

# Polymicro Technologies™

## Polyimide Coated Fused Silica Capillary Tubing

molex®

**Delivering industry-leading performance including tight ID and OD tolerances, Polymicro Technologies™ polyimide coated TSP and high-temperature TSG capillary tubing ensures precise flow-rate control of liquids and gases for scientific, medical and industrial applications**

### Features and Benefits

Pure synthetic fused silica capillary

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

Wide range of internal and external diameters with tight dimensional control

Enables design flexibility and operation efficiency. Superior dimensional stability over long lengths of tubing. External diameters mate with existing industry equipment connector technologies

TSP and TSG polyimide coatings

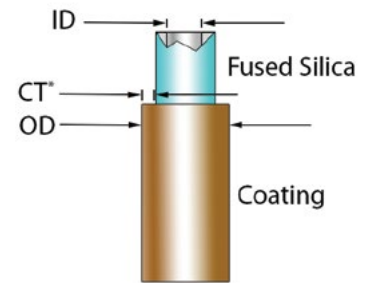
Offer excellent abrasion resistance during handling and usage. Resist temperatures up to +350°C for TSP; up to +400°C for TSG. Allow product flexure with superior bend radius

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



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Fused Silica Capillary Diagram

### Applications

#### Medical

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

#### Scientific

- Analytical Chemistry
- Chromatographic Techniques
- Micro- and Nano-Fluidics
- Mass Spectroscopy Interfaces

#### Industrial

- Package Leak Testing
- Evaporative Cooling Systems
- Petroleum Analysis
- Catalytic Research

### Product Overview

POLYIMIDE COATED CAPILLARY TUBING COMPARISON					
Attribute	TSP	TSP 1/32"	TSP Thick Wall	TSG	WWP
Geometry	Circular	Circular	Circular	Circular	Square
Operating Temp	-65 to +350°C	-65 to +350°C	-65 to +350°C	-65 to +400°C	-65 to +350°C
Outer Diameter Dimensions	Varied	Fixed	Fixed	Varied	Varied
Proof Tested	100%	100%	100%	100%	N/A
Polyimide Coating Type	Standard	Standard	Standard	High-Temperature	Standard

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## Polyimide Coated Fused Silica Capillary Tubing



### Ordering Information and Specifications

Material Number	Product Description	Key Attributes	Inner Diameter (µm)	Outer Diameter (µm)	Coating Thickness (µm)	Material Number	Product Description	Key Attributes	Inner Diameter (µm)	Outer Diameter (µm)	Coating Thickness (µm)	
106815-0001	TSP002150	TSP Standard Polyimide Coating	2 ± 1	150 ± 6	12	106815-0024	TSP150375	TSP Standard Polyimide Coating	150 ± 4	363 ± 10	20	
106815-0002	TSP005150		5 ± 2	150 ± 6	12	106815-0025	TSP180350		180 ± 6	360 ± 10	18	
106815-0003	TSP005375		5 ± 2	363 ± 10	20	106815-0204	TSP200350		200 ± 6	360 ± 10	18	
106815-0004	TSP010150		10 ± 2	150 ± 6	12	106815-0026	TSP250350		250 ± 6	360 ± 10	18	
106815-0005	TSP010375		10 ± 2	363 ± 10	20	106815-0027	TSP320450		320 ± 6	435 ± 10	18	
106815-0006	TSP015150		15 ± 2	150 ± 6	12	106815-0625	TSP450670		450 ± 6	673 ± 15	24	
106815-0007	TSP015375		15 ± 2	363 ± 10	20	106815-0476	TSP530660		536 ± 6	665 ± 15	24	
106815-0381	TSP020090		20 ± 2	90 ± 6	12	106815-0028	TSP530700		530 ± 10	700 ± 20	24	
106815-0008	TSP020150		20 ± 2	150 ± 6	12	106815-0029	TSP700850		700 ± 10	850 ± 20	24	
106815-0009	TSP020375		20 ± 2	363 ± 10	20	106815-0030	TSG250350		TSG High-Temperature Polyimide Coating	250 ± 6	350 ± 15	20
106815-1145	TSP025150		25 ± 2	150 ± 6	12	106815-0031	TSG320450			320 ± 6	435 ± 15	18
106815-0011	TSP025375		25 ± 2	363 ± 10	20	106815-0032	TSG530660			536 ± 6	673 ± 25	30
106815-0012	TSP030150		30 ± 2	150 ± 6	12	106816-0099	TSP050794		TSP 1/32" Standard Polyimide Coating	50 ± 3	794 ± 12	24
106815-0013	TSP030375		30 ± 2	363 ± 10	20	106815-0065	TSP075794			75 ± 3	794 ± 12	24
106815-0596	TSP040105		40 ± 3	105 ± 6	12	106815-0066	TSP100794	100 ± 4		794 ± 12	24	
106815-0014	TSP040150		40 ± 3	150 ± 6	12	106815-0067	TSP200794	200 ± 6		794 ± 12	24	
106815-0383	TSP040375		40 ± 3	363 ± 10	20	106815-0068	TSP250794	250 ± 6		794 ± 12	24	
106815-0015	TSP050150		50 ± 3	150 ± 6	12	106815-0069	TSP300794	300 ± 6		794 ± 12	24	
106815-0016	TSP050192		50 ± 3	186 ± 6	16	106815-0070	TSP400794	400 ± 6		794 ± 12	24	
106815-0017	TSP050375		50 ± 3	363 ± 10	20	106815-0071	TSP500794	500 ± 6		794 ± 12	24	
106815-0018	TSP075150		75 ± 3	150 ± 6	12	106815-1815	TSP150665	TSP Thick Wall Standard Polyimide Coating		150 ± 6	665 ± 15	24
106815-0133	TSP075200		75 ± 3	193 ± 7	12	106815-1816	TSP200665			200 ± 6	665 ± 15	24
106815-0019	TSP075375		75 ± 3	363 ± 10	20	106815-1817	TSP250665		250 ± 6	665 ± 15	24	
106815-0020	TSP100170		100 ± 4	164 ± 6	12	106815-1818	TSP300665		300 ± 6	665 ± 15	24	
106815-0021	TSP100200		100 ± 4	193 ± 7	12	106815-1513	WWP050375	WWP* Square-Square Polyimide Coating	50 ± 5	363 ± 15	N/A**	
106815-0022	TSP100245		100 ± 4	238 ± 7	16	106815-1514	WWP075375		75 ± 5	363 ± 15	N/A**	
106815-0023	TSP100375		100 ± 4	363 ± 10	20	106815-1515	WWP100375		100 ± 5	363 ± 15	N/A**	

\* All WWP materials have an ID measured flat-to-flat and a glass OD dimension of nominally 300µm flat-to-flat

\*\* Polyimide coating provides near-circular geometry over square glass material

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