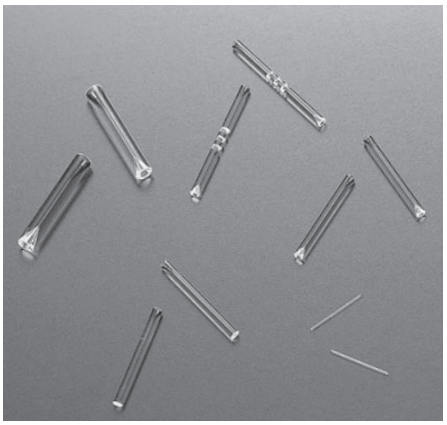
Micro Capillary



Micro Capillaries are borosilicate glass capillaries with an inner diameter accuracy of ± 0.5 microns. They are used for optical connectors, optical fiber splices and fiber supports in optical devices. Because Micro Capillaries have a polishing characteristic similar to silica optical glass fibers, the excellent polished face required for optical PC (physical contact) connection can be easily obtained by polishing.
As a result, Micro Capillaries are suited for high-speed analog devices including CATV systems which require high return-loss properties.
Micro Capillaries exhibit good elasticity that enhances the PC connection properties of the optical fiber. In addition, their high UV transmitting characteristic makes it possible to adhere capillaries and fibers, lenses or holders with UV-curable adhesive in a short time.
Nozzle End type which allows firm insertion of the whole optical fibers with jackets and Precision glass tube type which can be used as outer tube are also available.

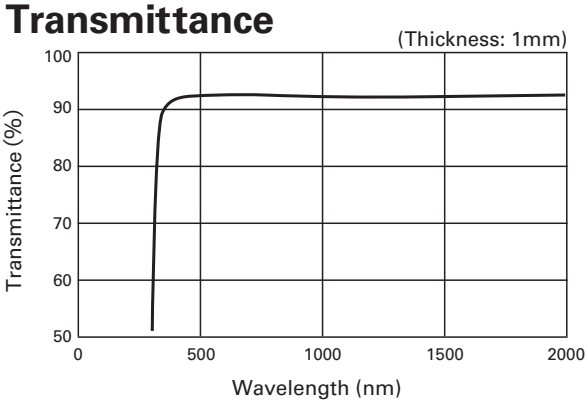
Features

- Excellent polishing characteristics
- Smooth cone end
- High UV transmittance
- High chemical durability

Properties

Properties/Glass			Borosilicate glass
Coefficient of thermal expansion	30-380°C	$\times 10^{-7}$/K	51
Density		$\times 10^{3}$kg/m^3	2.36
Refractive index (n_d)			1.49
Vickers hardness	Hv		680
Hydrolytic resistance	JIS R3502	R_2Omg	0.05
Dielectric constant	1MHz, 25°C		5.6
tan δ	1MHz, 25°C	$\times 10^{-4}$	85

Transmittance



Dimensional Specifications

(mm)

Nominal Dimensions (O.D.×I.D.×L)	Capillary Form	Outer Diameter		Inner Diameter		Concentricity	Length Tolerance
		Tolerance	Out of Roundness	Tolerance	Out of Roundness		
0.99 × 0.127 × 7.0	Single-cone end	± 0.005	0.001	+0.001 −0	0.001	ϕ 0.001	± 0.2
1.80 × 0.126 × 15.0	Dual-cone ends	± 0.005	0.001	+0.001 −0	0.001	ϕ 0.003	± 0.2
1.80 × 1.010 × 8.0	Precision glass tube	± 0.010	0.001	±0.005	0.001	ϕ 0.005	± 0.2
2.78 × 1.805 × 8.0	Precision glass tube	± 0.030	0.002	+0.010 −0	0.002	ϕ 0.005	± 0.2

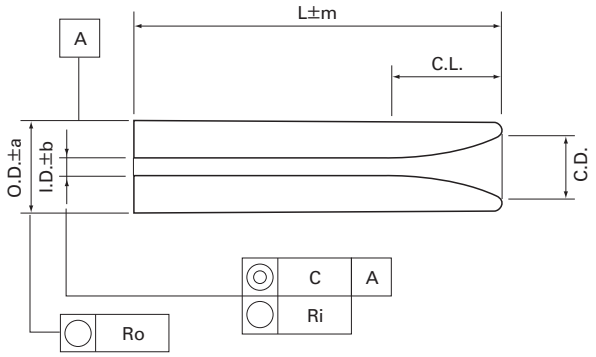
Part No.

