

**DOW**

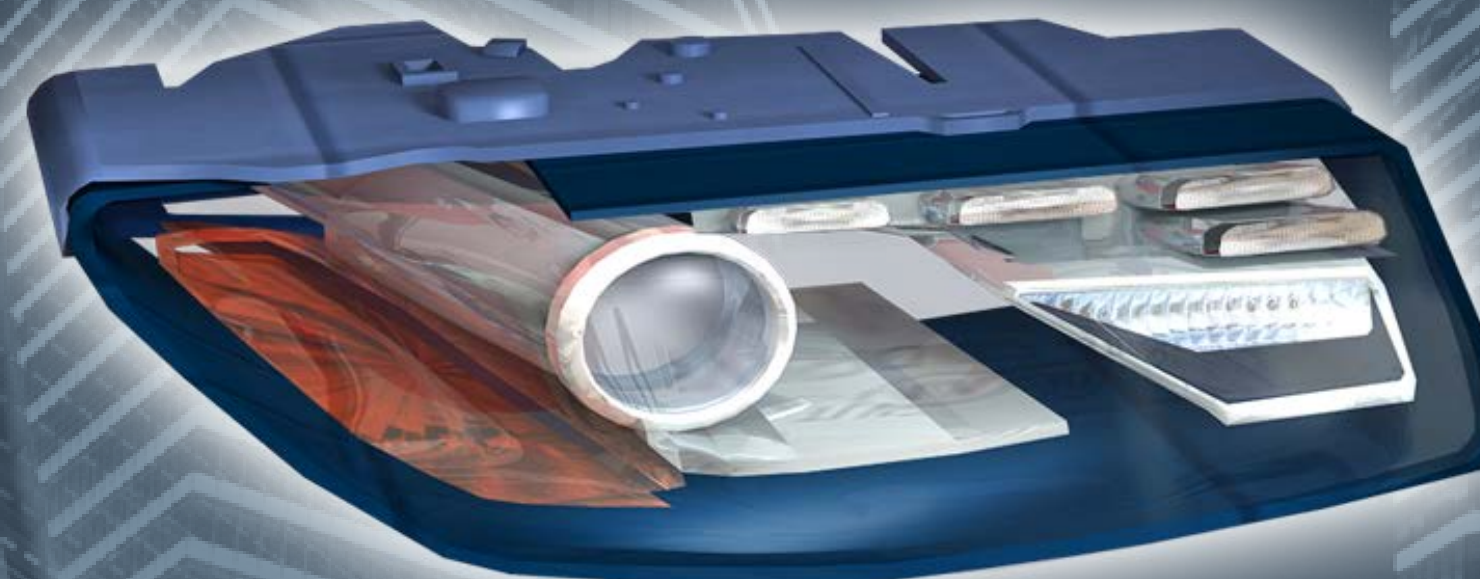
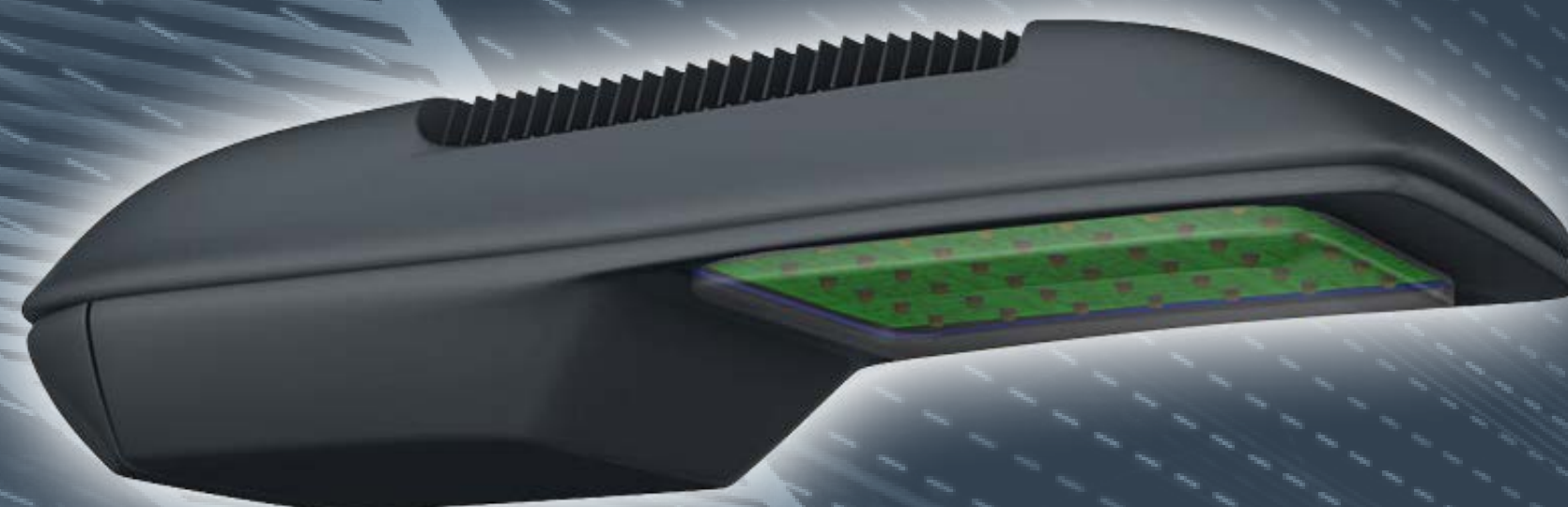
®

