



Electronic Materials for LED Applications

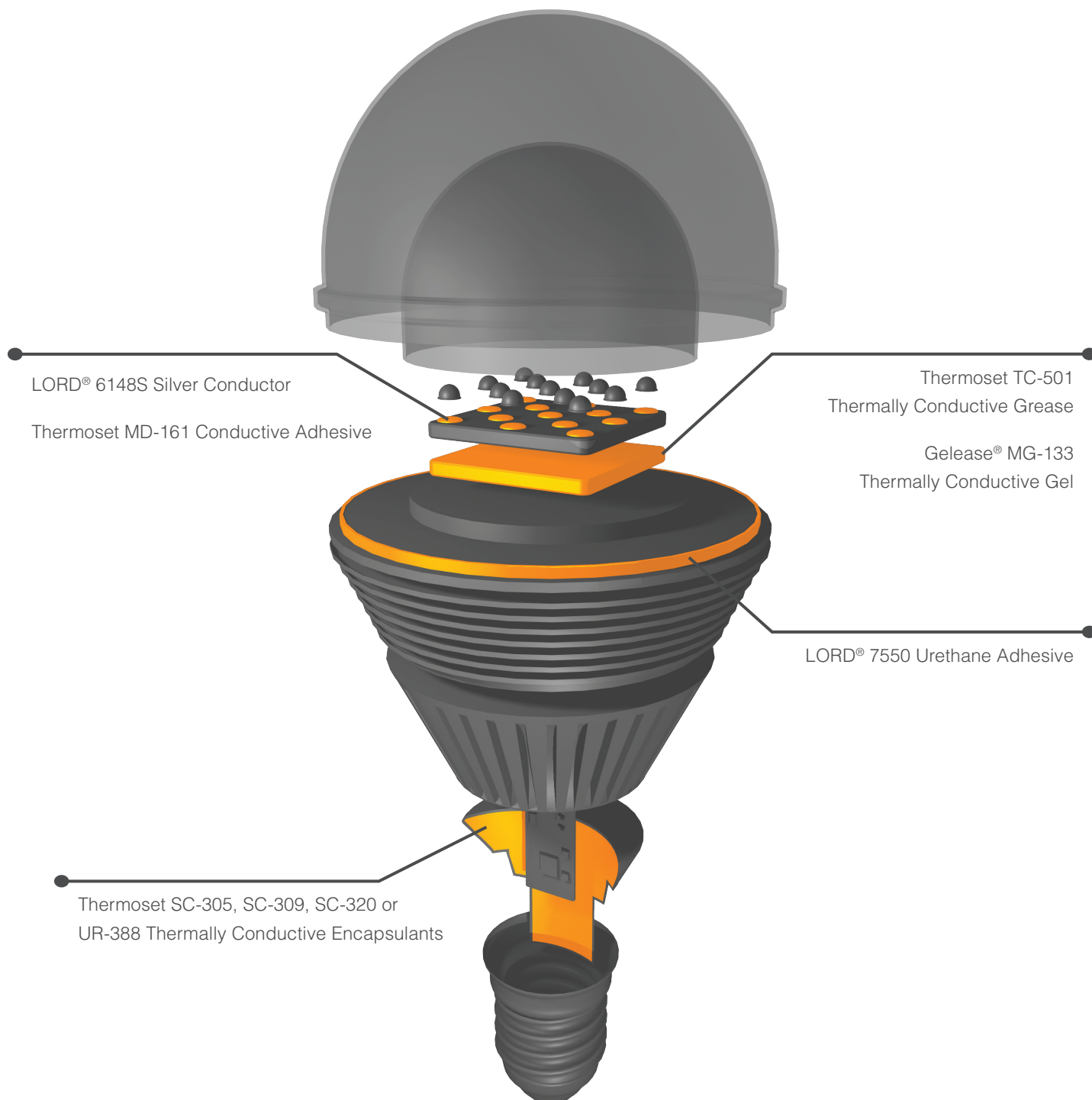
SELECTOR GUIDE

Adhesives

Thermal Management Materials

LORD Corporation specializes in developing world-class adhesives and thermal management materials including gels, greases and encapsulants for demanding LED applications. Our experience in electronic materials spans more than 40 years. We incorporate this vast experience in developing solutions for new applications to help ensure our customers' success.

TYPICAL APPLICATIONS



ADHESIVES

LORD adhesives have been specified for challenging LED applications requiring superior strength over a wide range of temperatures. Our technology allows us to achieve superior performance at competitive costs by minimizing the amount of costly raw material components.

