BES.BARS.
ES.TUBES.

sanyoseiki®
stainless

S.SHEETS.PI
S.PIPES.SI

ABOUT US

SANYO SEIKI STAINLESS STEEL CORPORATION

Sanyo Seiki Stainless Steel Corporation, established in 1988, answers the growing demand for high quality, reasonably-priced stainless steel products in the Philippines. Foreseeing a greater demand for our products in the future, the company has established three manufacturing plants to process stainless steel sheets, plates, tubes, bars and pipes locally enabling costs to go down, profits to go up and the country's economy to expand.

Today, Sanyo Seiki has grown from supplying the local market with quality stainless steel products to exporting globally.

The company's commitment to quality and excellence is seen in our enduring service to the business sector. Through our internal quality control mechanisms, Sanyo Seiki's products undergo rigid testing to ensure that only quality products are released from our plants. This has accorded us international recognition with ISO 9001:2015 certification.

Our continuous investments in machinery and facilities enable us to answer the expanding needs of our vast clientele. This, coupled with our reputation for on-time delivery and customer service has made us a favorite among our clients.

Total solution is our commitment. On top of our dependability, this philosophy opens doors for us to work together with our clients to engineer products for your specific needs.

Stainless steel is found in every place we go and in everything we do. Stainless steel's smooth surface, resistance to rust, and its durability makes it the material of choice for many industries. Its numerous applications has changed the way we live and do business today.

STAINLESS STEEL SUPERIORITY

- LOW MAINTENANCE
- HYGIENE
- CORROSION RESISTANCE
- STRENGTH
- LOW TEMPERATURE TOUGHNESS
- FIRE RESISTANCE
- STRUCTURALLY AESTHETIC
- COLD FORMABILITY
- SURFACE FINISH OPTIONS
- 100% RECYCLABLE

OUR VISION

"We are a global Stainless Steel Company"

OUR MISSION

Sanyo Seiki Stainless Steel Corporation is an engineering enterprise providing quality products and solutions to the industrial, architectural, and construction industries both for local and global settings.

We apply appropriate technologies in all our processes to innovate in response to the changing environments, and to manage risks which focuses on continuous improvement and good corporate governance.

We empower people to reach their potential that enrich the company leading to sustainability and enhancing values for our stakeholders.

OUR CORPORATE VALUES

We Culture
Enterprising
Synergy
Honesty
Innovation
Nurturing
Excellence

OATH OF QUALITY

We are Involved, We are Committed

To International Quality Standards

To the continual implementation of an effective management system, driven by performance based improvement and risk reduction initiative

To instill a culture of learning organization

In order to give the right products and efficient service, to the mutual benefit of our end-users and stakeholders.

sanyoseiki® stainless

ARCHITECTURE AND CONSTRUCTION

Its aesthetic beauty and easy maintenance have made stainless steel a favorite with architects and engineers. This, together with its resistance to corrosion, durability and hygienic properties, makes it an ideal material for all kinds of environments. In construction and architecture, stainless steel is used as premium-looking and reliable claddings for exteriors and interiors as well as durable roofing and gutter material, balustrades and railings, and electrical and sewage fittings.

FOOD AND AGRICULTURE

The food and agriculture industry requires a high standard of sanitation and hygiene to deliver food that is free from fungus and bacteria. Stainless steel's smooth surface and excellent corrosion resistance qualities make it an ideal material for use in storing harvested food items, dairy products, seafood as well as processing meats and kitchen worktables and sinks. Sanyo Seiki's high quality standard assures you of commitment to deliver only products that have passed our quality tests. Our certification is your guarantee of the best.

POWER AND ENERGY

New technology, depleting resources as well as the need to address climate change has brought new challenges to the world of power and energy. Offshore drillings and subsea explorations for energy has the industry using materials that are corrosion resistant, durable and lightweight. Stainless pumps, valves, fittings, connectors, liners, springs, silos, and pipes are used to manage the flow of oil and gas from under the sea, bring electricity to cities and energize cars and other forms of transportation.

MEDICAL PRODUCTION

The health industry is in constant motion—developing new machines and discovering new medications for better quality of life. Hygiene and sanitary conditions are of utmost important to the health industry. With its corrosion-resistant and easy-to-clean surface, stainless steel is used for medical-grade implements – from surgical blades and dental pliers to spoons and bed pans as well as component parts to build new medical equipment.

SANITATION ENGINEERING

Its corrosion-resistant property as well as durability makes stainless steel an ideal conduit for wastewater before it is sent back into our water systems. It is used as material for low-maintenance drainage, sewage, and pumping applications for the management of industrial waste, mine tailings, and oxygenation of rivers and lakes.

TRANSPORTATION, AEROSPACE, AND SHIPBUILDING

Today's technology is enabling us to build all kinds of transportation for different environments. Stainless steel's lightweight property as well as its smooth surface and resistance to corrosion have made it an ideal material to use for parts and bodies of all kinds of transportation—from lightrails and ocean going vehicles to aerospace vehicles.

ELECTRONICS

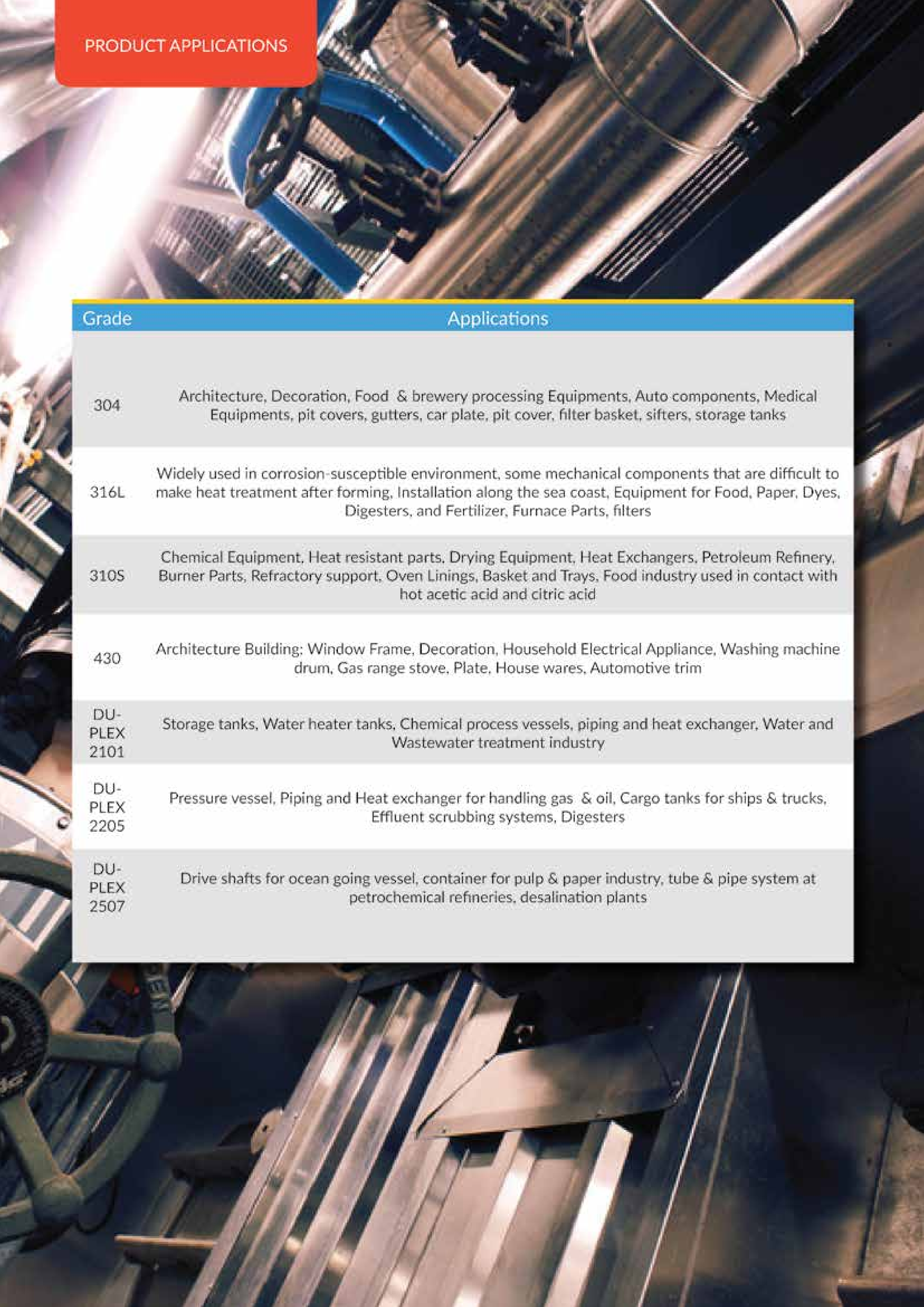
As technology becomes more complex, parts used in the electronics industry becomes smaller and more sensitive. Stainless steel's smooth surface, and corrosion resistant properties make it easy to clean and maintian a sanitary and hygienic environment in which to put together electronic components.

MINING

Mining operations require equipment that are durable and long-lasting. The high costs of mining often done in a hostile environment makes stainless steel a material of choice for its durability, corrosion resistant propery and easy to clean surface. Its heat resistance is another reason to use stainless steel in mining operations.

OIL REFINING

Processing oil to get the different products entails sanitary and heat resistant environment. These two properties as well as its resistance to corrosion are just some of the reasons why oil refineries use stainless steel in their facilities.

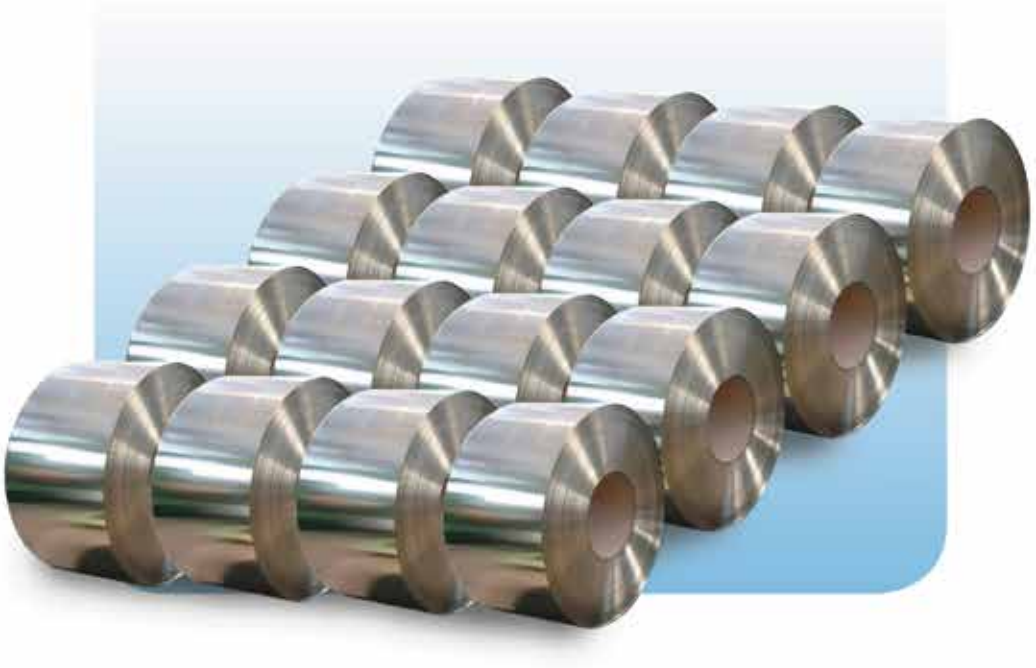


Grade	Applications
304	Architecture, Decoration, Food & brewery processing Equipments, Auto components, Medical Equipments, pit covers, gutters, car plate, pit cover, filter basket, sifters, storage tanks
316L	Widely used in corrosion-susceptible environment, some mechanical components that are difficult to make heat treatment after forming, Installation along the sea coast, Equipment for Food, Paper, Dyes, Digesters, and Fertilizer, Furnace Parts, filters
310S	Chemical Equipment, Heat resistant parts, Drying Equipment, Heat Exchangers, Petroleum Refinery, Burner Parts, Refractory support, Oven Linings, Basket and Trays, Food industry used in contact with hot acetic acid and citric acid
430	Architecture Building: Window Frame, Decoration, Household Electrical Appliance, Washing machine drum, Gas range stove, Plate, House wares, Automotive trim
DUPLEX 2101	Storage tanks, Water heater tanks, Chemical process vessels, piping and heat exchanger, Water and Wastewater treatment industry
DUPLEX 2205	Pressure vessel, Piping and Heat exchanger for handling gas & oil, Cargo tanks for ships & trucks, Effluent scrubbing systems, Digesters
DUPLEX 2507	Drive shafts for ocean going vessel, container for pulp & paper industry, tube & pipe system at petrochemical refineries, desalination plants

