

U Bend Tube | U Bend Stainless Steel Tubes for Heat Exchanger



Our **U bend Tube** included ASTM A213 ASME SA213 TP304 TP304L TP304H TP316 TP316L TP316Ti TP317 TP317L TP317LMN TP321 TP321H TP347H TP309S TP310S TP310H 904L N08904 254SMo S31254, ASME SA789 S31803 S32205 S32750 S32304 S32760 S32101.

Guanyu Tube is a specialized manufacturer of Stainless Steel **U Bend Tube** for U Tube Heat Exchanger (U bent Stainless Steel Tube for U bent Tube Heat Exchanger). Our U Bend Tube Tube-bending production line, installed in 2007. Solution annealing after bending will be processed to lower the residual stress, and followed by Hydrostatic testing/Pneumatic test and Dye Penetrant testing if required.

- Guanyu Tube Supplied U Bend Tube Technical Details
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- U bend Tubes Mainly Testing Item
- U bend Tubes Size



- U bend Stainless Steel Tube Exported Countries
- U bend Tube Related Link

Guanyu Tube Supplied U Bend Tube Technical Details

- a. All tubes are cut to the specified leg lengths and internally cleaned with air, ends are deburred.
- b. Before packing, both ends of U-bends are capped with plastic caps.
- c. Vertical separators for each radius.
- d. Packing lists, covered with plastic, are placed on each plywood case for easy identification of order details, including exact list of radius and lengths inside.
- e. Surface condition Finished U Bend Tube shall be free of scale, without scratches after bending

U bend Heat Exchanger Tubes Standard Specification

1. ASTM A688/A688M-2017 Specification for Seamless and Welded Austenitic Stainless Steel Feedwater Heater Tubes
2. ASTM A556/A556M-2017 Standard Specification for Seamless Cold-Drawn Carbon Steel Feedwater Heater Tubes
3. U Bend Tube for Heat Exchanger Specification

