

SMART PANELS AND LIGHTING

Proven Materials. Trusted Expertise.



OUTER LENSES

New technologies like LED, OLED and laser are making possible more advanced designs and styling for front lighting. As automakers strive to create distinctive lighting signatures, applications such as outer lenses are taking on increasingly intricate forms, and more value than ever is placed on both aesthetics and quality. SABIC's materials portfolio can help the industry meet those expectations, bring unique concepts to life and help realize the full potential of cutting-edge light source technologies. Not only can our LEXAN™ resin provide the design freedom to create more complex shapes, it also provides excellent transparency and impact performance.

PERFORMANCE NEEDS

- High optical quality
- Heat resistance
- Impact resistance
- High transparency
- High flow
- Color stability
- UV resistance
- Complex geometry
- Mold release
- Lightweight
- AMECA-listed*

MANUFACTURING TECHNOLOGIES

- 1K, thin-wall, and 2K injection molding; injection-compression molding
- Coatings

SABIC MATERIALS

- LEXAN™ LS1-111 resin
- LEXAN™ LS2-111 resin
- LEXAN™ LSHF resin

*The Automotive Manufacturers Equipment Compliance Agency (AMECA) maintains a list of acceptable plastics for exterior automotive lighting applications: <https://ameca.org/list-of-acceptable-plastics/>



INNER LENSES

With lower temperature LED technology, standard LEXAN™ resin can be a suitable replacement for higher-heat materials in inner lenses. In addition, this leading polycarbonate material can provide up to 90% light transmission for enhanced optical performance, exceptional impact resistance and dimensional stability.

PERFORMANCE NEEDS

- High heat
- High transparency
- Color stability
- Ice clear
- Edge or uniform glow
- Complex shapes

MANUFACTURING TECHNOLOGIES

- 1K, multilayer, and 2K injection molding

SABIC MATERIALS

- LEXAN™ LS1, LS2 resins (including colors)
- LEXAN™ 123R resin

DIFFUSE

- LEXAN™ LUX2114G resin

LIGHT BARS AND THICK LENSES

- LEXAN™ XLS1110 resin



REFLECTORS

With the greater design complexity we see today, manufacturers need materials for reflectors that can provide good flow — which, in turn, can allow for the molding of complex shapes while maintaining impact performance. Our materials are up for the challenge. And with the lower temperature requirements made possible with LED lighting, manufacturers can now look to our material solutions to replace higher-heat and more costly options, such as PC copolymers, PBT, PPS and PEI resins.

