



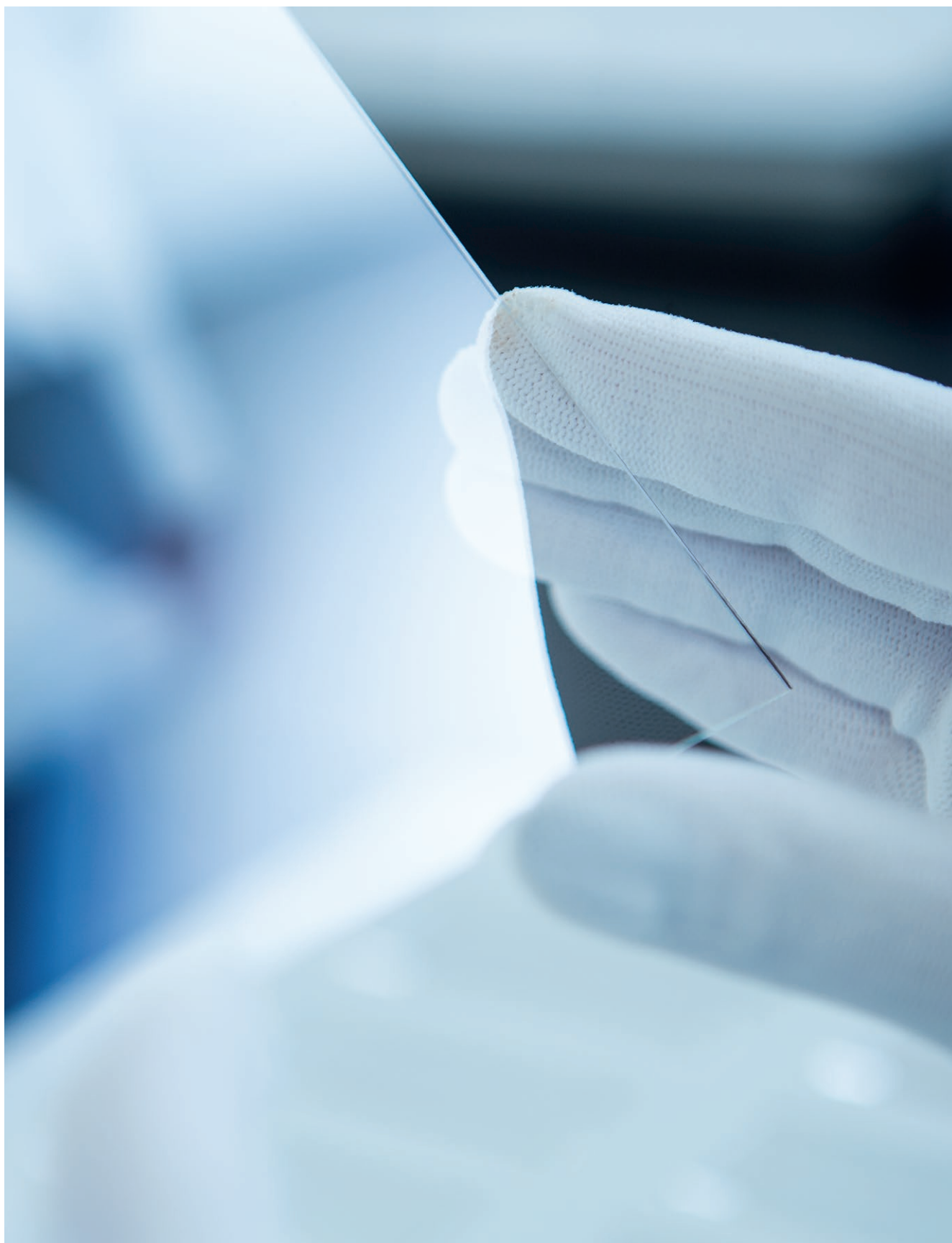
SCHOTT
glass made of ideas

NEXTERION®

Future in your hands.

SCHOTT is a leading international technology group in the areas of specialty glass and glass-ceramics. With more than 130 years of outstanding development, materials and technology expertise we offer a broad portfolio of high-quality products and intelligent solutions that contribute to our customers' success.

