WHO ARE WE

ISO 9001:2015, PED 2014/68/EU certified. Built in 2003, **Zhejiang Guanyu Steel Tube Co., Ltd** is specialized manufacturer of Stainless Steel Tubes & Pipes, Nickel Alloy Tubes for Heat exchanger and pressure vessel in China. It covers an area of 35,000 square meters, has 120 employees, including 35 technicians, with an annual output of 10,000 tons

We have built a complete quality management system and organization according to ISO 9001:2015 and PED 2014/68/EU. Quality control begin with an audit trail and continues from the point of steel melting. for the raw materials, we select the best quality raw material for our customers. right through to the finished product. This level of attention to detail extends throughout the design and manufacturing chain, all kinds inspection will be all though the producing process ensure the Stainless-Steel Pipe Tubing and Nickel Alloy Seamless Pipe, Copper Nickel Alloy Tubes, Brass Seamless Tubes finished in qualified. With destructive and non-destructive tests according to standard specification and customer's special requirement, and including verification of performance by independent third-party test houses.

Our products are widely used in the fields of Automobile, Boiler, Chemical, Condenser, Cooler, Evaporator, Fin Tube, Food & Dairy, Heat Exchanger, Instrumentations, Oil & Gas, Pharmaceutical, Power Plant, Pressure Vessel, Process Piping, Semiconductor, etc. Besides the local market, our products are exported to USA, Canada, Mexico, South Korea, Singapore, Indonesia, Malaysia, Thailand, UAE, Australia, United Kingdom, Chile, Brazil, Russia.

Our principle is to select the best quality raw materials for our customers and to bring longer-term profits to our customers. Save the cost for our customer and dual-benefit.

Thanks to all of our clients, your trust drives us to overcome millions of difficulties and achieve today's success!

Add：No.3, Jiangnan Road, Jiangnan Industrial Park, Songyang, Zhejiang Province, China
Cell: +86-159-61185386 Tel: +86-578-8015555 Fax.:+86-578-8911588
www.GuanyuTube.com

PRODUCING AND TESTING EQUIPMENT LIST

Equipment Name	Detailed Description	Quantity (sets)
Cold Rolling Pilger Machine	LG 15, LG 20-HS, LG 30, LG60-H	19
Cold Drawing Machine Set	OD 3.0 – 530mm	10
Solution Annealing Furnace	CNG Controlled by Computer 25 Meters	1
U bend Tube Solution Annealing Machine		2
Bright Annealing Furnace	Nitrogen and Hydrogen	1
Pickling Tank	25 Meters 25000*1600*1000mm	4
Electric Resistance Heat Treatment	XL-21	1
Straightening Machine	LJ25, LJ110, LJ160	10
Eddy Current Test Machine	ECT-308E 25 Meters	1
Ultrasonic Test Machine	CTB-108 25 Meters	1
Hydrostatic Test Machine	6 Meters, 12 Meters, 25 Meters	4
Hydraulic Test Machine		1
U bend Tube Hydrostatic Test Machine		1
Direct Reading Spectrometry	M5000F	1
Portable Spectrometer	Hitachi X-MET8000 Smart	3
Rockwell Hardness Tester	HR-150DT	1
Vickers Hardness Tester		1
Universal Test Machine	WEW-600B 6-600KN	1
Metallurgical Microscope	4XI-II	1
Endoscope Test	DEPSTECH	1
Intergranular Corrosion Test		3

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WHAT WE DO

Our customers profit from one of the most comprehensive product ranges in our business: from small instrumentation tubing to large pipe sizes with outside diameters from 6 to 530 mm (from 0.24 up to 2.86 inches) and with wall thicknesses from 0.5 up to 50 mm (from 0.02 up to 1.97 inches) in materials from standard austenitic stainless, duplex and super-duplex steels to highly sophisticated nickel-based alloys – this variety offers highest corrosion resistance, heat resistance and / or high-temperature, high-strength materials.

