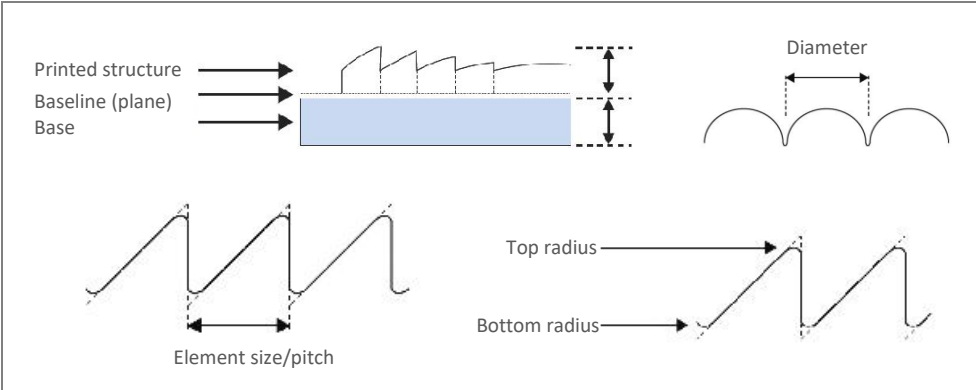
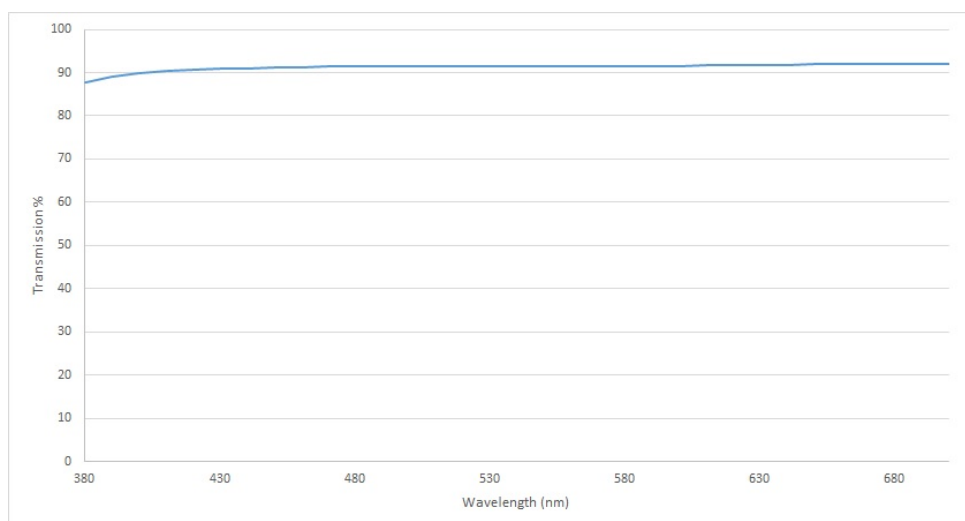


Introduction

'LUX Crystalline' resins are developed for use in more challenging environments. The stunning combination of superior thermal, mechanical and optical properties allow for the use of the materials in more challenging environments. When reliability, durability and superior optical clarity are leading for your application, 'LUX Crystalline' is the material of choice.

User definitions (master part)	
Material Characteristics	Suitable for optical prototyping parts simulating PMMA or Polycarbonate. Very high UV stability.
Substrate material	LUX Crystalline solutions exist of one single material. Both base and optical structure are generated in one solid optical material (contrary to LUX Standard resin).
Colored materials / resin	Available first half of 2024.
Glass transition temperature	91° C
Heat Deflection Temperature	84° C
Compliance	Mercury free product in accordance with the European Directives: 2002/96/EC, 2000/53/EC, 2000/11/EC, 2011/65/UE and 2017/2102/UE (RoHS)

LUX CRYSTALLINE // TOTAL LIGHT TRANSMISSION – VISIBLE LIGHT SPECTRUM



LUX Crystalline Resin

Measurement:
3.0 mm sample plaque

For internal transmission:

Typical surface reflection values are $\pm 3\%$ per entrance/exit surface.

NOTE: Raw transmission data is available on request. Please [contact us](#) to receive your dataset.



Material Overview

	LUX CRYSTALLINE
Dimensions	
Max part size ⁽¹⁾	1000 mm x 610 mm (39.370" x 24.016")
Max feature print height (excl. base)	5.0 mm (0.236")
Min feature print height (excl. base)	300 microns*
Shape conformity ⁽²⁾ (Average deviation)	80 microns*
Min element size / pitch	1.0 mm (0.039") for lens array – 5.0 mm (0.19685) for single lens element.
Optical Performance (420 nm - 780 nm)	
Hardness (Shore D1)	85
Flex. modulus of elasticity (MPa)	2200
Refractive index (at 20°C)	1.51
Hazen Coloration (at 50 mm in thickness)	< 30

(1) Larger sizes available on request. Please also refer to our Design Guidelines for more details.

(2) Shape conformity: the difference between the CAD file and actual 3D printed model. In fact, tolerances vary from 'only a few microns' to 'tens' or 'hundreds' of microns depending on the feature to be printed. As all our work is custom, it is hard to display an exact figure here. Please verify the accurate expectations with one of the Luximprint Sales Engineers.

Applications

Any situation for technical optical parts in indoor and outdoor environments requiring a high level of optical quality, UV resistance and/or high mechanical properties. Typical examples include: Household appliances, electronics, toys, automotive industry: head lamps, headlights, transparent pieces, crystal ware industries, glass making, bottles, advertising goods, design objects.

Disclaimer

The values mentioned on this document are based on tests and researches carried on in laboratories in precise conditions. It's the responsibility of the user to check the convenience of the product in his own conditions defined and tried by himself. Luximprint disclaims all responsibility for any consequence occurred by the use of this product.

For material related questions, please [contact our sales engineers](#) to learn about the availability and possibilities for your custom project.

3D Printing Capabilities Optical Plastics

These 'Material Specifications' are a part of our Printoptical Capabilities Library. For design and surface related questions, please refer to our 'Design Guidelines' or 'Surfaces & Finishes' documentation.