**Imagine**  
a brighter future



TOUCH  TO BEGIN

# Protection, assembly and optical materials



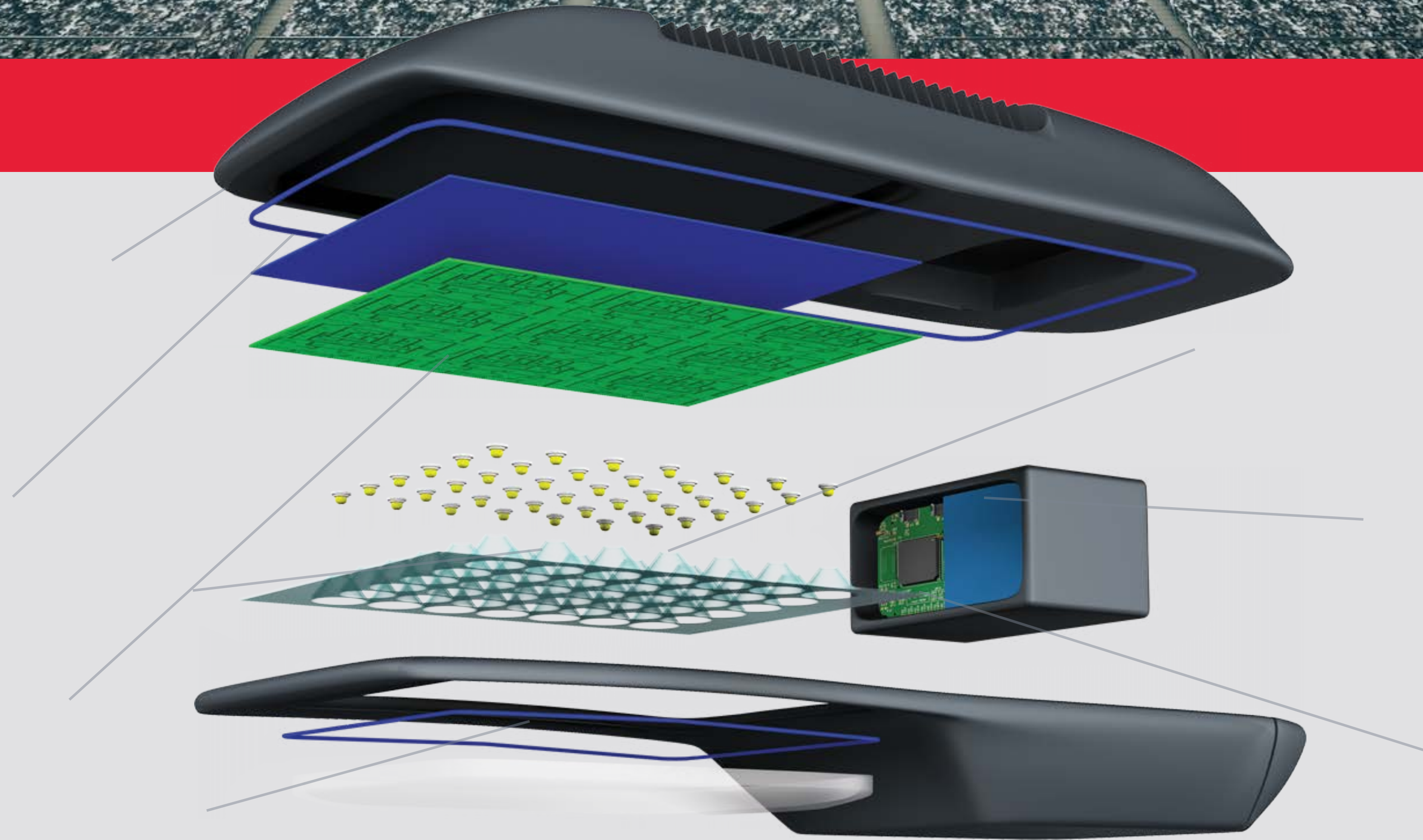
## **Brighter, more energy-efficient and longer-lasting lighting systems**

The demand is everywhere. Innovative materials can help you meet that demand. Learn how Dow's high-performance silicones – and our lighting, technical, optical and process expertise – can help make your ideas brighter.

**enLighten** with Dow Silicones

*Solutions for*

# LED Luminaires



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Solutions for

# LED Luminaires

## Adhesives and sealants

By forming durable, low-stress elastomers, DOWSIL™ thermal adhesives and sealants increase your design flexibility, while providing reliable long-term performance. They offer excellent bonds and seals between a variety of common LED lamp and luminaire materials.

