



Potting & Encapsulation Materials

Design Compromise Not An Option?

At LORD, we have been developing custom potting and encapsulant solutions for more than 50 years. Whether utilizing epoxy, silicone or urethane polymer systems, we continue to deliver results for demanding applications in a wide variety of industries including automotive, medical, aerospace, telecommunications and industrial electronics based on our customers' design and specification needs.

Our products offer diverse encapsulant application options including use in ignition coils, engine control modules, transmission control modules, sensors, power supplies, transformers and other critical electrical/electronic equipment.

If you need help choosing one of our standard potting and encapsulant products or if they don't quite meet your needs, let us help you achieve an appropriate solution for your application ... Ask Us How.



EPOXIES

Epoxies provide strength, versatility, durability, adhesion, chemical resistance and high temperature tolerance in adhesive and potting and encapsulant applications. These products can be formulated to fit a variety of applications and requirements thanks to the wide availability of raw materials. We offer a wide range of epoxy products from extremely flexible to highly-rigid casting materials, either filled or unfilled, that are thermally and/or electrically conductive and flame retardant.

SILICONES

Silicones are one of the most environmentally friendly chemistries and offer inherent flexibility spanning over a wide temperature range (-75°C to +200°C). Silicone products are widely known to protect fragile electronic components and modules where flame and high temperature resistance and permanent flexibility are top priorities. We offer platinum-cured, soft silicone and condensation-cured silicone rubbers, either unfilled clear or filled.

URETHANES

Urethanes are considered to be a great alternative to silicones when high temperature resistance is not required. For electronic packaging, urethanes are known to work best in low-temperature applications. They protect stress-sensitive electronic devices and act as a barrier against water. We offer low viscosity urethane products ranging from soft gels to semi-rigid casting materials that are designed to fit various potting application needs.

To learn more, contact us at +1 877 ASK LORD (275 5673) or LORD.com/electronicmaterials

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Product	Circalok™ 6712/6730	Circalok 6715/6730	Circalok 6716/6733	Circalok 6717/6731	Circalok 6735
Description	Two-component, solvent-free silicone for potting and encapsulating densely packed components and making flexible molds	Two-component, solvent-free silicone for potting and encapsulating densely packed components and making flexible molds	Solvent-free silicone for potting and encapsulating low- and high-voltage electrical assemblies	Two-component, condensation curing, solvent-free silicone RTV for potting, encapsulating or coating applications	Transparent, low viscosity, two-component silicone that produces a clear, flexible elastomer that adheres to most substrates without a primer
Appearance	White	White	Black	Red	Clear
Viscosity (cps @ 25°C)	7,250	14,000	10,000	17,000	2,000
Mix Ratio by Weight	10:1	10:1	100:2.5	100:5	10:1
Cure Schedule	12 hr @ 25°C	24 hr @ 25°C	12-16 hr @ 25°C	12-16 hr @ 25°C	4 hr @ 65°C
Hardness	35 Shore A	35 Shore A	45 Shore A	60 Shore A	40 Shore A
Tensile Strength (MPa)	2.3	1.7	1.0	4.8	5.2

Product	Circalok 6744	Circalok 6746	Circalok 6750	Circalok 6756	Thermoset P-1291	Thermoset P-1292
Description	Low viscosity, flame retardant, room temperature curing, UL 94 V-0 rated silicone	Room temperature curing silicone for casting in-the-ear and customer canal hearing aid molds	Low viscosity, microballoon-filled, room temperature curing silicone	Primer for bonding RTV silicones to metal and glass	Electronic-grade primer for bonding tin-catalyzed RTV silicone to most metals and glass	Electronic-grade primer for bonding platinum-catalyzed RTV silicone to most metals and glass
Appearance	Gray	Beige	Gray	Red	Clear or Red	Blue
Viscosity (cps @ 25°C)	2,700	2,200	6,000	1	5	5
Mix Ratio by Weight	1:1	100:8	1:1	N/A	N/A	N/A
Cure Schedule	45 min @ 65°C	10 min @ 25°C	2 hr @ 65°C	1 hr @ 25°C	30-60 min @ 25°C	30-60 min @ 25°C
Hardness	55 Shore A	70 Shore OO	45 Shore A	N/A	N/A	N/A
Tensile Strength (MPa)	2.7	0.9	2.1	N/A	N/A	N/A