PRODUCT	Thermoset MD-140SP	Thermoset MD-161	Thermoset MT-125	Thermoset MT-315	Thermoset MT-815	LORD® PCC40579	Circalok™ 6150
CHEMISTRY	Epoxy	Epoxy	Epoxy	Epoxy	Epoxy	Epoxy	Epoxy
UL APPROVED	—	—	—	—	—	—	—
VISCOSITY, cps @ 25°C	30,000	40,000	100,000	85,000	50,000	7,000	145,000
THERMAL CONDUCTIVITY, W/mK	12	1.9	2.4	11.3	12	6.2	0.6
FILLER TYPE	Metal	Metal	Metal	Metal	Metal	Metal	Mineral
SHELF LIFE, MONTHS	12 @ -40°C	6 @ -30°C	6 @ -30°C	6 @ -40°C	6 @ 0°C	6 @ -40°C	3 @ 5°C
WORKING LIFE @ 25°C	72 hr	120 hr	2 wk	24 hr	24 hr	72 hr	1 mo
CURE SCHEDULE	5–10 min @ 120°C 3–5 min @ 150°C 1–3 min @ 180°C	60 min @ 150°C	30 min @ 100°C 8 min @ 150°C	50 min @ 125°C 30 min @ 150°C	40 min ramp from room temperature to 160°C with 60 min dwell time @ 160°C	5 min @ 150°C	30 min @ 121°C 10 min @ 177°C

Data is typical and not to be used for specification purposes.

PRODUCT	Thermoset EP-937	Thermoset ME-456	LORD® 6100HV	LORD® 6148S	LORD® 7550
CHEMISTRY	Epoxy	Epoxy	Epoxy	Epoxy	Urethane
UL APPROVED	—	—	—	—	—
VISCOSITY, cps @ 25°C	39,000–56,800	1,200,000	345,000	10,000	6,000
THERMAL CONDUCTIVITY, W/mK	<0.5	0.6	N/A	7.5	N/A
FILLER TYPE	Mineral	Mineral	Metal	Metal	N/A
SHELF LIFE, MONTHS	6 @ 0–5°C	6 @ -40°C	6 @ -20°C	3 @ -20°C	6 @ 21–27°C
WORKING LIFE @ 25°C	1 mo	36 hr	N/A	8 hr	3–5 min
CURE SCHEDULE	20 min @ 150°C	30 min @ 150°C	30-60 min @ 150°C	15 min @ 125°C	72 hr @ room temperature

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THERMAL MANAGEMENT MATERIALS

LORD thermally conductive materials are easily applied and have high thermal conductivity/low thermal resistance to improve device reliability.

PRODUCT	GELS		GREASES			ENCAPSULANTS			
	Gelease® MG-121	Gelease® MG-133	Thermoset TC-404	Thermoset TC-405	Thermoset TC-501	Thermoset SC-305	Thermoset SC-309	Thermoset SC-320	Thermoset UR-388
CHEMISTRY	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Urethane
UL APPROVED	UL 94 V-0	—	—	—	—	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
VISCOSITY, cps @ 25°C	60,500	105,900	141,800	125,000	128,400	5,500 (resin) 5,500 (hardener) 5,500 (mixed)	3,500 (resin) 3,500 (hardener) 3,500 (mixed)	25,000 (resin) 20,000 (hardener) 25,000 (mixed)	15,000 (resin) 70 (hardener) 6,000 (mixed)
THERMAL CONDUCTIVITY, W/mK	2.3	3.6	4.3	5.0	3.6	0.7	1.0	3.2	0.7
SHELF LIFE, MONTHS	6 @ -30°C	6 @ -30°C	6 @ -30°C	6 @ -30°C	6 @ -30°C	6 @ 25°C	6 @ 25°C	9 @ 25°C	6 @ 25°C
WORKING LIFE @ 25°C	8 hr	8 hr	N/A	N/A	N/A	60 min	30 min	40 min	30 min
CURE SCHEDULE	2 hr @ 100°C 60 min @ 125°C 30 min @ 150°C	60 min @ 100°C 30 min @ 120°C	N/A	N/A	N/A	24 hr @ 25°C 2 hr @ 60°C 30 min @ 100°C	15 min @ 100°C 10 min @ 120°C	60 min @ 125°C	24 hr @ 25°C 6 hr @ 60°C

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Values stated herein represent typical values as not all tests are run on each lot of material produced. For formalized product specifications or specific product end uses, contact the Customer Support Center.

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LORD provides valuable expertise in adhesives and coatings, vibration and motion control, and magnetically responsive technologies. Our people work in collaboration with our customers to help them increase the value of their products. Innovative and responsive in an ever-changing marketplace, we are focused on providing solutions for our customers worldwide ... Ask Us How.

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