



Your Global Supporter - YGS  
[www.ygs.co.kr](http://www.ygs.co.kr)

**YGS**

Stainless Steel Service Center

## Your Global Supporter - YGS



### YGS Today

As one of the leading stainless steel service centers in Korea YGS now strives to become a leading player on the global stage.

### Management Philosophy

Our management goal is to provide the best products and the best services through continuous improvement and creation, ultimately setting new standards in the market.

### Vision

Your 1<sup>st</sup> Global Supporter

### Core Values





## YGS History

Your Global Supporter-YGS

1985 ▶▶▶▶▶

- 1985 Established Young-Gwang Stainless Steel ServiceCenter
- 1992 Moved for expansion - 727-15 Hakjang-Dong, Sasang-Gu, Busan City
- 1994 Incorporation
- 1996 Corporate office moved for expansion - 728-19 Hakjang-Dong, Sasang-Gu, Busan City
- 2002 Corporate office moved for expansion - 512-18 Gamjeoun-Dong, Sasang-Gu, Busan City
- 2003 Purchased factory site - 1720-3 Songjeong Dong, Gangseou-Gu, Busan City
- 2004 Factory #1 opened - 1720-3 Songjeong Dong, Gangseou-Gu, Busan City
- 2005 Certified by International Organization for Standardization ISO 9001:2000
- 2005 YGS Vina Co., Ltd. - Established a subsidiary in Vietnam
- 2005 20th Anniversary
- 2005 #2 factory opened - 1662-4 Songjeong-Dong, Gangseo-Gu, Busan City
- 2006 YGS Wuxi Co., Ltd. - Established a subsidiary in China
- 2006 Sales office opened in Seoul metropolitan area
- 2007 YGS Hanoi - Established #2 subsidiary in Vietnam
- 2007 YGS Germany GmbH - Subsidiary in Germany
- 2008 YGS India - Planned
- 2008 YGS Singapore - Planned



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Vision is the art of seeing invisible



### YGS Global Plan

YGS is not satisfied with small successes. We are trying to perfect our business image as a global supporter by building an ever-broadening global network.



- YGS Korea Main Office & #1 Fac.
- YGS Korea #2 Fac.
- YGS Korea Busan Sales Dep. & Warehouse
- YGS Korea Seoul Gyongi Sales Dep. & Warehouse
- YGS Germany
- YGS Vina
- YGS Wuxi
- YGS Hanoi
- YGS India
- YGS Singapore

A company striving to become the best partner anywhere and everywhere in the world - That's YGS, Your Global Supporter!

## Facilities

YGS has the widest selection of stainless steel product line and the largest production facilities of all in Korea; besides, it is equipped with Total Solution System which allows people to do one-stop shopping.



## Equipments for Each Process

- HR Shear Line
- HR Slitter – for Broad Width
- HR Slitter – for Narrow Width
- CR Shear Line
- CR Slitter Line
- Mini Shear
- Multipurpose Drawing Machine
- Flat Bar Shear Line
- I – Cutting Plasma
- Bevel Plasma
- CTB- 400
- Band Saw
- Vertical Saw



