

MICRO TUBES

Precision Stainless Steel Tubing Solutions



PRECISION

Dimensions
Tight Tolerances



PREMIUM

Stainless Steel
Superior Corrosion Resistance



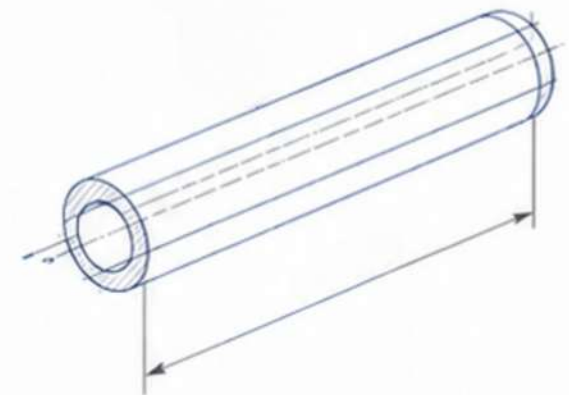
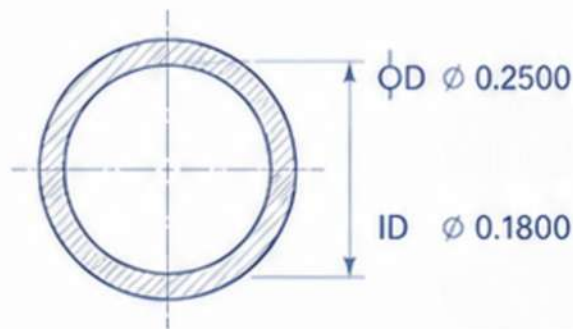
ENGINEERED

To Perform
Consistent Quality

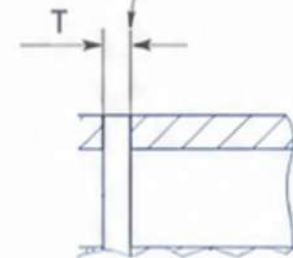


GLOBAL

Export Solutions
Delivered Worldwide



WALL THICKNESS (T)
 0.0350 ± 0.0020



ENGINEERED FOR PRECISION. DELIVERING WORLDWIDE.

COMPANY OVERVIEW

Precision Tubing. Reliable Supply. Global Support.

USA Piping Solution LLC is a USA-based supplier of high-quality stainless steel micro tubes, capillary tubes, seamless micro tubes, welded micro tubes, and precision tubing solutions for critical industrial applications. We support industries where small diameter accuracy, corrosion resistance, smooth surface finish, and reliable performance are essential.

Our products are supplied for medical devices, automotive components, instrumentation, heating elements, refrigeration systems, food processing equipment, laboratory instruments, process control systems, and precision engineering applications.



QUALITY FOCUSED

Precision tubing supplied with consistent inspection and documentation.



CUSTOMER SUPPORT

Responsive service for standard and custom micro tube requirements.



TECHNICAL KNOWLEDGE

Support for material grades, sizes, tolerances, and applications.



GLOBAL DELIVERY

Reliable supply support for domestic and international requirements.



Quality Materials



Precision Supply



Technical Support



Reliable Delivery

MISSION, VISION & VALUES



MISSION

Our mission is to supply precision stainless steel micro tubes and capillary tubes with consistent quality, accurate dimensions, reliable documentation, and dependable customer service.



VISION

Our vision is to become a trusted USA-based partner for precision tubing solutions by delivering world-class products, technical support, and long-term value to industries worldwide.



EXCELLENCE & PRECISION

Supplying micro tubes with tight dimensional control and dependable performance.



QUALITY COMMITMENT

Supporting every order with inspection, traceability, and documentation.



CUSTOMER SATISFACTION

Providing responsive service and solutions based on project requirements.



TECHNICAL SUPPORT

Helping customers choose suitable grades, sizes, finishes, and supply formats.