- ▶ DOWSIL™ 3-1944 RTV Coating
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- ▶ DOWSIL™ SE 9189 L RTV Adhesive

### Learn more

How can Dow silicones help you meet your LED challenges?  
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**DOWSIL™**  
silicones by 

Solutions for

# LED Luminaires



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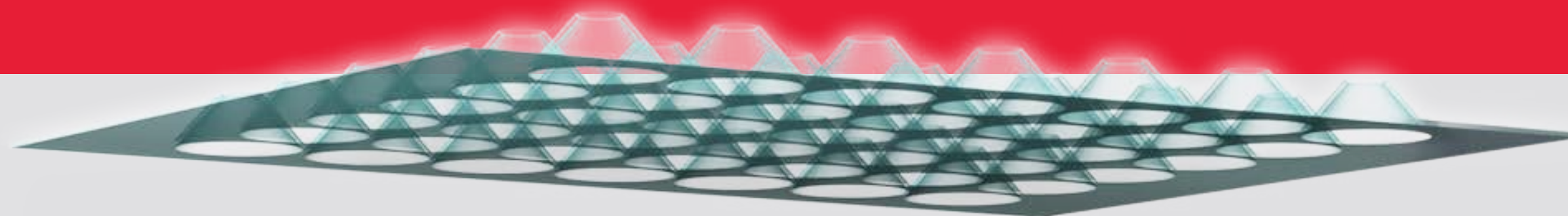
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silicones by 

Solutions for

# LED Luminaires



## Moldable optical silicones

You will find an unprecedented level of design freedom with moldable optical silicones from Dow. They allow you to explore more complex architectures – often while simplifying the manufacturing process.

They can also boost the long-term performance of your design. Not only do they offer excellent optical properties, they are more resistant to impact damage and degradation from UV, heat and environmental extremes than traditional optical materials – delivering high lumen density while remaining stable over time.

- ▶ SILASTIC™ MS-0002 Moldable Silicone
- ▶ SILASTIC™ MS-1002 Moldable Silicone
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- ▶ SILASTIC™ MS-2002 Moldable Silicone White Reflector

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- ▶ SILASTIC™ MS-4007 Moldable Silicone

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**SILASTIC**™  
silicone elastomers by 

Solutions for

# LED Luminaires



## Thermally conductive pottants

Environmental contamination and thermal damage are two of the biggest threats to the long-term reliability of your LED lamp or luminaire. DOWSIL™ and SYLGARD™ thermal pottants protect LED drivers from moisture and dust while dissipating heat and absorbing component noise.

- ▶ DOWSIL™ CN-8760 Thermally Conductive Encapsulant
- ▶ SYLGARD™ 160 Silicone Elastomer
- ▶ SYLGARD™ 164 Silicone Elastomer
- ▶ SYLGARD™ 170 Fast Cure Silicone Elastomer
- ▶ SYLGARD™ 170 Silicone Elastomer
- ▶ SYLGARD™ 567 Primerless Silicone Encapsulant

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Solutions for

# LED Luminaires



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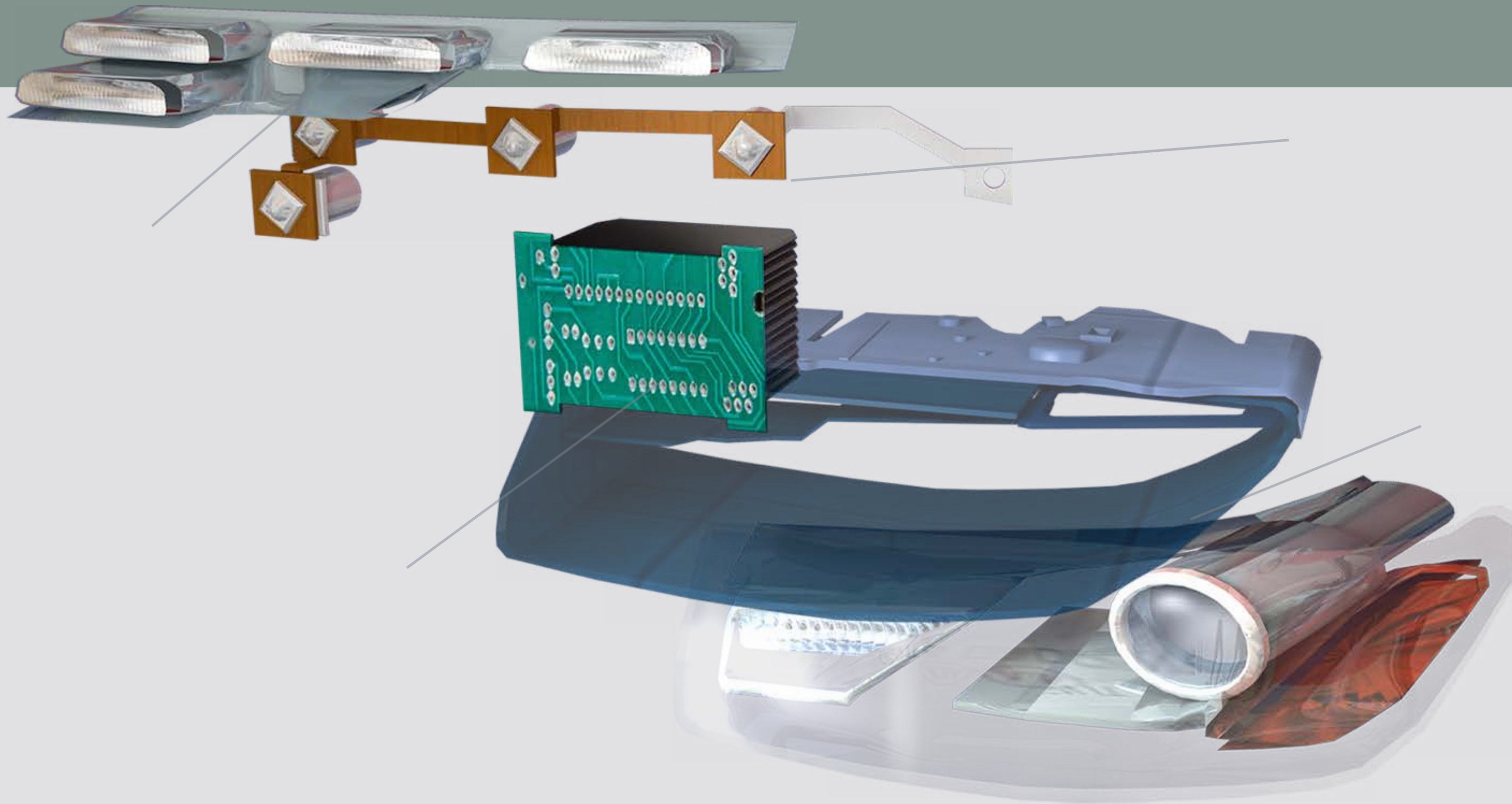
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silicones by 