Our tubes and pipes come into operation mainly in the following sectors:

Heat Exchanger Tubes
Serving e.g. refineries, (Petro-chemical and pharmaceutical industries as well as fertilizer production and food industries

Instrumentation Tubing / Instrument Tubing
Used in several market segments (e.g. chemical, Oil & Gas, ...) for analyzer systems, measurement instruments and hydraulic circuits

Boiler Tubes and Furnace Tubes
In power generation plants in applications of re-heaters and super-heaters, industrial furnaces

Hollow Bar and Mechanical Tubes and Pipes
Our tubes as highly efficient quality raw material for radially machined componeents and a favorable alternative to use of solid bars

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MAINLY APPLICATION

Onshore and offshore oil and gas industry
Chemical and petrochemical industry
Energy and power generation
Mechanical-and plant engineering
Machine Tool manufacturing
Automotive industry
Environmental engineering
Water Treatment and Waste incineration
Nuclear industry
Paper and Pulp
Chemical Fiber
Shipping industry
Food Processing industry
Coal Gasification
Fertilizer Production
Environmental protection
Aerospace industry
Naval engineering
Biotechnology
Anarchically and medical technology

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STAINLESS STEEL TUBING

Corrosion Resistant Stainless Steels

Our product range offers our customers two classes of stainless steel that have an excellent resistance to corrosion.

Austenitic-Ferritic stainless steel (duplex and super duplex steels) are characterized by their excellent mechanical properties, particularly their high stress corrosion cracking resistance. They are especially well-suited for maritime applications and in the chemical industries. Their excellent resistance to corrosion enables them to withstand concentrated chloride medium, particularly under mechanical stress. This makes them superior to austenitic steels in many cases.

Austenitic corrosion resistant stainless steels primarily include materials with higher alloys (e.g. nickel, chrome and molybdenum). They are resistant to different types of corrosion caused by wet chemical influences, and are still able to maintain an austenitic face centred cubic matrix. This creates a range of highly versatile stainless steels.

High Temperature Stainless Steels

These steels maintain their mechanical properties when exposed to elevated temperatures on either a short- or long-term basis. Depending on the area of application these temperatures can rise e.g. to 500°C (932°F) in chemical processes 700°C (1,292°F) in power plant applications 1,000°C (1,832°F) for furnace engineering

With their increased concentration of chrome, silicon and aluminum they are especially resistant under the influence of hot gases as well as in salt and metal melting. However, the individual corrosion resistance is always dependent on the surrounding conditions, and can therefore not be precisely determined in a single testing.

NICKEL BASE ALLOY SEAMLESS TUBING

Corrosion Resistant Nickel-Based Alloys

Nickel's high degree of corrosion resistance is due to the fact that it is a relatively noble metal within the galvanic electro chemical series of metals. Adding chrome, molybdenum, copper and other elements forms alloys with even higher resistance to oxidation and corrosion which makes it possible to use them in a wider range of applications. Seamless tubes and pipes made of corrosion resistant nickel-based alloys are the first choice for basic industry manufacturers due to their excellent resistance to various acids (Sulphur acid, hydrochloric acid, phosphoric acid) and alkaline solutions.

High Temperature Nickel-based Alloys

Based on an austenitic structure, high temperature, high strength nickel-based alloys allow further increasing of specific alloy elements, such as chrome, molybdenum, tungsten, titanium, aluminum, niobium, etc. This leads to a very low iron concentration enabling the material to be employed within applications up to 1,100°C (2,012°F) in aggressive atmospheres. Available upon special request are titanium tubes for heat exchangers and bimetallic tubes for strippers in urea application.

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MATERIAL COMPARISON CHART

National Standard	Unified Digital Code	American Standard	UNS Code	European Standard
06Cr19Ni10	S30408	304	S30400	1.4301
022Cr19Ni10	S30403	304L	S30403	1.4307
07Cr19Ni10	S30409	304H	S30409	1.4948
06Cr19Ni10N	S30458	304N	S30451	1.4315
06Cr17Ni12Mo2	S31608	316	S31600	1.4401
022Cr17Ni12Mo2	S31603	316L	S31603	1.4404
06Cr17Ni12Mo2Ti	S31668	316Ti	S31635	1.4571
06Cr18Ni11Ti	S32168	321	S32100	1.4541
07Cr19Ni11Ti	S32169	321H	S32109	1.4941
06Cr25Ni20	S31008	310S	S31008	1.4845
06Cr19Ni13Mo3	S31708	317	S31700	1.4449
022Cr19Ni13Mo3	S31703	317L	S31703	1.4438
06Cr18Ni11Nb	S34778	347	S34700	1.4550
07Cr18Ni11Nb	S34779	347H	S34709	1.4912
022Cr22Ni5Mo3N	S22253	S31803	S31803	1.4462
022Cr23Ni5Mo3N	S22053	S32205	S32205	1.4462
022Cr25Ni7Mo4N	S25073	S32750	S32750	1.4410
022Cr25Ni7Mo4WCuN	S27603	S32760	S32760	1.4501
015Cr20Ni18Mo6CuN	S31252	254SMO	S31254	1.4547
015Cr21Ni26Mo5Cu2	S31782	904L	N08904	1.4539
Ni68Cu28Fe	——	Monel 400	N04400	2.4360
1Cr15Ni75Fe8	NS3102	Inconel 600	N06600	2.4816
0Cr20Ni65Mo10Nb4	NS3306	Inconel 625	N06625	2.4856
0Cr30Ni60Fe10	NS3105	Inconel 690	N06690	2.4642
0Cr20Ni32AlTi	NS1101	Incoloy 800	N08800	1.4876
1Cr20Ni32AlTi	NS1102	Incoloy 800H	N08810	1.4958
0Cr25Ni35AlTi	NS1103	Incoloy 800HT	N08811	1.4959
0Cr21Ni42Mo3Cu2Ti	NS1402	Incoloy 825	N08825	2.4858
00Cr15Ni60Mo16W5Fe5	NS3304	C276	N10276	2.4819
0Cr20Ni35Mo3Cu3Nb	NS1403	Alloy 20	N08020	2.4660

