



PRODUCT CATALOGUE



WHO ARE WE?

“The First Stainless Steel Welded Pipe Mill in The Middle East”

Armetal Stainless Pipe is a Saudi manufacturer specializing in the manufacture of Stainless Steel & CRA welded pipes. Established in 2008 to become the first and the only facility engaged in manufacturing specific range of Stainless Steel and Non Ferrous Welded Pipes in the GCC and the Middle East Region.



ASP production range covers from 1/2” to 8” in different grades and wall thickness using a state-of-the-art production line with latest European - Japanese machinery and technology.

In addition, ASP offers a wider range of complementary stainless steel products, as used predominantly in the Oil & Gas, Petrochemical, Desalination, waste water treatment, and construction sectors. ASP success is dependent on total customer satisfaction from R&D to Delivery. The Company recruits highly skilled professional people to produce high quality pipes and continuous technical service & support for customers.

OUR CLIENTS

أرامكو السعودية
Saudi Aramco



سابك
SABIC



شركة تنمية نفط عُمان
Petrochemical Development Oman

أدنوك
ADNOC

المؤسسة العامة لتحلية المياه المالحة
Saline Water Conversion Corporation



Worley
energy | chemicals | resources

CSW
المياه الوطنية

Petrofac

مرفاق
MARAFIQ

MA'ADEN
معادن
Saudi Arabian Mining Company

الشركة السعودية للكهرباء
Saudi Electricity Company



صدارة
Sadara

بترو رابغ
Petro Rabigh

تكرير
TAKREER
شركة أوبوليج لتكرير النفط



Our Mission

To be a reliable manufacturing partner providing CRA welded pipes and fittings solutions to our customers by continuously improving our quality standards, durability of our products, and production accuracy.



Our Vision

Ensure the suitable production of stainless-steel pipes responsible of transporting Oil & Gas, Water, and many other noble fluids in a safe and hygiene environment from source to destination.



Our Values

- **Safety above all else.** Do it safely, or don't do it.
- **Respect. Being our best.** Giving our best. Keeping our promise.
- **Raise the bar.** Pursue with passion. Always add value.
- **Commitments matter.** We are part of something bigger, we have to establish and maintain ethics at all times.
- **Do the right thing.** The right way, with integrity.

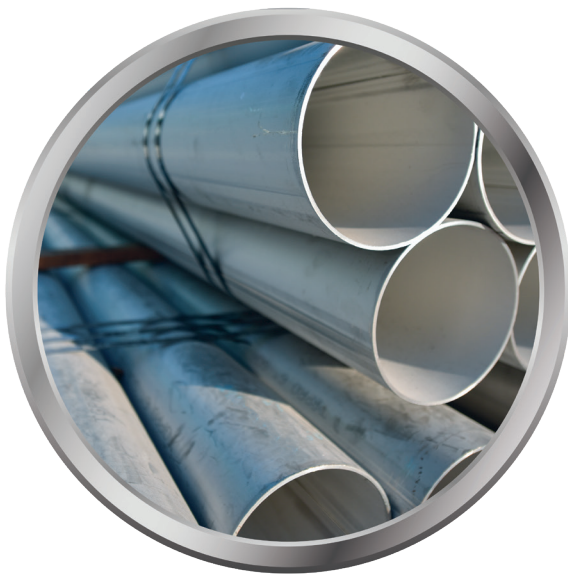


OUR MISSION, VISION AND VALUES

At ASP we have a mission that defines our core purpose and helps to direct our actions and activities. We have a vision that describes our view of the future and our place in it. Our values are a set of beliefs that guide our behaviour and help us to deliver our mission and realize our vision.

SCOPE OF SUPPLIES

Armetal Stainless Pipe offers a wide range of stainless steel products with its mill located in Saudi Arabia, for all types of applications within the different process industries. The ASP Pipe manufacturing unit is equipped with state-of-art machinery in combination with quality control system according to the international standards and customer requirements. In addition, we stock high quality Fitting and Flanges, to support the process industry and construction sectors. We always have the right solution for your needs.



