

Uncoated slides



Introduction

SCHOTT provides two different types of uncoated glass slides, NEXTERION® Glass B (Borofloat® 33) and D (D263T), for customers looking to apply their own functional coatings. Both glass materials are borosilicate glasses with high chemical resistance, excellent transmission, low fluorescence, and exceptional flatness and were specially selected by SCHOTT Microarray Solutions as the optimal glass types for microarray related applications. The naturally pristine glass surfaces can be used without any additional polishing steps and all the slides are laser-cut to minimize particle contamination.

NEXTERION® Glass B

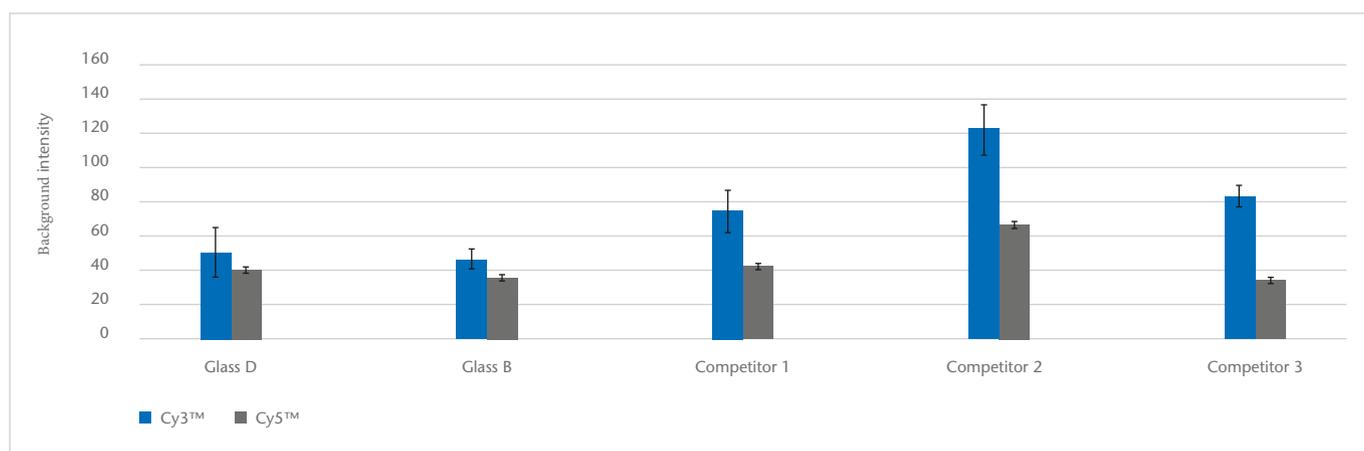
NEXTERION® Glass B is a highly chemically resistant borosilicate glass that is produced by melting the purest raw materials. The microfloat process is used for manufacturing this glass type, resulting in a pristine, fire-polished surface that can be used without any additional polishing.

This process allows the production of glass substrates with tight geometric properties. In addition, the fluorescence is particularly low in the range of Cy3™ and Cy5™ emission wavelengths (570 nm and 670 nm), making NEXTERION® glass slides the perfect substrate solution for microarray applications.

NEXTERION® Glass D

NEXTERION® Glass D is a high quality borosilicate glass produced by melting the purest raw materials. It is manufactured by a special down-draw production process that results in fire-polished surfaces that can be used without any additional processing.

The NEXTERION® Glass D production process allows SCHOTT to offer glass substrates with extremely tight geometric properties. In addition, the fluorescence is particularly low in the range of Cy3™ and Cy5™ emission wavelengths (570 nm and 670 nm).



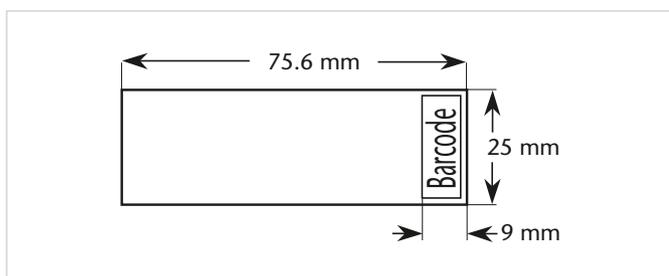
Autofluorescence of NEXTERION® Glass D and Glass B vs. competitors

NEXTERION® Glass B and D specification

NEXTERION® uncoated slides are manufactured to the following specifications:

- 25.0 mm x 75.6 mm ± 0.1 mm
- Thickness 1.0 mm ± 0.05 mm
- Plain cut edges, by using the precise laser cutting process

The slides are available with or without a barcode (code 128). Customized features for particular applications are available upon request and include slide orientation marks, non-standard barcodes, customized barcode numbering, company logos, etc. Please enquire for further information.