Product	Thermoset SC-300M	Thermoset SC-316	Thermoset SC-318	Thermoset SC-319	Thermoset SC-323	Thermoset STO
Description	Electronic-grade silicone gel encapsulant	Electronic-grade silicone gel encapsulant	One-component, rapid cure silicone designed for use as an encapsulant or coating to protect electronic devices	Two-component, room temperature curing silicone encapsulant	One-component, heat cure silicone conformal coating	Silicone catalyst
Appearance	Clear	White	Clear, Green	Black	Clear	Light Yellow
Viscosity (cps @ 25°C)	200	200	45,000	1,000	230	250
Mix Ratio by Weight	1:1	1:1	N/A	1:1	N/A	Variable
Cure Schedule	24 hr @ 25°C	1 hr @ 25°C	30-60 min @ 150°C	2 hr @ 25°C	20 min @ 125°C	4 hr @ 25°C
Hardness	Gel	Gel	40 Shore OO	70 Shore OO	40 Shore A	30-60 Shore A
Tensile Strength (MPa)	N/A	N/A	1.4	N/A	0.3	200-600

Product	Circalok 6008	Circalok 6009	Circalok 6013	Circalok 6015	Circalok 6021	Circalok 6022	Circalok 6028/6029	Circalok 6031
Description	Filled, low viscosity, general purpose potting and encapsulating epoxy	Two-component, UL 94 V-0 rated epoxy	High density, fast curing, sound deadening, radiation-opaque, high lead-filled epoxy	High density, fast curing, sound deadening, radiation-opaque, lead-filled epoxy	Two-component, room temperature curing epoxy with long working life, good peel strength and adhesion to metals, plastics, fiberglass and wood	Two-component, room temperature curing epoxy with good peel strength and adhesion to metals, plastics, fiberglass and wood	Filled, two-component epoxy for potting high voltage transformers, especially for high temperature devices	Two-component epoxy with excellent electrical properties at high temperatures
Appearance	Black	Black	Orange	Orange	Gray	Yellow	Blue	Beige
Viscosity (cps @ 25°C)	8,000	2,600	17,500	17,000	200,000	50,000	15,000	13,000
Mix Ratio by Weight	Hardener Dependent	10:1	100:2.2	100:2.9	100:85	100:87	1:1	3:1
Cure Schedule	24 hr @ 25°C	2-4 hr @ 65°C	24 hr @ 25°C	24 hr @ 25°C	24 hr @ 25°C	24 hr @ 25°C	3-4 hr @ 100°C	1 hr @ 120°C plus 4 hr @ 160°C; or 2 hr @ 85°C plus 12 hr @ 120°C
Hardness	85 Shore D	90 Shore D	90 Shore D	90 Shore D	85 Shore D	67 Shore D	90 Shore D	60 Shore D
Tensile Strength (MPa)	49.6	48.3	55.8	55.8	51.0	>20.7	49.6	13.8

Product	Thermoset 600	Thermoset DC-80	Thermoset DC-946	Thermoset E-105 Clear	Thermoset EL-636	Thermoset EP-20	Thermoset EP-809
Description	Clear, unfilled, moderate viscosity epoxy for use with various hardeners	Epoxy used in varying mix ratios to provide optimum properties	Two-component, heat curing epoxy with excellent thermal shock resistance	Clear, low viscosity, general purpose epoxy	Ultra-high temperature resistant encapsulating epoxy	Black, unfilled, moderate viscosity epoxy for use with various hardeners	Ignition coil impregnating encapsulating epoxy
Appearance	Clear	Gray	Black	Clear	Gray	Black	Gray
Viscosity (cps @ 25°C)	13,500	Thixotropic Paste	12,000	600	50,000	12,000	2,800
Mix Ratio by Weight	Hardener Dependent	1:1	1:1	Hardener Dependent	100:1	Hardener Dependent	100:32
Cure Schedule	Hardener Dependent	24 hr @ 25°C	2-3 hr @ 95°C	Hardener Dependent	16-24 hr @ 50-65°C plus 2 hr @ 95°C	Hardener Dependent	12-16 hr @ 80-90°C; or 2 hr @ 90-95°C plus 2 hr @ 115-125°C
Hardness	60-90 Shore D	82 Shore D	86 Shore D	80-90 Shore D	95 Shore D	60-90 Shore D	92 Shore D
Tensile Strength (MPa)	15.9-75.2	34.5	39.3	27.6-55.2	47.7	15.9-75.2	79.3

