



Zhejiang Guanyu Steel Tube Co., Ltd

ISO9001:2015, PED 2014/68/EU and AD2000 W0 certified. Built in 2003, Zhejiang Guanyu Steel Tube Co., Ltd is specialized manufacturer of Stainless-Steel Tubing and Nickel Alloy Tubing for Heat exchanger and pressure vessel in China. We are located in Songyang stainless steel industrial park. Production area covers an area of 35000 square meters.

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.

Standard Specification:

Stainless Steel Pipe Specifications:

EN 10216-5, DIN 17456, DIN17458, DIN17459,
ASTM: A213/ASTM A312/ASTM A269/ASTM A789/ASTM A790/ASTM A511/ASTM A376,
ASME SA213/ASME SA312/ASME SA269/ASME SA789/ASME SA790/ASME SA511/ASME SA376,
JIS G3459, JIS G3463.
GOST 9940, GOST 9941

Nickel Alloy Pipe Specification:

ASTM B111, ASTM B161, ASTM B163, ASTM B165, ASTM B167, ASTM B338, ASTM B407, ASTM B423, ASTM B444, ASTM B619, ASTM B622, ASTM B626, ASTM B668, ASTM B677, ASTM B829
or Standards stipulated in the technical agreement.



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.TubingChina.com www.zjgygy.com

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.

Typical Application Areas

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

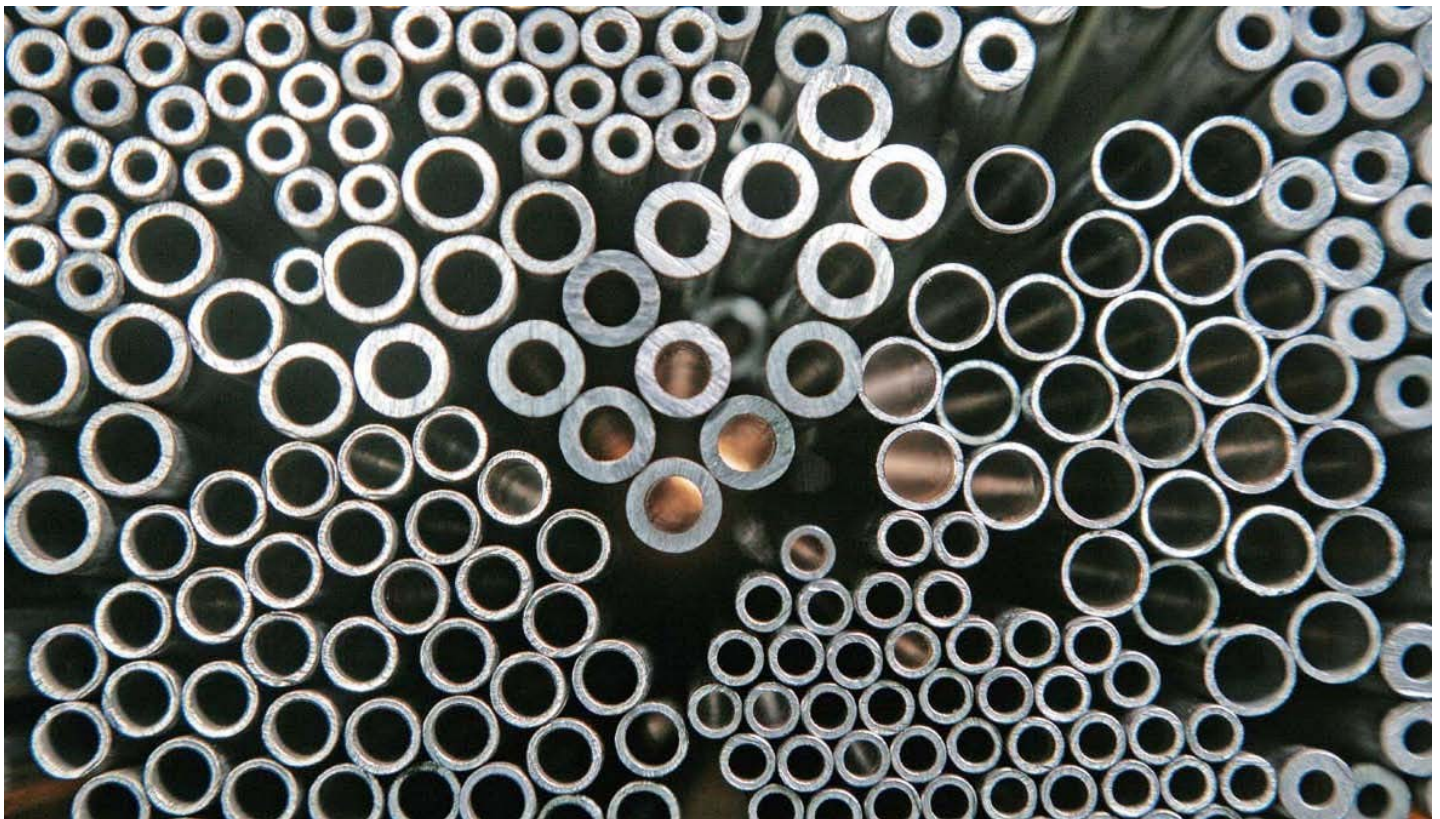
Used in several market segments (e.g. chemical, Oil & Gas, ...) for analyzer systems, measurement instruments and hydraulic circuits

