

The top-tier future-proof glass for primary pharma packaging

With our borosilicate glass offering FIOLAX® Pro we meet fundamental industry requirements: drug safety, efficiency, and sustainability. Superseding FIOLAX® clear, it marks the beginning of a future-ready transition for the industry – because patient safety starts with us.



Safety

Elevate drug safety and stability

by minimal level of drug-container interactions proven by

- a superior extractables & leachables level for all glass elements
- a constant glass composition
- a superior and constant hydrolytic resistance performance

Meet regulatory requirements

by future-proof glass composition

- absence of any heavy metals
- therefore easy compliance with ICH Q3D
- as improved Type I glass type compliant with all international regulations: Ph.Eur., USP, JP, ChP, YBB, REACH, RoHS



Efficiency

Boosting efficiency and high yield

for smooth machinability during converting during converting and fill-and-finish processes

- high output by first-class cosmetic quality: e.g. low tendency of airline formation
- high precision by dimensional accuracy: e.g. tighter tolerances than ISO standard

Serving demanding and individual needs (e.g. reduction of overdosing)

by customizable specifications including zero-defect options

Transparent glass quality

documented by a digital quality data package for each product delivery enabled by perfeXion® process



Sustainability

Caring for the planet

by 50% lower product carbon footprint* of the optional FIOLAX® Pro OCF (Optimized Carbon Footprint) product line enabled by an electric melting tank powered with 100% green electricity (available first quarter of 2027)

Detailed information on our website here.

*Calculation of greenhouse gas emissions from cradle-to-gate per kilogram of saleable glass tubing compared to the market average for borosilicate glass tubing [average value according to ecoinvent 3.10; glass tube production, borosilicate // DE]



FIOLAX® Pro – your beneficial enabler for future-proof primary packaging



Benefits for syringes

Precise shaping of cone and flange

through tighter tolerances than ISO standard and further optional tightening down to $\pm\,0.05\,\text{mm}$

High dosage accuracy, reduced overfill losses and consistent plunger gliding force supported by very tight inside diameter tolerances

High yield during final visual inspection

powered by 100% online inspection of cosmetic quality through our perfeXion® process control

Refined cosmetic quality

achieved through reduced airline presence, including critical inside open airlines, eliminating possible effects on syringe sterility

Less drug container interactions

set by a high chemical resistance and superior E&L profile, especially important for demanding biologics

Syringe tubing range



Outside diameter: 6.85 – 22.05 mm acc. to ISO formats Customized dimensions are also available.



Benefits for cartridges

Precise shaping of flange, neck and shoulder

through tighter tolerances than ISO standard and further optional tightening down to $\pm\,0.05\,\text{mm}$

High yield during final visual inspection

powered by 100% online inspection of cosmetic quality through our perfeXion® process control

Higher dispensing accuracy and reduced overfill loss

supported by tightly-toleranced inside diameter down to $\pm 0.05 \, \text{mm}$

Refined cosmetic quality

achieved through reduced airline presence, including critical inside open airlines, eliminating possible effects on cartridge sterility

Less drug container interactions

high chemical resistance leads to less drug-container interactions, especially important for demanding biologics

Cartridge tubing range



Outside diameter: 8.15 – 22.05 mm incl. all ISO formats Customized dimensions are also available.



FIOLAX® Pro – your beneficial enabler for future-proof primary packaging



Benefits for vials

Uniformly precise shaping of shoulder, neck and bottom

through constant and tightly-toleranced wall thickness

Filling volumes up to 100 ml

customer-specific and exceptional outside diameter/wall thickness combinations

Temperature resistance

from cold storage at $-80\,^{\circ}\text{C}$ to final sterilization at $+121\,^{\circ}\text{C}$, whether storing liquids or freeze-dried products – the complete temperature range is covered

Smooth operation on high-speed filling lines

made possible through precise outside diameter

Less drug container interactions

set by a high chemical resistance and superior E&L profile, especially important for demanding biologics

Vial tubing range



Outside diameter: 9.00 – 50.00 mm incl. all ISO formats (> 40 mm from 2027) Customized dimensions are also available.



Benefits for ampoules

Uniformly precise shaping of shoulder, tip, constriction area and bottom through constant and tightly-toleranced wall thickness

Smooth operation on high-speed filling machines and accurate filling made possible by tighter tolerances than ISO standard

Minimized drug container interactions (e.g. pH shift of unbuffered solutions) given by the high chemical resistance of the glass

Ampoule tubing range



Outside diameter: $9.00 - 25.00\,\mathrm{mm}$ incl. all ISO formats Customized dimensions are also available.



FIOLAX® Pro – facts at a glance

Data

Drug suitability	All, esp. parenterals					
Glass type	middle borosilicate glass (5.0 expansion type)					
Regulatory classification (e.g. USP¹/Ph.Eur.²/ChP³)	Type I					
Chemical composition (main components in approx. weight %)	SiO ₂ 73	B ₂ O ₃ 11	Al ₂ O ₃ 7	Na₂O 7	K₂O < 1	CaO < 1
Free of heavy metals	As Sb So					
Extractables profile	Superior does not contain any element of the ICH-Q3D class 1, 2A, 2B, 3 high hydrolytic resistance					
Color	cle	ear				
Physical properties	CTE 5.2 · 10 ⁻⁶ ·	K ⁻¹	T _g 560 °C		Working point 1170 °C	
perfeXion® processed	~					
Anti-scratch coating	~					

Product lines



OCF (Optimized Carbon Footprint) – first quarter 2027



OS (Optimized Strength)

Customizing options



Tube-end finish



Tighter tolerances



Zero defect options

Validation support

If you plan to validate your primary packaging with FIOLAX® Pro, SCHOTT Tubing can help. We will gladly provide you with technical documentation on FIOLAX® Pro.

Request FIOLAX® Pro technical documentation now.