1.8 — 0.127 — 10.5 — SC — HC-Type (**W = 0.2**)

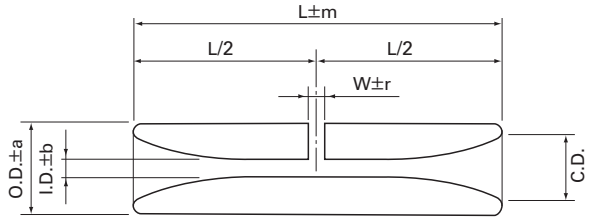
Outer Dia. — Inner Dia. — Length — End form — Grade — Slit width

Dimensions

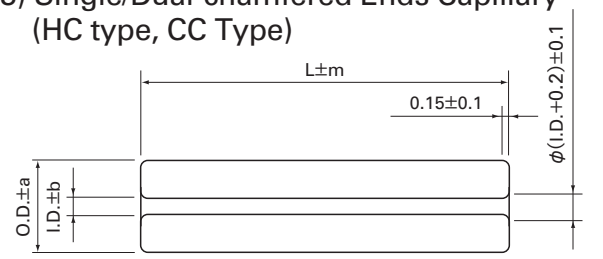
1) Single-cone End Capillary (HC Type, CC Type)



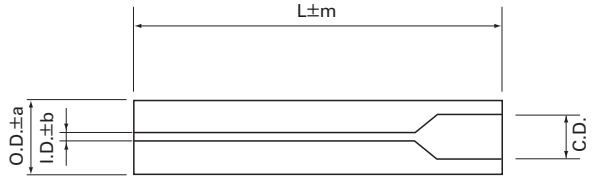
2) Dual-cone Ends Capillary (HC Type, CC Type)



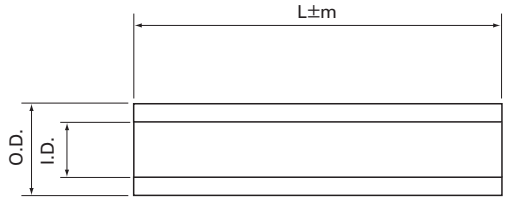
3) Single/Dual-chamfered Ends Capillary (HC type, CC Type)



4) Nozzle End Capillary



5) Precision Glass Tube



*Please refer to the dimensional specifications on the left side page regarding sizes.

Dimensional Specifications

(mm)

Subjects	Dimensions	Tolerance	HC Type	CC Type
Outer Diameter (O.D.)	0.99 2.00 1.25 2.50 1.80	a	± 0.005	± 0.01
O.D. roundness (Ro)	O.D. ≦ 2.5	—	0.001	0.002
Inner Diameter(I.D.)	0.086 0.128 0.126 0.130 0.127	b	+0.001 − 0	+0.003 − 0
I.D. roundness(Ri)	I.D. ≦ 0.2	—	0.001	0.003
Concentricity(C)	O.D. ≦1.0	—	φ 0.001	φ 0.003
	1.0≦O.D.≦2.5	—	φ 0.003	
Length (L)	50max.	m	± 0.2	
Slit width (W)	0.2	r	± 0.05	

Cone Dimensions — example

(mm)

Form	Inner Diameter (I.D.)	Cone Diameter (C.D.)	Cone Length (C.L.)
Single-cone End	≦ 0.130	0.75 ± 0.2	1.5 ± 1.0
		1.1 ± 0.2	2.5 ± 1.0
	> 0.130	0.75 ± 0.2	3.0 ± 1.5
Dual-cone Ends	≦ 0.130	0.75 ± 0.2	1.5 ± 1.0
	> 0.130		3.0 ± 1.5
Nozzle End	—	1.0 ± 0.1	—

Other combinations of dimensions are available upon request.