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 components and a favorable alternative to use of solid bars



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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Instrumentation Tubing / Instrument 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)

ASTM A269

PED 2014/68/EU

OD < 6 mm according to ASTM A632

NACE MR0175/ISO 15156



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U-bending 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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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



Production & Inspection Equipmen List

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



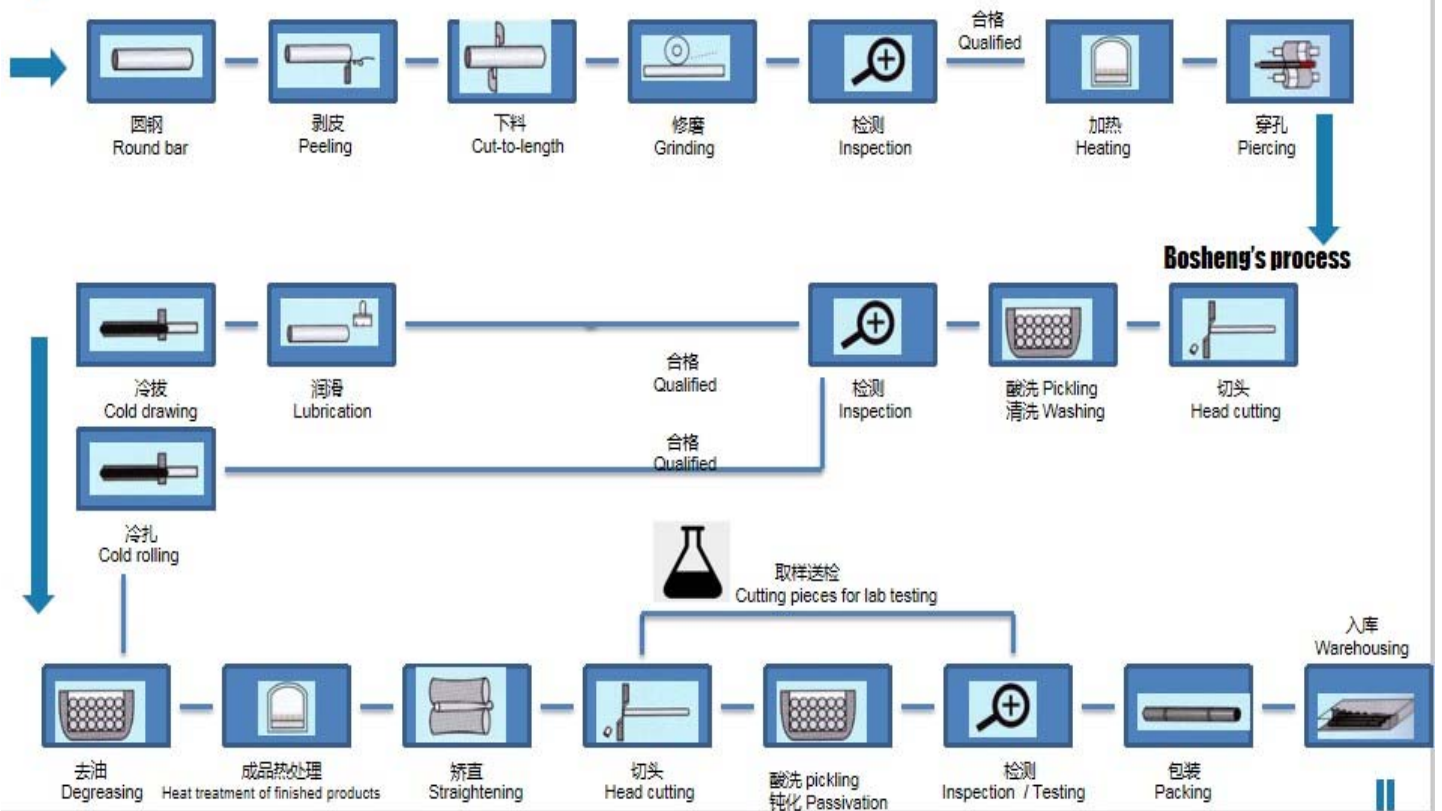
Typical Application Areas



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

PRODUCTION PROCESS



Producing & Testing Equipment List

Equipment Name	Detailed Description	Quantity (sets)
Cold Rolling Pilger Machine	LG0-20-HS LG60-H	10
Cold Drawing Machine Set	OD 3 - 530mm	10
Solution Annealing Furnace	CNG Controled by Computer 25 Meters	1
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	1
Ultrasonic Test Machine	CTB-108	1
Hydrostatic Test Machine	Maximum 25 Meters	1
Direct Reading Spectrometry	M5000F	1
Portable Spectrometer	Hitachi X-MET8000 Smart	1
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