PRODUCING TECHNIQUE

Pilger Machine / Coll Rolling Machines

Preferred production process for seamless, cold-finished, high alloyed stainless steel and nickel base alloy tubes and pipes. This technique provides a high forming rate, close tolerances and good productivity yields.

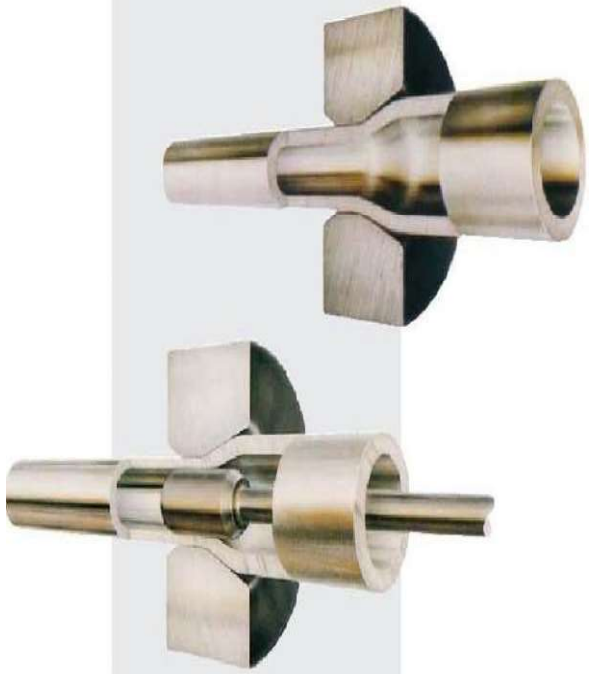
Our production range covers

•Outside Diameters from 6 up to 219.1 mm (0.24 up to 8.63 inches)
•Wall Thicknesses from 0.5 up to 30 mm (0.02 up to 1.18 inches)

Cold Drawing / Cold Drawn / Precision Cold Drawn

The ideal process for achieving very close tolerance ranges, especially for outside diameters. Additionally, the cold drawing process is the perfect choice when a low forming ratio is required.

Production Range covers
•Outside Diameter from 6 up to 530 mm (0.24 up to 20.86 inches)



Guanyu Tube®

U-BEND TUBES FOR HEAT EXCHANGER

Guanyu Steel Tube is specialized manufacturer of Stainless-Steel U Bend Tubes for U Tube Heat Ex-changer. Solution annealing after bend will be process to lower the residual stress, and followed by hydrostatic testing and dye penetrant testing if required. Stainless Steel U Bend Tube are widely used in heat exchanger systems. Heat exchanger equipment on the basis of stainless-steel U-tube is essential in strategically important and critical fields nuclear and petrochemical machine building.

Initial length
Maximum lengths of 25000mm can be supplied on request.