NEXTERION® is the leading brand for cleaned and coated substrates for research, diagnostics and many other life science applications. With more than 15 years experience in the production of microarray and lab-on-a-chip solutions, we offer an extensive range of standard products and functional coatings for DNA, protein and cell applications. To meet the needs for tailor-made products we develop unique formats, materials, coatings and markings. Due to our high quality standards and volume production methods, we enable our customers to get reproducible results to address future diagnostic challenges successfully.





Next generation substrate solutions.

Material

The SCHOTT Group produces several hundred different types of glass. The range of glass thicknesses available is very wide, ranging from 30 µm up to 254 mm, which is depending on the glass type.

The typical glass types used for life science products include:

- BOROFLOAT® 33 borosilicate glass
- D263® borosilicate glass

If another type of material is required, we are pleased to evaluate a suitable solution for our customers.

Dimensions and tolerances

In addition to the standard life science formats like:

- SBS-compliant microplate
- Microscope slide
- Coverslip formats in a range of shapes, dimensions and thicknesses

We offer our customers substrates exactly adapted to their special application. Typical thicknesses for NEXTERION® substrates range from 0.1 mm up to 2 mm. Custom-sized products can be produced in rectangular, square or round formats. If special tolerances are required, we will be pleased to evaluate if we can meet our customers' requirements.

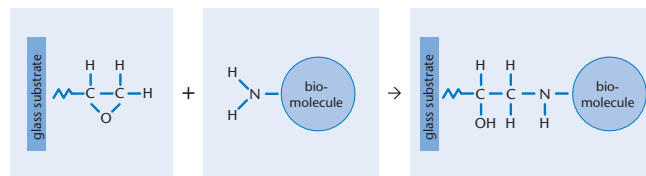
Coatings

Applying thin-film coatings to glass substrates is another SCHOTT core competence. Production takes place in an ISO class 5 clean room environment. Extremely high quality standards are maintained for surface finish, flatness, parallelism and absence of surface defects. Any of the standard NEXTERION® functional coatings can be applied to just about any custom format.

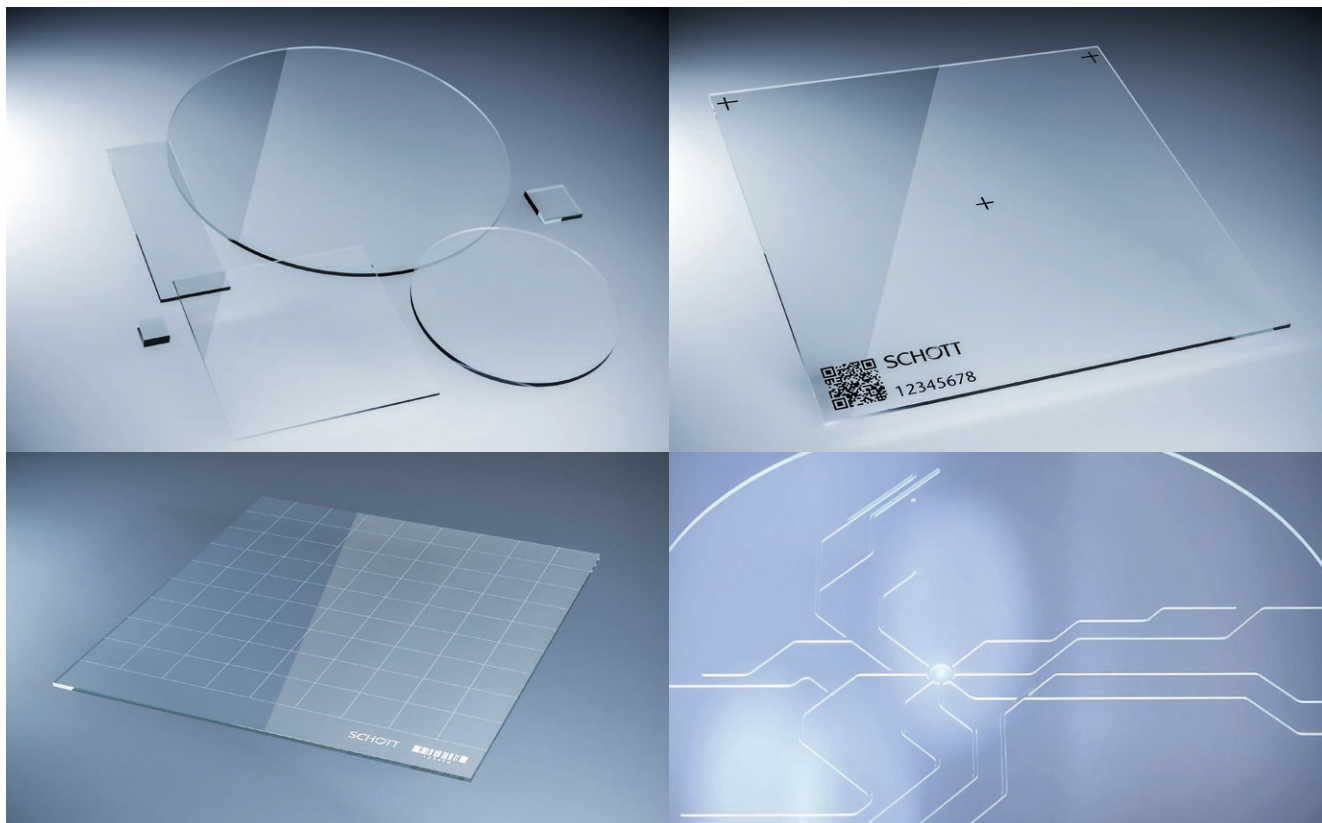
The coatings include:

- Aminosilane
- Aldehydesilane
- Epoxysilane
- 3D thin film/3D polymer (NHS ester)
- Streptavidin

NEXTERION® also offers its diagnostic partners to develop a custom coating or to coat the substrates with coating chemicals developed by clients.



NEXTERION® epoxysilane coating chemistry



Multiplex formats

Multi-well substrates allow parallel analyses of multiple biological samples against focused subsets of probes. The multi-well format permits a number of versatile assay designs such as multiplexed experiments, side-by-side comparisons or replicate experiments to be performed.

Therefore NEXTERION® offers glass substrates partitioned by an ultra-hydrophobic patterning layer. The black patterning material creates the individual wells that act as a hydrophobic barrier preventing cross contamination between the arrays. The well pattern may also serve as a registration aid for probe deposition.

The hydrophobic patterning is available with most of the NEXTERION® standard functional coatings.

Standard formats:

- 16- or 48-well slide format
- 96- or 384-well plate format

The customisation of the hydrophobic patterning can also be offered to separate the substrate into exactly the shape and number of wells your application is requiring.

Markings

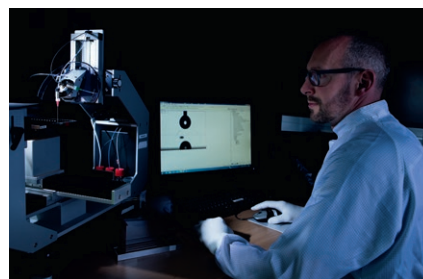
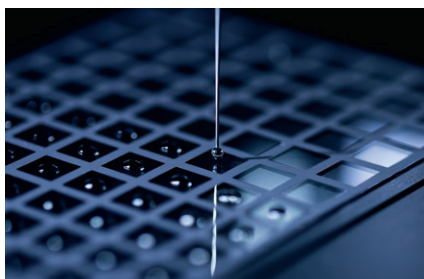
SCHOTT can offer customers the opportunity to customise their substrates with graphics, logos, company names, barcodes, reference marks, 2D matrix codes, etc. These markings may be added at any location on or within the glass surface, and may feature a combination of items, for example a company logo plus a sequential barcode. The markings are robust enough to withstand standard biomedical laboratory procedures.

Pre-scoring

To fulfil the demand of very small substrates, SCHOTT introduced the option of standard-sized substrates pre-scored into the final chip size. This solution allows our customers a comfortable and cost-effective handling in a convenient size which allows a separation at any step of the process chain. These substrates are available with all NEXTERION® standard coatings as well as custom coatings.

Structuring

With our extensive experience in high-technology glass processing and a variety of in-house facilities, we are pleased to support you with tailor-made solutions for microfluidic applications.



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