

Accu-Glass



Glass Capillaries

Precision Calibrated and Full-Fill glass capillary tubes

APPLICATIONS

- Blood sampling for clinical or in-home test kits
- Laboratory fluid transfer

FEATURES

- A wide variety of precise volumetric measurement to collect specific volumes from 1 μ L to 250 μ L
- Available in full-fill or calibrated varieties
- Fire polished finish
- Use of USP type I or III glass for *in vitro* applications.
- ISO standard or custom markings can be applied
- Custom products with 1 micron precision

BENEFITS

- Ease of use in obtaining precise fluid volumes
- Naturally chemically inert, clean, clear, and strong
- Economical and disposable

Choosing Glass Capillary Tubes

Calibrated Capillary Tubes

Calibrated, or “marked” capillary tubes are labeled with a precise fill line meeting and color bands meeting ISO 7550 accuracy color requirements.

Volume (uL)	Color Band
5	White
10	Orange
20	Black
25	Two White
50	Green
100	Blue
200	Red

Accu-Glass can custom mark tubes for special applications using latex-free durable inks. For a full lists of volumes, visit our calibrated capillary tube site at: <https://www.accu-glass.com/products/calibrated-micropipettes/>

Full-Fill

Accu-Glass Full Fill Micropipettes are a fast, safe, clean, and accurate way to transfer liquids in micro quantities. Fill volumes are constant and precise with 1% accuracy. Full Fill pipettes are simple to use in laboratory, clinical and home test kits. They are inexpensive, and disposable. They are ideal for blood sampling. For a full list of custom volumes, visit our full fill capillary tube site at: <https://www.accu-glass.com/products/full-fill-micropipettes/>

Glass Types

Our standard tubes are available in Schott ASTM Type III AR-GLAS, providing high capillary action and low cost. We can also produce in ASTM Type I borosilicate glass

AG20200826-01A

Glass Type/Application	soda-lime glass Pharmaceutical primary packaging, general technical application	
Physical Data (approx. value)	Coefficient of mean linear thermal expansion $\alpha(20^{\circ}\text{C}; 300^{\circ}\text{C})$ acc. to ISO 7991	$9.1 \cdot 10^{-6} \text{K}^{-1}$
	Transformation Temperature T_g	525 °C
	Glass temperature at viscosity η in dPa · s	
	10^{13} (annealing point).....	530 °C
	$10^{7.6}$ (softening point)	720 °C
	10^4 (working point)	1040 °C
	Density ρ at 25°C	$2.50 \text{ g} \cdot \text{cm}^{-3}$
Chemical Data	Hydrolytic resistance	
	acc. to ISO 719	Class HGB 3
	acc. to Ph. Eur.	Type III
	acc. to USP.....	Type III
	Acid resistance (DIN 12116)	
Alkali resistance (ISO 695)		Class A 2
	ASTM E 438	Type II
Chemical Composition (main components in approx. weight %)	SiO ₂ B ₂ O ₃ Al ₂ O ₃ Na ₂ O K ₂ O BaO CaO MgO	
	69 1 4 13 3 2 5 3	
The heavy metal content for the elements lead, cadmium, mercury and hexavalent chromium is below 100 ppm.		

Corning[®] 51-A Tubing

CORNING

Chemical and Physical Characteristics for Corning[®] 51-A Amber Borosilicate Glass Tubing

Table 1: Glass Composition (approximate oxide weight [%])

Oxide Component	Symbol	Corning [®] 51-A Tubing
Silicon Dioxide	SiO ₂	70.2
Boron Oxide	B ₂ O ₃	10.5
Aluminium Oxide	Al ₂ O ₃	5.8
Calcium & Magnesium Oxide	CaO + MgO	1.0
Sodium Oxide	Na ₂ O	5.8
Potassium Oxide	K ₂ O	1.3
Iron Oxide	Fe ₂ O ₃	1.0
Barium Oxide	BaO	1.4
Titanium Dioxide	TiO ₂	3.0

Table 2: Chemical Resistance Classifications

Hydrolytic Resistance (Glass Grain)	EP (3.2.1B) / USP <660>	Type 1
Hydrolytic Resistance (Glass Grain)	ISO 720	HGA1
Soluble Alkali Test	JP 7.01	Complies
Acid Resistance Class	DIN 12116	Class S1
Alkali Resistance Class	ISO 695	Class A2
ASTM Laboratory Glass Class	ASTM E 438	—

Table 3: Physical Properties

Name	Unit	Corning [®] 51-A Tubing
Average Linear T.E.C.	10^{-7}K^{-1}	52
Density	$\text{g} \cdot \text{cm}^{-3}$	2.36
Relative Refractive Index	(number) *	1.50

* $\lambda = 589 \text{ nm}$