STAINLESS STEEL COILS
ASTM A240 / A480

Material Type: 430 / 304 / 304L / 316L / 310S

Note: Special cut order is accepted
4xcoil : 0.4mm to 10mm
5xcoil: 3.0mm to 10mm



Thickness	Finishes		
	No.1	2B	BA
0.4		●	●
0.5		●	●
0.6		●	●
0.7		●	●
0.8		●	●
0.9		●	●
1.0		●	●
1.2		●	●
1.3		●	●
1.4		●	●
1.5		●	●

Thickness	Finishes		
	No.1	2B	BA
1.8			
2.0	●	●	
2.5	●	●	
3.0	●	●	
4.0	●	●	
4.5	●	●	
5.0	●	●	
6.0	●	●	
8.0	●		
9.0	●		
10.0	●		
12.0	●		

*2B Coil for 4, 4.5, 5, 6mm — Special indent

STAINLESS STEEL SHEETS AND PLATES

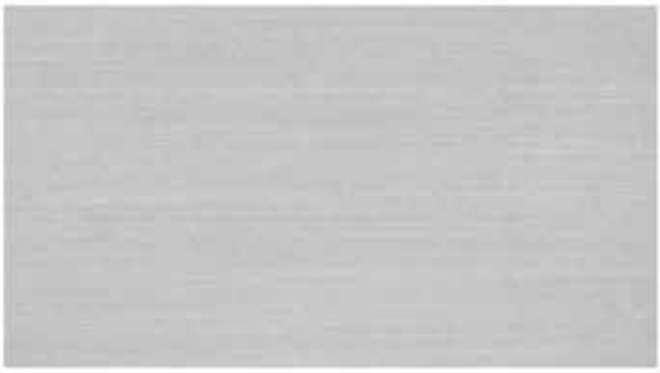
ASTM A240 / A480

Material Type: 430 / 304 / 304L / 316L / 310S

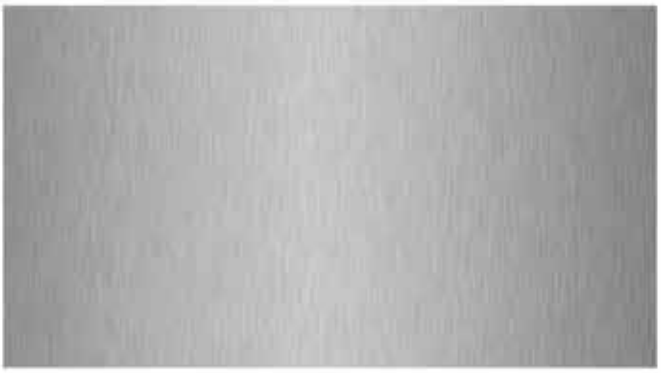
Notes: *4x8: 0.4 to 50.0mm* *5x8: 3.0mm to 10.0mm*
4x20: 1.4 to 12.0mm *5x20: 3.0mm to 12.0mm*

1B Finish

2B Finish



Hairline



No. 4 Finish/Satin

Very high degree of reflectivity, brilliant, smooth finish produced by polishing with progressively finer grit abrasives then buffing. Super mirror creates light and space. Best for design, decoration and architecture.

Thickness: 0.5mm – 6mm, Width: 4 ft. (1220mm), Length: 8 ft. (2440mm), Grade: 304, 316L, 430

No. 8 Finish / Mirror

No. 9 Finish / Super Mirror

Allegeni® STAINLESS STEEL

Thickness	Finishes					
	No.1	2B	No.4	No.8	No.9	HL
0.4		●	●	●	●	
0.5		●	●	●	●	
0.6		●	●	●	●	●
0.7		●	●	●	●	●
0.8		●	●	●	●	●
0.9		●	●	●	●	●
1.0		●	●	●	●	●
1.2		●	●	●	●	●
1.3		●	●	●	●	●
1.4		●	●	●	●	●
1.5		●	●	●	●	●
1.8		●	●	●	●	●
2.0		●	●	●	●	●
2.5		●	●	●	●	●
3.0		●	●	●	●	●
4.0	●	●	●			
4.5	●		●			
5.0	●		●			
6.0	●		●			
8.0	●		●			
9.0	●		●			
10.0	●		●			
12.0	●		●			
15.0	●		●			
16.0	●		●			
18.0	●		●			
20.0	●		●			
22.0	●					
25.0	●					
30.0	●					
35.0	●					
38.0	●					
40.0	●					
50.0	●					

CHECKERED SHEETS AND PLATES

ASTM A480/A240/A793

Material Type: 430 / 304 / 304L / 316L
Thickness 8,10,12mm with * are welded checked plates

Checkered Sheets Diamond Pattern

CHECKERED SHEETS				
Thickness	Sizes (ft)			
	4x8	4x20	5x8	5x20
0.4	●	●	●	●
0.5	●	●	●	●
0.6	●	●	●	●
0.7	●	●	●	●
0.8	●	●	●	●
0.9	●	●	●	●
1.0	●	●	●	●

CHECKERED SHEETS				
Thickness	Sizes (ft)			
	4x8	4x20	5x8	5x20
1.2	●	●	●	●
1.4	●	●	●	●
1.5	●	●	●	●
1.8	●	●	●	●
2.0	●	●	●	●
2.5	●	●	●	●
3.0	●	●	●	●

CHECKERED SHEETS				
Thickness	Sizes (ft)			
	4x8	4x20	5x8	5x20
4.0	●	●	●	●
4.5	●	●	●	●
5.0	●	●	●	●
6.0	●	●	●	●
*8.0	●	●	●	●
*10.0	●	●	●	●
*12.0	●	●	●	●

*Special Length made to order (long plates)

Checkered Plates Diamond Pattern (Japan Design)
(Thick Gauge)

Checkered Sheets "T" Pattern
(Thin Gauge)

CHECKERED PLATES DIAMOND PATTERN				
Thickness	Sizes (ft)			
	4x8	4x20	5x8	5x20
2.5	●	●	●	●
3.0	●	●	●	●
4.0	●	●	●	●

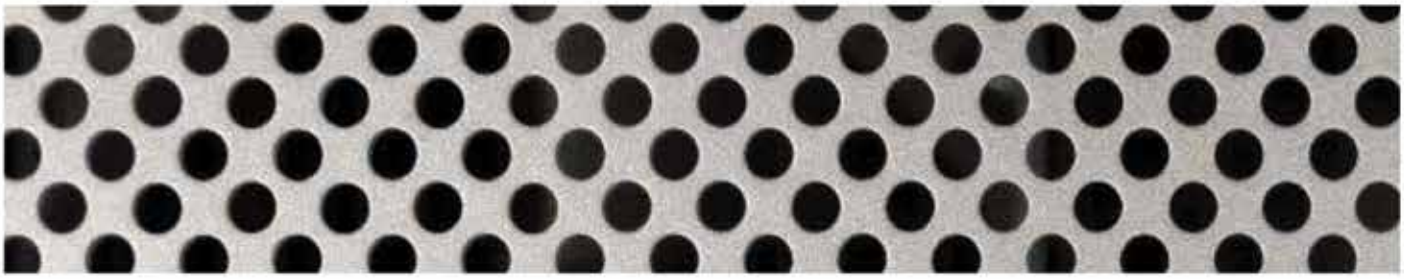
CHECKERED SHEETS				
Thickness	Sizes (ft)			
	4x8	4x20	5x8	5x20
0.4	●	●	●	●
0.5	●	●	●	●
0.6	●	●	●	●
0.7	●	●	●	●
0.8	●	●	●	●
0.9	●	●	●	●
1.0	●	●	●	●
1.2	●	●	●	●

Allegeni® STAINLESS STEEL

PERFORATED SHEET / PLATE
ASTM A240 / A480

Material Type: 304 / 304L / 316L

Note: ¾ to 2 ½ available by special order
Louver Shapes: Circle, Square, Oval, Rectangular, Triangle (Other shapes are available per order - special tool & die).



Holes, Ø		Thickness (mm)														
in	mm	0.4	0.5	0.6	0.8	0.9	1.0	1.2	1.5	1.8	2.0	2.5	3.0	4.0	4.5	5.0
3/32	2.5	●	●	●	●	●	●	●	●	●	●					
1/8	3.175	●	●	●	●	●	●	●	●	●	●					
3/16	4.75		●	●	●	●	●	●	●	●	●	●	●			
1/4	6.35		●	●	●	●	●	●	●	●	●	●	●	●		
5/16	7.92		●	●	●	●	●	●	●	●	●	●	●	●		
3/8	9.52		●	●	●	●	●	●	●	●	●	●	●	●	●	●
1/2	12.7				●	●	●	●	●	●	●	●	●	●	●	●

STEEL EXPANDED METAL

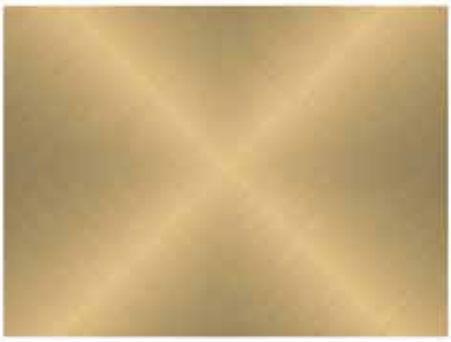
Material Type: 304 / 304L / 316L
Size: 4x8ft.

Size, inch (mm)
2x1 (3 mm)
2x1 (4 mm)
2x1 (5 mm)
2x1 (6 mm)

STEEL DESIGNED/ COLORED SHEETS
ASTM A240 / A480

Material Type: 304 / 304L / 316L

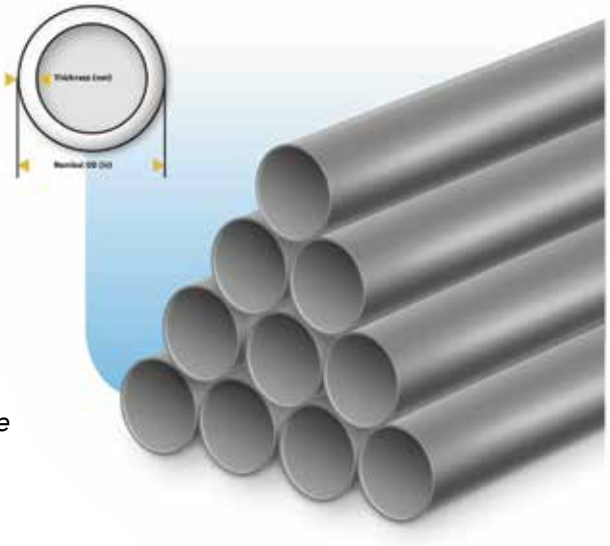
Note: Special cut order is accepted. Other special size available.



Thickness (mm)							
0.4 - 0.5	0.5 - 0.6	0.7 - 0.8	0.9 - 1.0	1.2 - 1.3	1.4 - 1.5	1.8	2.0

WELDED PIPES

Tubular steel bar made using automatic welding process with no addition of filler metal during the welding process. Wall thickness identified by schedule number



STAINLESS STEEL WELDED PIPES

ASTM A312 / A999 / JIS G 3459

Material Type: 304 / 304L / 316L / 310S
Length: 20ft

Note: Other material grade and size available by special order.