PERFORMANCE NEEDS

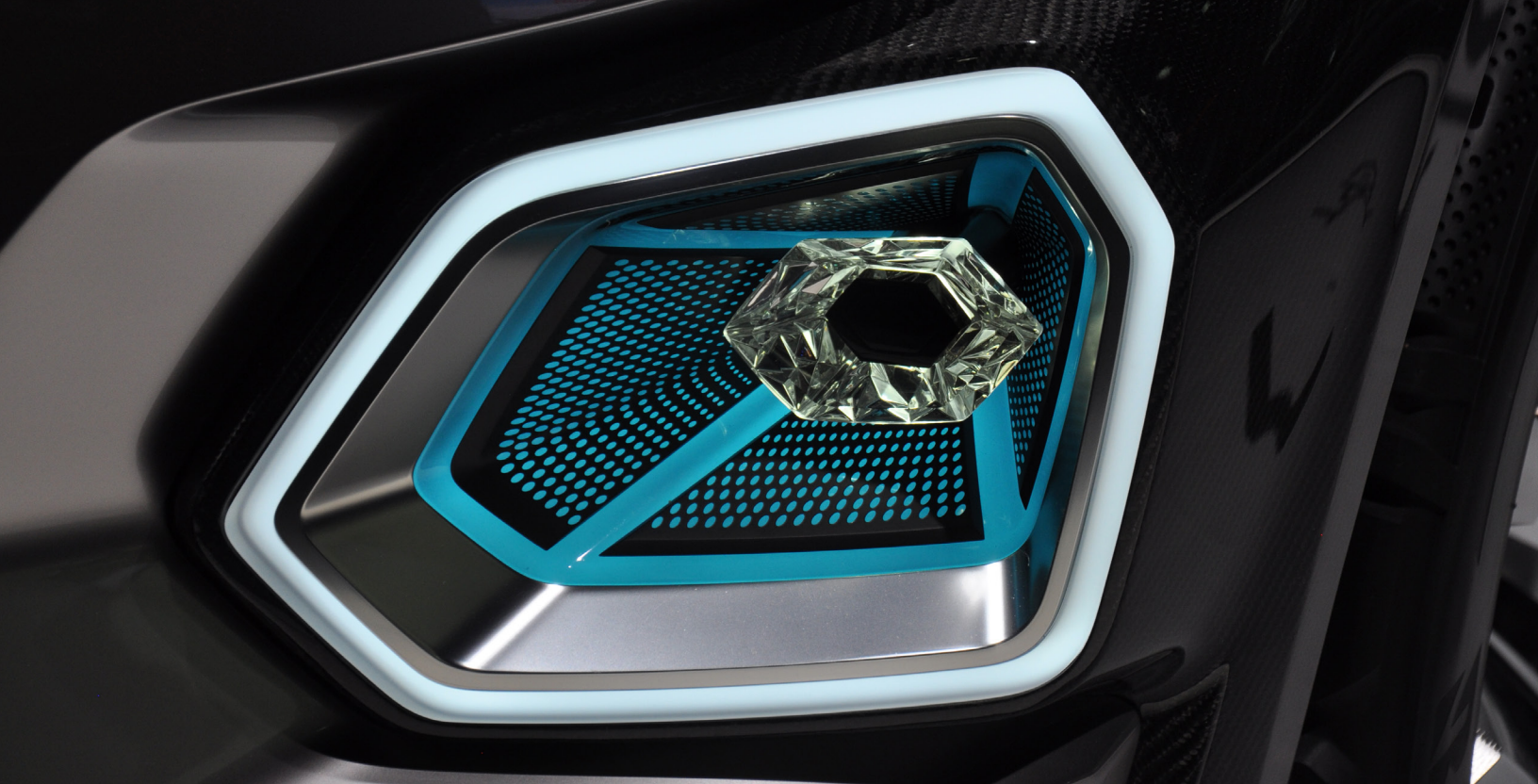
- Heat performance
- Direct metallization
- High reflectance
- Complex geometry
- Coefficient of Thermal Expansion (CTE)
- Parts integration
- Mold release
- Lightweight

MANUFACTURING TECHNOLOGIES

- 1K injection molding
- Metallization

SABIC MATERIALS

- LEXAN™ 121R resin
- LEXAN™ LUX2289 resin



BEZELS

Lighting manufacturers need greater styling flexibility and moldability, especially with the increasing complexity of lighting designs. SABIC's range of solutions can help, with a portfolio of materials engineered to meet the increasingly high aesthetic and performance demands of modern bezel designs. This includes our series of LEXAN™ high-flow (HF) resins, which makes sharper draft angles possible during molding for more aggressive styling, greater functional integration, thinner walls and potential cost reduction.

PERFORMANCE NEEDS

- Heat
- High-quality aesthetics
- Complex geometry
- Metallization
- Multicolor
- Mold release
- Lightweight

MANUFACTURING TECHNOLOGIES

- 1K, multilayer, and 2K injection molding

SABIC MATERIALS

- LEXAN™ 121R resin
- LEXAN™ HF1110R, HF3510R, HF4010SR resins



BRACKETS AND HOUSINGS FOR REAR LAMPS

When a balance of properties and performance is needed, as it is for rear lighting components, turn to workhorse products such as our CYCOLOY™ resin and polypropylene materials. They can meet critical application requirements, while supporting weight and cost reductions as well.

