PRESS RELEASE

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FOUR SABIC THERMO-OPTICAL RESINS AMONG FIRST THERMOPLASTICS LISTED IN ZEMAX OPTICSTUDIO® DATABASE

NEW LISTINGS PROVIDE DESIGNERS WITH BROADER MATERIAL OPTIONS FOR SENSORS AND LENSES

SABIC, a global leader in the chemical industry, today announced that four of the company's thermo-optical resins have been added in the materials database of the Zemax OpticStudio®, the industry-standard in software for designing optical systems. These high-performance materials – including two grades of high-temperature LEXAN™ CXT polycarbonate (PC) copolymer, an ULTEM™ polyetherimide (PEI) resin and an EXTEM™ polyimide resin – are among the first resins to be added to OpticStudio®, giving designers of optical sensors and lenses new and innovative material choices beyond glass and epoxy resins. The SABIC's thermoplastics are designed to offer major advantages over these traditional materials like faster processing speeds and the possibility for freeform optics.

"Thermoplastics represent a new category of materials that significantly expands the choices currently available to optical designers," said Gabrie Hoogland, chief scientist, High Heat Technology, SABIC. "The initial four products we've listed in the Zemax OpticStudio® database offer high-temperature performance and many other desirable attributes to meet the specialized requirements of sensors and lenses for today's and tomorrow's consumer and industrial electronics applications. SABIC is strongly committed to supporting our customers in the optical industry and to expanding our materials offering in the Zemax database to keep pace with designers' changing needs and preferences."

"We welcome the addition of SABIC's high-performance thermo-optical polymers to OpticStudio®," said Dr. Thomas Pickering, OpticStudio® Product Manager, Zemax. "Many of our designers, who rely on our software for analysis, simulation and optimization of their optical components and systems, have requested the inclusion of material data for thermoplastics. Now, our customers have new opportunities to design next-generation lenses and sensors using these specialized optical materials. The expansion of our database will help designers gain even more value from OpticStudio®."

Powerful Properties for Optical Applications

The four SABIC thermo-optical polymers now listed in the Zemax OpticStudio® database are well suited to the demands of optical component miniaturization and address the challenges of integrating extensive functionality into limited space.

- LEXAN™ CXT 17 and LEXAN™ CXT 19 PC copolymers can deliver a unique balance of high-temperature resistance, high flow and excellent color stability under extreme molding conditions. The two copolymers have a high refractive index over 1.6 and high transparency in the UV-visible spectrum range.
- ULTEM™ 1010 PEI resin can offer inherent flame retardance, high strength and dimensional stability, high light transmittance in the infrared Spectrum Range and the ability to withstand a broad temperature range of -40 to 180 °C.
- EXTEM™ XH1015 polyimide resin can provide extreme high-temperature resistance and high flow for miniaturized, complex or thin-wall parts.

These materials can offer significant advantages over glass and epoxy resins. In design, they help remove restrictions and support innovative geometries, such as freeform surfaces, thin and longer walls, and improved textural definition. From a processing standpoint, injection molding reduces cycle times, eliminates the curing steps required for epoxy resins, and avoids expensive grinding and polishing operations required for optical glass.

SABIC worked with Zemax to supply optical data for its materials in specific formats, called optical constants. These include dispersive constants of refractive index, temperature constants of refractive index, temperature dependence, transmission data, and coefficient of thermal expansion (CTE) values.

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NOTES TO EDITORS

- SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates.
- SABIC should be written in every instance in all uppercase.

ABOUT SABIC

SABIC is a global leader in diversified chemicals headquartered in Riyadh, Saudi Arabia. We manufacture on a global scale in the Americas, Europe, Middle East and Asia Pacific, making distinctly different kinds of products: chemicals, commodity and high performance plastics, agri-nutrients and metals.

We support our customers by identifying and developing opportunities in key end markets such as construction, medical devices, packaging, agri-nutrients, electrical and electronics, transportation and clean energy.

SABIC recorded a net profit of SR 21.54 billion (US$ 5.74 billion) in 2018. Sales revenues for 2018 totaled SR 169.09 billion (US$ 45 billion). Total assets stood at SR 320.1 billion (US$ 85.4 billion) at the end of 2018. Production in 2017 stood at 71.2 million metric tons.

SABIC has more than 34,000 employees worldwide and operates in more than 50 countries. Fostering innovation and a spirit of ingenuity, we have 11,534 global patent filings, and have significant research resources with innovation hubs in five key geographies – USA, Europe, Middle East, South Asia and North Asia.

The Saudi Arabian government owns 70 percent of SABIC shares with the remaining 30 percent publicly traded on the Saudi stock exchange.

PHOTO AND CAPTION

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