WELDED PROCESS PIPES



FITTINGS & FLANGES



CRA LINE PIPES



**ORNEMENTAL & DECORATIVE
TUBES**

WELDED PROCESS PIPES

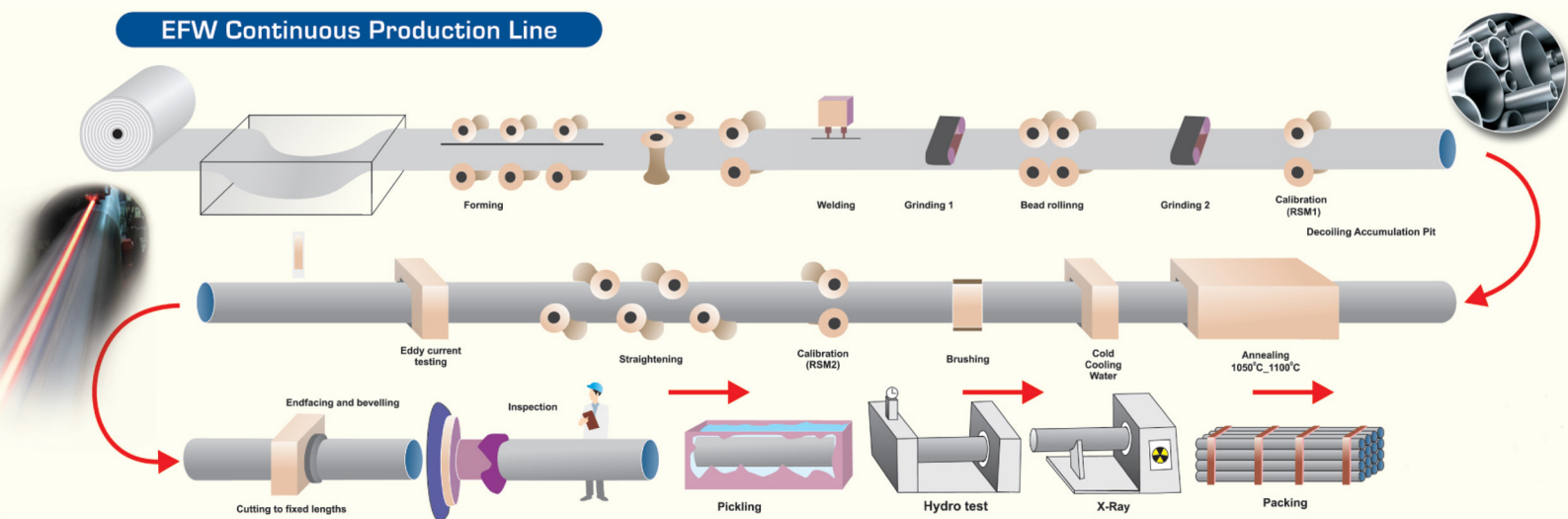
GENERAL INFORMATION

Stainless steel welded pipes intended for transporting fluids in general corrosive services or high temperature environments. Each individual application requires its own specific stainless types, where 304, 316 and Duplex grades are most commonly used. The pipes are produced from stainless cold rolled and hot rolled coils then welded by using fusion welding technology in accordance with ASME/AWS specifications, and can be supplied in a wide range of diameters and schedule wall thickness.

Stainless steel pipes are popular due to its corrosion resistance, erosion resistance, oxidation resistance and temperature resistance. Other attribute include low maintenance cost and cleanliness. Stainless steel welded pipes are used in many applications, primarily in the Oil & Gas, chemical and petrochemical industries, water / wastewater, desalination plants and pulp & paper.

GENERAL CHARACTERISTICS

- Excellent corrosion resistance.
- Excellent impact strength.
- Excellent formability.
- Excellent weldability.