PERFORMANCE NEEDS

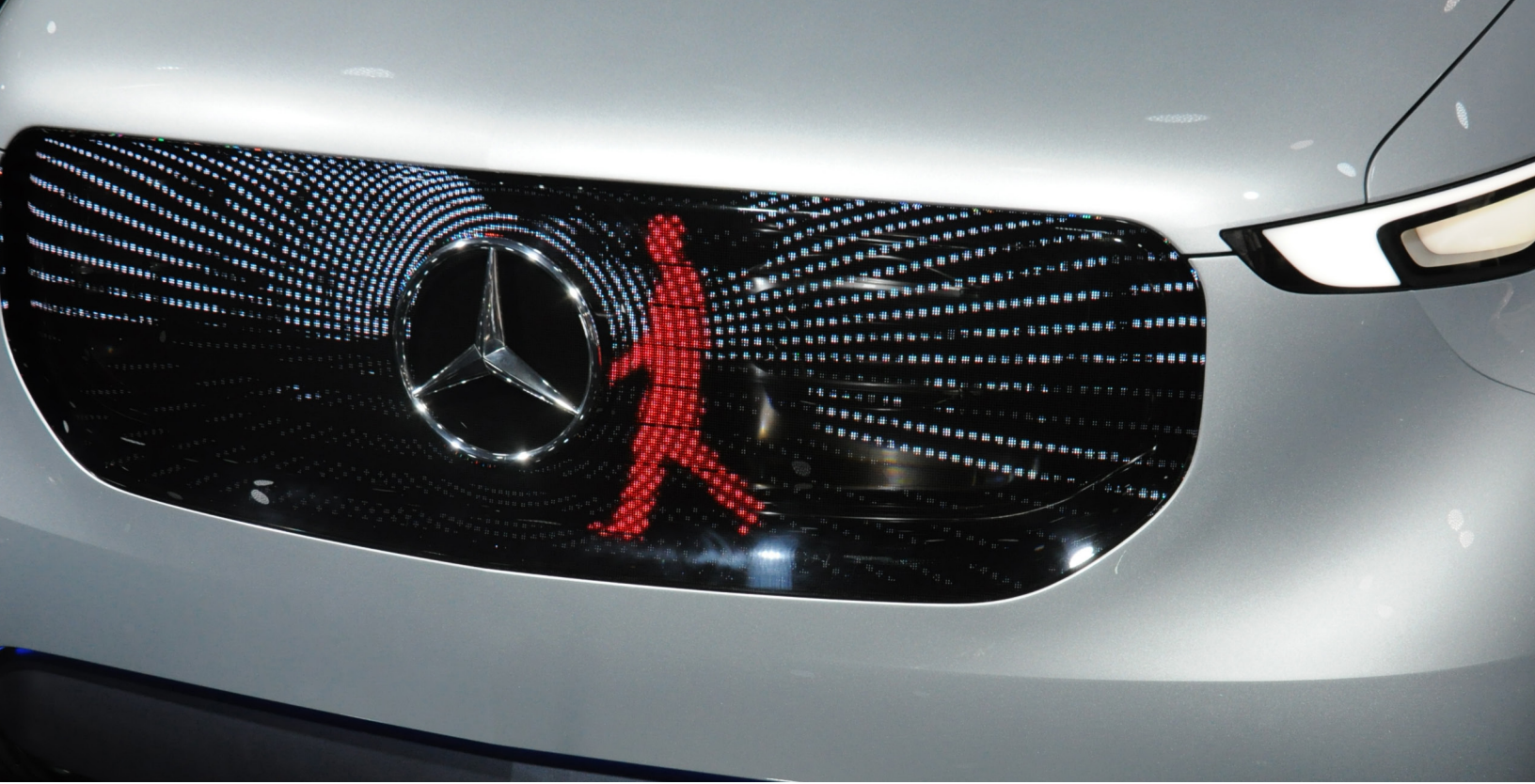
- Radar transparency
- Design freedom
- Safety/interaction
- Balance of properties

MANUFACTURING TECHNOLOGIES

- 1K and 2K injection molding
- Joining (weld and glue)
- Metallization

SABIC MATERIALS

- CYCOLOY™ XCY620S resin
- CYCOLOY™ C1200HF resin
- SABIC® PPcompound
- STAMAX™ resin



EV FRONT PANELS

The industry is moving towards grille-less designs for electric vehicles in the form of front panels with unique light signatures and additional functionality. LEXAN™ resin solutions from SABIC can help lead the way in this shift, supporting an optimal integration of sensors, lighting functions, branding elements and other features. With high heat and color stability, proven impact resistance and glass-like transparency, LEXAN resin can meet the needs of the future while making more options available today.

