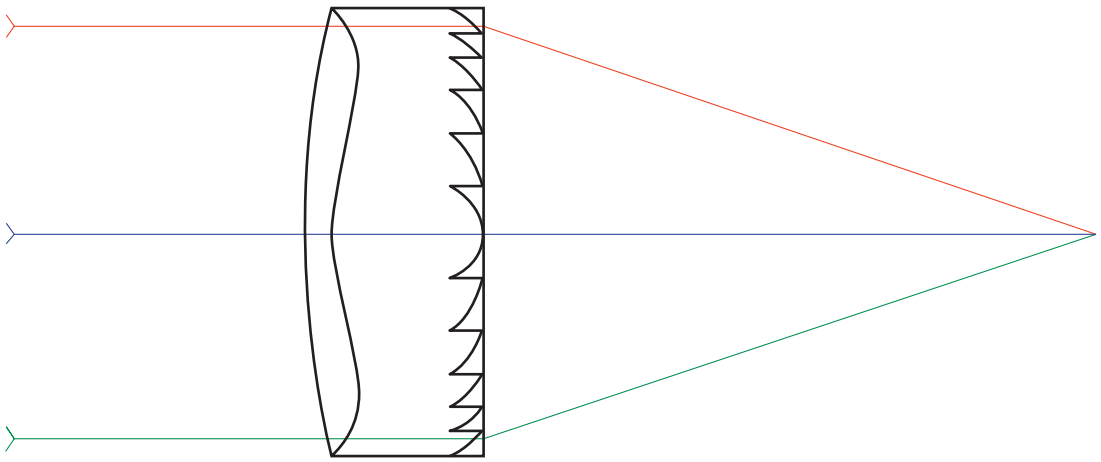

Refractive/Aspherical/Diffractive Elements & Hybrids

Aspheric, diffractive, and hybrid refractive diffractive optical elements can be realized affordably with Lexitek's Near-Index-Match™ (NIM™) optics. These optics can have aspheric or diffractive surfaces at the interface of two materials. The Near-Index-Match™ greatly reduces the cost to master or directly machine the boundary surface and has much looser tolerances compared with aspheric or diffractive surfaces interfaced with air.

Near-Index-Match™ optics add a powerful new dimension to optical designers, adding aspheric surfaces and/or diffractive surfaces for aberration correction, achromatization and athermalization.

NIM™ optics can be made with glass or plastic substrates and typically have an optical polymer on one or both exterior surfaces. Lexitek uses proprietary fabrication techniques to produce inexpensive, high-quality optics with rapid turn around.

Lexitek Inc.

APPLICATIONS

- Achromatization
- Athermalization
- Beam shaping
- Aberration compensation
- Null test plates for optical testing
- Collimation
- Laser diode circularization

SPECIFICATIONS

- f/#: f/1 and slower
- Diameter: 3 mm to 100mm
- Substrates: Plastics, optical glasses
- Power: Accurate to 2 waves
- Irregularity: <0.25 wave, rms

FEATURES

- Continuous relief diffractive surfaces
- Diffractive layers are buried beneath a continuous exterior
- Aspheric OPDs of 10 - 100 µm

ELEMENTS

- Plano-plano
- Plano-convex
- Plano-concave
- Meniscus
- Biconvex
- Biconcave
- Refractive microlens arrays

Our transmissive plastic novel optics are typically made with acrylic and an optical polymer or glass and an optical polymer in combination to give affordable aspheric, diffractive and refractive optics. This process allows some optical systems to be lighter and lower in cost, while providing better performance than conventional optics.

Contact us to discuss your custom optic requirements.

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