RELIABLE DELIVERY

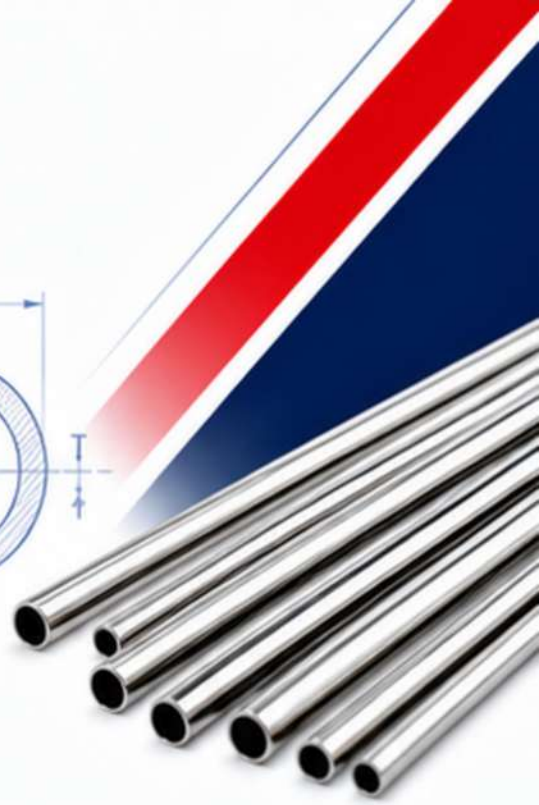
Coordinating material supply with professional packing and shipment support.



CONTINUOUS IMPROVEMENT

Improving sourcing, inspection, and service processes for better results.

IN-HOUSE TESTING & INSPECTION SUPPORT



Ensuring Accuracy. Delivering Confidence.

USA Piping Solution LLC supports precision micro tube supply with inspection and testing documentation as per customer and project requirements. Our quality approach focuses on dimensional accuracy, surface condition, material verification, mechanical performance, and complete traceability.



- 1. DIMENSIONAL INSPECTION**
OD, ID, wall thickness, length, ovality, and straightness verification.



- 2. SURFACE FINISH CHECK**
Visual and surface quality inspection for clean internal and external finish.



- 3. EDDY CURRENT TESTING**
Non-destructive testing support for tube integrity.



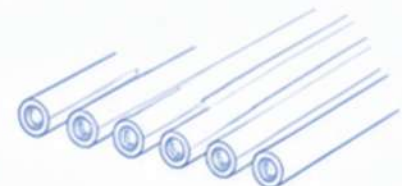
- 4. HYDROSTATIC TESTING**
Pressure testing support where required.



- 5. PMI TESTING**
Material grade verification using positive material identification.



- 6. HARDNESS & MECHANICAL TESTING**
Testing support as per applicable standards and specifications.



Accurate Testing



Certified Reports



Material Traceability



Quality Assurance

INFRASTRUCTURE & SUPPLY CAPABILITY

Reliable Sourcing. Precision Supply. Project Support.

USA Piping Solution LLC supports customers with reliable supply capability for stainless steel micro tubes, capillary tubes, seamless tubes, welded tubes, precision tubes, needle tubes, and custom small-diameter tubing requirements.



1. SEAMLESS MICRO TUBES

For high-pressure and critical applications.



2. WELDED MICRO TUBES

For consistent dimensions and economical supply.



3. CAPILLARY TUBES

For controlled flow and precision applications.



4. NEEDLE TUBES

For medical, laboratory, and technical use.



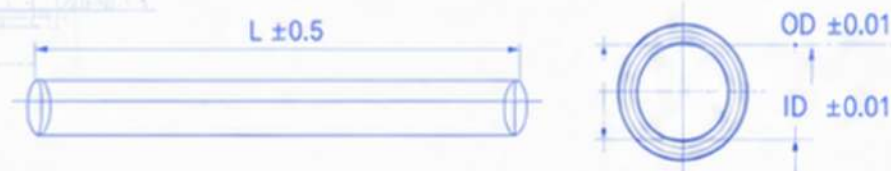
5. COILED TUBING

For long-length continuous supply.



6. CUSTOM CUT LENGTHS

For project-specific tube requirements.



