BROADBAND ANTIREFLECTION COATINGS AR-plas2®

Motivation

Modern camera systems and other optical devices contain components which should exhibit a low reflectivity. However, common interference coatings do not allow the realization of antireflection (AR) properties as required i.e. on the inclined areas of curved lenses. AR-plas2® enables excellent antireflection properties for complex shaped optical surfaces made of glass and plastics.

Technology

Plasma-ion assisted deposition combined with plasma etching

Optical properties

- Example plastic lens Zeonex: \( R_m < 0.3\% @ 400–1200\text{ nm} \)
  - center of lens
- Example quartz optical lens: \( R_m < 0.3\% @ 400–700\text{ nm} \) on 45° inclined area
- High resistance in environmental tests: Compared to common interference stacks, lower probability for cracking during temperature change
- Mechanically sensitive: recommended for internal or protected surfaces

Further properties

- Tailored coating designs and processes depending on spectral range, light incidence angle and geometry of optical component
- Licensing of process and design, and transfer of technology to industrial scale
- High precision reflectance measurements on complexly shaped surfaces