HR Shear Line



CR Shear Line



HR Slitter



CR Slitter



CR Minishear



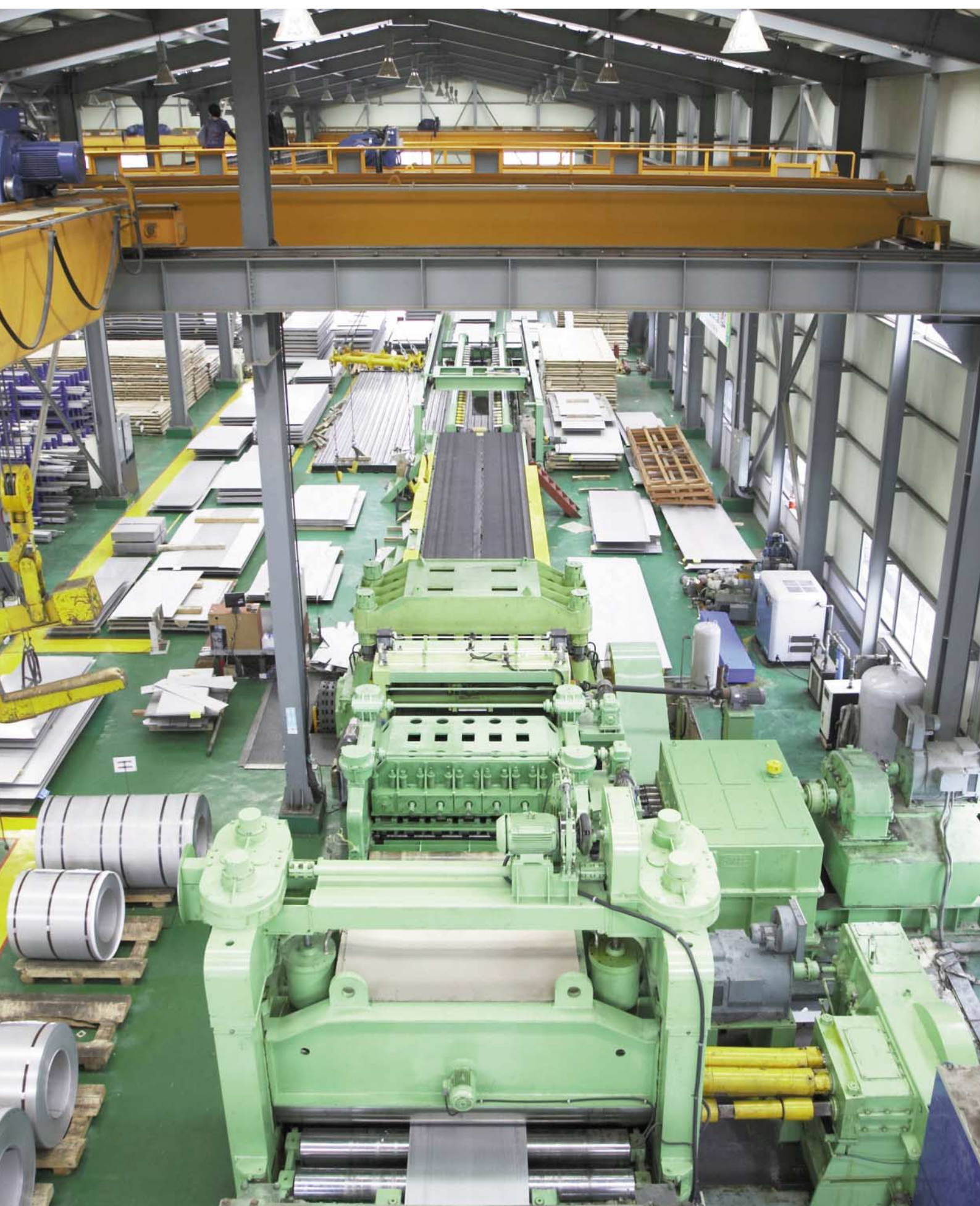
Plate Shear Line



Flat Bar Shear Line



Plasma



Products



Hot Rolled Coils & Plates

Hot-rolled products are referring to hot-rolled stainless coil, and stainless sheets that are cut from the coil, and are widely used in applications requiring non-corrosive metals.

Environmental Industries

We are producing materials for sewage · waste water treatment plants, desalination plants, etc.



Architectures

Experimental buildings and chemical plants which require anti-corrosive properties.  
Kitchen room of restaurants of large scale which are highly hygienic and sanitary.



Materials for Ship Building

We are producing materials for production of various ships, maritime plants, oil-drilling structures, crude oil treatment facilities, submarines, etc.



## Products



### Cold Rolled Coils & Sheets

Cold-rolled products possess various surfaces according to the second surface fabrication process, and the surfaces are outstanding and the workability is superior; applications range from automobiles, refrigerators, washers to industrial apparatus and equipment, construction structures, etc.



#### Automobiles

Parts in the systems of exhaust, noise reduction and purification of exhausted gas for automobiles.



#### Semiconductors

FA production equipments for LCD and semiconductors. Automation facilities, instruments and tools for Wets, Facilities for various clean rooms.