Wide Range



Custom Sizes



Fast Support



Reliable Supply

STAINLESS STEEL MICRO TUBES

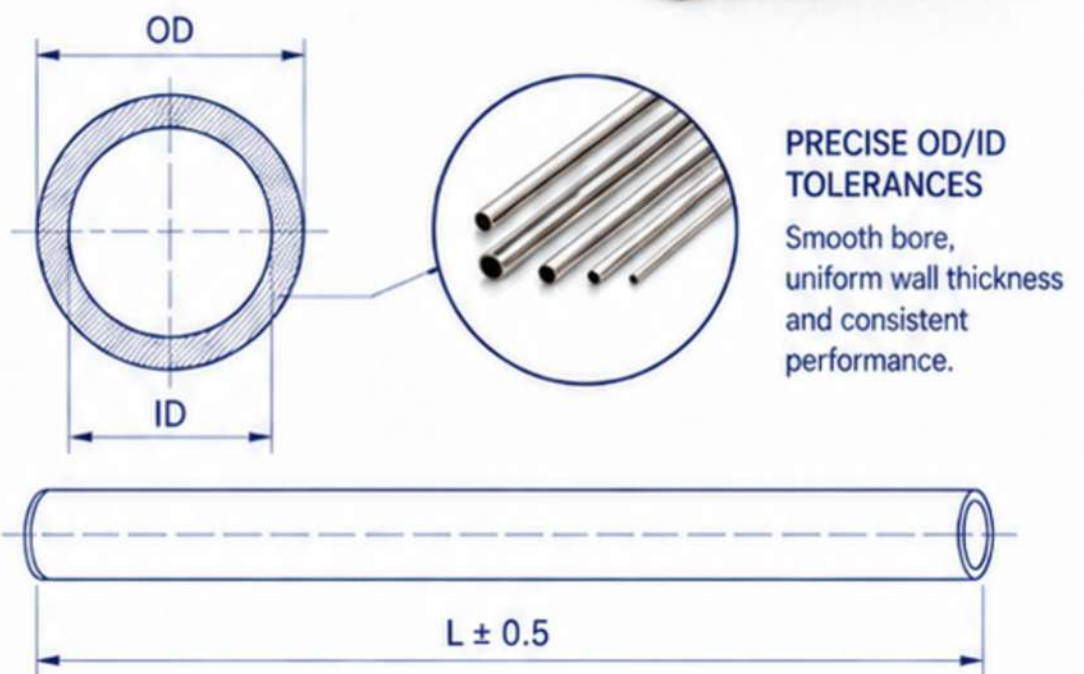
Small Diameter Tubes for Precision Applications.

Stainless steel micro tubes are used where compact size, corrosion resistance, tight tolerance, and smooth finish are essential. USA Piping Solution LLC supplies seamless and welded micro tubes for medical, automotive, instrumentation, heat transfer, control, and precision engineering applications.



APPLICATIONS

-  Medical needles and cannulae
-  Thermostats and thermometers
-  Pressure gauges and instruments
-  Heating elements and heat exchangers
-  Automotive components
-  Food and beverage equipment
-  Process control instruments
-  Laboratory and chromatography systems



MATERIALS

304, 304L, 316, 316L,



SIZE RANGE

Small OD and thin wall sizes as per customer requirement.



SPECIFICATIONS

ASTM A269, ASTM A213, ASTM A249, ASTM A312, ASTM A450, ASME and EN standards.



LENGTH RANGE

Straight lengths, cut-to-length, and long continuous coils.