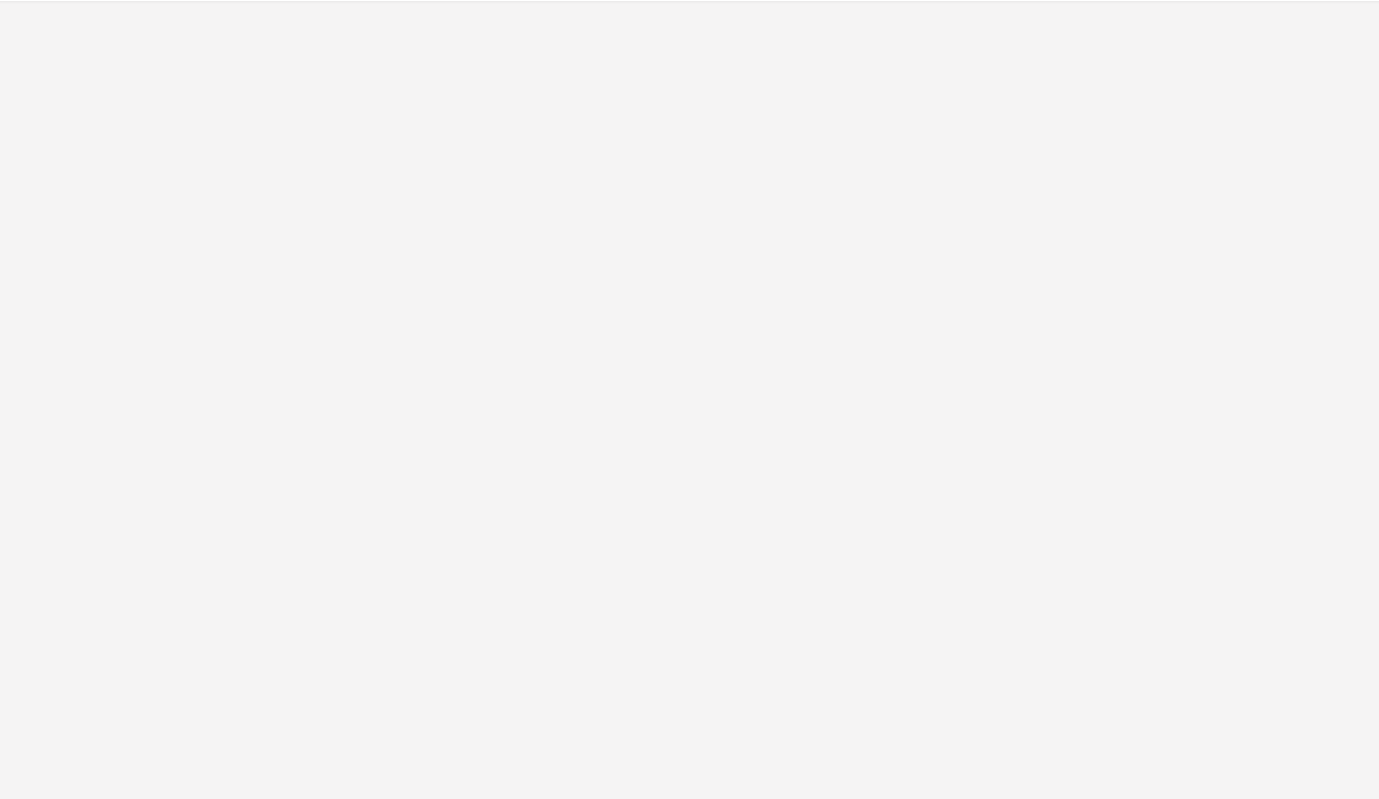
U bend Tube Application

U Bend tube heat exchangers designed for high temperature applications, especially steam condensing or hot oil systems.

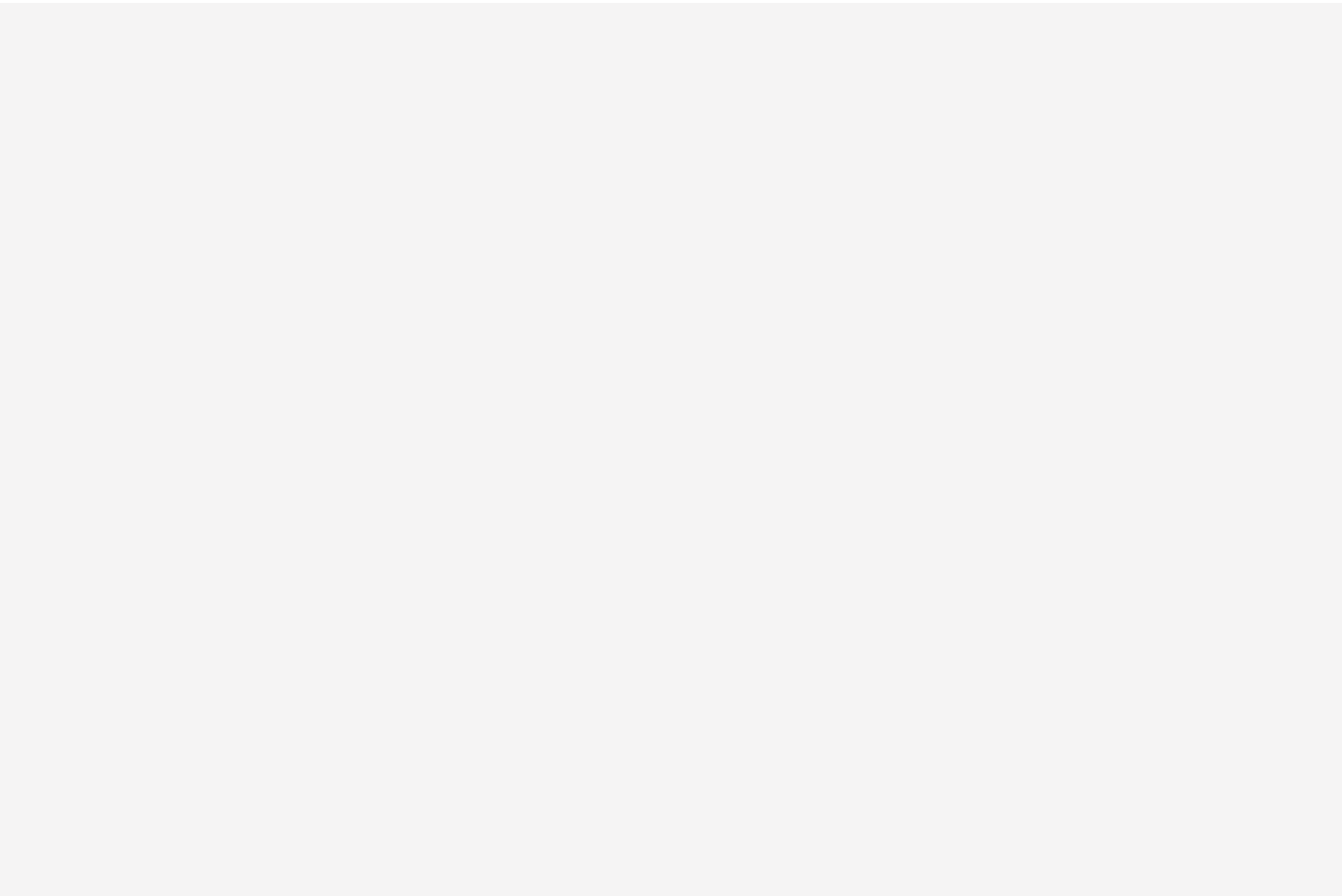
Stainless Steel U Bend Tube are widely used in heat exchanger systems. Heat exchanger equipment on the basis of stainless steel U-tube is essential in strategically important and critical fields nuclear and petrochemical machine building. Mainly Application in Boiler, heat exchanger, super heater, feedwater heater, condenser. This model is selected when differential expansion makes a fixed tube sheet exchanger unsuitable and when conditions preclude a floating head type (HPF) selection.