Product	Thermoset ES-100	Thermoset ES-111	Thermoset ES-115	Thermoset ES-121	Thermoset Hardener No. 18	Thermoset Hardener No. 25	Thermoset Hardener No. 65	Thermoset Hardener No. 66
Description	Two-component epoxy for encapsulating intricate electronic components in automotive, marine and heavy industrial applications	Two-component epoxy for high voltage, automotive ignition coils	Two-component epoxy for high voltage, automotive ignition coils	Two-component epoxy for high voltage, automotive ignition coils	Room temperature hardener	High surface gloss, fast setting, moisture insensitive hardener	High surface gloss, long working life, moisture insensitive hardener	General purpose hardener well-suited for a variety of applications
Appearance	Black	Gray	Tan	Black	Clear	Clear Amber	Clear	Clear
Viscosity (cps @ 25°C)	1,200	8,000	85,000	8,000	50	5,000	50	10,000
Mix Ratio by Weight	1:1	100:29	1:1	100:29	100:14 (with 600 Resin)	100:80 to 1:1	100:40	1:1
Cure Schedule	3-4 hr @ 80°C	2 hr @ 90°C plus 2 hr @ 110°C plus 2 hr @ 140°C	2.5 hr @ 85°C plus 1.5 hr @ 125°C	2 hr @ 90°C plus 2 hr @ 110°C plus 2 hr @ 140°C	24 hr @ 25°C	24 hr @ 25°C	24 hr @ 25°C	24 hr @ 25°C
Hardness	70 Shore OO	90 Shore D	90 Shore D	90 Shore D	88 Shore D (with 600 Resin)	80 Shore D	85 Shore D	82 Shore D
Tensile Strength (MPa)	0.5	82.7	68.9	82.7	75.8	56.5	62.1	48.3

	Circalok 6035	Circalok 6037/6252	Circalok 6055	Circalok 6056	Circalok 6059	Circalok 6150	Thermoset 300	LORD® 363	Product
Description	Low viscosity, flame retardant, room temperature curing epoxy	Two-component epoxy for the semiconductor industry	Two-component, room temperature curing epoxy with long working life	Two-component, room temperature curing epoxy	Elastomeric encapsulant with exceptional flexibility to -50°C and superior tensile strength at high temperatures	One-component, thixotropic epoxy for assembling electronic components and devices	Filled, thermal shock resistant epoxy for use with various hardeners	Two-component epoxy for bonding SMCs, wood, FRPs and other plastics	
Appearance	Black	Black or Green	Black	Black	Black	White	Black	Light Amber	
Viscosity (cps @ 25°C)	12,000	100,000	4,000	50,000	10,000	145,000	68,000	10,000	
Mix Ratio by Weight	1:1	100:7.1	1:1	100:29	55:100	N/A	Hardener Dependent	1:1	
Cure Schedule	24 hr @ 25°C	24 hr @ 25°C; or 2 hr @ 65°C	24 hr @ 25°C	24 hr @ 25°C	7 days @ 25°C	30 min @ 121°C; or 10 min @ 177°C	Hardener Dependent	4-6 hr @ >18°C	
Hardness	75 Shore D	92 Shore D	77 Shore D	65 Shore D	40 Shore A	90 Shore D	65-95 Shore D	85 Shore D	
Tensile Strength (MPa)	34.5	64.8	20.7	41.4	3.4	>11.0	13.8-62.1	34.5	

	Thermoset EP-830	Thermoset EP-866	Thermoset EP-870	Thermoset ES-21	Thermoset ES-40	Thermoset ES-73	Thermoset ES-95	Product
Description	Coil impregnating, encapsulating epoxy for ignition coil applications	Epoxy used in varying mix ratios to provide optimum properties	One-component, fast curing epoxy	One-component, fast curing epoxy containing a fluorescent dye for detection under UV light	Clear, unfilled, moderate viscosity epoxy for use with various hardeners	Two-component, rapid curing epoxy used as an anchor bond adhesive for car batteries	One-component, fast curing epoxy that provides excellent thermal shock resistance	
Appearance	Tan	Gray	Black	Black	White	Green	Black	
Viscosity (cps @ 25°C)	4,000	Thixotropic Paste	Thixotropic Paste	35,000	12,000	10,000	75,000	
Mix Ratio by Weight	100:28	1:1	N/A	N/A	Hardener Dependent	100:82	N/A	
Cure Schedule	3 hr @ 100°C plus 2 hr @ 150°C	24 hr @ 25°C	60 min @ 120°C	60 min @ 125°C	Hardener Dependent	30 min @ 25°C	60 min @ 125°C	
Hardness	97 Shore D	82 Shore D	88 Shore D	88 Shore D	60-90 Shore D	75 Shore D	88 Shore D	
Tensile Strength (MPa)	82.7	34.5	>13.8	49.0	15.9-75.2	20.7	40.7	