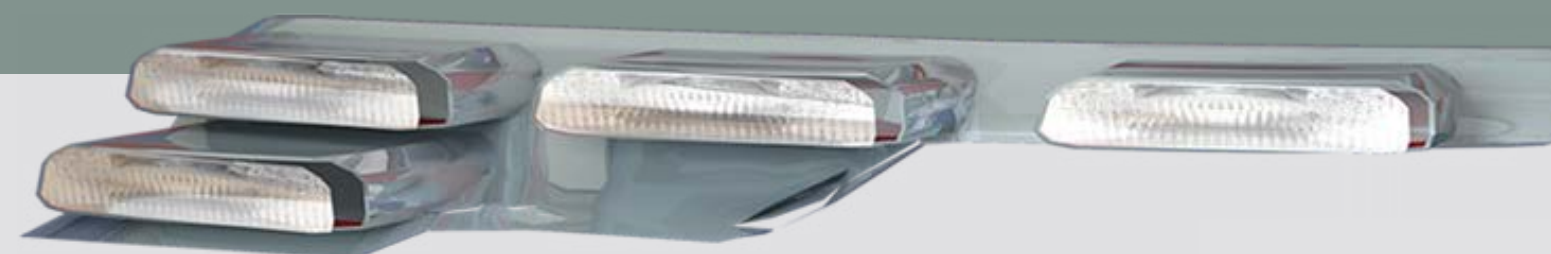
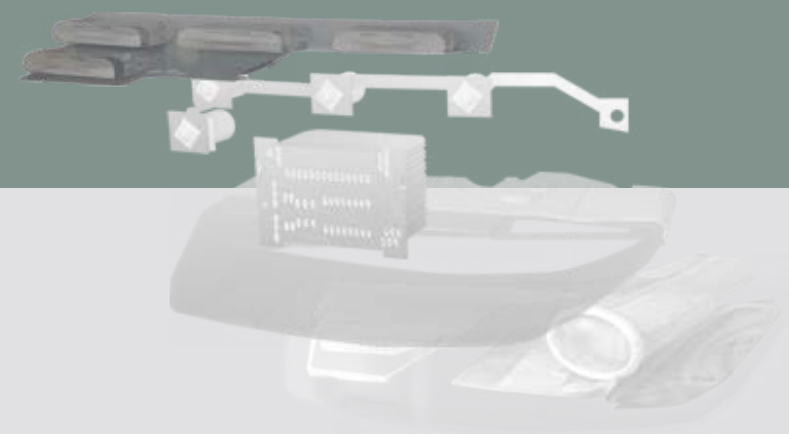
*Solutions for*

# LED Headlamp assemblies



Solutions for

# LED Headlamp assemblies



## Lens/assembly

This is the business end of your headlamp assembly. Silicone adhesives, optics and reflective coatings from Dow offer you new freedom of design and increased performance – thanks to the unique properties of silicones and our global network of experts.

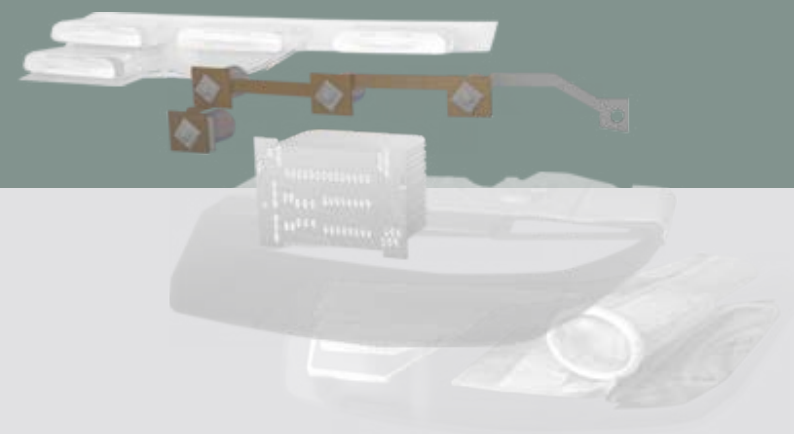
- ▶ Adhesives and sealants
- ▶ Moldable optical silicones
- ▶ Reflective material

### Learn more

How can Dow silicones help you meet your LED challenges? Talk to a member of the [Dow team](#).