1. *ASME B36.19M-2004 / ASME B36.10-2004 reference standard size and wall thickness.*
2. *Weight variation according to actual wall thickness.*
3. *Diameter greater than 40 in. are available made to order*
   **special item size and thickness*

DN	Nominal Pipe Size	Outside Diameter		Schedule 10		Schedule 20		Schedule 40		Schedule 80	
		in	mm	WT (mm)	WEIGHT (KG/20ft)	WT (mm)	WEIGHT (KG/20ft)	WT (mm)	WEIGHT (KG/20ft)	WT (mm)	WEIGHT (KG/20ft)
8	1/4	0.540	13.7	1.65	3.05	*2.00	3.59	2.24	3.94	3.02	4.95
10	3/8	0.675	17.1	1.65	3.92	*2.00	4.64	2.31	5.25	3.20	6.84
15	1/2	0.840	21.3	2.11	6.22	*2.50	7.22	2.77	7.88	3.73	10.06
20	3/4	1.050	26.7	2.11	7.94	*2.50	9.26	2.87	10.47	3.91	13.63
25	1	1.315	33.4	2.77	13.00	*3.00	13.97	3.38	15.55	4.55	20.11
32	1 1/4	1.660	42.2	2.77	16.72	*3.00	18.00	3.56	21.05	4.85	27.72
40	1 1/2	1.900	48.3	2.77	19.31	*3.00	20.80	3.68	25.13	5.08	33.61
50	2	2.375	60.3	2.77	24.43	*3.00	26.35	3.91	33.80	5.54	46.50
65	2 1/2	2.875	73.0	3.05	32.70	*4.00	42.30	5.16	53.66	7.01	70.91
80	3	3.500	88.9	3.05	40.13	*4.00	52.04	5.49	70.17	7.62	94.89
100	4	4.500	114.3	3.05	51.99	*4.00	67.60	6.02	99.87	8.56	138.68
125	5	5.563	141.3	3.40	71.83	*5.00	104.41	6.55	135.22	9.53	192.40
150	6	6.625	168.3	3.40	85.89	*5.00	125.08	7.11	175.57	10.97	264.39
200	8	8.625	219.1	3.76	124.04	6.35	206.96	8.18	264.31	12.70	401.57
250	10	10.750	273.0	4.19	172.59	6.35	259.47	9.27	374.63	12.70	506.58
300	12	12.750	323.8	4.57	223.55	6.35	308.89	9.53	458.93	12.70	605.42
350	14	14.000	355.6	4.78	256.92	7.92	421.88	9.53	505.29	12.70	667.20
400	16	16.000	406.4	4.78	294.12	7.92	483.52	9.53	579.46	12.70	766.05
450	18	18.000	457	4.78	331.33	7.92	545.17	9.53	653.64	12.70	864.89
500	20	20.000	508	5.54	426.48	7.92	606.81	9.53	727.81	12.70	963.74
550	22	22.000	559	5.54	469.60	7.92	668.45	9.53	801.98	*12.70	1062.58
600	24	24.000	610	6.35	586.89	7.92	730.09	9.53	876.15	*12.70	1161.42
650	*26	26.000	660	*6.35	636.31	*7.92	791.73	*9.53	950.33	*12.70	1260.27
700	*28	28.000	711	*6.35	685.73	*7.92	853.37	*9.53	1024.5	*12.70	1359.11
750	30	30.000	762	7.92	915.02	*9.00	1,038.30	*9.53	1098.67	*12.70	1457.96
800	*32	32.000	813	*7.92	976.66	*9.00	1,108.35	*9.53	1172.84	*12.70	1556.80
850	*34	34.000	864	*7.92	1038.30	*9.00	1,178.40	*9.53	1247.02	*12.70	1655.65
900	*36	36.000	914	*7.92	1099.94	*9.00	1,248.44	*9.53	1231.19	*12.70	1754.49
950	*38	38.000	965	*7.92	1161.58	*9.00	1,318.49	*9.53	1395.36	*12.70	1853.34
1000	*40	40.000	1016	*7.92	1223.22	*9.00	1,388.54	*9.53	1469.53	*12.70	1952.18

SEAMLESS PIPES

Tubular steel bar made by a process that does not involve welding at any stage of production. Wall thickness identified by schedule number.

STAINLESS STEEL SEAMLESS PIPES

ASTM A312 / A999 / JIS G 3459

Material Type: 304L / 304 / 316L
Length: 20ft

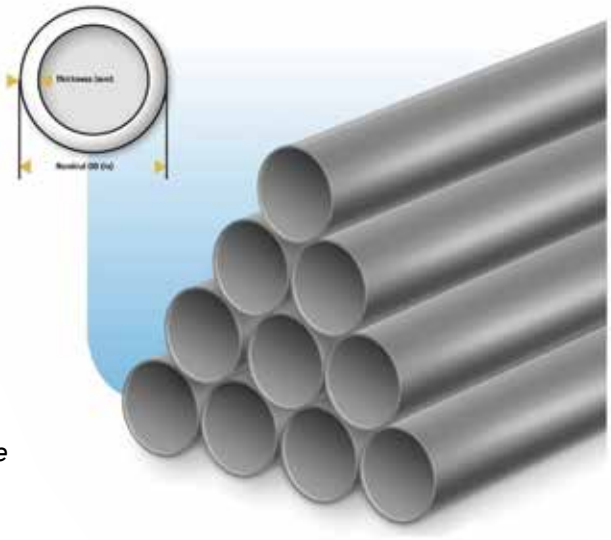
Note: Other material grade and size available by special order.

**ASME B36.10M-2004. Reference standard for size and wall thickness.*
Special Import

DN	Nominal Pipe Size	Outside Diameter		Schedule 10		Schedule 40		Schedule 80	
		in	mm	WT (mm)	WEIGHT (KG/20ft)	WT (mm)	WEIGHT (KG/20ft)	WT (mm)	WEIGHT (KG/20ft)
8	1/4	0.540	13.7	1.65	3.05	2.24	3.94	3.02	4.95
10	3/8	0.675	17.1	1.65	3.92	2.31	5.25	3.20	6.84
15	1/2	0.840	21.3	2.11	6.22	2.77	7.88	3.73	10.06
20	3/4	1.050	26.7	2.11	7.94	2.87	10.47	3.91	13.63
25	1	1.315	33.4	2.77	13.00	3.38	15.55	4.55	20.11
32	1 1/4	1.660	42.2	2.77	16.72	3.56	21.05	4.85	27.72
40	1 1/2	1.900	48.3	2.77	19.31	3.68	25.13	5.08	33.61
50	2	2.375	60.3	2.77	24.43	3.91	33.80	5.54	46.50
65	2 1/2	2.875	73.0	3.05	32.70	5.16	53.66	7.01	70.91
80	3	3.500	88.9	3.05	40.13	5.49	70.17	7.62	94.89
100	4	4.500	114.3	3.05	51.99	6.02	99.87	8.56	138.68
125	5	5.563	141.3	3.40	71.83	6.55	135.22	9.53	192.40
150	6	6.625	168.3	3.40	85.89	7.11	175.57	10.97	264.39
200	8	8.625	219.1	3.76	124.04	8.18	264.31	12.70	401.57
250	10	10.750	273.0	4.19	172.59	9.27	374.63	12.70	506.58
300	12	12.750	323.8	4.57	223.55	9.53	458.93	12.70	605.42
350	14	14.000	355.6	4.78	256.92	9.53	505.29	12.70	667.20
400	16	16.000	406.4	4.78	294.12	9.53	579.46	12.70	766.05
450	18	18.000	457	4.78	331.33	9.53	653.64	*12.70	864.89
500	20	20.000	508	5.54	426.48	9.53	727.81	*12.70	963.74
550	22	22.000	559	5.54	469.60	9.53	801.98	*12.70	1062.58
600	24	24.000	610	6.35	586.89	9.53	876.15	*12.70	1161.42
650	*26	26.000	660	*6.35	636.31	*9.53	950.33	*12.70	1260.27
700	*28	28.000	711	*6.35	685.73	*9.53	1024.5	*12.70	1359.11
750	30	30.000	762	7.92	915.02	*9.53	1098.67	*12.70	1457.96
800	*32	32.000	813	*7.92	976.66	*9.53	1172.84	*12.70	1556.80
850	*34	34.000	864	*7.92	1038.30	*9.53	1247.02	*12.70	1655.65
900	*36	36.000	914	*7.92	1099.94	*9.53	1231.19	*12.70	1754.49
950	*38	38.000	965	*7.92	1161.58	*9.53	1395.36	*12.70	1853.34
1000	*40	40.000	1016	*7.92	1223.22	*9.53	1469.53	*12.70	1952.18

WELDED PIPES

Stainless Steel Pipes manufactured with EFW (Electrical Fusion Welding). During this welding, both edges of the steel roll is heated to the melting point with the electrical resistance, and the welding process is completed with the help of the welding filling material without applying and pressure.



STAINLESS STEEL WELDED PIPES

ASTM A358 / A999

Material Type: 304 / 304L / 316L /310S
Length: 20ft

1. *ASME B36.19M-2004 / ASME B36.10-2004 reference standard size and wall thickness.*
2. *Weight variation according to actual wall thickness.*
3. *Diameter greater than 40 in. are available made to order*

**special item size and thickness*

DN	Nominal Pipe Size	Outside Diameter		Schedule 10		Schedule 20		Schedule 40		Schedule 80	
		in	mm	WT (mm)	WEIGHT (KG/20ft)	WT (mm)	WEIGHT (KG/20ft)	WT (mm)	WEIGHT (KG/20ft)	WT (mm)	WEIGHT (KG/20ft)
8	1/4	0.540	13.7	1.65	3.05	*2.00	3.59	2.24	3.94	3.02	4.95
10	3/8	0.675	17.1	1.65	3.92	*2.00	4.64	2.31	5.25	3.20	6.84
15	1/2	0.840	21.3	2.11	6.22	*2.50	7.22	2.77	7.88	3.73	10.06
20	3/4	1.050	26.7	2.11	7.94	*2.50	9.26	2.87	10.47	3.91	13.63
25	1	1.315	33.4	2.77	13.00	*3.00	13.97	3.38	15.55	4.55	20.11
32	1 1/4	1.660	42.2	2.77	16.72	*3.00	18.00	3.56	21.05	4.85	27.72
40	1 1/2	1.900	48.3	2.77	19.31	*3.00	20.80	3.68	25.13	5.08	33.61
50	2	2.375	60.3	2.77	24.43	*3.00	26.35	3.91	33.80	5.54	46.50
65	2 1/2	2.875	73.0	3.05	32.70	*4.00	42.30	5.16	53.66	7.01	70.91
80	3	3.500	88.9	3.05	40.13	*4.00	52.04	5.49	70.17	7.62	94.89
100	4	4.500	114.3	3.05	51.99	*4.00	67.60	6.02	99.87	8.56	138.68
125	5	5.563	141.3	3.40	71.83	*5.00	104.41	6.55	135.22	9.53	192.40
150	6	6.625	168.3	3.40	85.89	*5.00	125.08	7.11	175.57	10.97	264.39
200	8	8.625	219.1	3.76	124.04	6.35	206.96	8.18	264.31	12.70	401.57
250	10	10.750	273.0	4.19	172.59	6.35	259.47	9.27	374.63	12.70	506.58
300	12	12.750	323.8	4.57	223.55	6.35	308.89	9.53	458.93	12.70	605.42
350	14	14.000	355.6	4.78	256.92	7.92	421.88	9.53	505.29	12.70	667.20
400	16	16.000	406.4	4.78	294.12	7.92	483.52	9.53	579.46	12.70	766.05
450	18	18.000	457	4.78	331.33	7.92	545.17	9.53	653.64	12.70	864.89
500	20	20.000	508	5.54	426.48	7.92	606.81	9.53	727.81	12.70	963.74
550	22	22.000	559	5.54	469.60	7.92	668.45	9.53	801.98	*12.70	1062.58
600	24	24.000	610	6.35	586.89	7.92	730.09	9.53	876.15	*12.70	1161.42
650	*26	26.000	660	*6.35	636.31	*7.92	791.73	*9.53	950.33	*12.70	1260.27
700	*28	28.000	711	*6.35	685.73	*7.92	853.37	*9.53	1024.5	*12.70	1359.11
750	30	30.000	762	7.92	915.02	*9.00	1,038.30	*9.53	1098.67	*12.70	1457.96
800	*32	32.000	813	*7.92	976.66	*9.00	1,108.35	*9.53	1172.84	*12.70	1556.80
850	*34	34.000	864	*7.92	1038.30	*9.00	1,178.40	*9.53	1247.02	*12.70	1655.65
900	*36	36.000	914	*7.92	1099.94	*9.00	1,248.44	*9.53	1231.19	*12.70	1754.49
950	*38	38.000	965	*7.92	1161.58	*9.00	1,318.49	*9.53	1395.36	*12.70	1853.34
1000	*40	40.000	1016	*7.92	1223.22	*9.00	1,388.54	*9.53	1469.53	*12.70	1952.18

STAINLESS STEEL SANITARY TUBES

Austenitic stainless steel sanitary tubing intended for use in the dairy, food, beverage, and pharmaceutical industry. It has special surface finishes for better fluid flow and prevention of stain build –up. It is connected to equipments in American standard specification.

