

Polymicro Technologies™

UV Transparent Fused Silica Capillary Tubing

molex®

Utilizing a UV-Vis transparent and ultra-low fluorescence background coating, TSH and TSU Capillary Tubing couples unique optical characteristics with the benefits of synthetic fused silica capillary

Features and Benefits

Pure synthetic fused silica capillary

- Mirror-smooth interior surfaces provide stable flow of liquids and gases
- Low metal ion content creates an inert inner surface
- Facilitates efficient cleaving or cutting for custom lengths of tubing

Range of internal diameters with tight dimensional control

- Enables design flexibility and operational efficiency
- Superior dimensional stability over long lengths of tubing allows for different illumination volumes and flow rates
- External diameters mate with existing fluidic connector technologies

UV transparent external coatings
(when comparing to polyimide coated capillary tubing)

- Transparency into the deep-UV wavelength range
- On-column monitoring within UV-Vis wavelengths without removing the coating
- Transparent coating allows for photo-initiation within the capillary ID

Minimal fluorescence background

- On-column LIF monitoring within UV-Vis wavelengths without removing the coating

Low refractive index of external coatings

- Allows capillary to have light-guiding capabilities
- Light transmits through an annular core; high effective NA
- Provides for evanescent sensing of fluids within the capillary ID

Custom options available

- Boost design efficiency
- Provide small production values at reasonable costs
- Ensure prototype methodology is directly scalable to high volume with minimal design costs

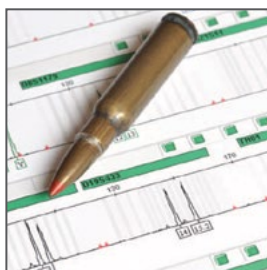
Applications

Scientific

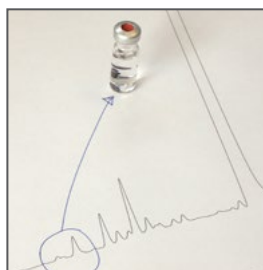
Analytical Chemistry
Chromatographic Techniques
Micro- and Nano-Fluidics
On-Column Monitoring
Evanescent Based Sensing
Coaxial Light and Fluidic Devices

Medical

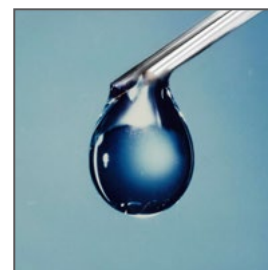
Precision Drug Delivery
Flow Control Systems
Clinical and Diagnostics Devices
Wearable Drug Delivery Devices



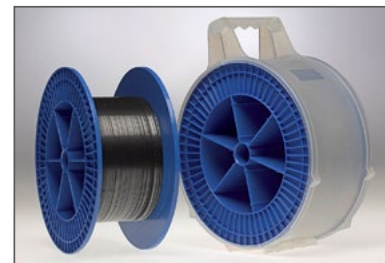
Monolithic LC Columns



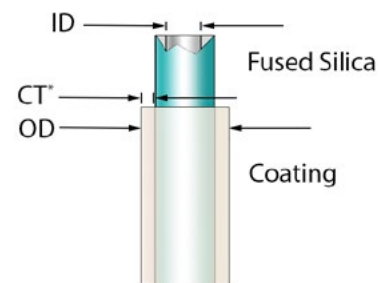
Human Identification



Fluidics



Polymicro Technologies™ UV
Transparent Capillary Spool



Polymicro Technologies™ UV
Transparent Capillary Tubing

Product Overview

Product and Technical Comparison		
Attribute	TSH	TSU
Coating	UV Transparent Coating	Deep-UV Transparent Coating
Glass Material	Synthetic Fused Silica	Synthetic Fused Silica
Inner Diameter (µm)	50, 75 and 100µm	50, 75 and 100µm
Outer Diameter (µm)	363 ± 10	363 ± 10
Coating Thickness (µm)	20	15
Operating Temperature	-65 to +125°C	-65 to +125°C
Radial Transmission	> 10% @ 310nm	> 90% @ 214nm
Abrasion Resistance Strength*	Medium to High	Low to Medium

* When compared to Polymicro's standard Polyimide coating (Highest)

Ordering information and Specifications

Material Number	Product Description	Material	Inner Diameter (µm)	Outer Diameter (µm)	Coating Thickness (µm)
106816-2093	TSH050375	TSH UV Transparent Coating	050 ± 03	363 ± 10	20
106816-2094	TSH075375		075 ± 03		
106816-2095	TSH100375		100 ± 04		

Material Number	Product Description	Material	Inner Diameter (µm)	Outer Diameter (µm)	Coating Thickness (µm)
106815-0137	TSU050375	TSU Deep-UV Transparent Coating	050 ± 03	363 ± 10	15
106815-0160	TSU075375		075 ± 03		
106815-0140	TSU100375		100 ± 04		

Additional Capabilities

Custom inner diameter and outer diameter sizes and tolerances

Internal and external coatings

Shaped cross-sectional geometries

Precision cleaving

Laser cutting

Windowing

Custom arrays and assemblies