	-
SECONDARY CURE	10 min @ 150°C	10 min @ 150°C	10 min @ 150°C	-	-	10 min @ 150°C	-	-
HARDNESS	A 45	A 73	A 40	A 33	A 65	A 76	A 75	A 75
ELONGATION	-	-	-	-	-	-	-	-
UV CURING THICKNESS	1.6 mm	1.4 mm	3.5 mm	>20 mm	1.3 mm	2-3 mm	10 mm	>5 mm
CURING THICKNESS (UV+Heat)	13 mm	13 mm	9 mm	-	-	10 mm	-	-
LAP SHEAR STRENGTH	>7.0 Mpa Glass failure (Steel/Glass)	>6.0 Mpa Glass failure (Steel/Glass)	3.6 Mpa (Glass/Glass)	2.7 Mpa (Glass/Glass)	>7.0 Mpa Material failure (Acrylic/Acrylic)	5.0 Mpa Glass failure (Glass/Glass)	>7.0 Mpa Material failure (Glass/Acrylic)	3.3 Mpa Acrylic/Acrylic
TENSILE SHEAR BOND STRENGTH	-	-	-	-	-	-	-	-
SHELF LIFE	6 Months at 5-10° C	6 Months at 5-10° C	6 Months at 5-10° C	6 Months at 5-25° C	6 Months at 5-10° C	6 Months at 5-10° C	12 Months at 5-10° C	6 Months at 5-25° C
REMARKS	Potting and encapsulating.	Potting and encapsulating.		Fast curing, non-yellowing, clear color.	Bonds glass to metals, acrylics, urethanes, and other plastics. Flexible over a large temperature range.	Potting or encapsulating.	High optical clarity, used in small electronics and LED seals. Tack-free surface after curing.	High optical clarity, used in small electronics and LED seals. Tack-free surface after curing.

PRODUCT	TB3029B	TB3060H	TB3067H	TB3067J	TB30N115	TB3164F	TB3164H
MAIN COMPONENT	Modified Urethane Acrylic	Modified Urethane Acrylic	Modified Acrylic	Modified Acrylic	Modified Acrylic	UV Curing Silicone	UV Curing Silicone
FEATURES	Dual UV and thermal cure for depth of cure, and shadow curing applications.	Flexible, impact-resistant.	Secondary anaerobic cure. Bonds various materials such as metal, glass, and plastics.	UV curable coating material. Secondary anaerobic curing. Bonds various materials such as metal, glass and plastics.	Cures to a hard film. Secondary anaerobic cure. Bonds various materials such as metals, glass, and plastics.	1-component, solvent-free, rapid surface cure with UV radiation. Excellent for shadowed applications. Excellent high and low temperature resistance. Excellent ATF fluid resistance. Excellent bonding to many substrates.	Deep curing UV material with secondary moisture cure. Self-leveling material for potting. Non-corrosive to metals. Fluoresces under black light (390-410 nm). ATF fluid resistance.
APPEARANCE	Blue Liquid	Transparent, Light Yellow	Dark Blue Liquid	Dark Blue Liquid	Dark Blue Liquid	White	Transparent
VISCOSITY	3.1 Pa-s	6.8 Pa-s	5 Pa-s	150 mPa-s	4.1 Pa-s	4 Pa-s	8 Pa-s
SPECIFIC GRAVITY	1.5	1.03	1.16	1.13	1.16	1.01	0.99
THIXOTROPIC INDEX	-	-	-	-	-	1.2	1.1
UV LIGHT SOURCE	High pressure mercury lamp ('D' Type Bulb)	High pressure mercury lamp ('D' Type Bulb)	High pressure mercury lamp ('D' Type Bulb)	High pressure mercury lamp ('D' Type Bulb)	High pressure mercury lamp ('D' Type Bulb)	High pressure mercury lamp ('D' or 'H' Type Bulb)	High pressure mercury lamp ('D' or 'H' Type Bulb) or 365 nm LED
UV EXPOSURE	2000-3000 mJ/cm*2	3000 mJ/cm*2	2000 mJ/cm*2	2000 mJ/cm*2	2000 mJ/cm*2	4000 mJ/cm*2	3000 mJ/cm*2
PROJECTION DISTANCE	-	-	-	-	-	15 cm	15 cm
MOISTURE CURED	-	-	-	-	-	25 C, 55% RH x 7 days	25 C, 55% RH x 7 days
SECONDARY CURE	10 min @ 150°C	-	Anaerobic Cure	Anaerobic Cure	Anaerobic Cure	-	-
HARDNESS	D 79	A 50	D55	A 87	D 55	A 10	A 24
ELONGATION	-	-	-	-	-	150%	220%
UV CURING THICKNESS	2.5 mm	2 mm	0.9 mm	0.6 mm	0.88 mm	-	-
CURING THICKNESS (UV+Heat)	15 mm	-	-	-	-	-	-
LAP SHEAR STRENGTH	>6.0 Mpa Glass failure (Glass/Glass)	0.7 Mpa (PC/Steel)	6.3 Mpa (Steel/Acrylic)	6.3 Mpa (Steel/Acrylic)	6.3 Mpa (Acrylic/Steel)	5.0 Mpa Glass failure (Glass/Glass)	>7.0 Mpa Material failure (Glass/Acrylic)
TENSILE SHEAR BOND STRENGTH	-	-	-	-	-	0.2 Mpa	0.9 Mpa
SHELF LIFE	6 Months at 5-10° C	6 Months at 5-10° C	6 Months at 5-10° C	6 Months at 5-10° C	6 Months at 5-10° C	6 Months at 5-10° C	6 Months at 5-10° C
REMARKS	Potting and encapsulating.	Bonding, sealing, fixation for CD pick-up, mirror, and objective lens.	Suitable for coil terminating, component mounting applications.	Suitable for coil terminating, component mounting applications.	Suitable for coil terminating, component mounting applications. Bonds various materials such as metals, glass & plastics	Best for potting or bonding, especially for electric/ electronic components needing a shadow cure and good adhesion to metal and plastics.	Suitable for potting, bonding, sealing and fixing electric and electronic parts. Great depth of cure and curing shadow areas.