#### Materials for internal and external works of architecture

Surface of products is clean and beautiful. The examples of surface state are as follows: mirror-like surface, non-lustrous surface, hair lined surface, etched surface, embossing surface, chemically colored surface, etc. They show excellence for various decoration of building. They also can be used as external materials of building, having outstanding characteristics in the point of anti-corrosion, anti-abrasion and mechanical strength.



Products



The Others  
Pipe, Flat Bar, Round Bar, Section

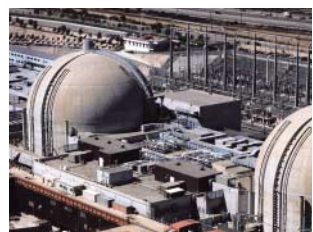
Heavy Plates

Stainless plates are relatively thick products produced through four-high reversing strip mill having a thickness of 6 mm or higher, and are used for making general welded structural products, bridges, industrial machineries, marine structures, etc.



Chemical Plants

These materials can be used in all plants such electricity generation, chemical, products production, maritime structures, environmental industries. drinkable · foods industries, pharmaceutical industries.



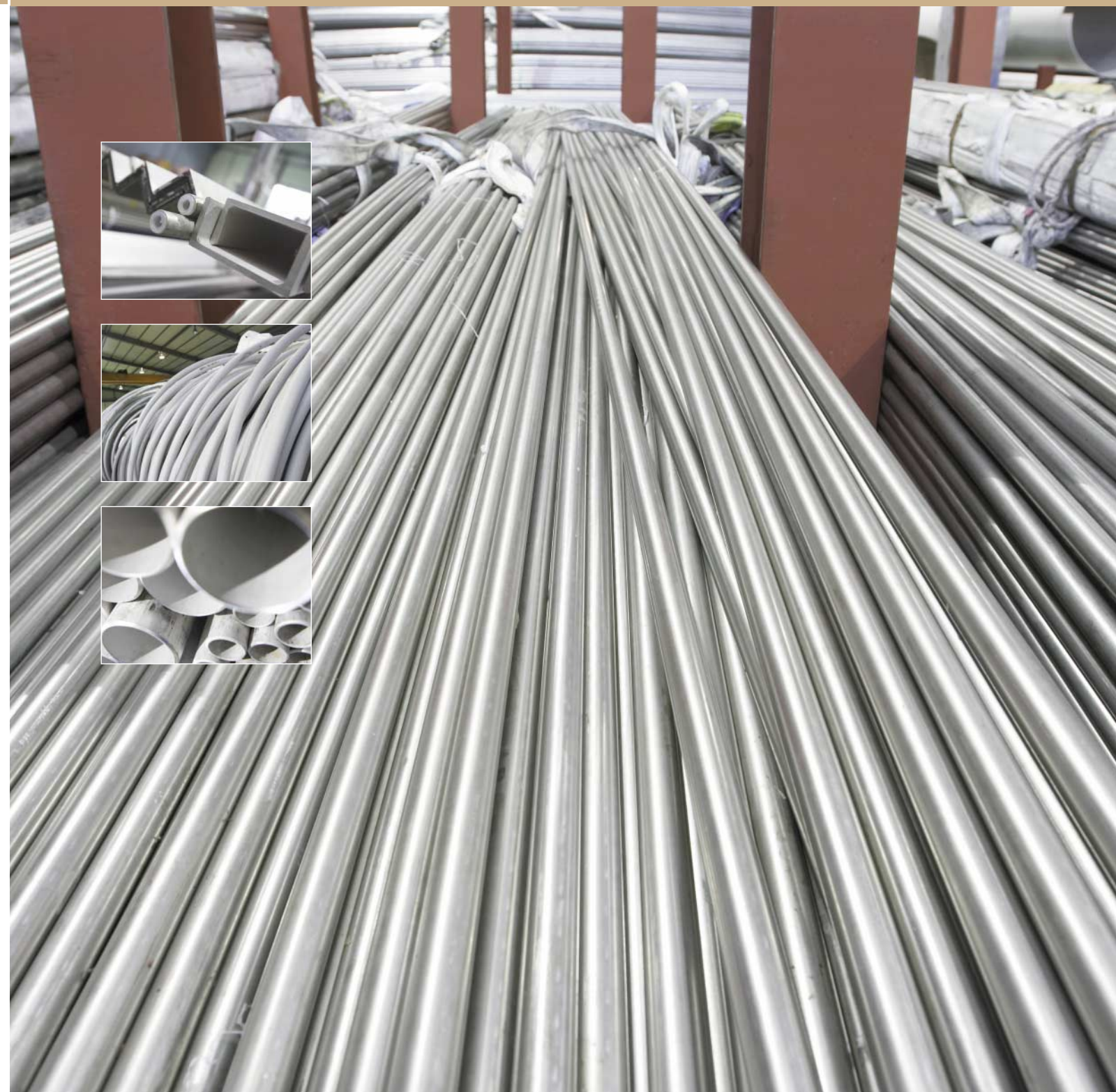
Facilities for Energy · Electricity Generation

