



Precision Stainless Steel Capillary Pipes and Tubes – High-Performance Solutions by Emirerri Steel



CAPILLARY PIPE AND TUBE

- **Material:** Stainless Steel, Carbon Steel, Alloy Steel
- **Production Process:** Seamless & Welded for high precision
- **Diameter Range:** 0.1 mm to 20 mm
- **Wall Thickness:** 0.1 mm to 2 mm
- **Length:** Custom lengths available, typically 6 meters



- **Surface Finish:** Bright Annealed, Polished, Pickled for smooth flow & durability
- **Standards Compliance:** ASTM, ASME, DIN, EN, JIS
- **Certifications:** ISO 9001, API 5L, CE for quality assurance

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[Capillary pipes and tubes](#) are precision-engineered components used across various industries, including medical, instrumentation, and industrial applications. These thin-walled, small-diameter tubes are designed to facilitate the smooth flow of fluids and gases, making them indispensable in high-precision environments. Emirerri Steel offers a **premium** range of capillary pipes and tubes, ensuring **high performance, durability, and reliability**. Our products meet stringent industry standards and are available in **various sizes, lengths, and stainless steel grades**.

Stainless Steel Capillary Pipe and Tube:

Stainless steel capillary pipes and tubes are widely utilized due to their **excellent corrosion resistance, strength, and fine dimensional accuracy**. They are manufactured using advanced technology to ensure a flawless surface finish and precise tolerances. These tubes are extensively used in fluid and gas transmission, sensor probes, medical instruments, and chromatography applications, providing an optimal solution for industries requiring highly accurate tubing.

304 Stainless Steel Capillary Pipe and Tube:

304 stainless steel capillary pipe and tube are among the most sought-after variants due to their outstanding corrosion resistance, mechanical properties, and versatility. These tubes are preferred in industries such as pharmaceuticals, aerospace, food processing, and chemical applications. They offer:

- High strength and durability
- Excellent resistance to oxidation, corrosion, and chemicals
- Precision in small-diameter applications
- Non-reactive properties, making them ideal for handling sensitive fluids
- Cost-effective compared to higher-grade stainless steel options
- Easy fabrication and welding capabilities

316 Stainless Steel Capillary Pipe and Tube:

316 stainless steel capillary pipe and tube provide enhanced corrosion resistance, particularly in harsh environments such as marine and chemical industries. These tubes contain molybdenum, which significantly increases their resistance to pitting and crevice corrosion. They are ideal for:

- Marine and offshore applications
- Chemical and petrochemical industries
- High-temperature and high-pressure environments
- Medical applications, such as surgical instruments and catheters

- Pharmaceutical and biotechnology industries
- Environments exposed to acidic or chloride-rich solutions

Other Stainless Steel Grades:

In addition to 304 and 316, Emirerri Steel offers capillary pipes and tubes in other **stainless steel grades**, including **321, 310, and 317**, catering to specific industrial requirements such as **high-temperature resistance, enhanced mechanical strength, and superior oxidation resistance**. These grades offer unique benefits such as:

- Increased creep resistance, ensuring longevity under high stress
- Improved weldability, allowing for seamless integration into complex systems
- Exceptional heat resistance, suitable for furnace and exhaust applications
- Enhanced resistance to intergranular corrosion in extreme environments

Capillary Tube Length and Customization:

Capillary tubes come in various lengths, depending on the application and industry requirements. Emirerri Steel provides customized lengths to meet specific operational needs. Standard lengths vary between a few centimeters to several meters, with custom options available for specialized applications. Our manufacturing process ensures:

- Uniform wall thickness for optimal fluid or gas flow
- Precise inner diameter control for enhanced efficiency
- Superior surface finishing to reduce friction and improve longevity
- Various end configurations, including flared, threaded, or welded ends

Stainless Steel Pipe and Tube:

In addition to capillary pipes, Emirerri Steel offers a broad selection of stainless steel pipes and tubes that cater to **industrial, construction, and medical applications**. These pipes ensure:

- Superior mechanical strength, ensuring longevity in demanding environments
- Excellent thermal and chemical resistance, making them ideal for extreme conditions

- Versatility in multiple applications, from construction to specialized industries
- A long service life with minimal maintenance, reducing downtime and costs
- Availability in seamless and welded variants, offering flexibility in different setups
- Resistance to biofouling, making them suitable for food and beverage applications

Capillary Tube and Capillary Pipe Applications:

Capillary pipes and tubes are essential in precision engineering and medical applications. Some key uses include:

- Medical implants and surgical instruments, ensuring biocompatibility and hygiene
- Hydraulic and pneumatic systems, enabling high-pressure fluid control
- Heat exchangers and refrigeration systems, providing efficient thermal transfer
- Aerospace and automotive components, offering lightweight and durable solutions
- Fuel injection systems, enhancing engine efficiency and performance
- Semiconductor and electronic industries, where microfluidic transport is essential
- Industrial fluid transfer in high-pressure environments, ensuring precision and reliability
- Optical fiber protection tubes, used in telecommunications applications

Capillary Tube Set:

Capillary tube sets are pre-assembled tubes designed for specific applications, including refrigeration, air conditioning, and laboratory use. These sets ensure ease of installation and operational efficiency. They are available in various configurations to suit different operational needs, providing:

- Pre-cut, calibrated lengths for specific applications
- Easy integration into existing systems, reducing setup time
- Leak-proof connections and fittings, ensuring reliable performance
- High precision and reliability, ensuring accurate fluid flow
- Multiple material options, including nickel alloys and titanium for specialized environments
- Custom coating and lining options for enhanced resistance to harsh chemicals

Capillary pipes and tubes play a vital role in various industries due to their precision, durability, and corrosion resistance. Choosing the right material and grade is essential for ensuring efficiency and longevity in applications that demand reliability and high performance. [Emirerri](#)

[Steel](#) remains committed to providing **top-quality** capillary pipes and tubes, meeting global industry standards while offering customization to cater to specific needs.