



LORD® Electronic Materials for LED Applications

- Adhesives
- Thermal Management Materials

LORD

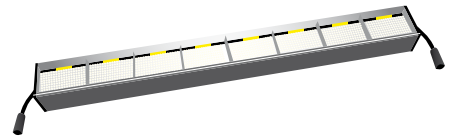
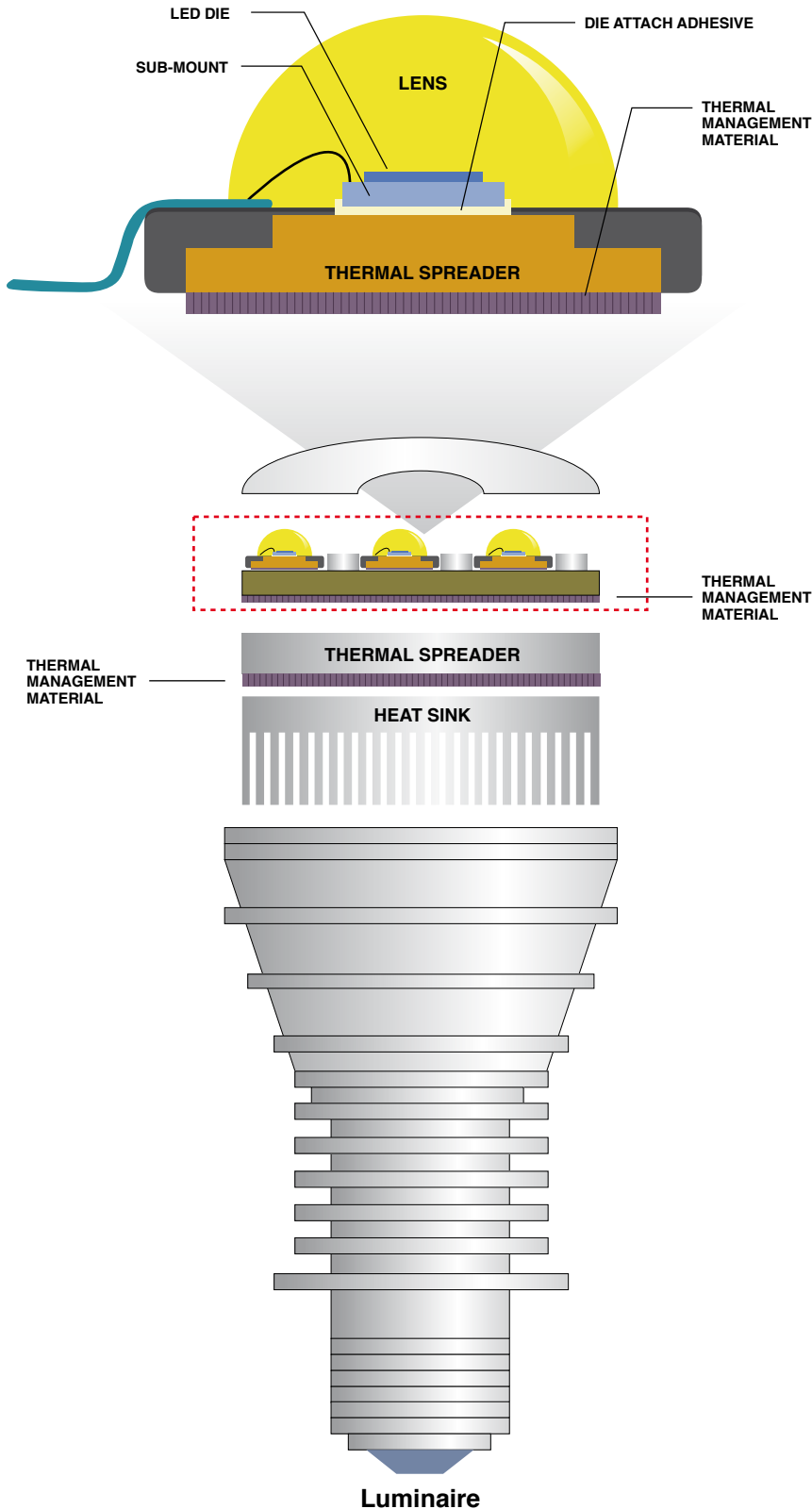
Ask Us How™

KRAYDEN, INC.

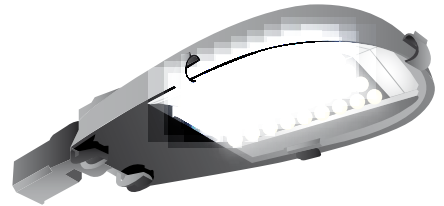
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LORD Corporation specializes in developing world-class adhesives and thermal management materials including gels, greases and encapsulants for demanding LED applications. Our experience in electronic materials spans more than 40 years. We incorporate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

Typical Applications



Tube Light



Street Light



Spot Light

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	MD-140	MD-161	MT-125	MT-315	MT-815	PCC40579	CIRCALOK™ 6150
CHEMISTRY	Epoxy	Epoxy	Epoxy	Epoxy	Epoxy	Epoxy	Epoxy
VISCOSITY, CPS @ 25°C	30,000	40,000	100,000	85,000	70,000	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 @ -40°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	EP-937	ME-456	6100HV	6148S	7550
CHEMISTRY	Epoxy	Epoxy	Epoxy	Epoxy	Urethane
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	2 @ -15°C 3 @ -40°C	6 @ 21-27°C
WORKING LIFE @ 25°C	1 min	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		
	MG-121	MG-133	TC-404	TC-405	TC-501	SC-305	SC-309	SC-320	
CHEMISTRY	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	
VISCOSITY, CPS @ 25°C	60,500	105,900	141,800	125,000	128,400	5,500 (resin) 5,500 (hardener) 4,000-7,000 (mixed)	3,500 (resin) 3,500 (hardener) 3,500 (mixed)	25,000 (resin) 20,000 (hardener) - (mixed)	
THERMAL CONDUCTIVITY, W/mK	2.3	3.6	4.3	5.0	3.6	>0.8	1.0	3.2	
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	
WORKING LIFE, @ 25°C	8 hr	8 hr	N/A	N/A	N/A	60 min	30 min	40 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	

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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 for 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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