	Thermoset Hardener No. 67	Thermoset Hardener No. 70	Thermoset Hardener No. 71	Thermoset Hardener No. 72	Thermoset LS 213-9	Thermoset MP 110-10	Thermoset RT-8	Thermoset RT-10	Product
Description	Long working life, heat curing hardener with high Tg	High impact strength hardener	Semi-rigid, low exotherm hardener	Filled, room temperature curing hardener with low exotherm and semi-rigid encapsulation	One-component, impregnating epoxy	Unfilled epoxy with good thermal shock performance and excellent chemical resistance	Low exotherm, semi-rigid hardener	Hardener that produces epoxies with improved flexibility and impact strength	
Appearance	Clear	Clear	Clear	Black	Amber	Black	Amber	Amber	
Viscosity (cps @ 25°C)	18	30	120	7,000	2,800	75,000	900	8,000 @ 75°C	
Mix Ratio by Weight	100:24	100:30	1:1	1:1 (with 300 Resin)	N/A	1:1 by Volume	100:10.5	Variable	
Cure Schedule	2 hr @ 100°C	24 hr @ 25°C	24 hr @ 25°C	24 hr @ 25°C	2 hr @ 120°C	24 hr @ 25°C	24 hr @ 25°C	24 hr @ 25°C	
Hardness	92 Shore D	82 Shore D	60 Shore D	65 Shore D	85 Shore D	45 Shore A	80 Shore D	60-80 Shore D	
Tensile Strength (MPa)	75.2	59.3	15.9	13.8	41.4	3.5	34.5	20.7-25.5	

THERMALLY CONDUCTIVE

Product	Circalok 6006-HS/6011B	Circalok 6007/6010B	Circalok 6702	Circalok 6703	Circalok 6703LV	Circalok 6708/6731
Description	Thermally conductive, low shrinkage, two-component epoxy	Thermally conductive, adhesive and potting compound	High density, thermally conductive primerless silicone for encapsulating sensitive electronic modules	Two-component, thermally conductive, UL 94 V-0 rated silicone for encapsulating densely packed power units	Two-component, thermally conductive, low viscosity, UL 94 V-0 rated silicone for encapsulating densely packed power units	Thermally conductive silicone with good electrical properties
Appearance	Black	Black	Red	Light Gray	Light Gray	White
Viscosity (cps @ 25°C)	22,500	15,000	30,000	8,000	5,000	30,000
Mix Ratio by Weight	100:17.5	100:5.5	1:1	1:1	1:1	100:0.5
Cure Schedule	24 hr @ 25°C	12-16 hr @ 25°C	16-24 hr @ 85°C	4 hr @ 65°C	24 hr @ 25°C	12-16 hr @ 25°C
Hardness	90 Shore D	85 Shore D	65 Shore A	60 Shore A	40 Shore A	60 Shore A
Tensile Strength (MPa)	67.6	57.9	4.1	1.4	0.2	2.4
Thermal Conductivity (W/mK)	1.1	1.1	1.4	0.8	0.8	0.8

Product	Circalok 6709	Circalok 6710/ 6731	Circalok 6711	Circalok 6725	Circalok 6726	Thermostat E-301AD
Description	Two-component, thermally conductive silicone with outstanding electrical properties	Two-component, low viscosity, thermally conductive RTV silicone for applications requiring low stress, rapid heat transfer, high temperature and repairability	Two-component, thermally conductive silicone with outstanding electrical properties	High density, thermally conductive, primerless silicone	High density, thermally conductive, primerless silicone	Thermally conductive casting epoxy
Appearance	White	Red	White	Red	Red	Black or White
Viscosity (cps @ 25°C)	30,000	20,000	30,000	15,000	56,000	10,000
Mix Ratio by Weight	Hardener Dependent	100:0.5	Hardener Dependent	1:1	1:1	Hardener Dependent
Cure Schedule	Hardener Dependent	12-16 hr @ 25°C	Hardener Dependent	4 hr @ 85°C	4 hr @ 85°C	Hardener Dependent
Hardness	45 Shore A	65 Shore A	60 Shore A	45 Shore A	70 Shore A	85-90 Shore D
Tensile Strength (MPa)	2.1	5.5	5.5	3.8	4.1	68.2
Thermal Conductivity (W/mK)	1.0	1.0	1.0	1.16	1.46	1.2