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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)



Production & Inspection Equipmen List

24 Meters Natural Gas Solution Annealing Furnace



Production & Inspection Equipmen List





CERTIFICATE

Quality-Assurance System for material manufacturer
according to Pressure Equipment Directive 2014/68/EU

Certificate no.: 07/202/9030/WZ/2229/17

Name and address of the manufacturer: Zhejiang Guanyu Steel Tube Co.,Ltd.
No. 3 Jiangnan Road, Jiangnan Industrial Park, Songyang,
Lishui, Zhejiang Province, 323400, P.R. China

Herewith we certify that the manufacturer has established and applies a **quality-assurance system related to the material**. This QA System has been subjected to a specific assessment acc. to directive 2014/68/EU, annex I, point 4.3 with regard to the materials mentioned in the scope of approval.

Approved acc. to directive 2014/68/EU: **QA-System in relation to materials, EN 764-5, section 4.2**

Certification file no.: **9030AW_2229/17**

Audit report file no.: **8115304952**

Scope of approval: **Seamless tubes of austenitic steels**
(product / material)

Production site: **No. 3 Jiangnan Road, Jiangnan Industrial Park, Songyang, Lishui, Zhejiang Province, 323400, P.R. China**

The certificate is valid until: **November 2020**

Only valid in conjunction with a valid certificate acc. to EN ISO 9001.