ASTM A270

Material Type: 304 / 304L / 316 /316L

in	mm	1.5	2.0	2.5	3.0
1	25.4	●	●	●	●
1 1/4	31.8	●	●	●	●
1 1/2	38.1	●	●	●	●
1 3/4	44.45	●	●	●	●
2	50.8	●	●	●	●
2 1/2	63.5	●	●	●	●
3	76.2	●	●	●	●
4	101.6	●	●	●	●
5	127		●	●	●
6	152.4		●	●	●
8	203.2		●	●	●

Thickness tolerance: ASTM Standard

**Special Large Diameter tubes available – made to order*

STAINLESS STEEL SANITARY TUBES

Austenitic stainless steel sanitary tubing intended for use in the dairy, food , beverage, and pharmaceutical industries. Standard DIN EN 10357 series A and B formerly known DIN 11850 Series 2 and 1 are specifically use for:

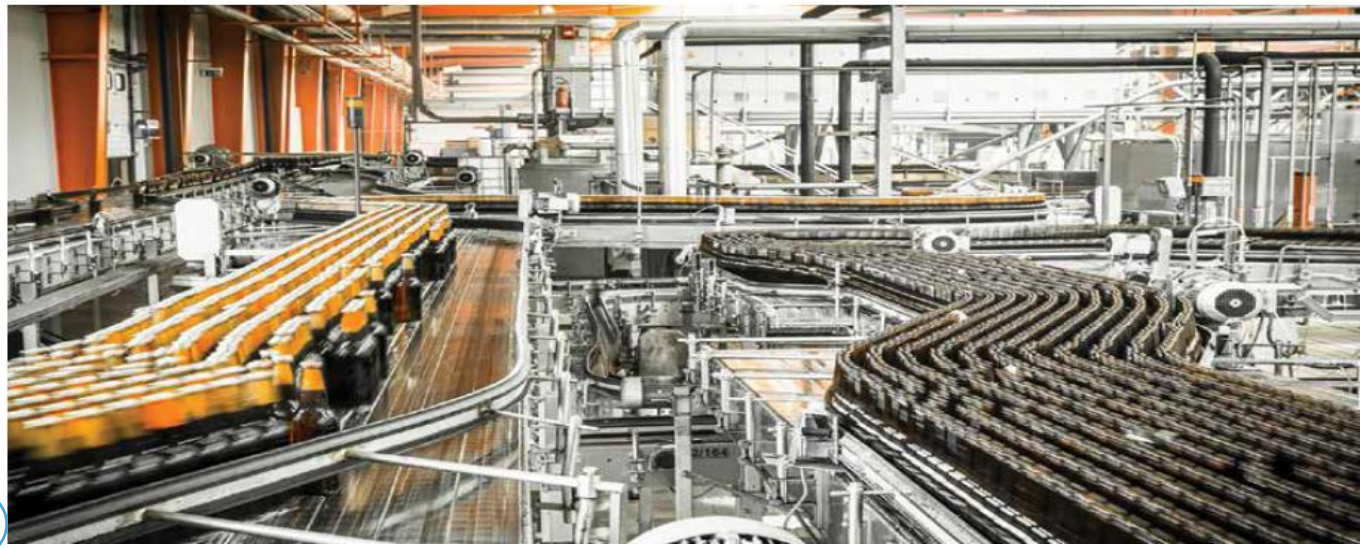
and standard EN 10357 Series C and D formerly ISO 2037 , SMS use for Tetra Pak

DIN EN 10357

Material Type: 304 / 304L / 316/ 316L

External diameter					Wall Thickness (mm)					
DN	Series A	Series B	Series C	Series D	1	1.2	1.5	1.6	2.0	*3.0
25				25		●				
25				25.4				●		●
25		28			●					
25	29						●			●
32				32		●				●
32			33.7						●	●
32	35						●			
32				38.1		●	●	●		●
40	41						●			
40			42.4				●		●	
40			48.3						●	
50				50.8			●	●		●
50		52			●		●		●	
50	53						●			
65				63.5			●	●	●	●
65	70								●	●
65			76.1	76.1			●	●	●	●
80	85								●	●
100				101.6					●	●
100	104								●	●
125	129								●	●
150	154								●	●
200	204								●	●
250	254								●	●

*Dimensions and thickness specified by client
Tolerance according to DIN EN 10357:2014-03 and for dimensions not listed above the tolerances are according to EN ISO 1127



ASME BPE Tube and Fitting

Hygienic stainless steel components fitted for the transport of liquid media in the chemical, pharmaceutical, and cosmetic industry.

ASME BPE, ASTM A269/ASTM A270

Material Type: UNS S31603 (316L)
– MM-5.1.1 0.005-0.017% sulfur

Tube Length: 6 Meters

Inner Surface
Tubes and fittings are available with the following inner surface roughness designation and value according to ASME BPE SF:

Note: Customized length and other material grade available by special order.

Mechanically polish (bf): SF1: Ra max. ≤ 20 µin (0.50 µm)
Electropolish (ep): SF4: Ra max. ≤ 15 µin (0.375 µm)

DT- 4-4 Tube
Internal Finish: SF1 & SF4

Nominal Size		Wall Thickness
Inch	mm	mm
1/4	6.35	0.9
3/8	9.53	0.9
1/2	12.7	1.7
3/4	19.05	1.7
1	25.4	1.7
1 ½	38.1	1.7
2	50.8	1.7
2 1/2	63.50	1.7
3	76.20	1.7
4	101.60	2.1
6	152.4	2.8

DT- 4.1.1-1
Automatic tube weld:
90° ELBOW CC

DT- 4.1.1-2
Automatic tube weld:
90° ELBOW CW

DT- 4.1.1-3
Hygienic clamp joint:
90° ELBOW CC

DT- 4.1.1-4
Automatic **tube** weld:
45° ELBOW CC

DT- 4.1.1-5
Hygienic clamp joint:
45° ELBOW CW

DT- 4.1.2-1
Hygienic clamp joint:
STRAIGHT TEE WWW

DT- 4.1.2-6
Automatic tube weld:
REDUCING TEE WWW

DT- 4.1.2-11
Hygienic clamp joint:
INSTRUMENT TEE CCC

DT- 4.1.3-1(a)
Automatic tube weld:
CONCENTRIC REDUCER WW

DT- 4.1.3-1(a)
Automatic tube weld:
ECCENTRIC REDUCER WW

DT- 4.1.3-3 (b)
Hygienic clamp joint:
CONCENTRIC REDUCER

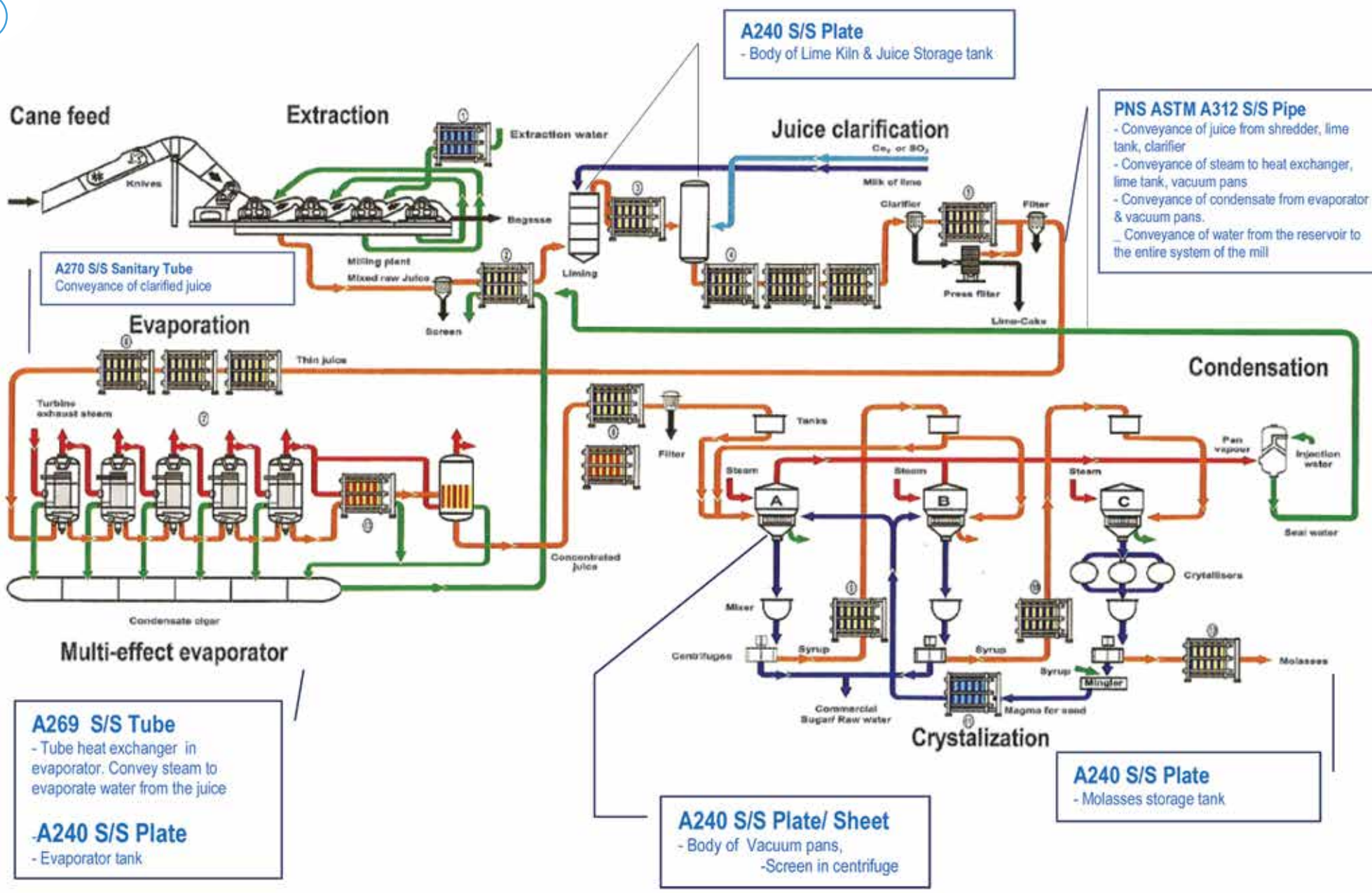
DT- 4.1.3-3 (b)
Hygienic clamp joint:
ECCENTRIC REDUCER

DT- 4.1.4-1
Hygienic clamp joint:
FERRULE CW

DT- 4.1.5-1
Automatic tube weld:
CAP

DT- 4.1.5-2
Hygienic clamp joint:
SOLID END CAP

Complete description of ASME BPE fittings available upon inquiry

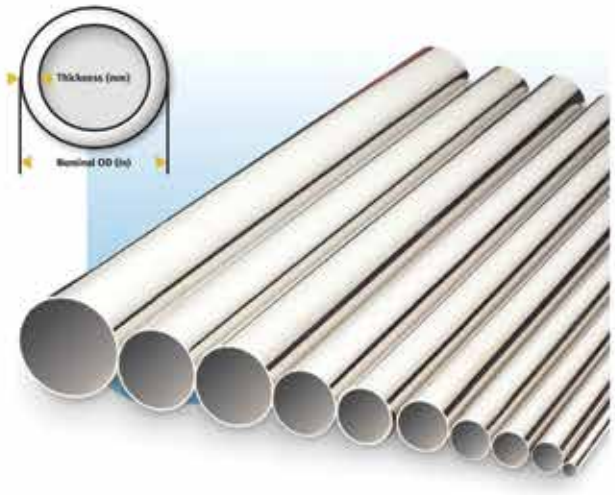


Stainless steel Usage in Sugar Production

STAINLESS STEEL WELDED ROUNDED TUBES

ASTM A269

Tubing manufactured with thermal processing for general use. Generally used in instrumentation applications