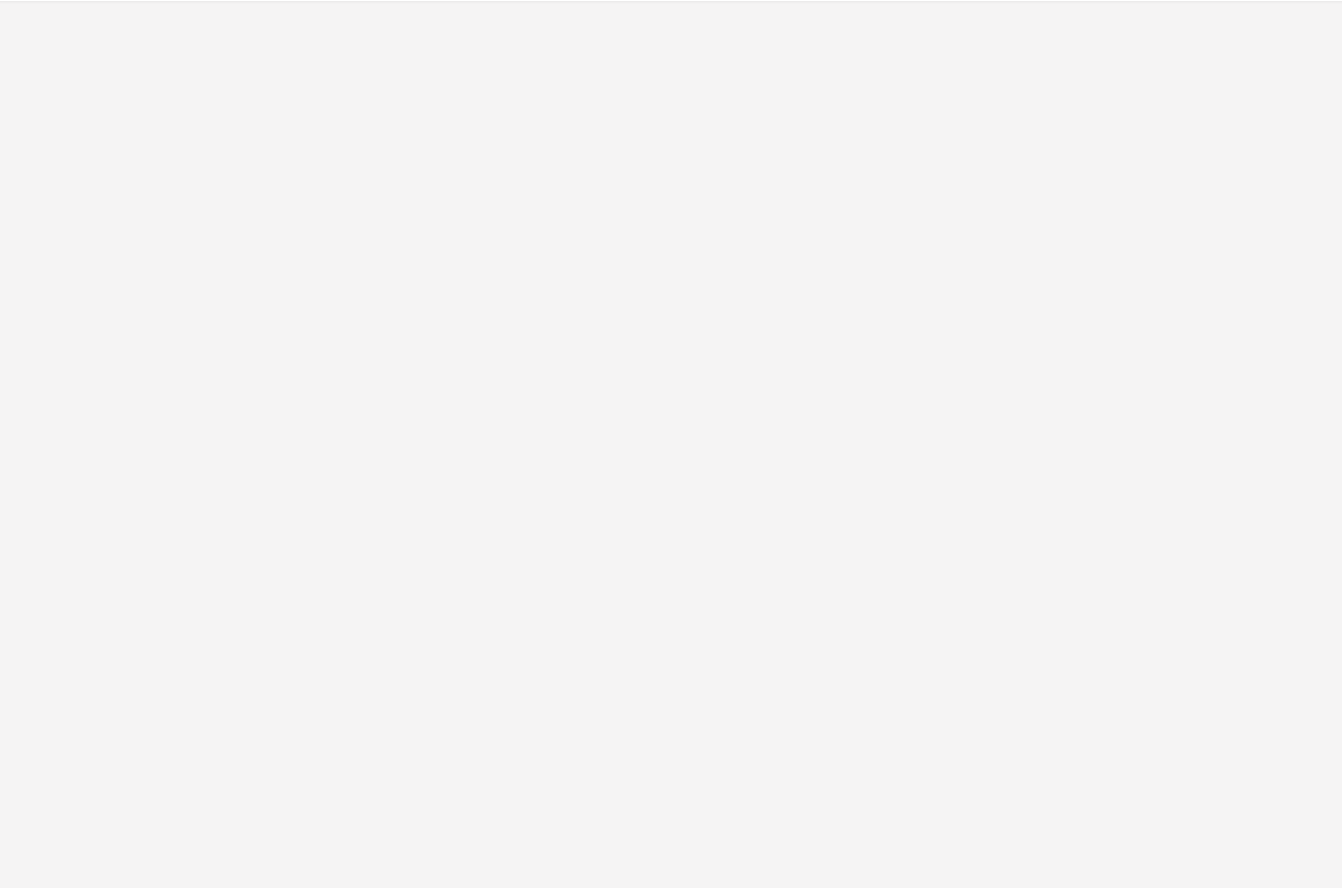
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- 1. Heat Treatment and Solution Annealing / Bright Annealing
 - 2. Cutting to required length and deburring;
 - 3. Chemical Composition Analysis Test With 100% PMI and One tube from each heat by Direct Reading Spectrometer
 - 4. Visual Test and Endoscope Test for Surface Quality Test
 - 5. 100% Hydrostatic Test/Pneumatic 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
 - 11. Stress Relieve Annealing on U bend Parts after bending