Precision Manufacturing



Tight Tolerances



Superior Corrosion Resistance



Consistent Quality

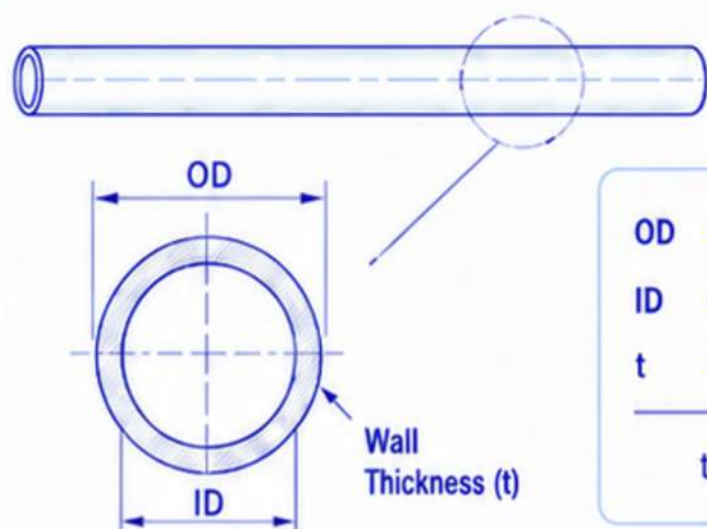
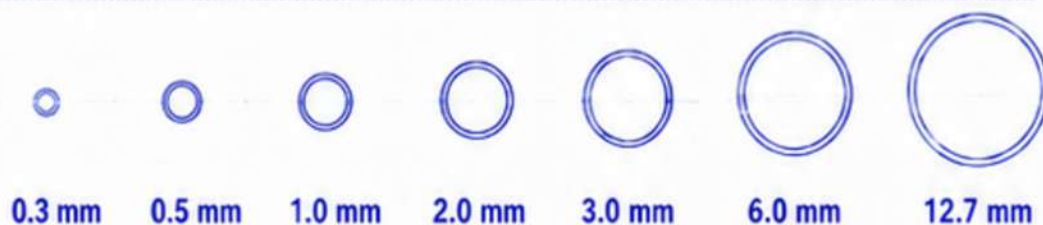
MICRO TUBE SIZE RANGE

Custom OD, ID, and Wall Thickness Options.

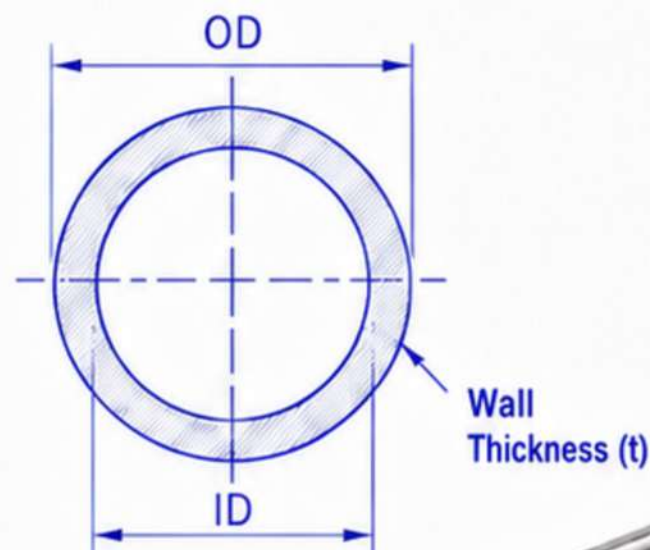
USA Piping Solution LLC supplies stainless steel micro tubes in standard and customer-specific configurations for precision applications. Sizes can be supplied as per drawings, standards, and project requirements.

OD Range	0.3 mm – 12.7 mm
Wall Thickness	As low as 0.01 mm
Tube Type	Seamless / Welded / Welded & Drawn
Supply Form	Straight Length / Coil / Cut-to-Length
Finish	Bright Annealed / Polished / Pickled

OUTSIDE DIAMETER (OD) COMPARISON



OD = Outside Diameter
ID = Inside Diameter
t = Wall Thickness
 $t = (OD - ID) / 2$



Tight Tolerances



Custom Sizes



Precision Finish

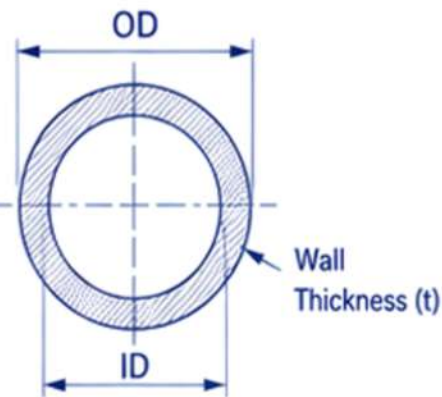


Application-Based Supply

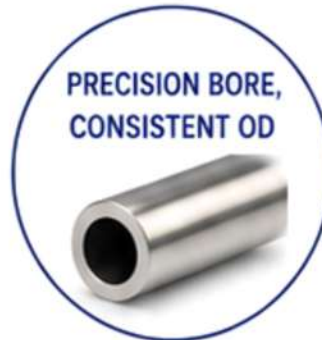
MICRO TUBES FOR HEATING ELEMENTS

Reliable Tubing for Heat Transfer and Appliance Applications.