ASTM A249

Tubing manufactured with thermal processing for use in heat exchanger applications

Material Type: 304 / 304L / 316L / 444 / 439

Note: 1. Available in Satin/Mirros Finish
2. Other size available for fabrication

Outside Diameter (inch)	Wall Thickness (mm)							
	0.7	1	1.1	1.2	1.4	1.5	2.0	3.0
1/4	●	●	●	●	●	●		
5/16	●	●	●	●				
3/8	●	●	●	●	●	●	●	
1/2	●	●	●	●	●	●	●	
5/8	●	●	●	●	●	●	●	
3/4	●	●	●	●	●	●	●	
7/8	●	●	●	●	●	●	●	
1	●	●	●	●	●	●	●	
1 1/8			●	●	●	●	●	
1 1/4		●	●	●	●	●	●	
1 3/8		●	●	●				
1 1/2		●	●	●	●	●		
1 5/8		●	●	●	●	●	●	
1 3/4		●	●	●	●	●	●	
2		●	●	●	●	●	●	
2 1/2			●	●	●	●	●	●
3			●	●	●	●	●	●
4			●	●	●	●	●	●
6						●	●	●
8						●	●	●

STAINLESS STEEL SEAMLESS TUBES

ASTM A269

Material Type: 304L/ 304 / 316L

Outside Diameter (inch)	Thickness (mm)		
	1.0	1.2	1.5
1/4	●	●	
3/8	●	●	●
1/2	●	●	●
5/8	●	●	●

Outside Diameter (inch)	Thickness (mm)		
	1.0	1.2	1.5
1	●	●	●
1 1/2		●	●
1 3/4		●	●
2		●	●

STAINLESS STEEL WELDED ROUNDED TUBES

(Polished Outside) 400 & 600 Grit, Mirror Finish

ASTM A554

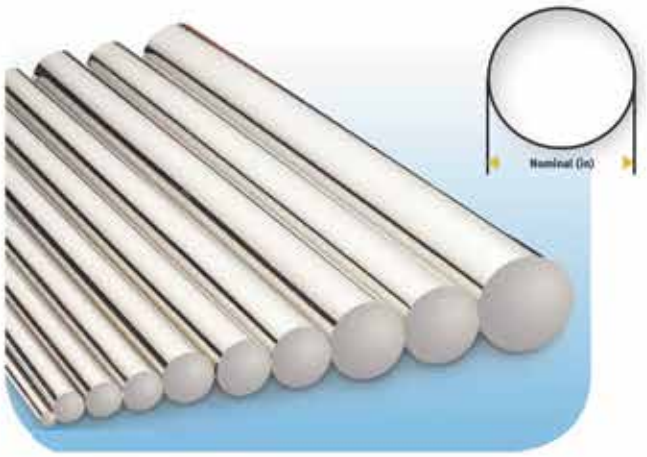
Material Type: 304 / 304L / 316L
Length: 20ft

Outside Diameter (inch)	Wall Thickness (mm)								
	0.7	1	1.1	1.2	1.4	1.5	2.0	2.5	3.0
1/4	●	●	●	●	●	●			
5/16	●	●	●	●					
3/8	●	●	●	●	●	●	●		
1/2	●	●	●	●	●	●	●		
5/8	●	●	●	●	●	●	●		
3/4	●	●	●	●	●	●	●		
7/8	●	●	●	●	●	●	●		
1	●	●	●	●	●	●	●		
1 1/8			●	●	●	●	●		
1 1/4		●	●	●	●	●	●		
1 3/8		●	●	●					
1 1/2		●	●	●	●	●			
1 5/8		●	●	●	●	●	●		
1 3/4		●	●	●	●	●	●		
2		●	●	●	●	●	●		
2 1/2			●	●	●	●	●		●
3			●	●	●	●	●		●
4			●	●	●	●	●		●
6						●	●	●	●
8							●	●	●
10							●	●	●
12							●	●	●

STAINLESS STEEL ROUNDED BARS

ASTM A276 / A484 / JIS 4317 / JIS 4318

Material Type: 304 / 304L / 316L / 310S



Diameter inch	Diameter inch	Diameter inch	Diameter inch	Diameter inch
1/8	1/2	1 3/16	2	4
3/16	5/8	1 1/4	2 1/4	4 1/2
1/4	3/4	1 3/8	2 1/2	5
5/16	7/8	1 1/2	2 3/4	6
3/8	1	1 5/8	3	6 1/2
7/16	1 1/8	1 3/4	3 1/2	8

STAINLESS STEEL WIDE FLANGE SHAPES

(Stainless Steel Welded I Beams)

Material Type: 304 / 304L / 316L / 310S

Notes:
1. Dimensions and tolerance based on ASTM A6/ A6M
2. Standard I Beams and special dimension (any web thickness and flange width) possible within size ranges
3. Material grade conforms to ASTM A240
4. Metric dimension is also available
5. Hot Rolled stainless steel I beams- special import

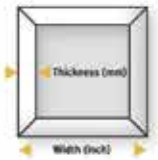
Designation (Nominal Depth in inches and Weight in Pounds per linear foot)	Depth	Flanges		Web	Designation (Nominal Depth in Millimeters and Mass in Kilograms per meter)	Depth	Flanges		Web
	in.	Width(b) in.	Thickness (t_f), in.	Thickness (t_w), in.		mm.	Width(b) mm.	Thickness (t_f), mm.	Thickness (t_w), mm.
W4 x13	4.16	4.060	0.345	0.280	W100 X 19.3	106	103	8.8	7.1
W5 x16	5.01	5.00	0.360	0.240	W130 X 23.8	127	127	9.1	6.1
W6 x12	6.03	4.000	0.280	0.230	W150 X 18.0	153	102	7.1	5.8
W8 x15	8.11	4.015	0.315	0.245	W200 x 22.5	206	102	8.0	6.2
W8 x35	8.12	8.02	0.495	0.310	W200 x 52.0	206	204	12.6	7.9
W10 x22	10.17	5.750	0.360	0.240	W250 x 32.7	258	146	9.1	6.1
W12 x16	11.99	3.990	0.265	0.220	W310 x 23.8	305	101	6.7	5.6
W12 x26	12.22	6.490	0.380	0.230	W310 x 38.7	310	165	9.7	5.8
W14 x30	13.84	6.730	0.385	0270	W360 x 44.6	352	171	9.8	6.9
W18 x65	18.35	7.590	0.750	0.450	W460 x 97	466	193	19.0	11.4
W21 x48	20.62	8.140	0.430	0.350	W530 x 72	524	207	10.9	9.0
W24 x55	23.57	7.005	0.505	0.395	W610 x 82	599	178	12.8	10.0
W24 x62	23.74	7.040	0.590	0.430	W610 x 92	603	179	15.0	10.9

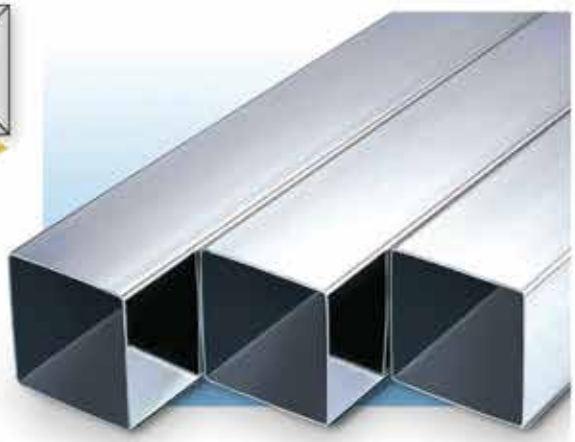
smith muller

STAINLESS STEEL SQUARE TUBES

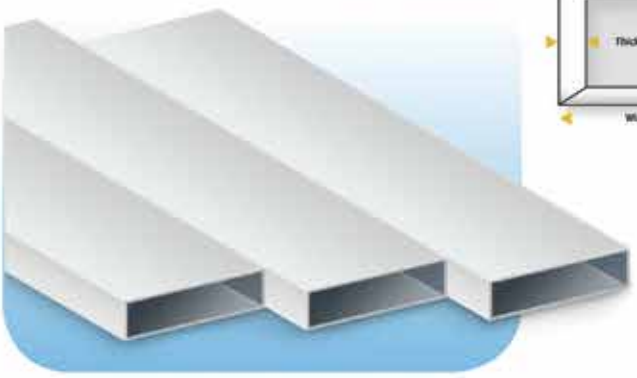
ASTM A554 / JIS G 3446

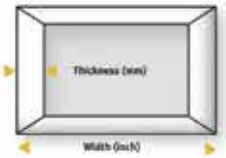
Material Type: 304 / 304L/316L
Length: 20ft.





Size (H x B)		Thickness (mm)										
(inch)	(mm)	1.0	1.2	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
1/2 x 1/2	12 x 12	●										
3/4 x 3/4	20 x 20	●	●	●	●							
1 x 1	25 x 25	●	●	●	●	●						
-	30 x 30	●	●	●	●	●						
1 1/4 x 1 1/4	32 x 32	●	●	●	●	●						
-	35 x 35	●	●	●	●	●						
1 1/2 x 1 1/2	38 x 38	●	●	●	●	●						
-	40 x 40	●	●	●	●	●	●					
1 3/4 x 1 3/4	45 x 45			●	●	●	●					
2 x 2	50 x 50			●	●	●	●	●				
2 1/4 x 2 1/4	60 x 60			●	●	●	●	●	●			
2 3/4 x 2 3/4	70 x 70				●	●	●	●	●			
3 x 3	75 x 75				●	●	●	●	●			
-	80 x 80				●	●	●	●	●			
3 1/2 x 3 1/2	90 x 90				●	●	●	●	●			
4 x 4	100 x 100				●	●	●	●	●	●		
4 3/4 x 4 3/4	120 x 120					●	●	●	●	●		
5 1/2 x 5 1/2	140 x 140					●	●	●	●	●		
6 x 6	150 x 150					●	●	●	●	●	●	
8 x 8	200 x 200					●	●	●	●	●	●	●
8 1/2 x 8 1/2	220 x 220						●	●	●	●	●	●
10 x 10	250 x 250							●	●	●	●	●
12 x 12	300 x 300							●	●	●	●	●





STAINLESS STEEL RECTANGULAR TUBES

ASTM A554

Material Type: 304 / 304L/316L
Length: 20ft.