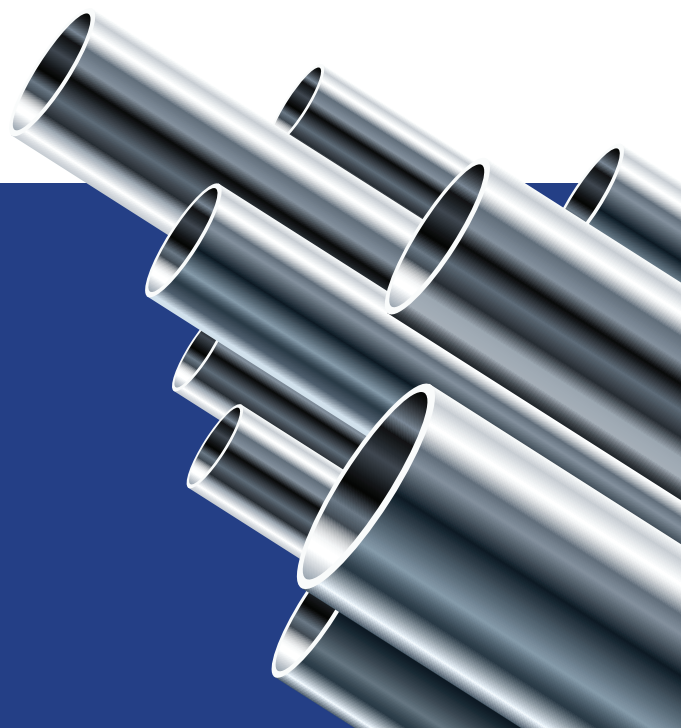


PRODUCTION FEATURES

Pipe Size	Wall Thickness	Product Standards	Grades	End Facing	Length (m)	Tests
1/2" to 8"	2.11mm --- 8.18mm	ASTM A312 ASTM A358 ASTM A790 ASTM A928 API 5LC ASTM A268 B 705 B 862 B 608 B 467 ASME B 36	Austenitic (304L, 316L, 316Ti, 321, 309 254 SMO, etc)	PE Flanged* Threaded	4--12	EC PT PMI X-Ray Tensile Bending Hydrostatic Hardness Test Flattening Test Corrosion Test Ferrite Content Test Dimensional Inspection Weld Borescopy Cahrpy Impact Structure Analysis
			Duplex 2205			
			Super Duplex 2507			
			Ferritic			
			CRA Line Pipe (Nickle 625 , 825, Titanium Alloys Copper Alloys)			

*Special arrangement with third party

1. Other grades are available upon request.
2. PE = Plain End.
3. BE = Beveled End.
4. EC = Eddy Current.
5. PT = Liquid Penetration test.
6. PMI = Positive Material Identification.



WELDED PROCESS PIPES

ASP PIPE RANGES - ANSI / ASME B36.19M 2018

DN	NPS	OD mm	Sch 5 S		Sch 10 S		Sch 40 S	
			Wall Thickness (mm)	Kg/L.M/	Wall Thickness (mm)	Kg/L.M/	Wall Thickness (mm)	Kg/L.M/
15	1/2	21.3	1.65	0.81	2.11	1.01/172	2.77	1.29/231
20	3/4	26.7	1.65	1.03	2.11	1.30/135	2.87	1.71/187
25	1	33.4	1.65	1.31	2.77	2.12/142	3.38	2.54/177
32	1 1/4	42.2	1.65	1.68	2.77	2.73/111	3.56	3.44/144
40	1 1/2	48.3	1.65	1.93	2.77	3.16/96	3.68	4.11/128
50	2	60.3	1.65	2.42	2.77	3.99/77	3.91	5.52/109
65	2 1/2	73.0	2.11	3.74	3.05	5.34/69	5.16	8.76/120
80	3	88.9	2.11	4.58	3.05	6.56/57	5.49	11.50/104
100	4	114.3	2.11	5.93	3.05	8.49/44	6.02	16.30/88
125	5	141.3	2.77	9.61	3.40	11.70/39	6.55	22.10/77
150	6	168.3	2.77	11.5	3.40	14.00/33	7.11	28.70/70
200	8	219.1	2.77	15.0	3.76	20.30/28	8.18	43.20/62

Note: Orders for diameters above 8" can be processed on request.

WELDED STAINLESS STEEL PIPE

WORKING PRESSURE FOR GRADE 304/304L, EN 1.4307 AND 316/316L, EN 1.4404

Design Pressure for Pipe Manufactured and inspected according to ASTM A312.

- General product requirements and tolerances according to Standard Specification and ASTM A999.
- The design pressures are calculated in bar according to: ASME B31.3, ASTM A312, grade, at temperature **T = 38 °C (100 °F)***, joint quality factor **Ej = 0.8**.

NB	Sch	ODmm	Joint Factor, Ej	Wall Thick-mm	Design Pressure in bar (304L)	Design Pressure in bar (316L)
1/2"	10S	21.3	0.8	2.11	172	172
1/2"	40S	21.3	0.8	2.77	231	231
3/4"	10S	26.67	0.8	2.11	135	135
3/4"	40S	26.67	0.8	2.87	180	180
1"	10S	33.4	0.8	2.77	142	142
1"	40S	33.4	0.8	3.38	176	176
1 1/4"	10S	42.16	0.8	2.77	111	111
1 1/4"	40S	42.16	0.8	3.56	145	145
1 1/2"	10S	48.28	0.8	2.77	96	96
1 1/2"	40S	48.28	0.8	3.68	130	130
2"	10S	60.33	0.8	2.77	77	77
2"	40S	60.33	0.8	3.91	109	109
2 1/2"	10S	73.03	0.8	3.05	69	69
3"	10S	88.9	0.8	3.05	57	57
3"	40S	88.9	0.8	5.49	104	104
4"	10S	114.3	0.8	3.05	44	44
4"	40S	114.3	0.8	6.02	88	88
6"	10S	168.3	0.8	2.77	27	27
6"	40S	168.3	0.8	3.4	33	33
6"	10S	168.3	0.8	7.11	70	70
8"	40S	219.1	0.8	2.77	21	21
8"	10S	219.1	0.8	3.76	28	28
8"	40S	219.1	0.8	8.18	62	62

*Maximum working temperature of pipe 482°C

PRODUCT STANDARDS - WELDED TUBES AND PIPES

ASTM A 312/A 312M

(M means mm dimension). Seamless and welded Austenitic stainless steel pipe.

