



# Metal coatings for optical applications

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# Metal coatings for optical applications

Cover: UV-enhanced Ag coatings with excellent environmental stability on silicon and glass substrates.

Top: Plasma in a sputtering system.

## Motivation

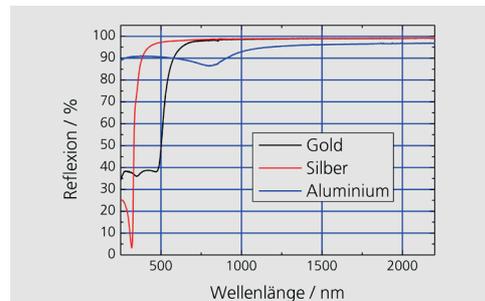
In optical coating technologies, metals are indispensable coating materials for a multitude of applications. For example, broadband reflectors with the highest reflectivity can only be realized with metal coatings. Semi-transparent metal films can be applied as beam splitters with low polarization. In micro-optics, optical dense metal coatings are used as masks or apertures. Further applications take advantage of properties such as good adhesion, corrosion resistance, or a high melting temperature of metals.

## Our expertise

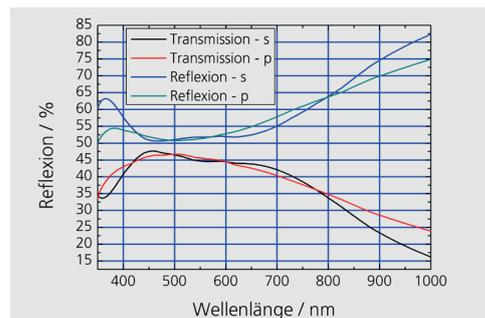
- Highly reflective and durable Al-, Ag-, and Au-layer systems
- Optical dense metal coatings
- Semi-transparent metal coatings
- Black metal coatings
- Solderable coatings
- Multitude of available coating materials: Au, Pt, Pd, Ru, W, Ag, Al, Mo, Ta, La, Cu, Ti, Ni, Cr, NiCr, Zr, Hf, Nb, ...
- Thickness accuracy  $\Delta d/d < 1\%$
- Coatable substrate size up to 500 x 500 mm<sup>2</sup> possible
- Deposition onto various substrate materials

## What we offer

- Development of metal coatings and metal-dielectric coatings
- Optimization of coating properties (stress, roughness, optical properties, electrical properties) according to customer specification
- Prototype coatings



Reflectivity and transmission curves of a beam splitter based on a semitransparent metal layer, angle of incidence 45°.



Reflectivity curves of highly reflective gold, silver, and aluminum coatings.

## Contact

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