Size (H x B)		Thickness (mm)										
(inch)	(mm)	1.0	1.2	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
1 x 1/2	25 x 12	●										
1 1/4 x 3/4	30 x 20		●	●	●							
1 1/4 x 1	35 x 25		●	●	●	●						
1 1/2 x 1/4	40 x 10		●	●	●							
1 1/2 x 3/4	40 x 20	●	●	●	●	●						
1 1/2 x 1	40 x 25		●	●	●	●						
1 1/2 x 1 1/4	40 x 30		●	●	●	●						
2 x 1/4	50 x 10		●	●	●							
2 x 3/4	50 x 20		●	●	●	●						
2 x 1	50 x 25	●	●	●	●	●						
2 x 1 1/4	50 x 30		●	●	●	●						
2 x 1 1/2	50 x 40			●	●	●						
2 1/4 x 1/4	60 x 10			●	●							
2 1/4 x 3/4	60 x 20			●	●	●						
2 1/4 x 1 1/4	60 x 30			●	●	●						
2 1/4 x 1 1/2	60 x 40			●	●	●	●					
2 3/4 x 2	70 x 50			●	●	●	●	●				
3 x 1/4	80 x 10			●	●							
3 x 3/4	80 x 20			●	●	●						
3 x 1 1/4	80 x 30			●	●	●						
3 x 1 1/2	80 x 40			●	●	●	●	●				
3 x 2	80 x 50	●			●	●	●	●				
3 x 2 1/4	80 x 60				●	●	●	●				
4 x 3/4	100 x 20			●	●							
4 x 1 1/4	100 x 30			●	●	●						
4 x 1 1/2	100 x 40				●	●	●	●				
4 x 2	100 x 50	●			●	●	●	●	●			
4 x 2 1/4	100 x 60				●	●	●	●	●			
4 x 3	100 x 80				●	●	●	●	●			
4 3/4 x 1 1/2	120 x 40				●	●	●					
4 3/4 x 2 1/4	120 x 60				●	●	●	●	●			
4 3/4 x 3	120 x 80				●	●	●	●	●			
4 3/4 x 4	120 x 100					●	●	●	●			
5 1/2 x 3	140 x 80					●	●	●	●			
6 x 2	150 x 50					●	●	●	●			
6 x 4	150 x 100					●	●	●	●	●		
6 1/2 x 3	160 x 80					●	●	●	●			
8 x 4	200 x 100					●	●	●	●	●		
10 x 4	250 x 100					●	●	●	●	●		
10 x 6	250 x 150					●	●	●	●	●	●	
12 x 4	300 x 100					●	●	●	●	●		
12 x 8	300 x 200							●	●	●	●	●
16 x 8	400 x 200							●	●	●	●	●

smith muller

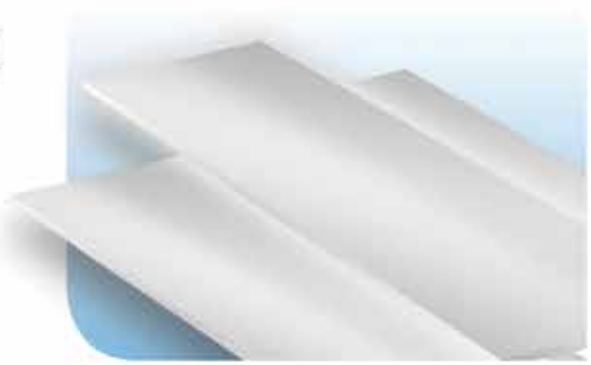
STAINLESS STEEL CHANNEL BARS
(BENDED)

ASTM A276

Material Type: 304 / 304L/316L
Length: 20ft.
Note: Made to order size available.

Size, inch (H x Ax A)	Wall Thickness (mm)									
	2.5	3.0	4.0	4.5	5.0	6.0	8.0	9.0	10	12
3 x 1 x 1	●	●	●	●	●					
3 x 2 x 2	●	●	●	●	●					
4 x 2 x 2	●	●	●	●	●	●	●	●	●	●
4 x 3 x 3	●	●	●	●	●	●	●	●	●	●
6 x 2 x 2	●	●	●	●	●	●	●	●	●	●
6 x 3 x 3	●	●	●	●	●	●	●	●	●	●
6 x 4 x 4	●	●	●	●	●	●	●	●	●	●
8 x 2 x 2	●	●	●	●	●	●	●	●	●	●
8 x 3 x 3	●	●	●	●	●	●	●	●	●	●
8 x 4 x 4	●	●	●	●	●	●	●	●	●	●
9 x 2 x 2	●	●	●	●	●	●	●	●	●	●
9 x 3 x 3	●	●	●	●	●	●	●	●	●	●
9 x 4 x 4	●	●	●	●	●	●	●	●	●	●
10 x 2 x 2	●	●	●	●	●	●	●	●	●	●
10 x 3 x 3	●	●	●	●	●	●	●	●	●	●
10 x 4 x 4	●	●	●	●	●	●	●	●	●	●
12x 2 x 2	●	●	●	●	●	●	●	●	●	●
12 x 3 x 3	●	●	●	●	●	●	●	●	●	●
12 x 4 x 4	●	●	●	●	●	●	●	●	●	●

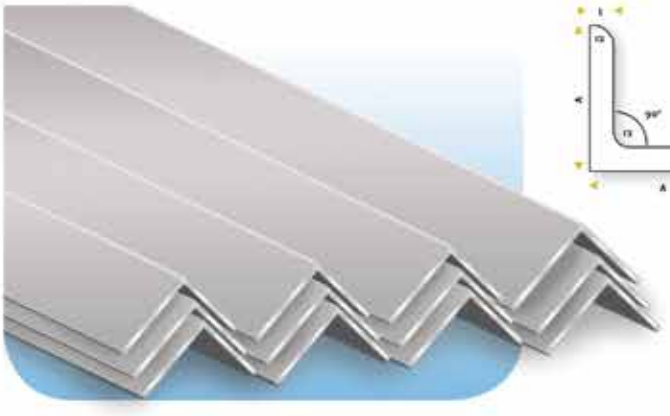
STAINLESS STEEL FLAT BARS
(Hot Rolled finish)

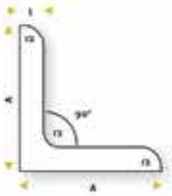


ASTM A276 / A484 / JIS G 4320

Material Type: 304 / 304L/316L
Note: Flat bar width as per customer specifications

Thickness									
2.5	3.0	4.0	4.5	5.0	6.0	8.0	9.0	10.0	12.0
Thickness (mm)									
15.0	16.0	18.0	20.0	22.0	25.0	30.0	35.0	40.0	50.0

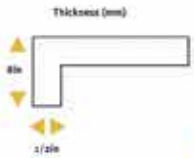




STAINLESS STEEL ANGLE BARS
(HOT ROLLED)
ASTM A276 / A484

Material Type: 304 / 304L/ 316 /316L
Length: 20ft.
Also available: Unequal Angle Bar

Size	Wall Thickness (mm)				
mm	3	4	5	6	9
in	1/8		3/16	1/2	3/8
3/4 x 3/4	●				
1 x 1	●	●	●	●	
1 1/4 x 1 1/4	●	●	●	●	
1 1/2 x 1 1/2	●	●	●	●	
2 x 2	●	●	●	●	●
2 1/2 2 1/2	●	●	●	●	●
3 x 3	●	●	●	●	●
4 x 4	●	●	●	●	●



STAINLESS STEEL FLAT BARS
(Single or double sided Satin finish)
ASTM A276 / A484 / JIS G 4320

Material Type: 304 / 304L/ 316/316L/310S
Note: Other width can be cut as per specification

Width, Inch	Thickness (mm)																				
	2.5	3	4	5.0	6.0	8.0	9.0	10.0	12.0	10.0	12.0	15.0	16.0	18.0	22.0	20.0	25.0	30.0	35.0	40.0	50.0
1/2	●	●	●	●	●	●	●														
3/4	●	●	●	●	●	●	●	●													
1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1 1/4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1 1/2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

STAINLESS STEEL SANITARY VALVES
3A/DIN/ISO/SMS

Material Type: 304/304L/316L

BUTTERFLY VALVE WITH UNION
Size: 1IN- 4IN(DN25DN125)

BUTTERFLY VALVE WITH WELD END
Size: 1IN- 4IN (DN25-DN200)

BUTTERFLY VALVE WITH CLAMP END
Size: 1IN- 4IN (DN25-DN125)

BUTTERFLY VALVE WITH ACTUATOR
Size: 1IN- 4IN(DN25-DN150)

PLUG VALVE WITH UNION
Size: 1IN- 3IN

SAFETY RELIEF VALVE
Size: DN10- DN100

ASEPTIC SAMPLING VALVE
Size: 1/2IN

3 PC BALL VALVE WITH CLAMP END
Size: 1/2IN- 4IN

STAINLESS STEEL SANITARY FITTINGS
3A/DIN/ISO/SMS

Material type: 304/304L/316L

FERRULE CLAMPSET
Size: 1IN- 4IN

FERRULE END
Size: 1IN- 4IN

CONCENTRIC REDUCER
Size :1IN X 1/2IN - 4IN X 2IN

ECCENTRIC REDUCER
Size :11/2IN X 1IN - 4INX 3IN

USE POINT FITTING (Clamp End)
Size: 1INX3/4IN – 4INX 2IN4INX 3IN

ELBOW 90
Size: 1IN- 4IN (DIN10-250)

ELBOW 45
Size: 1IN- 4IN (DIN10-150)

ELBOW 90 (Clamp End)
Size :1IN - 4IN

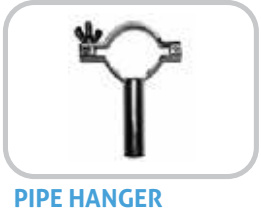
ELBOW 45 (Clamp End)
Size : 1IN- 4IN

UNION
Size: 1IN-4IN (DIN10-DIN150)

CROSS (Clamp End)
Size: 1IN- 4IN DIN25-100

EQUAL TEE (Clamp End)
Size: 1IN- 4IN DIN10-100

EQUAL TEE
Size :1IN X 4IN DIN10-100

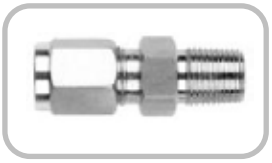


PIPE HANGER
Size :1IN – 4IN

PIPE HANGER
Size: DIN10- DIN150

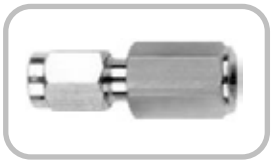
STAINLESS STEEL COMPRESSION TUBE FITTINGS
ASTM/ISO/SMS

Material Type: 304/316



MALE CONNECTOR

Tube O.D (Metric)	2 - 25
Male Pipe Weld Size	1/8 -1
Tube O.D. (Fractional)	1/16 -1
Male Pipe Weld Size	1/8 - 1

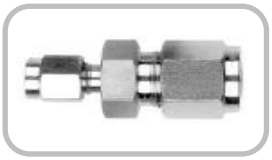


FEMALE CONNECTOR

4- 25
1/8 -1
1/8 -1
1/8 -1

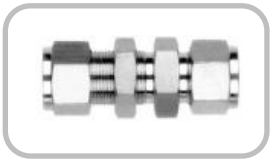
EQUAL UNION

2- 25
-
1/16 - 1
-



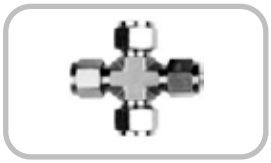
REDUCING UNION

4 x 3 – 20 x 25
-
1/16 x 1/8 - 3/4 x 1
-



BULKHEAD UNION

6 - 25
-
1/4 -1
-



CROSS UNION

Tube O.D (Metric)	2 - 25
Male Pipe Weld Size	1/8 -1
Tube O.D. (Fractional)	1/16 -1
Male Pipe Weld Size	1/8 - 1

MALE ELBOW

3- 25
1/8 -1
1/16 -1
1/8 -1

FEMALE ELBOW

6 - 25
1/8 - 3/4
1/4 - 1
1/8 – 3/4

UNION ELBOW

3 - 25
-
1/16 - 1
-

UNION TEE

3 - 25
-
1/16 -1
-

FERRULE

Tube O.D (Metric)	2 - 25
Tube O.D. (Fractional)	1/16 - 1

BACK FERRULE

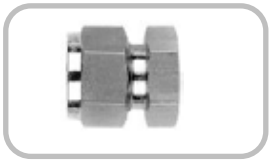
2 - 25
1/16- 1

NUT

2 - 25
1/16- 1

PLUG

3 - 25
1/16- 1

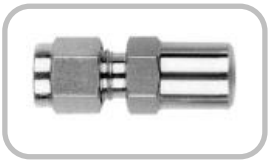


CAP

2 - 25
1/16- 1

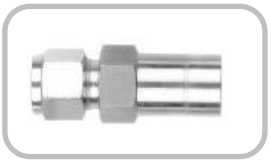
SOCKET WELDING PIPE CONNECTOR

Tube O.D (Metric)	3 - 25
Male Pipe Weld Size	1/8 - 1
Tube O.D. (Fractional)	1/8 - 1
Male Pipe Weld Size:	1/8 -1