Main equipment and piping materials for atomic energy generation, hydroelectric power generation and steam power generation which need heat- resistant and anti-corrosive properties.



Ship Building

These materials can be used in the highly valued ships building including LNG carrier, LPG carrier, chemical products transportation ships which require cryogenic and highly chemical resistant properties.





### Chemical Composition

		NOMINAL CHEMICAL COMPOSITION, WT. PCT.*						OTHER DESIGNATION SYSTEMS				
Steel Name		C	N	Cr	Ni	MO	Other	EN	DIN	ASTM	UNS No.	
General Service and Wet Corrosion	Austenitic	201	0.05	0.15	17	5	-	Mn	1.4372	-	201	S20100
		XM-19	0.05	0.30	22	13	2	Mn,Cb,V	-	-	S20910	S20910
		301	0.10	0.04	17	7	-	-	1.4310	1.4310	301	S30100
		302	0.07	0.06	17	8	-	-	1.4319	1.4319	302	S30200
		303,303 HST	0.06	0.05	17.5	8.1	-	S	1.4305	1.4305	303	S30300
		304	0.04	0.06	18.2	8.1	-	-	1.4301	1.4301	304	S30400
		304L	0.02	0.06	18.2	8.2	-	-	1.4306	1.4306	304L	S30403
		304LN	0.02	0.14	18.2	8.5	-	-	1.4311	1.4311	304LN	S30453
		304N	0.04	0.14	18.5	8.5	-	-	1.6907	1.6907	304N	S30451
		305	0.02	0.02	18	11.5	-	-	1.4303	1.4303	305	S30500
		308	0.08	-	19.5-22.0	9.0-11.0	0.75	0.30-0.65Si	1.4303	1.4303	S30880	S30880
		308L	0.02	0.05	20	11	-	-	199L	-	308L	S30883
		308LSi	0.03	-	19.5-22.0	9.0-11.0	0.50	0.65-1.00Si	199LSi	-	S30880	S30880
		316	0.04	0.04	16.8	10.7	2	-	1.4401	1.4401	316	S31600
		316	0.04	0.06	17	11	2.8	-	1.4436	1.4436	316	S31600
		316H	0.04-0.10	-	16.0-18.0	10.0-14.0	2.0-3.0	-	1.4401/1.4919	-	S31609	S31609
		316L	0.02	0.06	16.2	10.2	2	-	1.4404	1.4404	316L	S31603
	316L	0.02	0.06	16.2	10.2	2.8	-	1.4432	1.4432	316L	S31603	
	316LN	0.02	0.14	16.2	10.2	2	-	1.4406	1.4406	316LN	S31653	
	316Ti	0.04	0.01	17	11	2	Ti	0.4571	1.4571	316Ti	S31635	
	317L	0.02	0.08	18.3	11.5	3	-	1.4438	1.4438	317L	S31703	