U Bend Part OD Test



U Bend Parts Wall Thickness Test



		<u>BWG</u>	<u>BWG</u>	<u>BWG</u>	<u>BWG</u>	<u>BWG</u>	<u>BWG</u>	<u>BWG</u>	<u>BWG</u>
		25	22	20	18	16	14	12	10
		WT mm	WT mm	WT mm	WT mm	WT mm	WT mm	WT mm	WT mm
Outside Diameter	Outside Diameter	0.508	0.71	0.89	1.24	1.65	2.11	2.77	3.40
mm	inch		kg/m	kg/m	kg/m	kg/m	kg/m	kg/m	kg/m
6.35	1/4	0.081	0.109	0.133	0.174	0.212			
9.53	3/8	0.126	0.157	0.193	0.257	0.356	0.429		
12.7	1/2		0.214	0.263	0.356	0.457	0.612	0.754	
15.88	5/8		0.271	0.334	0.455	0.588	0.796	0.995	
19.05	3/4		0.327	0.405	0.553	0.729	0.895	1.236	



31.75	1 1/4		0.554	0.688	0.947	1.244	1.574	2.014	2.641
38.1	1 1/2		0.667	0.832	1.144	1.514	1.904	2.454	3.233
44.5	1 3/4				1.342	1.774	2.244	2.894	3.5
50.8	2				1.549	2.034	2.574	3.334	4.03
63.5	2 1/2				1.949	2.554	3.244	4.214	5.13
76.2	3				2.345	3.084	3.914	5.094	6.19
88.9	3 1/2				2.729	3.609	4.584	5.974	7.27
101.6	4					4.134	5.254	6.854	8.35
114.3	4 1/2					4.654	5.924	7.734	9.43

Dimensional Tolerances of U Bend Tube

According to TEMA R.C.B. and ASTM A566, ASTM A688

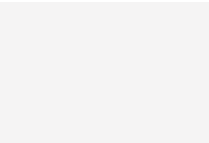
3.1 Diameter of tube in the U bent portion

At the bent portion of a U-tube for $R = 2 \times D$ or greater, neither the major nor minor diameter of the tube shall deviate from the nominal diameter prior to bending by more than 10 %.

If less than $2 \times D$ is specified, tolerances could be greater, provided that Entropie agrees prior to order.

3.2 Wall thickness in U bent portion

The wall thickness of the tube in the U-bent section shall not be less than value determined by the equation:



Where:



R centerline bend radius, in. [mm], and
D nominal outside tube diameter, in. [mm].