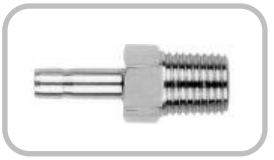
BUTT WELDING PIPE CONNECTOR

3-25
1/8 - 1
1/8 - 1
1/8 - 1



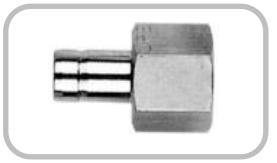
REDUCER

2-25
1/8 - 20
1/16 – 3/4
1/8 -1/1



MALE TUBE ADAPTER

6-12
1/8 – 1/2
1/4 - 1
1/8 – 1



FEMALE TUBE ADAPTER

6-12
1/8 – 1/2
1/4 - 1
1/8 – 1

STAINLESS STEEL PIPING COMPONENTS FOR PRESSURE SYSTEMS

STAINLESS STEEL FLANGES

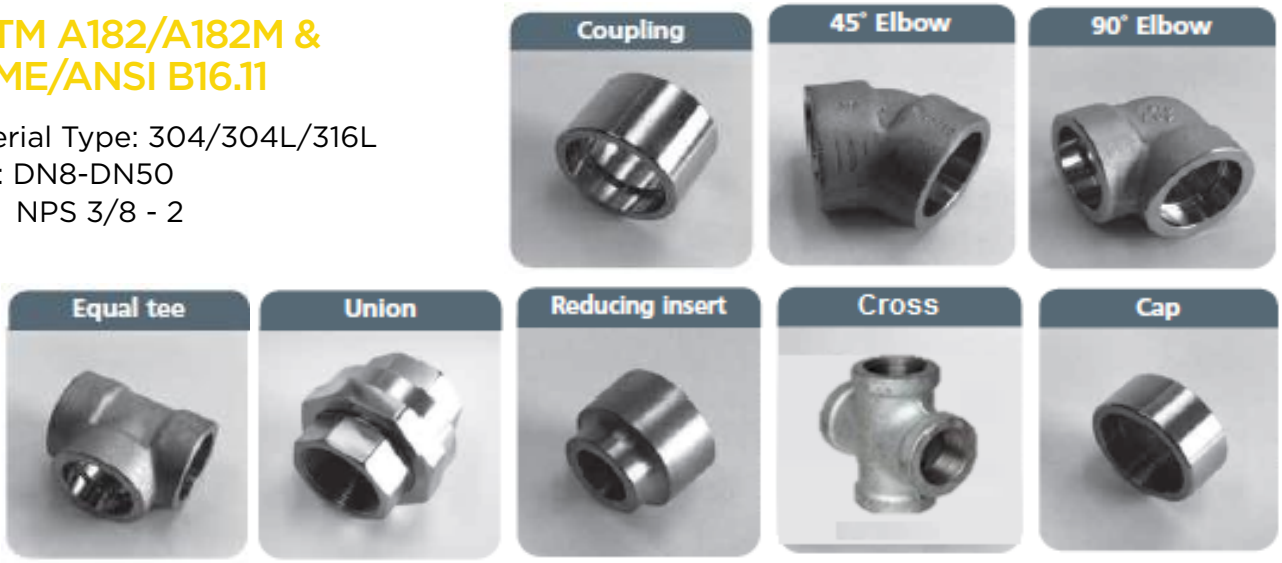
ASTM A182/A182M & ASME/ANSI B16.5

Material Type: 304/304L/316L
Size: DN15-DN600
NPS 1/2 - 24

STAINLESS STEEL SOCKET/SCREWED FITTINGS

ASTM A182/A182M & ASME/ANSI B16.11

Material Type: 304/304L/316L
Size: DN8-DN50
NPS 3/8 - 2



STAINLESS STEEL BUTT WELD FITTINGS

ASTM A403/A403M & ASME B16.9

Material Type: 304/304L/316L
Size: DN15-DN600
NPS 1/2 - 24

STAINLESS STEEL VALVES

ASTM A182/A182M & ASME/ANSI B16.34

Material Type: 304/304L/316L

3PC BALL VALVE

Size: 18MM- 50MM
Note: 1PC 2PC &3-WAY available

FLOATING BALL VALVE (CAST)

Size: Class 150 DN15-DN250
Class 300 DN15- DN200
Class 600 DN15- DN100

TRUNNION BALL VALVES

Size: Class 150 (DN100) -(DN900)
Class 300 (DN100) -(DN900)
Class 600 (DN50) - (DN600)
Class 900, 1500,2500

GLOBE VALVE (CAST)

Size: 2" (DN50) – 16" (DN400)

BUTTERFLY VALVE-
TYPE- WAFER / LUG/ FLANGE

Size: 1 ½" (DN40) –40" (DN1000)

GATE VALVE (CAST)

Size: ANSI 150 15MM- 400MM
ANSI 300 15MM- 300MM

GATE VALVE (FORGED)

Size: Class 800 R.P. ½ in- 3
Class 900 – 1500 R.P 500 ½- 3
Class 2500 F.P ¼- 2

GLOBE VALVE (FORGED)

Size: Class 800 R.P. ½- 3
Class 900- 1500 R.P. ½- 3
Class 2500 F. P. ½ - 2 1/2

CHECK VALVE (FORGED)

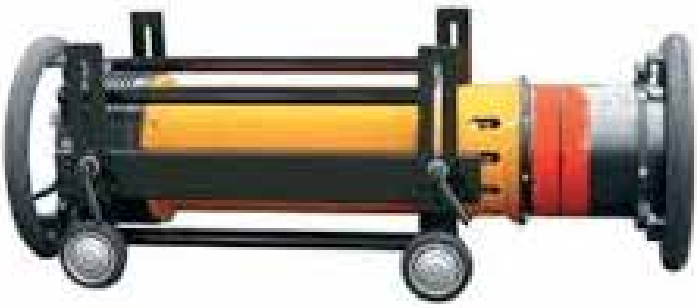
Size: Class 800 R.P. ½- 2
Class 900-1500 R.P. 1/2- 2
Class 2500 F.P. ¼- 2

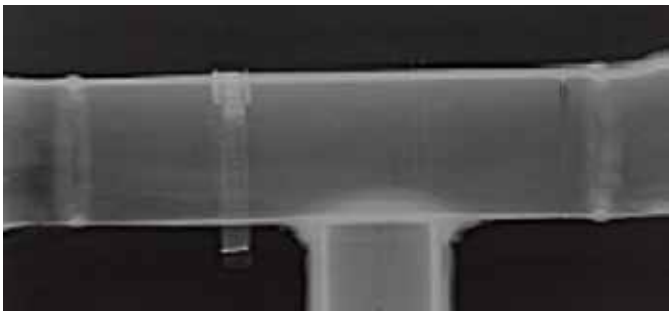
DESTRUCTIVE TESTS

PIPES & TUBES

ULTRASONIC TEST (PIPES & TUBES)

RADIOGRAPHY TEST FOR PIPES AND TANKERS





NONDESTRUCTIVE TESTS

NITON X-RAY FLUORESCENCE ANALYZER

ALLOY ANALYSIS

Determine the chemical Composition by weight of each stainless steel coil and products produced.

X-RAY FLUORESCENCE (XRF) ELEMENTAL ANALYZER

An XRF analyzer focuses a beam of x-rays onto a small area of the sample under test. The atoms in the sample fluoresce and the spectrometer detects and analyzes the energy levels and quantities of the resulting x-rays.

FLARING TEST

A section of tube for every 10 tubes shall stand being flared with a tool to form a 60° of wide open mouth without signs of cracks and imperfections. Test is done to check the strength of welding line.

TENSILE TEST

A standard test piece is gripped at either end by suitable apparatus in a testing machine which slowly exerts an axial pull so that the steel is stretched until it breaks. The test provides information on proof stress, yield point, tensile strength, elongation and reduction of area.

HYDRO TEST

Each tube will be internally pressurized and must be rejected for any leakages.

FLATTENING TEST

The test is to check the strength of welding line by applying it with excessive stress. If it can withstand without cracking, it is considered acceptable.

ULTRASONIC TEST

Use high frequency sound energy to detect, evaluate, and measure flaws or defects on surface and sub-surface of tube and pipe.

RADIOGRAPHY TEST

Radiography (X-ray) uses X-rays and gamma-rays to produce a radiograph of a specimen, showing any changes in thickness, defects (internal and external), and assembly details to ensure optimum product quality.

STAINLESS STEEL CLEANING – Stainless Steel and the need for cleaning

Stainless Steel is a corrosion resistant alloy steel that is strong, durable, and with excellent luster. However, it is not rust proof. The chromium in the stainless steel makes it auto passivating in the sense that the protective passive film (chromium oxide – and invisible adherent oxide) is formed spontaneously on exposure to air or moisture. Disruption of the passive film by chemicals, mechanical action, embedded iron particles, or oxygen starvation can easily occur in the workshop or during fabrication. Surface-free iron particles, dust, grit, and iron-oxide contaminants arise from handling, fabrication/forming, welding, grinding, machining, paint, crayon marks, polishing, tumbling, and workshop cross contamination. These contaminants penetrate the passive film. Surface contaminations and the formation of deposits are critical factors which may lead to drastically reduced life. Cleaning is often required to restore an acceptable surface quality with regard to hygiene and corrosion. Cleaning is often required to restore an acceptable surface quality with regard to hygiene and corrosion.

DONT'S

- Do not use cleaner (bleach) containing chlorine for it can cause pitting corrosion
- Do not use abrasive cleaners that will scratch the surface
- Do not use ordinary steel wool or steel brushes for it can leave particles that start the stain or rusting
- Hard water can leave spotting & staining, do not assume it's cleaner
- Do not forget to rinse and dry the surface thoroughly
- In routine cleaning, use only soap or mild detergent and warm water

DO's

- Welds and discoloration associated to welding should be cleaned within 1 to 2 days of being completed to eliminate rusting. Electro-polishing, Pickling, Brushing, and Shot Blasting can be used.
- Rusts and other corrosion products, embedded or adhering free iron can be removed by 10% nitric acid or by pickling.
- Cover products stored outdoor to avoid exposure to moisture, salinity, and chemicals.
- At Project Design Stage, choose correct grade, condition, surface finish particular for the stainless steel service.
- After Stamping, Deep Drawing, Forming Processes:
  - Use Clean tools, no residue of free iron from carbon steel
  - Use Appropriate oil
  - In degreasing, use non-chlorinated solvents
  - Passivate after degreasing
- Oil, grease, paints, foot prints, glue residues, and dirt can cause crevice corrosion, remove by organic solvents such as acetone, alcohol, methylated spirits, degreasing agents(chlorine-free)

These recommendations are based from material suppliers and careful examination of available published information and are believe to be accurate. This can be valuable in the initial selection of stainless steel material to be used with listed corrodant. Final selection, however, should be based upon the specific exposure conditions and preliminary testing, since the resistance of metals can be affected by concentration, temperature, presence of other chemicals and other factors.