PERFORMANCE NEEDS

- Radar and LiDAR transparency
- High-quality aesthetics
- UV resistance
- Parts integration
- AMECA-listed
- Pedestrian safety

MANUFACTURING TECHNOLOGIES

- Multi-K injection and injection-compression molding
- Coatings and films

SABIC MATERIALS

- LEXAN™ LS1-111 resin
- LEXAN™ LS2-111 resin
- LEXAN™ LSHF resin
- LEXAN™ AT1230R, AT2030R resins



WINDOWS

Featuring a glass-like appearance and high impact resistance, automotive window solutions with LEXAN™ resin can provide increased design freedom, greater functional integration, improved aerodynamic performance and significant weight reduction. Geometries and curvatures that are impossible with conventional glass can be made a reality, opening a window to unprecedented design freedom and greater product differentiation. Enhanced integration through injection molding can also help reduce parts and simplify assembly, while an inherently lightweight composition can help achieve weight-reduction goals. In addition, windows with LEXAN resin can help lower HVAC consumption and increase EV battery range with its significantly lower thermal conductivity compared to conventional glass windows.

PERFORMANCE NEEDS

- Glass-like appearance
- Impact resistance
- Transparency
- Design freedom
- Parts integration
- Lightweight
- Improved aerodynamics
- Lower HVAC consumption

MANUFACTURING TECHNOLOGIES

- Injection compression and 2K structural molding
- Coatings

SABIC MATERIALS

- LEXAN™ GLX143 resin
- CYCOLOY™ XCM830 resin



INTERIOR AND INFOTAINMENT

As vehicles are reimagined, manufacturers are interested in interior lighting and infotainment and display solutions that can allow for the design of components with more organic shapes and complex geometries. The design freedom possible through LEXAN™ resin opens up countless options and opportunities to create greater competitive differentiation, all while reducing weight, increasing durability, improving safety and enhancing aesthetics.

PERFORMANCE NEEDS

- Optical clarity, purity
- Design freedom
- Occupant safety
- Glass-like appearance
- Scratch resistance
- Parts integration
- Lightweight
- Haptic feedback
- Anti-glare and anti-fingerprint

MANUFACTURING TECHNOLOGIES

- Injection-compression and 2K structural molding
- Coatings
- In-mold decoration
- Film-insert molding

SABIC MATERIALS

- LEXAN™ 141R resin
- LEXAN™ GLX143 resin
- LEXAN™ HF3510R resin
- LEXAN™ LSHF resin

FUNCTIONAL FORMS

- LEXAN™ film and sheet products

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SABIC HEADQUARTERS

PO Box 5101, Riyadh 11422,
Saudi Arabia
T: +966 (011) 225 8000
Fax: +966 (011) 225 9000
E: info@sabic.com

EUROPE

PO Box 5151, 6135 PD Sittard,
The Netherlands
T: +31 467 222 222
Fax: +31 467 220 000
E: info@sabic.com

GREATER CHINA

2550 Xiupu Road
Pudong, Shanghai 201319,
China
T: + 86 21 2037 8188
Fax: + 86 21 2037 8288
E: stcl-sha@sabic.com.cn

REST OF ASIA

One Temasek Avenue
06-01 Millenia Tower
Singapore 039192
T: +65 655 725 55
Fax: +65 653 181 01
E: sappl@sabic.com

UNITED STATES

SABIC Americas Head Office
#100
2500 CityWest Boulevard
Houston TX 77042
USA
T: +1 713 430 2301
Fax: +1 713 532 4994
E: info@americas.sabic.com

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