Dimensions of standard barcoded slides

Three levels of cleanliness

Uncleaned

These slides are cleaned using deionised water and a conventional washing system with brushes.

SCHOTT recommends uncleaned slides if the user intends to subject the slides to a thorough cleaning procedure prior to further processing.

Ultrasonically cleaned

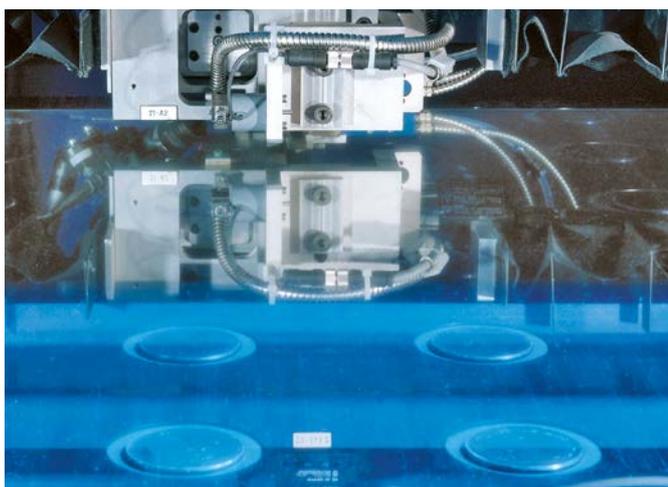
SCHOTT offers uncoated slides that are ultrasonically cleaned. The slides are subjected to a 100% quality control process to validate their dimensional tolerances. To remove all particles, debris, and surface contaminants, the slides are ultrasonically cleaned under alkaline conditions.

SCHOTT recommends ultrasonically cleaned slides if a basic cleaning procedure is used prior to further processing.

Cleanroom cleaned

SCHOTT's highest grade of uncoated slides are ultrasonically cleaned and quality controlled, as detailed in the ultrasonically cleaned section above. In addition, the slide storage boxes used to transport the slides are sealed in protective foil pouches under an inert atmosphere in a class-100 cleanroom environment. The slides can be used immediately from the sealed boxes without subjecting them to a cleaning process.

Cleanroom cleaned slides are recommended if users intend to coat the slides without carrying out any cleaning steps.



Laser cutting



Automated ultrasonic cleaning of slides

Properties NEXTERION® Glass B and D

Properties	NEXTERION® Glass B (Borofloat® 33)	NEXTERION® Glass D (D263T)
Mechanical <ul style="list-style-type: none"> Density ρ in g/cm³ 	2.2	2.51
Optical <ul style="list-style-type: none"> Refractive indices <ul style="list-style-type: none"> n_e ($\lambda = 546.1$ nm) n_d ($\lambda = 587.6$ nm) Dispersion ($n_f - n_c$) Abbe value (v_e) Luminous transmittance (τ_{vD65}) (Glass thickness 1.1 mm) 	1.47311 1.47140 71.9×10^{-4} 65.41	1.5255 1.5231 96.0×10^{-4} 55
<ul style="list-style-type: none"> Stress optical coefficient C in 1.02×10^{-12} m²/N 	4.0	3.4
Chemical <ul style="list-style-type: none"> Hydrolytic resistance (ISO 719/DIN 12 111) Acid resistance (ISO 1776/DIN 12 116) Alkali resistance (ISO 695/DIN 52 322) 	HGB 1 1 A 2	HGB 1 2 A 2
Thermal <ul style="list-style-type: none"> Linear thermal coefficient of expansion α (20–300°C/68–572°F) Transformation temperature T_g 	3.25×10^{-6} /K 525°C	7.2×10^{-6} /K 557°C

The properties detailed above were calculated using the very latest standards and measuring methods. SCHOTT reserves the right to change the data in keeping with the latest technical standards. Numerical values stated without tolerances are reference values of an average production quality.

All data is intended to be used as a guideline, unless otherwise stated. Please contact us if you require further information.

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