3.3 Tube leg length

In the case of U-tubes, the length of the tube legs as measured from the point of tangency of the bend and the tube leg to the end of the tube leg, shall not be less than specified, but may exceed the specified values by the amount given here below :

Leg length [mm]

Up to and incl. 6000 mm :	-0 / +3.2 mm
Over 6000 mm to 9000 (incl) :	-0 / +4.0 mm
Over 9000	-0 / + 4.8 mm

3.4 Difference in leg length

The difference in length of tube leg of U tube shall not be greater than 1/8 in. (3.2mm) unless otherwise specified

3.5 End of tube : squareness

The end of any tube may depart from square by not more than:

- 0.25 mm for tubes up to 5/8" [15.9 mm]
- 0.40 mm for tubes higher than 5/8" [15.9 mm]

3.6 Leg spacing

The leg spacing measured between the points of tangency of the bend to the legs shall not vary from the value $(2 R - \text{specified tube outside diameter})$ by more than $1/16$ in. [1.5 mm] where R is the center-line bend radius.

3.7 Bent portion curvature

The bent portion of the U-tube shall be substantially uniform in curvature, and not to exceed $6 1/16$ in. [1.5 mm] of the nominal center-line radius.

3.8 Deviation from the plane of bend

Permissible deviation from the plane of bend (Fig. 1) shall not exceed $1/16$ in. [1.5 mm] as

