

# 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, Industrial and Medical 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

### Applications

#### Scientific

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

#### Industrial

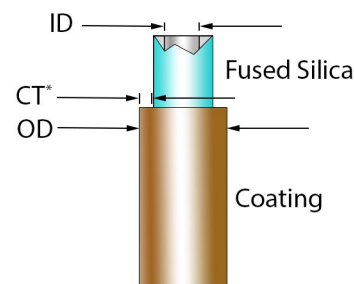
Package Leak Testing  
Evaporative Cooling Systems  
Petroleum Analysis  
Catalytic Research

#### Medical

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



Polymicro Technologies™  
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Fused Silica Capillary Diagram

### 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           | Fixed         |
| Proof Tested                                 | 100%          | 100%          | 100%           | 100%             | N/A           |
| Polyimide Coating Type                       | Standard      | Standard      | Standard       | High-Temperature | Standard      |

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# Polymicro Technologies™

## Polyimide Coated Fused Silica Capillary Tubing

**molex®**

### Ordering Information and Specifications

| Material Number | Product Description | Material                       | Inner Diameter (µm) | Outer Diameter (µm) | Coating Thickness (µm) | Material Number | Product Description | Material                                  | 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**                  |

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