Hamburg, 11.12.2017



Notified Body (0045)
for Pressure Equipment

Wehner

TÜV NORD Systems GmbH & Co KG,
Große Bahnstraße 31, D-22525 Hamburg

Annex: scope of approval

Region: STW-HH
D-22525, Hamburg
Technikzentrum

Phone: +49-(0) 40-8557-2368
Fax +49-(0) 40-8557-2710
e-mail technikzentrum@tuev-nord.de

Member of



CONFÉDÉRATION EUROPÉENNE D'ORGANISMES DE CONTRÔLE

TÜV NORD Systems GmbH & Co. KG



Notifizierte Stelle für Druckgeräte der TÜV NORD Systems GmbH & Co. KG (Reg.-Nr. 0045)
 Notified Body for Pressure Equipment Directive (PED), Reg. No. 0045

Geltungsbereich der Überprüfung von Werkstoffherstellern gemäss Druckgeräterichtlinie 2014/68/EU, Anhang I, Nr. 4.3
 Scope of approval for material manufacturer acc. to Pressure Equipment Directive 2014/68/EU, annex I pt. 4.3

Anlage zum Zertifikat / Annex to Certificate

Firma/Firm Zhejiang Guanyu Steel Tube Co., Ltd.
 Ort/Place: Jiangnan Industrial Park, 323400, P.R. China

DGRL-Nr.: 07/202/9030/MWZ/2229/17
 AD 2000-W0-Nr.: -

Datum / Date: 11.12.2017 / Ma, Fechner
 Aktenz. / File: 9030AW_2229/17
 SAP: 8115304952



Id.Nr No.	Werkstoffbezeichnung Material Designation	Spezifikation Specification	Lieferzust. Delivery Condition	Erzeugnisform Type of Product	Abmessung / Dimension Dicke [mm] Thickness	Ø[mm] [kg/t]	Prüfgrundlagen Anforderungen Requirements	Bemerkungen / Remarks
1	1.4301 1.4307 1.4401 1.4404 1.4541	EN10216-5	+AT	Seamless Steel Tubes	1.0-10.0	16.0-426.0	Richtlinie 2014/68/EU Directive 2014/68/EU EN 13445-2 EN 13480-2	Zertifiziert gemäß Druckgeräterichtlinie Anhang I, Nr. 4.3 durch die Notifizierte Stelle der TÜV NORD Systems (Reg.-Nr. 0045) Certified acc. to PED annex I, pt. 4.3 by the notified body of TÜV NORD Systems (Reg. no. 0045).
2	TP304 TP304L TP316 TP316L TP321	ASTMA 213 1)	2)	Seamless Steel Tubes	2)	2)		1) Nur zur Information / Only for information Beim Einsatz im Bereich der Druckgeräterichtlinie 2014/68/EU ist ein Einzelgutachten (PMA) erforderlich. For use in the area of PED 2014/68/EU a Particular Material Appraisal (PMA) is necessary. 2): gemäß technischer Spezifikation / according to technical specification

Erläuterungen / Explanation:
 EN 10027-1:2017, Tab. 18

+AT = Lösungsgeglüht / solution annealed; +N = Normalgeglüht, normalisierend umgeformt / normalized forming;
 +NT = Normalgeglüht und angelassen / normalized and tempered; +QT = vergütet / quenched and tempered; +M = Thermomechanisch umgeformt / thermo mechanical forming
 +AR = wie gewalzt / as rolled; +SR = Spannungsarmgeglüht / stress relieve;d; +A = weichgeglüht / soft annealed; +CR = kaltgewalzt / cold rolled

Hinweis zu Werkstoff gem. Richtlinie 2014/68/EU / Hints for materials use acc. to Directive 2014/68/EU :
 Für die spezifischen Einsatzbedingungen ist die Zustimmung des Druckgerätheherstellers bzw. der zuständigen benannten Stelle erforderlich.
 The specific material operation conditions have to be approved by pressure equipment manufacturer and by the notified body in charge

DAS CERTIFICATION



Quality Management System Certificate of Approval

This is to certify that the QMS of

ZHEJIANG GUANYU STEEL TUBE CO., LTD.