	317LM	0.02	0.08	19.3	13.7	4.3	-	1.4439	1.4439	317LM	S31725	
	317LMN	0.02	0.14	19.3	13.7	4.3	-	1.4439	1.4439	317LMN	S31726	
	321	0.04	0.01	17.3	9.2	-	Ti	1.4541	1.4541	321	S32100	
	347	0.04	0.04	17.3	9.1	-	Cb	1.4550	-	347	S34700	
	Alloy 20	0.01	0.06	20	33	2	Cu,Cb	-	-	N08020	N08020	
	904L	0.01	0.06	20	25	4.5	Cu	1.4539	1.4539	904L	N08903	
	254 SMO	0.01	0.20	20	18	6.1	Cu	1.4547	-	S31254	S32154	
	654 SMO	0.01	0.50	24	22	7.3	Mn,Cu	1.4652	-	S32654	S32654	
	Duplex	LDX 2101	0.03	0.22	21.5	1.5	0.3	Mn	1.4162	-	S32101	S32101
		SAF 2304	0.02	0.10	23	4.8	0.3	-	1.4362	1.4362	2304	S32304
		2205 Code Plus Two	0.02	0.17	22	5.5	3	-	1.4462	1.4462	2205	S32205/S31803
		SAF 2507	0.02	0.27	25	7	4	-	1.4410	-	2507	S32750
Other	410	0.12	-	12	-	-	-	1.4006	1.4006	410	S41000	
	410S	0.06	-	12	-	-	-	1.4000	1.4000	410S	S41008	
	416	0.12	-	12	-	-	S	1.4005	1.4005	416	S41600	
	430	0.04	-	16.5	-	-	-	1.4016	1.4016	430	S43000	
	430F	0.12max	-	16.0-18.0	-	-	0.15min	1.4104	1.4104	S43020	S43020	
	434	0.06	-	17	-	1	-	1.4113	-	434	S43400	
	439	0.03	-	18	-	-	Ti	1.4510	-	439	S43035	
	17-4	0.04	-	15.3	4.8	-	Cu,Cb	1.4542	1.4542	630	S17400	
	17-7	0.05	-	16.3	7.0	-	Al	1.4568	1.4568	631	S17700	
Heat Resisting	Austenitic	304H	0.05	0.06	18.2	8.1	-	-	1.4948	1.4948	304H	S30400
		321H	0.05	0.01	17.3	9.2	-	Ti	1.4878	1.4878	321H	S32100
		347H	0.04-0.10	-	17.0-20.0	9.0-13.0	-	Cb,cmin 1.00max	1.4961	1.4961	S34709	S34709
		309H	0.04-0.10	-	22.0-24.0	12.0-16.0	-	-	-	-	S30909	S30909
		309S	0.06	0.08	22.2	12.2	-	-	1.4833	1.4833	309S	S30908
		310H	0.04-0.10	-	24.0-26.0	19.0-22.0	-	-	-	-	S31009	S31009
		310S	0.05	0.06	25.2	19.2	-	-	1.4845	1.4845	310S	S31008
		153 MA	0.05	0.15	18.5	9.5	-	Si,Ce	1.4818	-	S30415	S30415
		253MA	0.09	0.17	21	11	-	Si,Ce	1.4835	-	S30815	S30815
		353MA	0.05	0.16	25	35	-	Si,Ce	1.4854	-	S35315	S35315