USA Piping Solution LLC supplies stainless steel and nickel alloy micro tubes for heating elements, immersion heaters, water heaters, refrigeration systems, and temperature control assemblies. These tubes are selected for heat resistance, corrosion resistance, dimensional accuracy, and consistent performance.



-  Excellent heat transfer efficiency
-  Superior corrosion and oxidation resistance
-  Tight dimensional control and accuracy
-  Available in straight lengths and coils
-  Ideal for compact and high-performance systems



HEATING ELEMENT



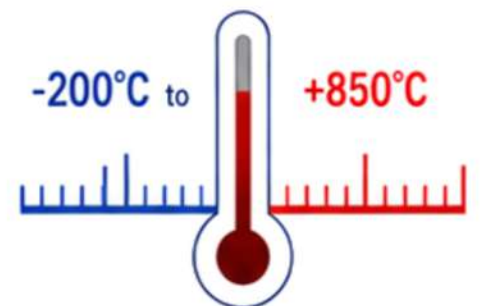
IMMERSION HEATER APPLICATION



TEMPERATURE CONTROL



WIDE OPERATING RANGE



COMMON MATERIALS

304, 304L, 316, 316L, 321



COMMON APPLICATIONS

Heating elements, immersion heaters, water heaters, refrigeration, capillary thermostats



SUPPLY OPTIONS

Straight lengths, cut-to-length, coils, polished, bright annealed



QUALITY CHECKS

Dimensional inspection, surface finish check, eddy current testing, hydro testing if required



Heat Resistant



Corrosion Resistant



Precision Supply



Consistent Quality

MICRO TUBES FOR AUTOMOTIVE COMPONENTS

Precision Tubing for Performance, Control, and Reliability.

Micro tubes are used in automotive systems where lightweight construction, corrosion resistance, precise dimensions, and reliable performance are essential. USA Piping Solution LLC supplies seamless and welded micro tubes for demanding automotive applications.

APPLICATIONS

-  Fuel injection assemblies
-  EGR coolers
-  Sensor tubes
-  Emission control systems
-  Small fluid transfer lines
-  Cooling system components
-  Precision automotive assemblies

FUEL INJECTION ASSEMBLIES



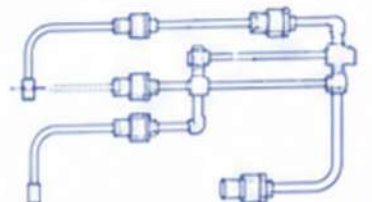
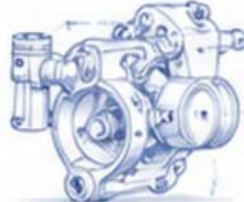
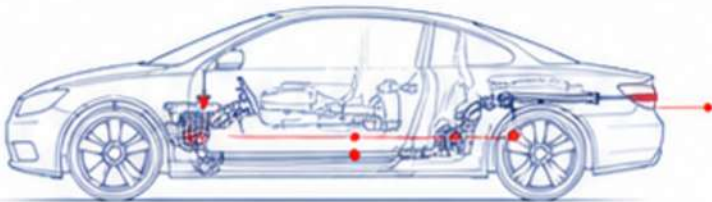
EGR COOLER



SENSOR TUBING



EMISSION CONTROL SYSTEMS



MATERIALS

304, 304L, 316, 316L
and custom grades as
required.

SUPPLY FORMATS

Straight lengths, coils,
cut-to-length, custom
forming support.

KEY FEATURES

Dimensional accuracy,
corrosion resistance,
bendability, vibration
reliability.



