

Process Technology – Chemistry I Technology Offer

„Antireflection Coating at room temperature“

Field of Use

Surface coatings that reduce reflection are used extensively world-wide to improve lenses, mirrors and other optical building blocks such as displays etc.

Status of Currently Available Technology

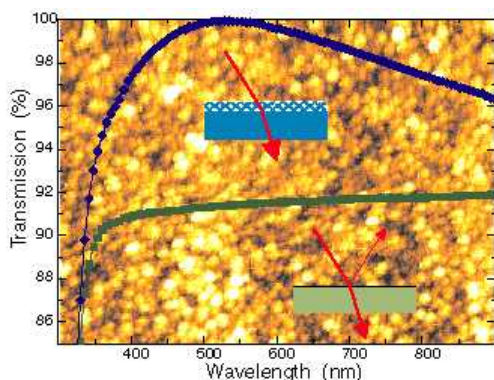
The optimal refractive index for antireflection coatings at a glass/air interface is $n^* = 1.23$. However, materials with a refractive index $n < 1.3$ for visible light are unknown. The closest to this ideal come antireflection coatings made of MgF_2 . A single coating reduces reflection by about 97.3 to 98%. Further improvements can only be achieved by means of multiple coatings.

One approach is based on the use of nanoporous materials whose refractive index can be controlled. Three processes allow such a control: a sol-gel process, a so-called embossing process and the sputter process.

However, these processes have the decisive drawback of being very complex and moreover only permitting the production of single coatings. Furthermore, in some cases, coating of plastics is not possible.

Innovation

The novel nanotechnological process for the production of antireflection coatings which is the subject of this offer was developed at Konstanz University.



Your Advantages at a Glance:

- Reduces reflection by > 99.5 % over the entire visible spectrum with a single coating
- Can be used to coat plastics and glass
- Can be applied at room temperature
- Creates a scratch resistant surface
- Uses a simple, quick and affordable process for single and multiple coatings
- Requires only a relatively short processing time
- Does not require vacuum technology

Patent Portfolio

Patents in Germany, UK and France have been granted.

Technology Transfer

The Technologie-Lizenz-Büro (TLB) GmbH is charged with the commercialization of this innovation and now offers companies the opportunity to obtain a license to exploit this new and promising technology.

For further information on the antireflection coating technology, or other TLB technologies on offer, please contact:

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