



News Release

New Makrolon® Lumen XT Diffuser Sheet for LED lighting expands fixture design options

Sheffield, January 31, 2011 – Sheffield Plastics, a Bayer MaterialScience LLC Business, now offers polycarbonate sheet products with different levels of light diffusion to optimize performance and afford more design options in LED lighting fixtures.

Designated Makrolon® Lumen XT, the extruded sheet product was developed specifically as a diffusion lens for LED lighting. It offers three distinct light diffusion levels that can be matched with other design elements to help achieve the desired lighting qualities for different fixture designs. The technology behind the sheet diffusion properties, developed by Bayer MaterialScience, also helps minimize hot spots caused by intense LED lighting.

According to Dr. Ted Trautman, Technology Manager for Sheffield, “Market research showed a need for lenses with different levels of light diffusion to meet various fixture performance requirements. Some designs, for example, may want a low level of diffusion to soften the edges of emitted light. Others may need more light diffusion to reduce direct glare. Also, variables such as the LED-to-lens distance and the LED matrix spacing affect the optimal light diffusion. While diffusion and light transmission are directly associated, having these diffusion options allows the light fixture designer the ability to achieve the lighting qualities they desire for a specific fixture.”

Jeff Hester, Segment Manager for Makrolon Lumen XT, also commented on the design versatility offered by the new material. “Three levels of light diffusion simply mean more possibilities to find a lens that works best in the overall design,” he stated. “This is important especially when converting existing fixtures to LED lighting, where the diffusing lens has to work well with design elements that already exist.”

Hester also noted other attributes that contribute to Makrolon Lumen XT’s design versatility. “Its uniform diffusion characteristics help diminish visible LED ‘hot spots’ on the lens, and its high temperature resistance allows shallower and tighter designs than are possible with acrylic,” he stated.

Polycarbonate's inherent impact resistance opens several application areas for the new material, where glass or acrylic lenses would require protective shielding or metal grids. These include fixtures for detention facilities, production operations, schools, transportation, and psychiatric hospitals and other safety and security uses. The material also has a UL listed 94 V-2 flammability rating.

Sheffield offers Makrolon Lumen XT sheet in 1.5mm (0.060") and 3.0mm (0.118") thicknesses, each available with three different light transmission levels.

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New Makrolon Lumen XT Sheet offers 3 levels of diffusion for intense LED lights

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