Solutions for

# LED Headlamp assemblies



## LED board

The nerve center of your LED assembly, the PCB has unique needs. Silicone thermal interface materials, encapsulants and coatings from Dow can help you meet them – and increase performance while opening up new design possibilities.

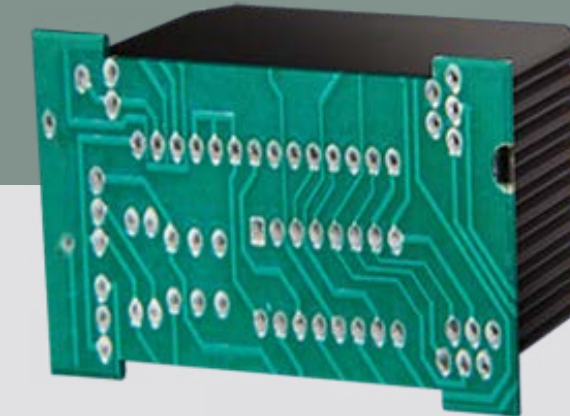
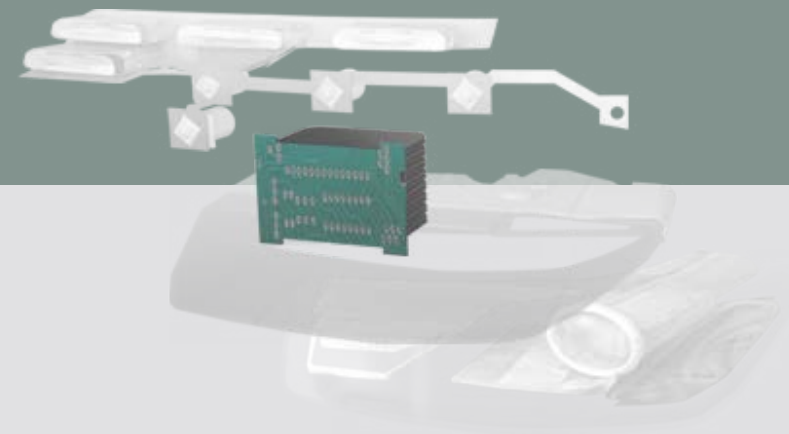
- ▶ Thermal interface materials
- ▶ Reflective material
- ▶ Clear encapsulants

### Learn more

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Solutions for

# LED Headlamp assemblies



## Control/heat sink

Heat management is one of the most vital considerations in your LED headlamp design. Silicone thermal management materials from Dow offer you highly stable and versatile options to manage heat.

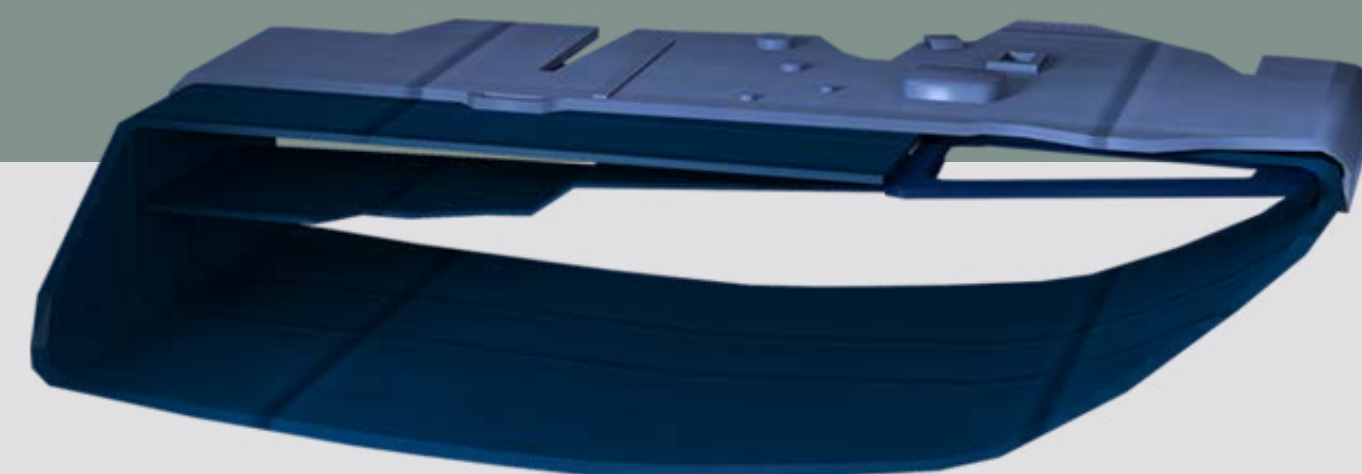
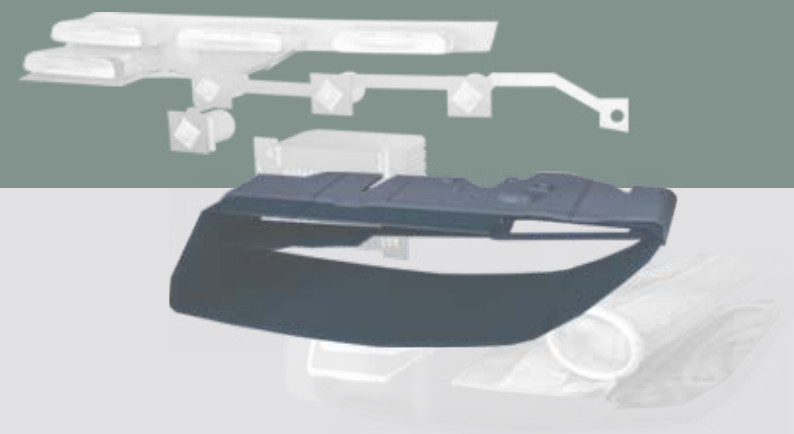
- ▶ Conformal coatings/gels
- ▶ Thermal interface materials
- ▶ Thermally conductive pottants