Unified Social Credit Code:91331124667121556P

No.3 Jiangnan Road, Jiangnan Industrial Park, Songyang, Lishui, Zhejiang, China

Has been assessed and found to meet the requirements of

GB/T 19001-2016/ISO 9001:2015

This certificate is valid for the following scope of operations:

Manufacture and Sale of Stainless Steel Seamless Tubes

Date of Certificate Issue: 07, July, 2017

Certificate Valid Until: 06, July, 2020

Certificate Number: **QNB17170734**

The validity of the registration will be continued only when the organisation pass the annual surveillance audit.

Check the validity of certificate at www.cnca.gov.cn or www.das-china.com

Surveillance Audits:



Authorized by:

Chief Executive



Shanghai DAS Certification Co., Ltd., member of SN Registrars(Holdings) Ltd.

Add:505, Tower. 2, Guoson Center, No. 388, Zhongjiang Road, Shanghai, P.R.China, 200062

Tel: 0086-21-62773910 Fax:0086-21-62080319

Web:<http://www.das-china.com>

Email: info@das-china.com

UK Head Office: **DAS Certification Limited (On Behalf of SN Registrars (Holdings) Limited)**

ADD: Registration House, 22b Church Street, Rushden, Northamptonshire, NN10 9YT, UK

Tel:+44(0)1933 381859

Email: info@dascertification.co.uk

Web: www.dascertification.co.uk

Company Number: 07659067





ISO 14001

The Certificate Of Environmental Management System

Certificate No. : 04917E10734R0M

Zhejiang Guanyu Pipe Industry Co., Ltd.

Address: No. 3, Jiangnan Road, Jiangnan Industrial Zone, Songyang County, Lishui City, Zhejiang Province, P.R. China/ P.C.:323400/ Unified Social Credit Code:91331124667121556P

According to your organization's application, our company carried out audit and certification in accordance with the requirements for *Environmental Management System* (GB/T24001-2016/ISO14001:2015), it accords with the requirements through assessment. The scope of the certified EMS is:

Environmental management activities in the occasions of departments, offices, working places related to production and services of seamless stainless steel tube

Initial date: 2017-9-22

Term of validity of this certificate: 2017-9-22 to 2020-9-21

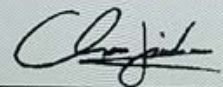
The scope of the certified should limits within the administrative licensing or China Compulsory Certification. The certified organization shall be subject to annual supervision of CTC during the validity period. The Certificate is only valid with the annual surveillance labels. The certificate information can be found at the CNCA's official website (www.cnca.gov.cn).

The first
surveillance

The second
surveillance



中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C049-M



Chairman

Guangdong Quality Testing CTC Certification Co., Ltd.

Address: 3rd Floor, Haicheng Xi Street, Xingangdong Road, Haizhu District, Guangzhou, Guangdong, P.R.C.

Tel.: 86-020-89232333 Fax: 86-020-89232078

Website: www.qtctc.org P.C.:510330





OHSAS18001

Occupational Health and Safety Management System Certificate

Certificate No. : 04917S10575R0M

Zhejiang Guanyu Pipe Industry Co., Ltd.

Address: No. 3, Jiangnan Road, Jiangnan Industrial Zone, Songyang County, Lishui City, Zhejiang Province, P.R. China/ P.C.:323400/ Unified Social Credit Code:91331124667121556P

According to your organization's application, our company carried out audit and certification in accordance with the requirements for *Occupational Health and Safety Management System* (GB/T 28001-2011), it accords with the requirements through assessment. The scope of the certified OHSMS is:

Occupational health and safety management activities in the occasions of departments, offices, working places related to production and services of seamless stainless steel tube

Initial date: 2017-9-22

Term of validity of this certificate: 2017-9-22 to 2020-9-21

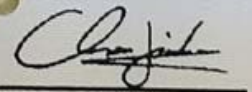
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MANAGEMENT SYSTEM
CNAS C049-M



Chairman

Guangdong Quality Testing CTC Certification Co., Ltd.

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Tel.: 86-020-89232333 Fax: 86- 020-89232078

Website: www.qctc.org P.C.:510330