DRIVE PERFORMANCE



CORROSION RESISTANT



VIBRATION RELIABLE



LIGHTWEIGHT SOLUTIONS

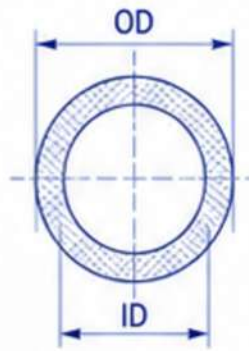


PRECISION ENGINEERED

CAPILLARY TUBES FOR THERMOSTATS

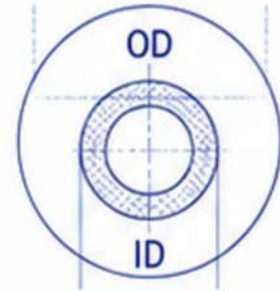
Precision Flow and Temperature Control Tubing.

Stainless steel capillary tubes are critical components in thermostats, thermometers, and temperature control assemblies. USA Piping Solution LLC supplies precision capillary tubing designed for controlled flow, accurate response, and consistent reliability.



APPLICATIONS

-  Capillary thermostats
-  Thermometers
-  Water heaters
-  Ovens
-  Refrigeration systems
-  Washing machines
-  Dishwashers
-  Temperature control equipment



THERMOSTAT APPLICATION



MATERIALS

304, 304L, 316, 316L, 316Ti



LENGTH RANGE

Straight lengths and long continuous coils



COMMON SIZES

Custom OD / ID as per application requirement



FINISH OPTIONS

Bright annealed, polished, cleaned, cut-to-length



Heat Resistant



Corrosion Resistant



Precision Supply



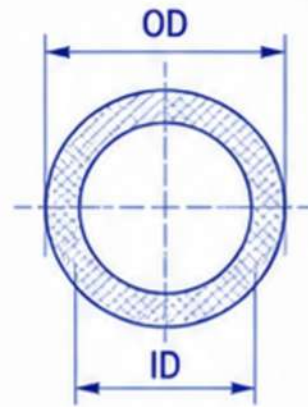
Consistent Quality



CAPILLARY TUBES FOR MEDICAL APPLICATIONS

Clean, Precise, and Reliable Tubing for Healthcare Components.

USA Piping Solution LLC supplies stainless steel capillary tubes and needle tubes for medical and healthcare applications requiring fine dimensions, smooth finish, corrosion resistance, and dependable quality.



APPLICATIONS

-  Hypodermic needles
-  I.V. cannulae
-  Dental needles
-  Veterinary needles
-  Biopsy needles
-  Special purpose needles
-  Diagnostic equipment
-  Laboratory sampling systems

PRECISION NEEDLE & CAPILLARY TUBING



- ✓ Ultra-fine dimensions
- ✓ Smooth inner bore
- ✓ Excellent corrosion resistance
- ✓ Burr-free, clean ends