### Learn more

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Solutions for

# LED Headlamp assemblies



## Housing

Your assembly depends on the integrity of its housing. DOWSIL™ silicone adhesives and sealants help you maintain a moisture-, dust- and dirt-proof environment with long-lasting adhesion under the most demanding conditions.

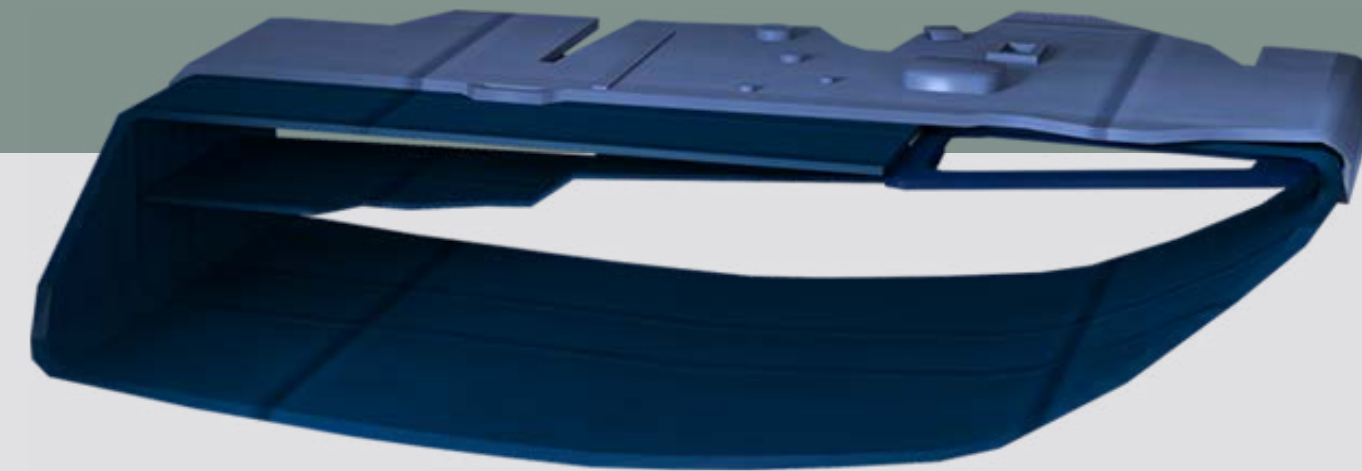
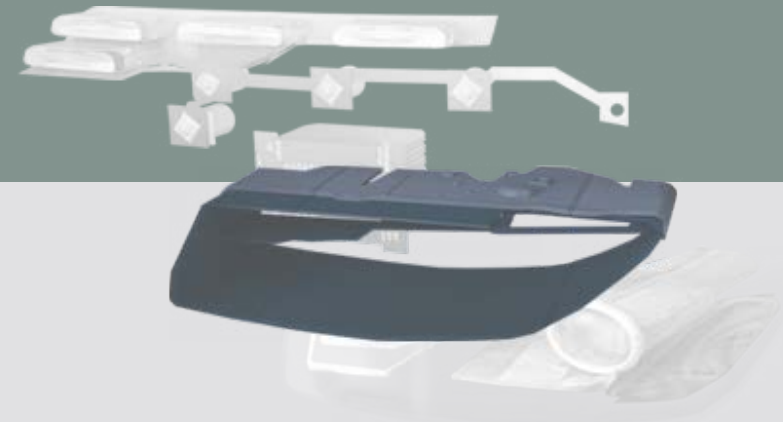
▶ [Adhesives and sealants](#)

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Solutions for

# LED Headlamp assemblies



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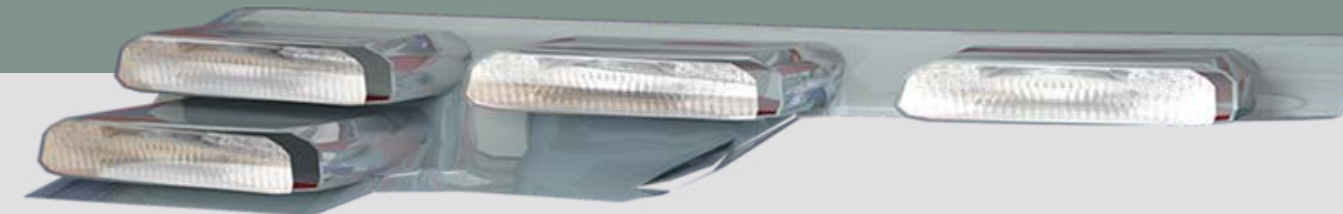
Solutions for