### Characteristics and Use of Products

Div.	EN	ASTM	UNS	Particular features	Example applications
Martensitic	1.4006	410	S41000	Good quenchability. Delivery possible in the quenched conditio	crushers - aeronautical engineering - distillation column plates
	1.4021	420	-		cutting tools - cutlery - mechanical parts - building tools
	1.4028	420	S42000		cutlery - cutting tools - wear components
	1.4419	-	-		cutlery - cutting tools - building tools
	1.4034	-	-		cutlery - surgical implements
	1.4116	-	-		cutlery - cutting tools - building tools
Ferritic	1.4	410S	S41008	high temperature oxidation resistance up to 650°C	maintenance parts - finned tubes - distillation column plates
	1.4512	409	S40900	good high temperature oxidation resistance	automobile exhaust systems
	1.4003	-	S41003	grade for welded structures	containers - railway vehicles - hoppers - industrial equipment
	1.4016	430	S43000	bright annealed for appearance-sensitive parts - F 18 for coin blanks	household equipment - decorative components - appliances - tableware
	1.451	430Ti	S43036	titanium improves weldability and cold formability	appliances - sinks - tubes - burners
	1.451	439	-	complies with the AISI 439 standard	hot water tanks - sugar refinery tubing
	1.4113	434	S43400	molybdenum enhances the corrosion resistance	decorative automobile profiles
	1.4017	-	-	high mechanical strength after quenching and cold working	conveyor belts
	1.4509	-	S43932	improved mechanical strength at high temperatures	exhaust systems - catalytic converters - burners
	1.4526	436	S43600	attractive appearance after deformation, without roping	exhaust systems - automobile beading - cooking utensils - domestic appliances
1.4521	444	S44400	resistance to pitting corrosion identical to that of 18.11 ML (316L)	hot water tanks - boilers - fume ducts - various heat exchangers	
Austenitic	1.431	301	S30100	cold working grade	springs - mechanical components
	1.4318	301LN	S30103	higher strength in the cold worked condition	railway vehicles, structural applications
	1.4301	304	S30400	the basic low carbon austenitic grade	tableware - cooking utensils - decoration - collective catering
	1.4301	304	S30400	extra deep drawing grade	sinks - dishwashers - pressure cookers - champagne buckets
	1.4307	304L	S30403	very low carbon grade - good weldability	boilerwork - heat exchangers - expanded metal - nuclear engineering
	1.4541	321	S32100	titanium-stabilized - corrosion resistance in weld zones - creep strength	tubes - aeronautical engineering - boilerwork
1.4303	305	S30500	deep drawing - non-magnetic	electronic components	
Molybdenum containing austenitic	1.4401	316	S31600	molybdenum-containing austenitic grade	tubes - boilerwork - road transport tanks - hot water tanks
	1.4404	316L	S31603	very low carbon molybdenum-containing grade - good weldability	tubes - boilerwork - road transport tanks - hot water tanks (large thicknesses)
	1.4435	316L	S31603	high molybdenum very low carbon grade - improved corrosion resistance + weldability	tanks for chemicals and foodstuffs - marine engineering applications
	1.4432	316L	S31603	idem - slightly lower Ni content	
	1.4571	316Ti	S31635	titanium-stabilized grade for welding applications	chemical and oil industry applications, high temperatures
1.4438	317L	S31703	3% Mo grade - improved corrosion resistance	off-shore structures, tanks for chemicals and foodstuffs - marine engineering	
Heat resisting steels	1.4828	-	-	high temperature oxidation resistance up to 950°C	heating equipment
	1.4833	309S	S30908	high temperature oxidation resistance up to 1050°C	heating element sheaths
	1.4845	310S	S31008	high temperature oxidation resistance up to 1100°C	furnace equipment

# Technical Information



## Weight Table for Plates and Bars

Standard Size	1,000×2,000 mm		1,219×2,438 (4"×8") mm		1,524×3,048 (5"×10") mm	
	304	316L	304	316L	304	316L
0.3	4.76	4.79	-	-	-	-
0.4	6.35	6.38	9.43	9.49	-	-
0.5	7.93	7.98	11.78	11.86	-	-
0.6	9.52	9.58	14.14	14.23	-	-
0.7	11.10	11.17	16.49	16.60	-	-
0.8	12.69	12.77	18.85	18.97	-	-
1.0	15.86	15.96	23.56	23.72	36.84	37.07
1.2	19.03	19.20	28.27	28.46	44.20	44.48
1.5	23.79	23.94	35.34	35.57	55.25	55.60
2.0	31.72	31.92	47.12	47.43	73.67	74.14
2.5	39.65	39.90	58.90	59.29	91.09	92.67
3.0	47.58	47.88	70.68	71.15	110.51	111.20
4.0	63.44	63.84	94.24	94.86	147.34	148.27
5.0	79.30	79.80	117.80	118.58	184.18	185.34
6.0	95.16	95.76	141.36	142.30	221.02	222.41
7.0	111.02	111.72	164.92	166.01	257.85	259.48
8.0	126.88	127.68	188.48	189.73	294.69	296.55
9.0	142.74	143.64	212.04	213.44	331.52	333.61
10.0	158.60	159.60	235.60	237.16	368.36	370.68
12.0	190.32	191.52	282.72	284.59	442.03	444.82
15.0	237.90	239.40	353.40	355.74	552.54	556.02
18.0	285.48	287.28	424.08	426.89	663.05	667.23
20.0	317.20	319.20	471.20	474.32	736.05	741.37
25.0	396.50	399.00	589.00	592.90	920.90	926.71
30.0	475.80	478.80	706.80	711.48	1,105	1,112

