

Case Study PMMA for LED Lamp



Design high diffusing and bright LED lamp covers using frosted or clear optical acrylic grades

Polymer: Lucite® Diakon® PMMA compounds

Application: LED lighting luminaires, LED architectural lightings, LED lamps

Processing: Injection moulding, extrusion

Key Benefits:

- Extremely high light output, no loss of LED brightness
- High diffusing power for a soft and smooth light effect
- Customizable surface: colour, high gloss or matt, frost level
- High impact and UV resistance suitable for architectural lighting

The Challenge

LEDs are replacing more and more filament bulbs thanks to their extremely bright output and broad design possibilities. Consequently, finding materials which provide an excellent lumen output while hiding the light source has become one of your main challenges as LED lamp manufacturers.

As aesthetics effect is crucial in the customer's decision process, you would like to get customized colours and effects such as gloss or matt surface, and high **diffusion power**.

The Solution: Lucite® Diakon® PMMA for LED lamps and luminaires.

Benefit from high quality acrylic materials developed for LED applications and the expertise of Lucite International in PMMA to:

- Design highly diffusive and bright LED lamps
- Combining the transmission of optical clear PMMA and the diffusivity of opal grades, Lucite® Diakon® provides you both high light transmission and high diffusion power for a range of design shape, process **type and thickness**.

DIAKON® ELVAKON® TUFCOAT® ACRYPET®



Your unique partner for
tailor made PMMA solutions

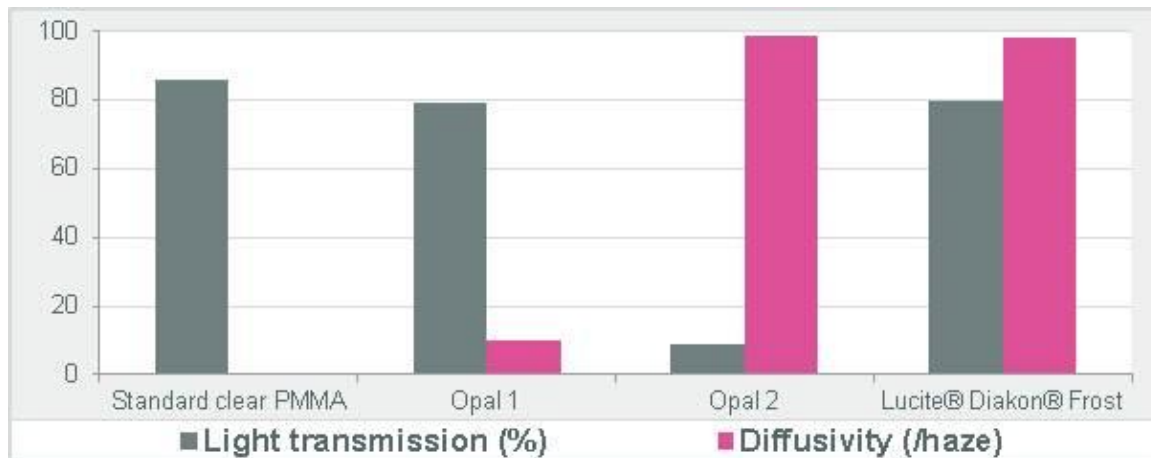


Figure 1: Lucite® Diakon® offers you the possibility to design high transmission and/or highly diffusive LED lamps thanks to optical clear, opal and frost grades.

Customize your LED lamp aesthetics

Control the colour of your luminaire light output thanks to colour-correcting tinted acrylic materials. Access to a broad portfolio of gloss and matt surface effects. Tailor the diffusive power of your lamp from clear to diffusing grades.

Produce impact and UV resistant LED luminaires

Lucite® Diakon® grades provide you with an excellent UV and weathering stability to maintain the colour, brightness and lumen output of your LED lamp, for many years of service. To provide material strength during installations, transport or during lifetime, benefit from Lucite® Diakon® impact resistant grades of PMMA.

Optimize your LED light development and processing

To help you save time on your luminaire development, Lucite International rapidly optimizes the properties of the Lucite® Diakon® grades to fit your requirements in terms of transmission, diffusion, aesthetics, impact and melt flow. Benefit from rapid support to solve your technical issues and recommendations to optimize your LED lamp processing.

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