Solution	Conditions		Stainless Steel Grade		
	Concentration %	Temperature °C	Type 430	Type 304	Type 316
Hydrochloric Acid	≤ 0.2	R.T.	△ *	○ *	○ *
	>0.2	R.T.	△ *	△ *	△ *
Nitric Acid	1-20	R.T.	◎	◎	◎
		B.P.	○	◎	◎
	40-60	R.T.	◎	◎	◎
		B.P.	○ *1	○ *1	○ *1
Sulfuric Acid	≤0.25	R.T.		◎	◎
		B.P.		△	○
	30-60	R.T.		○	○
		B.P.		△	△
	95-100	R.T.		◎	◎
		100		△	△
Sulfurous Acid	10	R.T.	△	○	○
		B.P.		○	○
Phosphoric Acid	10	R.T.	◎	◎	◎
		B.P.	○	◎	◎
	80	R.T.	○	○	◎
		B.P.		△	○
Flouric Acid		R.T.	△	△	△
Boric Acid	sat	B.P.	◎ *	◎ *	◎ *
Chromic Acid	10	R.T.	◎	◎	◎
		B.P.	○	○	○
Chlorine		R.T.	○	○	◎
		100	△	△	△
Carbonic Acid Gas		R.T.	◎	◎	◎
Sulfurous Acid Gas	wet	R.T.	△	◎–○ *2	◎ *2
Acetic Acid	0-100	R.T.	◎	◎	◎

Solution	Conditions		Stainless Steel Grade		
	Concentration %	Temperature °C	Type 430	Type 304	Type 316
Oxalic Acid	10	R.T.	○	◎	◎
Citric Acid	15	B.P.	○	◎	◎
Tartaric Acid	50	R.T.	○	◎	◎
Lactic Acid	5	R.T.	○	◎	◎
Butyric Acid	5	R.T.	◎	◎	◎
Stearic Acid	Sat	100	○	◎	◎
Fruit & Vegetable		Hot		◎	◎
Butter & Milk		Hot		◎	◎
Milk		60		◎	◎
Sodium Carbonate	50	B.P.	◎	◎	◎
Hydrogen Peroxide	30	R.T.	◎–○ *3	◎ *3	◎
Potassium Bichromate	25	B.P.		◎	◎
Potassium Permanganate	10	B.P.		◎	◎
Sodium Chloride	10	B.P.	◎ *	◎ *	◎ *
Ferric Chloride	1	R.T.	◎ *	◎ *	◎ *
Ammonium Sulfate	5	R.T.	◎	◎	◎
Sodium Sulfate	5	R.T.	◎	◎	◎
Silver Nitrate	5	R.T.	◎	◎	◎
Methyl Alcohol		R.T.	◎ *4	◎ *4	◎ *4
Ethyl Alcohol		R.T.	◎	◎	◎
Acetone		R.T.	○	◎	◎
Ether		R.T.	◎	◎	◎
Benzol		R.T.	○	◎	○
Crude Oil		R.T.	◎ *5	◎ *5	◎ *5
Gasoline		R.T.	◎	◎	◎
Vegetable Oil		R.T.	○	○	○
Mineral Oil		R.T.	◎	◎	◎
Sugar Syrup	Conc	100	◎	◎	◎
Carbon Tetrachloride	pure	R.T.	◎	◎	◎

Notes: 1
- ◎ : 0.1mm/year, unaffected
- ○ : 0.1 to 1.0mm/year, slightly affected.
- △ : 1.0mm/year, affected
- P : Pitting corrosion is possible

2.
- sat : Saturated solution
- Conc : Concentrated solution
- R.T. : Room Temperature
- B.P. : Boiling Point

Remarks
- * P
- *1 △ Under high pressure
- *2 Use care when H_2SO_4 coexists
- *3 △ When involving H_2SO_4
- *4 P at high temperature
- *5 Affected by impurities during refining

SPECIFICATIONS

TYPE	DESCRIPTION	C MAX	Ni	Cr	OTHERS	TS MPa	YS MPa	E%	HARDNESS HRB
AUSTENITIC GRADES									
304	One of the most versatile and commonly used stainless steels on the market. It has excellent welding and deep drawing characteristics.	0.07	8.0 - 10.5	17.5 - 19.5	Mn 2.00MAX N 0.10MAX P 0.045 MAX Si 0.75MAX S 0.03MAX	515 MIN	205 MIN	40 MIN	92 MAX
304L	Very low carbon chromium-nickel stainless, similar to 304 but with superior resistance to intergranular corrosion after welding or stress relieving. It is recommended for use in parts which are fabricated by welding and which can not be subsequently annealed.	0.03	8.0 - 12.0	17.5 - 19.5	Mn 2.00MAX N 0.10MAX P 0.045 MAX Si 0.75MAX S 0.03MAX	485 MIN	170 MIN	40 MIN	92 MAX
309S	A highly corrosive resistant steel used in high temperature environments. 309s has a lower carbon for reduced carbide precipitation when welding.	0.08	12.0 - 15.0	22.0 - 24.0	Mn 2.00MAX P 0.045 MAX Si 0.75MAX S 0.03MAX	515 MIN	205 MIN	40 MIN	95 MAX
310S	Similar to 309 with even greater resistance to corrosion and oxidation at elevated temperature up to 2100°F. It has lower carbon for less carbide precipitation in welding.	0.08	19.0 - 22.0	24.0 - 26.0	Mn 2.00MAX P 0.045 MAX Si 1.50MAX S 0.03MAX	515 MIN	205 MIN	40 MIN	95 MAX
316	Chromium- Nickel stainless steel containing molybdenum. Good heat resistance and superior corrosion resistance to many types of chemical corrosives particularly chloride ion solutions. Superior creep strength at elevated temperature.	0.08	10.0 - 14.0	16.0 - 18.0	Mn 2.00MAX N 0.10MAX P 0.045 MAX Si 0.75MAX S 0.03MAX Mo 2.0—3.0	515 MIN	205 MIN	40 MIN	95 MAX
316L	Extra -low carbon version of type 316 that minimizes carbide precipitation due to welding	0.03	10.0 - 14.0	16.0 - 18.0	Mn 2.00MAX N 0.10MAX P 0.045 MAX Si 0.75MAX S 0.03MAX Mo 2.0—3.0	485 MIN	170 MIN	40 MIN	95 MAX
321	A chromium nickel alloy with the addition of Titanium making it an excellent choice in elevated temperature environments. Titanium stabilizes the material removing its susceptibility to the effects of intergranular corrosion. It is a material of choice for applications in working environments up to 900° C.	0.08	9.0 - 12.0	17.0 - 19.0	Mn 2.00MAX N 0.10MAX P 0.045 MAX Si 0.75MAX S 0.03MAX Ti 5 x (C+ N) MIN, 0.70 MAX	515 MIN	205 MIN	40 MIN	95 MAX
FERRITIC GRADES									
430	General purpose Grade, less corrosion resistant than type 304. Corrosion-resistant to stress corrosion cracking, non-heat- treatable	0.12	0.75 MAX	16.0 - 18.0	Mn 1.00MAX S 0.03MAX P 0.040MAX Si 1.00MAX	450 MIN	205 MIN	22 MIN	89MAX
436	Has columbium added for corrosion and heat resistance. Typical applications include deep-drawn parts	0.12	...	16.0 - 18.0	Mn 1.00MAX S 0.03MAX P 0.040MAX Si 1.00MAX Mo 0.75 — 1.25 Cb 5 x C MIN., 0.80 MAX	450 MIN	240 MIN	22 MIN	89MAX
MARTENSIC GRADES									
410	Hardenable alloy. It can be heat treated (quench and temper) to generate high strength with good ductility. Used where strength, hardness, and /or wear resistance must be combined with corrosion resistance. Its major use is in cutlery, nozzle, valve parts, hardened steel ball, separating screens, strainers, springs, shears, fasteners	0.08 - 0.15	0.75 MAX	11.5 - 13.5	Mn 1.00MAX S 0.03MAX P 0.040MAX Si 1.00MAX	480 MIN	275 MIN	20 MIN	.....
DUPLEX GRADES									
2101	A low nickel, nitrogen-enhanced lean duplex stainless steel. The austenitic-Ferritic structure provides very good resistance to uniform corrosion, pitting, crevice corrosion and chloride stress–corrosion cracking.	0.04	1.35 - 1.70	21.0 - 22.0	Mn 4.0—6.0 S 0.03 MAX P 0.040 MAX Si 1.0 MAX Mo 0.10 — 0.80 N 0.20—0.25 Cu 0.10— 0.80	650 MIN	450 MIN	30 MIN	290 MAX (Brinell)
2205	Excellent general corrosion resistance; superior to Grade 316 in most environments. Excellent resistance to localized corrosion including intergranular, pitting and crevice corrosion; the CPT of 2205 is generally at least 35°C. The grade is also resistant to chloride stress corrosion cracking (SCC) at temperatures of up to about 150°C. It will often perform well in environments which cause premature failure of austenitic grades. It has better resistance to sea water then Grade 316.	0.03	4.5 - 6.5	22.0 - 23.0	Mn 2.0 MAX S 0.02 MAX P 0.030 MAX Si 1.0 MAX Mo 3.0 — 3.5 N 0.14 - 0.20	655 MIN	450 MIN	25 MIN	293 MAX (Brinell)
2507	Super duplex designed for specific application requiring high strength and excellent corrosion resistance such as chemical processes, petrochemical and sea water equipments.	0.03	6.0 - 8.0	24.0 - 26.0	Mn 1.20 MAX S 0.02 MAX P 0.035 MAX Si 0.80 MAX Mo 3.0 — 5.0 N 0.24 - 0.32 Cu 0.50 MAX	795 MIN	550 MIN	15 MIN	310 MAX (Brinell)

Ref. No.: 20161107272776

ADVISORY

November 24, 2016

Gregory U. Chan
Chairman/President
SANYO SEIKI STAINLESS STEEL CORPORATION
255 Simeon de Jesus Street, San Rafael Village, Balut, Navotas

Dear VIA Member,

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Your membership has been reviewed by Dun & Bradstreet Philippines following our 5-step proprietary DUNSRight process.

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Membership Date: August 04, 2016
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This confirms that your company, **SANYO SEIKI STAINLESS STEEL CORPORATION** has complied with the minimum requirements of a VIA Basic membership and has been submitted to the vendor database of Manila Water Company Inc. on November 24, 2016 and is valid for twelve (12) months thereafter. Submission of required documents completes the pre-qualification process; final evaluation and granting of accredited status is at the sole discretion of Manila Water Company Inc.

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Republic Act No. 4109, Executive Order No. 913, Series of 1983 and
Executive Order No. 133, Series of 1987
and their implementing rules and regulations,
The Bureau of Philippine Standards hereby grants the license to use the

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Product Quality

(SYSTEM No. 5 as per ISO/IEC 17067:2013)

In favor of

SANYO SEIKI STAINLESS STEÉL CORP.
8002 New York St., Meycauayan Industrial Subd., Phase 3,
Brgy. Pantoc, Meycauayan City, Bulacan

Having been assessed and found conforming to the requirements of Department Administrative Order No. 4 series of 2008 and its future amendments and revisions, PNS ASTM A312/A312M:2016 and their implementing guidelines, for its **STAINLESS STEEL PIPE** covered in the scope of certification as described in the attached Certificate No. **2470**

Issued on 27 March 2018 at Makati City, Philippines

License No. **Q-2470**

This license is valid until 26 March 2021 subject to the continuing conformity with the PS certification criteria and the Terms and Conditions of this PS License.

DIRECTOR JAMES E. EMPEÑO
BPS

dti
DEPARTMENT OF TRADE & INDUSTRY PHILIPPINES

BUREAU OF PHILIPPINE STANDARDS
3/F Trade and Industry Building
361 Sen. Gil Puyat Avenue, Makati City
Tel. No. 632 751 4724 Fax No. 632 751 4720
Email Address: bps@dti.gov.ph
Website: www.bps.dti.gov.ph

This license is not valid unless signed by the BPS Bureau Director
or his authorized representative and appended to a valid PS certificate.

652648

CONTROL NO. 2-045239

Pursuant to the provisions of Executive Order No. 101, Series of 1967, and in conjunction with the provisions of Republic Act No. 4109, Executive Order No. 913, Series of 1983 and Executive Order No. 133, Series of 1987 and their implementing rules and regulations, The Bureau of Philippine Standards hereby grants the license to use the

Philippine Standard
Quality Certification Mark

BPS

CERTIFIED
Product Quality

(SYSTEM No. 5 as per ISO/IEC 17067:2013)

In favor of

SANYO SEIKI STAINLESS STEEL CORP.
8002 New York St., Meycauayan Industrial Subd., Phase 3,
Brgy. Pantoc, Meycauayan City, Bulacan

Having been assessed and found conforming to the requirements of Department Administrative Order No. 4 series of 2008 and its future amendments and revisions, PNS ASTM A554:2016and their implementing guidelines, for its **WELDED STAINLESS STEEL MECHANICAL TUBING**covered in the scope of certification as described in the attached Certificate No. **2471**

Issued on 27March2018at Makati City, Philippines

License No. **Q-2471**

This license is valid until 26March 2021 subject to the continuing conformity with the PS certification criteria and the Terms and Conditions of this PS License.

DIRECTOR JAMES E. EMPEÑO
BPS

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