MEDICAL & LABORATORY APPLICATIONS



MATERIALS

304, 304L, 316, 316L



STANDARDS

ISO 9626 and customer-specific medical tubing requirements



SUPPLY FORMATS

Straight lengths, cut-to-length, coils



QUALITY FOCUS

Smooth bore, clean finish, tight tolerance, burr-free ends



Medical Grade Supply



Precision Tubing



Clean Finish



Reliable Quality



CAPILLARY TUBE SIZE CHART

DIMENSIONS FOR HYPODERMIC NEEDLE TUBING					
Gauge	Outside Diameter Tolerance MM	Regular Wall RW MM	Thin Wall TW MM	Extra Thin Wall XTW MM	Ultra Thin Wall UTW MM
30	0.304 – 0.317	0.085 – 0.095	0.064 – 0.089	—	—
29	0.330 – 0.342	0.085 – 0.095	0.064 – 0.089	—	—
28	0.355 – 0.368	0.085 – 0.095	0.064 – 0.089	—	—
27	0.405 – 0.419	0.089 – 0.115	0.064 – 0.089	—	—
26	0.457 – 0.469	0.089 – 0.114	0.074 – 0.089	—	—
25	0.508 – 0.520	0.115 – 0.140	0.089 – 0.114	—	—
24	0.558 – 0.571	0.114 – 0.140	0.089 – 0.114	0.070 – 0.102	0.051 – 0.082
23	0.635 – 0.647	0.140 – 0.165	0.089 – 0.114	0.070 – 0.102	0.051 – 0.082
22	0.711 – 0.723	0.140 – 0.165	0.096 – 0.121	0.070 – 0.102	0.051 – 0.082
21	0.812 – 0.825	0.140 – 0.165	0.102 – 0.127	0.070 – 0.102	0.051 – 0.082
20	0.901 – 0.914	0.108 – 0.165	0.108 – 0.134	0.070 – 0.102	0.051 – 0.082
19	1.054 – 1.079	0.166 – 0.216	0.102 – 0.140	0.070 – 0.108	0.051 – 0.082
18	1.257 – 1.282	0.191 – 0.244	0.127 – 0.165	0.083 – 0.121	0.051 – 0.082
17	1.460 – 1.485	0.177 – 0.229	0.115 – 0.152	0.083 – 0.127	0.057 – 0.082
16	1.638 – 1.663	0.204 – 0.254	0.127 – 0.165	0.096 – 0.133	0.070 – 0.121
15	1.816 – 1.841	0.204 – 0.254	0.127 – 0.165	0.096 – 0.134	0.070 – 0.121
14	2.082 – 2.133	0.216 – 0.292	0.165 – 0.229	0.144 – 0.165	0.076 – 0.134
13	2.387 – 2.438	0.267 – 0.343	0.191 – 0.267	—	—
12	2.743 – 2.749	0.267 – 0.321	0.191 – 0.267	—	—
11	3.023 – 3.073	0.293 – 0.368	0.216 – 0.292	—	—
10	3.378 – 3.429	0.318 – 0.394	0.216 – 0.292	—	—



STAINLESS STEEL WIRES

USA Piping Solution LLC supplies stainless steel wires for lancets, medical components, surgical tools, and precision industrial applications. Our stainless steel wires are supplied with clean surface finish, controlled diameter, reliable material quality, and suitable packaging for safe handling and delivery.



SIZE RANGE:
0.20 mm – 3.00 mm



MATERIALS:
SS 304
SS 304L
SS 316
SS 316L



LENGTH RANGE:
Available in straight lengths up to 2 meters or in long continuous coils, depending on customer requirements.



INDUSTRIES WE SERVE

Precision Micro Tube Solutions
for Demanding Applications.



01



**MEDICAL
DEVICES**

02



AUTOMOTIVE

03



INSTRUMENTATION

04



**HEATING
ELEMENTS**

05



REFRIGERATION

06



**FOOD &
BEVERAGE**

07



AEROSPACE

08



**LABORATORY
EQUIPMENT**

09



**PROCESS
CONTROL**

10



**CHEMICAL
PROCESSING**

11



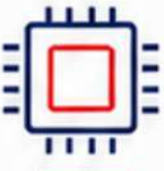
**WATER
TREATMENT**

12



**ENERGY &
POWER**

13



SEMICONDUCTOR

14



**PRECISION
ENGINEERING**

15



**OEM
MANUFACTURING**

16



**EXPORT
PROJECTS**

Trusted Supply for Critical Industrial Applications.

LET'S DISCUSS YOUR MICRO TUBE REQUIREMENTS

We would be pleased to share detailed technical offers, material specifications, and product datasheets tailored to your project requirements.



PREMIUM QUALITY

Precision-engineered
stainless steel micro tubes



RELIABLE PERFORMANCE

Consistent quality,
traceability, and compliance



PARTNER YOU CAN TRUST

Committed to customer
success with every shipment



WEBSITE

www.usapipingsolution.com



EMAIL

sales@usapipingsolution.com



ADDRESS

United States of America - HQ
211 East 7th Street,
Ste. 620 Austin, TX 78701

YOUR TRUSTED PARTNER FOR PRECISION MICRO TUBES.

DELIVERING VALUE. DRIVING SUCCESS.



**PRECISION
ENGINEERED**



**TRACEABLE
QUALITY**



**GLOBAL
REACH**



**ON-TIME
DELIVERY**