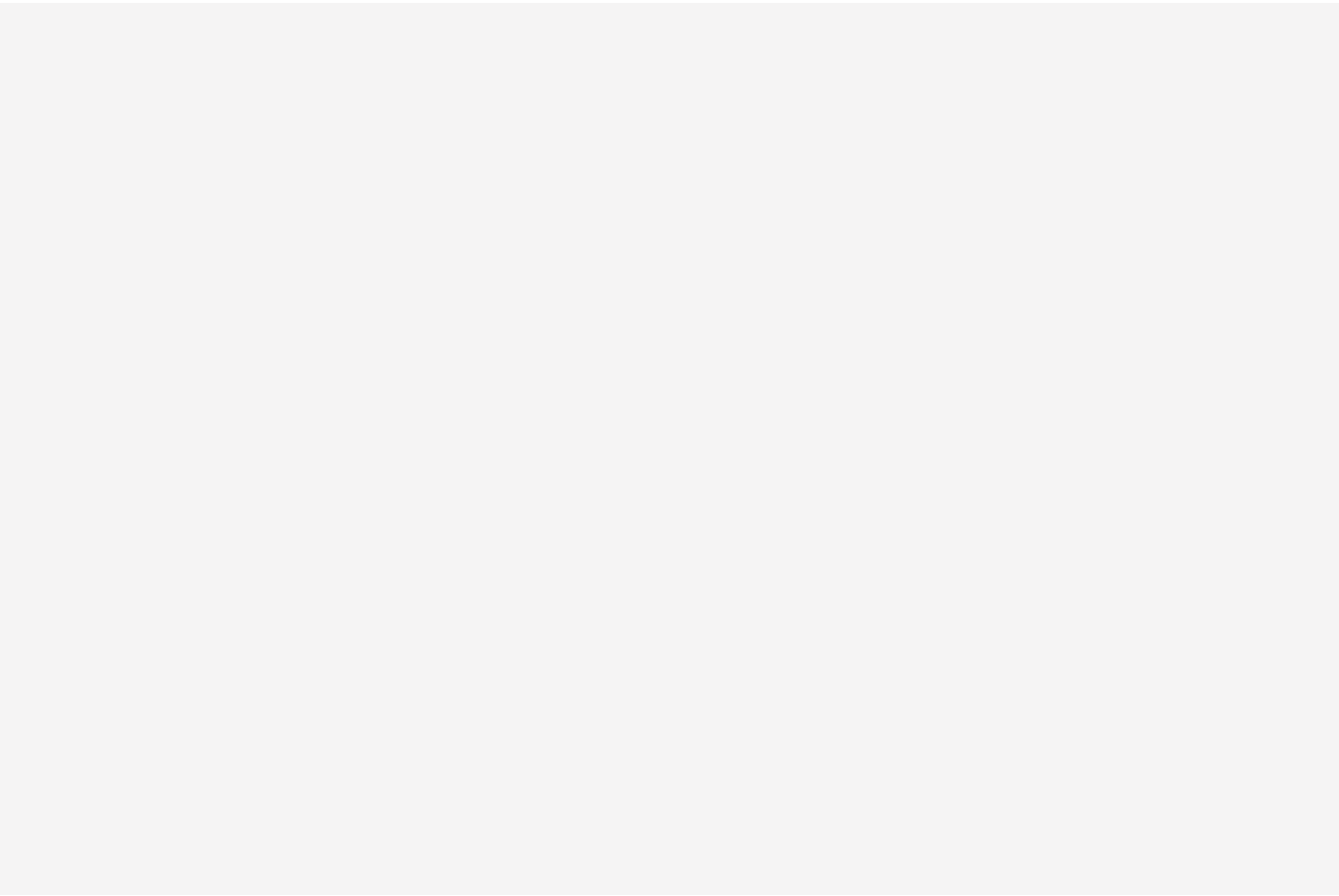


The dimensions for heat exchanger tube in special grades may differ from the above, please contact us.

U bend Tubes Production Process



U Bend Stainless Steel Tube Solution Annealing



Stainless Steel U bend Tube Export Record

Export ASME SA213 TP316L U bend Tubes, OD 25.4mm, WT 2.11mm Total in 9800KGS.

Export ASME SA213 TP304L U bend Tubes, OD 25.4mm, WT 2.11mm Total in 5900KGS.

Export ASME SA213 TP321 U bend Tubes, OD 25.4mm, WT 2.11mm Total in 25000KGS.



<p>MIDDLE EAST</p> <p>Saudi Arabia</p> <p>Iran</p> <p>Iraq</p> <p>UAE</p> <p>Qatar</p> <p>Bahrain</p> <p>Oman</p> <p>Kuwait</p> <p>Turkey</p> <p>Yemen</p> <p>Syria</p> <p>Jordan</p> <p>Cyprus</p>	<p>AFRICA</p> <p>Nigeria</p> <p>Algeria</p> <p>Angola</p> <p>South Africa</p> <p>Libya</p> <p>Egypt</p> <p>Sudan</p> <p>Equatorial Guinea</p> <p>The Republic Of Congo</p> <p>Gabon</p> <p>NORTH AMERICA</p> <p>USA</p> <p>Canada</p> <p>Mexico</p> <p>Panama</p> <p>Costa Rica</p> <p>Puerto Rica</p> <p>Trinidad And Tobago</p> <p>Jamaica</p> <p>Bahamas</p> <p>Denmark</p>	<p>EUROPE</p> <p>Russia</p> <p>Norway</p> <p>Germany</p> <p>France</p> <p>Italy</p> <p>UK</p> <p>Spain</p> <p>Ukraine</p> <p>Netherland</p> <p>Belgium</p> <p>Greece</p> <p>Czech Republic</p> <p>Portugal</p> <p>Hungary</p> <p>Albania</p> <p>Austria</p> <p>Switzerland</p> <p>Slovakia</p> <p>Finland</p> <p>Ireland</p> <p>Croatia</p> <p>Slovenia</p> <p>Malta</p>	<p>ASIA</p> <p>India</p> <p>Singapore</p> <p>Malaysia</p> <p>Indonesia</p> <p>Thailand</p> <p>Vietnam</p> <p>South Korea</p> <p>Japan</p> <p>Sri Lanka</p> <p>Maldives</p> <p>Bangladesh</p> <p>Mayanmar</p> <p>Taiwan</p> <p>Cambodia</p> <p>SOUTH AMERICA</p> <p>Argentina</p> <p>Bolivia</p> <p>Brazil</p> <p>Chile</p> <p>Venezuela</p> <p>Colombia</p> <p>Ecuador</p> <p>Guyana</p> <p>Paraguay</p> <p>Uruguay</p>
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U bend Tubes Related Links

Heat exchanger Tube | Pipe and Tube Bender | U Tube heat exchanger | U bend Stainless Steel Tube | ASTM A556M | "U" Bent Cold Drawn Stainless Steel Tube | Bend Testing | Bend Tubing Happens | Bending Stainless Steel | ASTM B163 Nickel Alloy U bend Tubes | ASTM B395 Copper Alloy U Bend Tubes | Stainless Steel Twisted Tube

Heat Exchanger
Stainless Steel U Tube
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