Bending radius Maximum 1500 mm
U Bend Tubes for Heat Exchanger Standard Specification:
EN 10216-5 Seamless steel tubes for pressure purposes - Technical delivery conditions
ASTM A163 Standard Specification for Seamless Nickel and Nickel Alloy Condenser and Heat-Exchanger Tubes
ASTM A213- 2017 Seamless ferritic and austenitic alloy steel boiler, superheater and heat exchanger tubes
ASTM A688/A688M-2017 Specification for Seamless and Welded Austenitic Stainless Steel Feedwater Heater Tubes
ASTM A556/A556M-2017 Standard Specification for Seamless Cold-Drawn Carbon Steel Feedwater Heater Tubes

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www.GuanyuTube.com www.TubingChina.com

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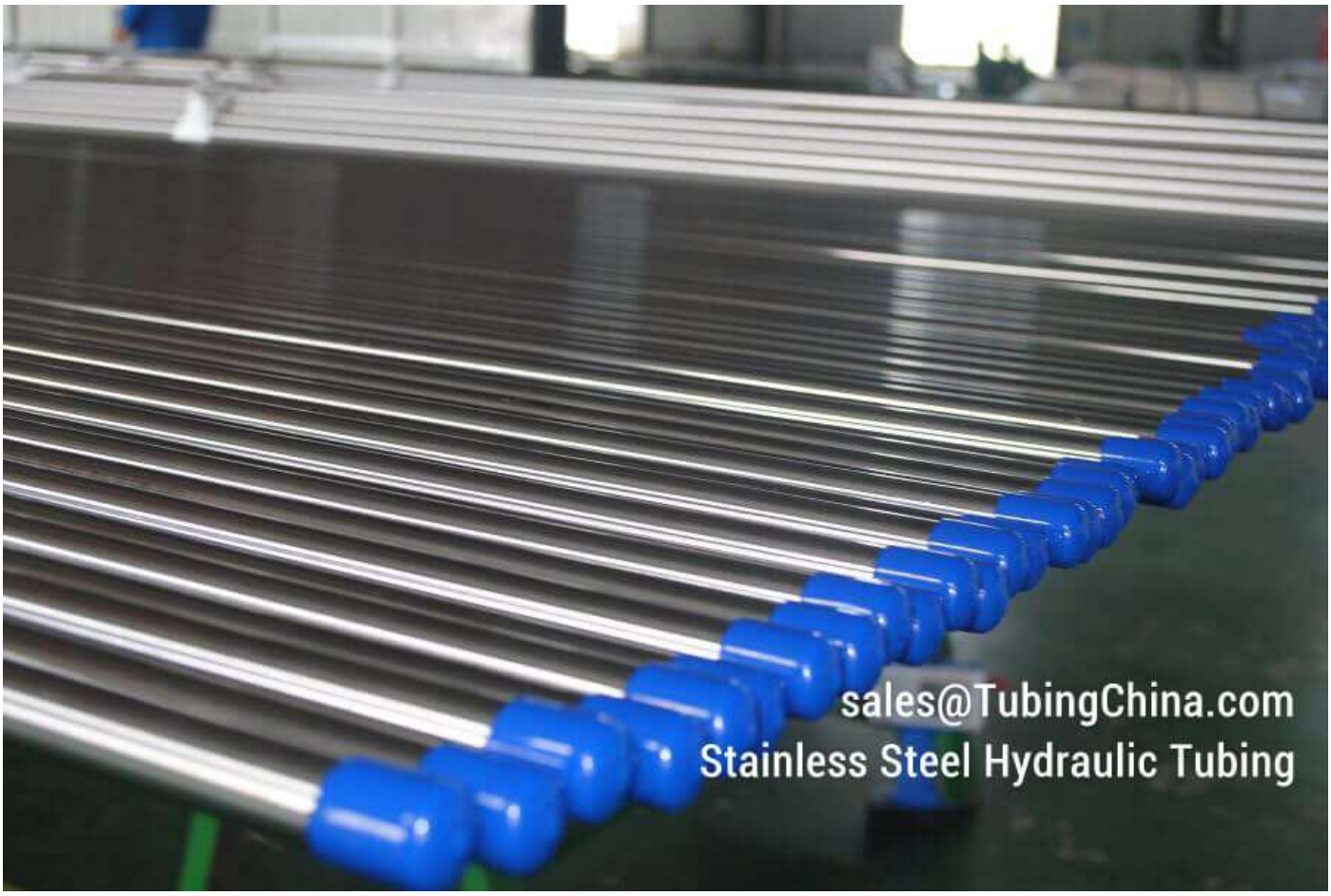
INSTRUMENTATION TUBING

Guanyu Steel Tube is specialized manufacturer of Stainless-Steel Instrumentation Tubing in China. All the tubing be produced with Three-Roller Precision Cold Rolling Pilger Machines or Cold Drawn and finished with Bright Annealing or Pickling Annealing and Polishing. Ensure the tubes dimension tolerance in accurate and inside and outside surface in cleanliness.