unit : kg/m	Round	Square	Hexagonal
0.7854D <sup>2</sup>	D <sup>2</sup>	0.8660D <sup>2</sup>	
4.76	0.14	1/16"	
5	0.188		
6	0.224	0.285	0.247
6.35	0.25	1/4"	
7	0.305	0.388	0.336
7.94	0.39	5/16"	
8	0.398	0.507	0.439
9	0.504	0.642	0.556
9.52	0.56	3/8"	
10	0.622	0.793	0.686
11	0.753	0.959	0.831
12	0.896	1.141	0.988
12.7	1.00	1 1/2"	
13	1.052	1.340	1.160
14	1.220	1.554	1.346
15	1.400	1.784	1.545
15.87	1.56	2"	
16	1.593	2.030	1.758
19	2.247	2.862	2.479
19.05	2.28	3"	
20	2.490	3.172	2.747
22	3.012	3.838	3.324
22.22	3.00	3"	
25	3.89	4.956	4.292
25.4	3.98	1"	
28	4.880	6.217	5.384
30	5.602	7.137	6.180
31.75	6.2	1 1/4"	
32	6.374	8.120	7.032
34.92	7.59	1 1/2"	
35	7.625	9.714	8.413
38	8.988	11.450	9.917
38.1	8.95	1 1/2"	
40	9.96	12.688	10.988
42	10.980	13.988	12.114
44	12.051	15.352	13.296
44.45	12.20	1 3/4"	
45	12.605	16.058	13.907
50	15.562	19.825	17.169
50.8	15.9	2"	
53.97	17.96	2 1/8"	
55	18.830	23.988	20.775
60	22.410	28.548	24.723
60.32	22.43	2 3/8"	
63.5	24.86	2 1/2"	
65	26.300	33.504	29.016
69.85	30.00	2 3/4"	
70	30.502	38.857	33.652
75	35.015	44.606	38.631
76.2	35.84	3"	
80	39.840	50.752	43.952
85	44.975	57.294	49.619
88.9	48.84	3 1/2"	
90	50.422	64.233	55.628
95	55.64	71.568	61.981
95.25	55.91	3 3/4"	
100	62.64	79.300	68.677
101.6	63.64	4"	
105	68.631	87.428	75.717
110	75.323	95.957	83.110
114.3	80.54	4 1/2"	
115	82.326	104.874	90.826
120	89.640	114.192	98.875
130	105.203	134.017	116.065
140	122.010	155.428	134.608
150	140.063	178.425	154.524
160	159.361	203.008	175.815
170	179.691	229.177	198.478
180	201.691	256.932	222.515
190	224.724	286.273	247.926
200	249.002	317.200	274.711
250	389.065	495.625	429.236

Angle	
Size(mm)	Weight(kg)
3t×25×25	1.11
3t×30×30	1.35
4t×30×30	1.77
3t×40×40	1.83
4t×40×40	2.41
4t×50×50	3.04
5t×40×40	2.97
5t×50×50	3.76
6t×50×50	4.47
6t×65×65	5.89
6t×75×75	6.85
9t×75×75	10.06
9t×100×100	13.63
10t×100×100	15.06