# LED Headlamp assemblies

▶ Adhesives/sealants

▶ Moldable optical silicones

▶ Reflective material



## Lens/assembly

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silicones by 

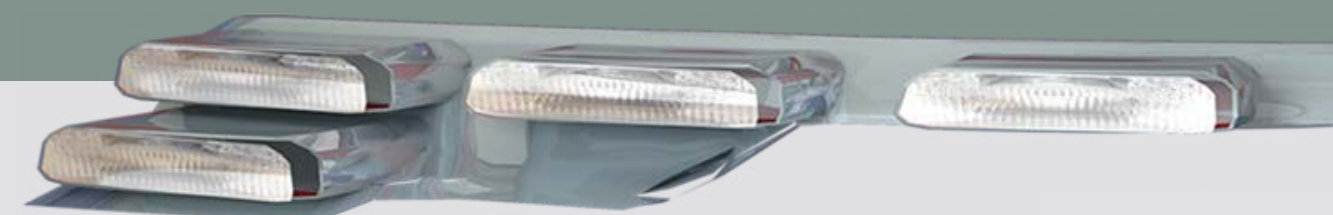
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- ▶ [SILASTIC™ MS-4007 Moldable Silicone](#)

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silicone elastomers by 



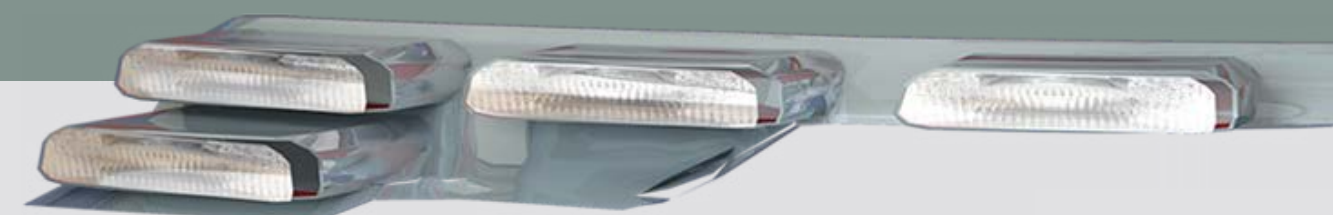
Solutions for

# LED Headlamp assemblies

▶ Adhesives/sealants

▶ Moldable optical silicones

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**Lens/assembly**

## Reflective material

This award-winning moldable silicone is a white reflective material which enables creativity and flexibility in designing and manufacturing light reflectors. This is a high viscosity, high Shore A hardness, fast curing optical molding resin for producing fine details with good resistance to environmental aging. DOWSIL™ MS-2002 Moldable Silicone allows for excellent mold detailing or feature reproduction, and the ability to mold undercuts, etc. allows for more flexibility in your designs.

▶ [SILASTIC™ MS-2002 Moldable Silicone White Reflector](#)

**Learn more**

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silicone elastomers by 



Solutions for

# LED Headlamp assemblies

▶ Thermal interface materials

▶ Reflective material

▶ Clear encapsulants



## LED board

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## Learn more

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silicones by 

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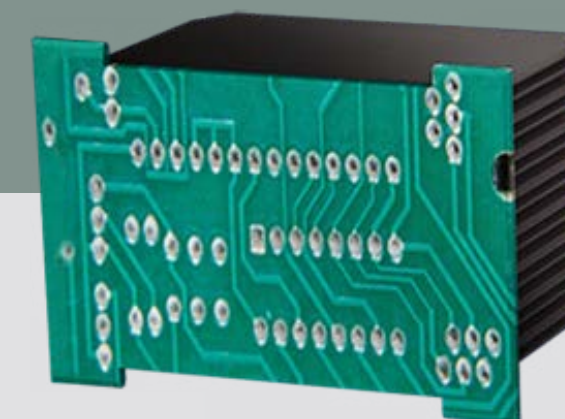
Solutions for

