INCOATEC
innovative coating technologies gmbh

Deposition Technology

Thin Films and more

Coating

We are prepared for customer-specific solutions

- Monolayer, Multilayer, Multi-stripe coatings
- Metals - Alloys - Ceramics
- Large variety of materials - experience with > 50 types of targets
- Ultra-homogeneous (< 0.2% on 6")
- Coatings up to a length of 150 cm
- Industrial partner for R&D projects
- Specialist in X-ray characterization

Coatings up to 150 cm long

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Deposition Technology: Thin films and more

Incoatec produces various sorts of thin films according to customer-specific requirements (Innovative Coating Technologies), and covers all kinds of X-ray Optics. With our sputtering technologies we can do even more. We achieve well-defined coatings with high densities and low defects. A special technique during the deposition process allows us to deposit uniform films with homogeneities <0.2% on 6'' wafers as well as multilayer films where the gradient of the layer thickness varies laterally or in depth. Typical thicknesses of single layers range from 1 to several 100 nm. Our multilayers consist of up to several hundred pairs of single layers. We are able to coat substrates up to 6 inches in diameter or 12 x 12 x 150 cm - and the substrates can be plane or varying in shape.

Fig. 1: X-ray Optics and customer-specific coatings on different substrates varying in size and up to 150 cm in length.

Characterization of Coatings

Our main field of experience lies in the X-ray analytical characterization of coatings. We offer X-ray Diffractometry and Reflectometry using state-of-the-art lab instruments. We are able to measure film densities, single layer thicknesses and homogeneity. In order to investigate microstructures we cooperate with partners in science and industry, who use other sophisticated analytical methods such as transmission electron microscopy (TEM) or scanning probe measurement (SPM). The homogeneity of a typical multilayer coating is shown in the TEM micrograph in Figure 2.

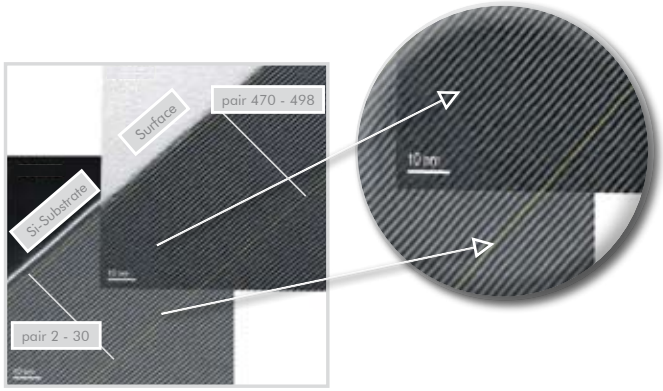

Fig. 2: TEM micrograph of a multilayer coating with a single layer thickness of 0.7 nm and 500 pairs of layers (courtesy by Prof. W. Jäger, University Kiel).

Our Expertise

The experience gained during many years of work as materials scientists enables us to produce different coatings comprising of varying materials, ranging from metals and alloys to ceramics. We have also gained experience with more than 50 different target materials as well as with all kinds of sputtering methods. This enables us to find the best solution for your specific demands.

R&D projects

Continuous Research & Development plays an important role in our company. We are interested in participating in projects on optics, metrology and coating technology. With more than 18 years of experience with various nationally and internationally funded projects we can be your industrial partner in funded projects or your partner for direct industrial co-operations. Please do not hesitate to contact us if you are searching for a competent R & D-partner with specific know-how in magnetron sputtering and X-ray analytics.

Incoatec GmbH • Max-Planck-Str. 2 • 21502 Geesthacht • Germany
Tel.: +49 (0) 41 52 - 88 93 81 • info@incoatec.de • www.incoatec.de

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