# Technical Information



## Dimension & Weight

Nominal	O.D	Nominal Wall Thickness(mm)														
		SCH 5S		SCH 10S		SCH 20S		SCH 40S		SCH 80		SCH 120		SCH 160		
A	B	mm	Thickness	kg/m	Thickness	kg/m	Thickness	kg/m	Thickness	kg/m	Thickness	kg/m	Thickness	kg/m	Thickness	kg/m
6	1/8	10.5	1.0	0.237	1.2	0.278	1.5	0.336	1.7	0.373	2.4	0.484	-	-	-	-
8	1/4	13.8	1.2	0.377	1.65	0.499	2.0	0.588	2.2	0.636	3.0	0.807	-	-	-	-
10	3/8	17.3	1.2	0.481	1.65	0.643	2.0	0.762	2.3	0.859	3.2	1.12	-	-	-	-
15	1/2	21.7	1.65	0.824	2.1	1.03	2.5	1.20	2.8	1.32	3.7	1.66	-	-	4.7	1.99
20	3/4	27.2	1.65	1.05	2.1	1.13	2.5	1.54	2.9	1.76	3.9	2.66	-	-	5.5	2.97
25	1	34.0	1.65	1.33	2.8	2.18	3.0	2.32	3.4	2.59	4.5	3.31	-	-	6.4	4.40
32	1 1/4	42.7	1.65	1.69	2.8	2.78	3.0	2.97	3.6	3.51	4.9	4.61	-	-	6.4	5.79
40	1 1/2	48.6	1.65	1.93	2.8	3.19	3.0	3.41	3.7	4.14	5.1	5.53	-	-	7.1	7.34
50	2	60.5	1.65	2.42	2.8	4.02	3.5	4.97	3.9	5.50	5.5	7.54	-	-	8.7	11.2
65	2 1/2	76.3	2.1	3.88	3.0	5.48	3.5	6.35	5.2	9.21	7.0	12.1	-	-	9.5	15.8
80	3	89.1	2.1	4.55	3.0	6.43	4.0	8.48	5.5	11.5	7.6	15.4	-	-	11.1	21.6
90	3 1/2	101.6	2.1	5.20	3.0	7.37	4.0	9.72	5.7	13.6	8.1	18.9	-	-	12.7	28.1
100	4	114.3	2.1	5.87	3.0	8.32	4.0	11.0	6.0	16.2	8.6	22.6	11.1	28.5	13.5	33.9
125	5	139.8	2.8	9.56	3.4	11.6	5.0	16.8	6.6	21.9	9.5	30.8	12.7	40.2	15.9	49.1
150	6	165.2	2.8	11.3	3.4	13.7	5.0	20.2	7.1	28.0	11.0	42.3	14.3	53.8	18.2	66.6
200	8	216.3	2.8	14.9	4.0	21.2	6.5	34.0	8.2	42.5	12.7	64.4	18.2	89.8	23.0	111
250	10	267.4	3.4	22.4	4.0	26.2	6.5	42.2	9.3	59.8	15.1	94.9	21.4	131	28.6	170
300	12	318.5	4.0	31.3	4.5	35.2	6.5	50.5	10.3	79.1	17.4	131	25.4	185	33.3	237
350	14	355.6	-	-	-	-	-	-	11.1	95.3	19.0	159	27.8	227	35.7	284
400	16	406.4	-	-	-	-	-	-	12.7	125	21.4	205	30.9	289	40.5	369
450	18	457.2	-	-	-	-	-	-	14.3	158	23.8	257	34.9	367	45.2	464
500	20	508.0	-	-	-	-	-	-	15.1	185	26.2	314	38.1	446	50.5	570
550	22	558.8	-	-	-	-	-	-	15.9	215	28.6	378	41.3	532	54.0	679
600	24	609.6	-	-	-	-	-	-	17.5	258	31.0	447	46.0	646	59.5	815
650	26	660.4	-	-	-	-	-	-	18.9	302	34.0	531	49.1	748	64.2	953

## Formula for Weight Calculation

Items	Formulae(kg/m)	Designation	Specific Gravity
Pipe	(O.D-T)×T×0.02491	304, 304L	7.93
	(O.D-T)×T×0.02507	316, 316L	7.98
Plate	W×L×T×S.G.		
Round Bar	R <sup>2</sup> ×3.14×S.G.	309(S), 310(S)	7.98
	0.7854×D <sup>2</sup> ×S.G.	410	7.75
Square Bar	D <sup>2</sup> ×S.G.	420J1(J2), 431	7.80
Hexagonal Bar	0.8660×D <sup>2</sup> ×S.G.	430	7.70
Angle Bar	(W+W-T)×T×S.G.		



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