# LED Headlamp assemblies

▶ Conformal coatings/gels

▶ Thermal interface materials

▶ Thermally conductive pottants



**Control/heat sink**

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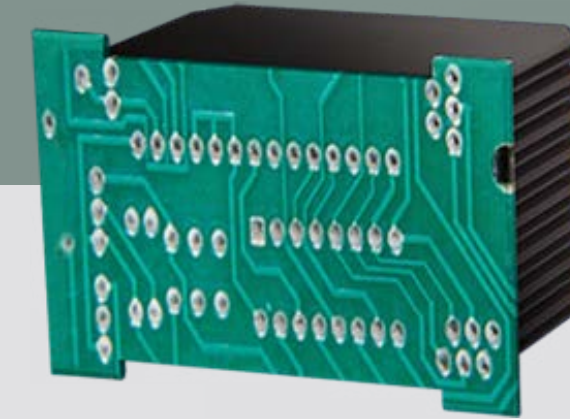
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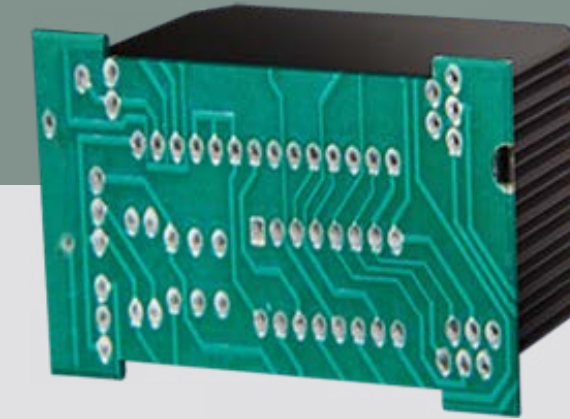
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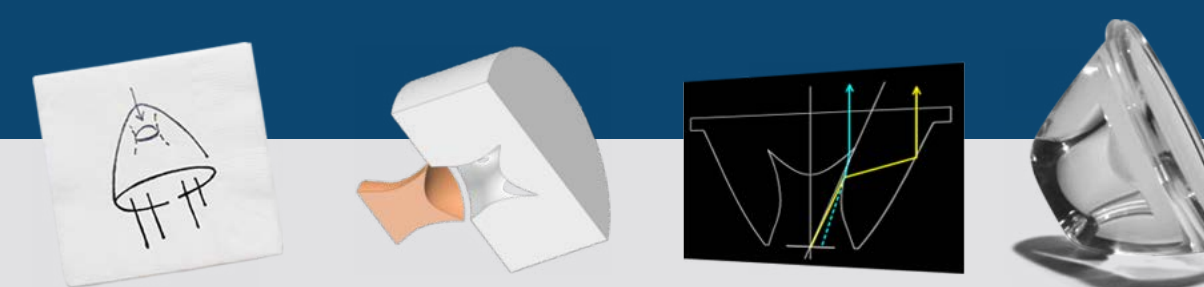
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Solutions for

# Optical coupling



## Optical coupling for displays

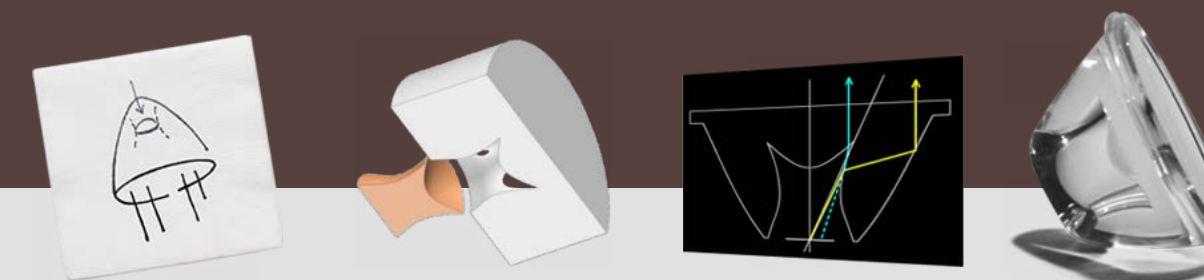
DOWSIL™ optical gels have been used extensively to seal and protect, by coating, encapsulating, or potting various optoelectronics due to their stress relieving capabilities and high refractive index, as well as the stability of these properties over time. Cured gels retain much of the stress and self-healing qualities of a liquid, while providing the dimensional stability of an elastomer – which is increasingly needed for delicate components.

### Optical coupling gels

- ▶ DOWSIL™ EG-1200 Gel
- ▶ DOWSIL™ EG-4131 Dielectric Gel
- ▶ DOWSIL™ VE-6001 UV Optical Bonding

Solutions for

# Clear encapsulants



## Secondary optical encapsulants

One way to realize greater cost efficiency, and lower your total cost of ownership is through materials that can perform multiple functions. DOWSIL™ secondary optical encapsulants offer you that opportunity. These materials provide superior protection from moisture, thermal stress, shock and impact, and offer excellent optical performance. You can count on minimal yellowing and degradation, while maintaining consistent light quality over the product lifespan.

### Secondary optical encapsulants

- ▶ [DOWSIL™ EI-1184 Optical Encapsulant](#)
- ▶ [DOWSIL™ EI-2888 Primerless Silicone Encapsulant](#)



# LED Ecosystem

## LED innovation ecosystem

As an LED lighting customer, you will gain the support of the Dow LED Innovation Ecosystem.

This broad and growing global network extends from Europe to Asia to the Americas and spans the entire LED value chain. It includes dozens of optical and LED component designers and manufacturers and offers the expertise you need to develop a true total solutions package with such services as:

- Material development
- Optical design
- Prototyping
- Analytical testing
- Application development
- Process development

You will also gain the support of our extensive global network of equipment manufacturers, distributors and specialty repackagers. Together, this array of resources and relationships offers you one of the most comprehensive sources for advanced materials solutions.





# Help

## How can we help you?

Would you like to know more about how Dow silicone materials can help make your LED lighting ideas brighter?

Talk to one of the [Dow technical experts](#) or visit [consumer.dow.com/lighting](https://consumer.dow.com/lighting).

**SiLASTIC™**   **DOWSIL™**

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