Product	Thermostat E-343	Thermostat SC-104	Thermostat SC-303	Thermostat SC-305	Thermostat SC-309	Thermostat SC-320
Description	Two-component, thermally conductive, dielectric epoxy coating	Two-component, thermally conductive, UL 94 V-0 rated silicone	Two-component, thermally conductive silicone for encapsulating applications requiring high heat dissipation	Two-component, thermally conductive silicone for the protection of electrical/ electronic applications where heat dissipation is critical	Two component, thermally conductive silicone for the protection of electrical/ electronic applications where heat dissipation is critical	Two-component, thermally conductive silicone for the protection of electrical/electronic applications where heat dissipation is critical
Appearance	Black	Gray	Gray	Light Gray	Gray	Light Pink
Viscosity (cps @ 25°C)	50	7,000	6,000	3,500	3,600	22,000
Mix Ratio by Weight	100:3.9	1:1	1:1	1:1	1:1	1:1
Cure Schedule	2 hr @ 125°C	24 hr @ 25°C	24 hr @ 25°C	24 hr @ 25°C	15 min @ 100°C	60 min @ 125°C
Hardness	90 Shore D	65 Shore A	45 Shore A	60 Shore A	45 Shore A	60 Shore A
Tensile Strength (MPa)	57.2	3.3	0.6	0.3	0.7	2.2
Thermal Conductivity (W/mK)	1.1	0.8	0.9	0.7	1.0	3.2

Product	Circalok 6403	Circalok 6404	Circalok 6412	Circalok 9154FR
Description	General purpose, encapsulating urethane for applications requiring a fast cure, mechanical shock resistant system	General purpose, encapsulating urethane for applications requiring a fast cure, mechanical shock resistant system	Easy handling, encapsulating and casting urethane available in fast and slow cure versions	Two-component, solvent-free, unfilled, casting urethane for potting electrical cables, general marine sealing and caulking
Appearance	Amber	Amber	Amber or Black	Amber
Viscosity (cps @ 25°C)	900	900	700	4,000
Mix Ratio by Weight	22:10	22:10	38:10	1:2
Cure Schedule	30-45 min @ 25°C	30-45 min @ 25°C	4 hr @ 25°C, 7 days full cure	16 hr @ 25°C
Hardness	80 Shore A	80 Shore A	60 Shore A	90 Shore A
Tensile Strength (MPa)	13.3	13.3	10.3	15.3

Product	Thermoset UR-105	Thermoset UR-190	Thermoset UR-288	Thermoset UR-312	Thermoset UR-322
Description	Two-component, room temperature curing urethane encapsulating compound	Two-component, room temperature curing urethane potting compound	Two-component, room temperature curing, flame retardant urethane potting compound	Microelectronic grade, clear, low modulus urethane encapsulating gel	Two-component, room temperature curing urethane encapsulating compound
Appearance	Black	Clear	Black	Clear	Clear
Viscosity (cps @ 25°C)	1,500	750	—	1,500	750
Mix Ratio by Weight	100:9	100:108 1:1 by Volume	100:20 100:22 by Volume	100:55 2:1 by Volume	100:107 1:1 by Volume
Cure Schedule	24 hr @ 25°C	4 days @ 25°C	24 hr @ 25°C	7 days @ 25°C	30 min @ 25°C
Hardness	25 Shore A	30 Shore A	90 Shore A	50 Shore OO	12 Shore A
Tensile Strength (MPa)	0.8	0.7	1,204	0.3	0.7

Product	LORD UR-324	LORD UR-325	LORD UR-340	LORD UX-9155
Description	Microelectronic grade, clear, low modulus urethane encapsulating gel	Two-component, room temperature curing, urethane encapsulating compound	Black, low viscosity, flexible urethane encapsulating compound	Two-component, fast curing, high strength urethane for casting applications
Appearance	Clear	Black	Black	Amber
Viscosity (cps @ 25°C)	750	4,000	450	9,000
Mix Ratio by Weight	100:108 1:1 by Volume	4:1	100:104 1:1 by Volume	1:3
Cure Schedule	7 days @ 25°C	3-4 days @ 25°C	24 hr @ 25°C	8 hr @ 25°C
Hardness	20 Shore A	65 Shore A	30 Shore A	40 Shore D
Tensile Strength (MPa)	0.7	5.3	0.4	20.7

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