ASTM A213 A269 304/L 304/304L 316/L 316/316L Stainless Steel Instrumentation tubing in a comprehensive range of corrosion-resistant stainless steels and nickel alloys covering outside diameters (OD) from 1.59 to 50 mm (0.0625 to 1.968 in.)

Stainless Steel Instrumentation Tubing with high cleanliness
Stainless steel instrumentation tubing is characterized by high cleanliness, and tubes with OD larger than 5mm (0.196 in.) are delivered with plugged ends for transport protection against inside contamination.
Stainless Steel Instrumentation Tubing Standard Specifications:
EN 10216-5 TC1 TC2
ASTM A213 - AWT (Average Wall Thickness) / MWT (Minimum Wall Thickness)
ASTM A269
PED 2014/68/EU
OD < 6 mm according to ASTM A632
NACE MR0175/ISO 15156



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Guanyu Tube®

HEAT EXCHANGER TUBES

Heat Exchanger Tubes are used in Shell and Tube Heat Exchanger with all types of process industries. We offer the market's widest selection of stainless-steel grades and has extensive experience of manufacturing heat exchanger tubes.

When you want to reduce the risk of leakage in your Pressure Vessel and Instrumentation system, consider Guanyu Steel Tube, Nickel Alloy Tubing.

When it comes to stainless steel tubing for Pressure Vessel, hydraulic and instrumentation systems processing harsh media or in corrosive environments, the safety, integrity, and reliability of the tubing are critical. That's why Guanyu Steel Tube to bring you quality assured Stainless-Steel Tubing, Nickel Alloy Tubing.

OD: 12.7(1/2"),15.88(5/8"), 19.05, 20, 22.25, 25.4, 31.75, 38.1, 48.3, 50.8mm etc;
WT: 0.889, 1.245, 1.651, 2.0, 2.11, 2.769, 3.404mm etc;

Heat Exchanger Tubes Standard Specification:
ASTM A213/A213M-15 Standard Specification for Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes
ASTM A269/A269M-15 Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service
ASTM A789 - 17 Standard Specification for Seamless and Welded Ferritic/Austenitic Stainless Steel for General Service
EN 10216-5 Seamless steel tubes for pressure purposes

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Guanyu Tube®

QUALITY MANAGEMENT

At first, we purchase the best quality stainless steel round bar for customers. Then testing and inspections ensure the Stainless-Steel Tubes and Nickel Alloy Seamless Tubes quality with destructive and non-destructive tests according to standard and customer's special requirement.

The inspection laboratory of our company has all kinds of necessary inspection apparatus, mainly including Direct Reading spectrometer, Portable Spectrometer, Mechanical Properties Testing Machine, Hydraulic / Hydrostatic Testing Machine, Eddy Current Testing Machines, Ultrasonic Testing Machine, Huey testing machine, Flaring and Flattening test machine, Rockwell Hardness Tester, Impact Tester, Physical Properties Test, Chemical Properties Test Laboratory.

Third party inspection such as UEV, SGS, LR, MOODY, ITS, DNV, BV, Lloyd's Reg. of Shipping, TüV , GL as well as customer's stage-wise inspection are welcome.

Main Testing Terms and Procedure:

· 1. Heat Treatment and Solution Annealing / Bright Annealing
· 2. Cutting to required length and deburring;
· 3. Chemical Composition Analysis Test With 100% PMI and One tube from each heat by Direct Reading Spectrometer
· 4. Visual Test and Endoscope Test for Surface Quality Test
· 5. 100% Hydrostatic Test and 100% Eddy Current Test
· 6. Ultrasonic Test subject to the MPS (Material Purchase Specification)
· 7. Mechanical Tests includes Tension Test, Flattening Test, Flaring Test, Hardness Test
· 8. Impact Test subject to Standard request
· 9. Grain Size Test and Intergranular Corrosion Test
· 10. Ultrasonic measuring of Wall Thickness

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Guanyu Tube®

PRODUCING AND TESTING EQUIPMENT

Direct Reading Spectrometry
PMI Direct Reading Spectrometry
Eddy Current Test and Ultrasonic Test All in Machine
Mechanical Properties Test Machine

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Guanyu Tube®

PRODUCING AND TESTING EQUIPMENT

24 Meters Natural Gas Solution Annealing Furnace

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PRODUCING AND TESTING EQUIPMENT

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