Makrolon® LED lens grade materials combined with AURA™ UV infusion technology provide a cost effective durable solution

- UV Resistance – after processing by AURA UV infusion
- Impact Resistance – for rough service environments
- Heat Resistance – better retention of properties at elevated temperatures
- Cost Benefit – manufacturing and part performance

MAKROLON ADVANTAGES COMPARED TO PMMA (ACRYLIC)

MOLDING
- Better heat dissipation for shorter cycle times
- Higher index of refraction for thinner wall sections

DESIGN & ASSEMBLY
- Resistance to stress cracking plus excellent ductile behavior
  – Reliable integration of components
  – Robustness for joining techniques such as snap fits

LONG TERM DURABILITY
- Excellent impact performance – up to 30x PMMA
- Retention of properties over a range of temperatures
  – Resistance to creep provides better long-term seal performance
  – Better fatigue resistance at elevated temperatures
- Dimensional stability with up to 25% lower thermal expansion and moisture absorption

MARKET OPPORTUNITIES
- UL 94 flame class ratings V-0 and 5VA
- UL RTI listings up to 125°C
- AURA UV infusion allows Makrolon to resist yellowing from long term UV exposure
- AURA UV infusion of Makrolon can provide a similar total cost as PMMA for optics, lenses, covers and enclosures
Aura™ UV Infusion Technology

Ultraviolet (UV) light protection infused into Makrolon® polycarbonate provides many benefits:

- **Manufacturing Flexibility** – allows production of both UV and non-UV protected parts in the same cycle due to a post-molding process
- **Penetration Depth** – provides the material with UV protection even after surface damage
- **Minimal Change** – in yellowness index, light transmission and haze development
- **Product Life Extension** – through improved retention of color, clarity and optical properties

The Future of Lighting with Covestro

- **Makrolon® TC8030** thermally conductive
- **UV Infused Makrolon® LED2643** clear
- **Makrolon® 6487** flame retardant
- **Makrolon® RW6265X** reflective white

Covestro’s product portfolio offers a variety of solutions for lighting OEMs, ODMs, custom molders and extruders.

The manner in which you use, and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of product evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine, to your own satisfaction and requirements, whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoints. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.