This standard contains analysis regulations and strength requirements. In addition, certain regulations of ASTM A 999 apply as regards inspection and tolerances. The scope of the sampling inspection to be carried out in respect of technological inspection is stated. Hydrostatic or Eddy Current testing is to be carried out as a 100% inspection. Welding is to be without filler material and the piped are to be heat treated. This gives joint quality factor 0.8. However with 100% radio graphic test joint quality factor becomes 1.

ASTM A 358/A 358M

Electric-fusion-welded Austenitic chromium-nickel alloy steel pipe for high temperature service.

Pipes are welded with filler material and are sub-classified in categories 1-5, see below.

- 1.3.1 Class 1 - Pipe shall be double welded by processes employing filler metal in all passes and shall be completely radiographed.
- 1.3.2 Class 2 - Pipe shall be double welded by processes employing filler metal in all passes. No radiography is required.
- 1.3.3 Class 3 - Pipe shall be single welded by processes employing filler metal in all passes and shall be completed radiography.
- 1.3.4 Class 4 - Same as class 3 except that the weld pass exposed to the inside pipe surface may be made without the addition of the filler metal.
- 1.3.5 Class 5 - Pipe shall be double welded by processes employing filler metal in all passes and shall be spot radiographed.

ASTM A 790/A 790 M

Seamless and welded Ferritic / Austenitic stainless steel pipes.

This standards is similar to ASTM 312, but intended for Duplex grades.

ASTM A 928/A 928M

Ferritic / Austenitic (Duplex) stainless steel pipe electric-fusion-welded with addition of filler metal.

This standards is similar to ASTM A 358, but intended for Duplex grades. Pipes are welded with filler material and are sub-classified on categories 1-5, see ASTM A 358/A 358M.

TECHNICAL DATA

UNS Designation	ASTM Grade	Chemical Composition %								Mechanical Properties			
		C	Mn	P	S	Si	Cr	Ni	Mo	Yield Strength Rp,0.2 (Mpa)	Tensile Strength Rm (Mpa)	Elongation (%)	Hardness (HBW)
S30400	TP 304	0.08	2.00	0.045	0.030	1.00	18.0-20.0	8.0-11.0	--	205	515	35	--
S30403	TP 304L	0.035	2.00	0.045	0.030	1.00	18.0-20.0	8.0-13.0	--	170	485	35	--
S31600	TP 316	0.08	2.00	0.045	0.030	1.00	16.0-18.0	10.0-14.0	2.00-3.00	205	515	35	--
S31603	TP 316L	0.035	2.00	0.045	0.030	1.00	16.0-18.0	10.0-14.0	2.00-3.00	170	485	35	--
S31635	TP 316Ti	0.08	2.00	0.045	0.030	0.75	16.0-18.0	10.0-14.0	2.00-3.00	205	515	35	--
S31254	--	0.02	1.00	0.030	0.010	0.80	19.5-20.5	17.5-18.5	6.0-6.5	310	675	35	--
S32101	--	0.040	4.0-6.0	0.040	0.030	1.00	21.0-22.0	1.35-1.70	0.10-0.80	530	700	30	290
S32205	2205	0.030	2.00	0.030	0.020	1.00	22.0-23.0	4.5-6.5	3.0-3.5	450	655	25	290

WELD FACTOR

Type of weld process and NDT	ASME B31				
	A312 / A774	A358 / A403	A 789	A 790	A 928
EFW, 100% ET	0.8	0.8	0.8	0.8	0.8
EFW, 100% RT	1.0	1.0	1.0	1.0	1.00
EFW, spot RT	0.9	0.9	n.a.	n.a.	n.a.
EFW, double butt	0.85	0.85	0.85	0.85	0.85
EFW, single butt	0.8	0.8	0.8	0.8	n.a.

EFW = Electric Fusion Welded

ET = Eddy Current Test

RT = Radiographic Test

STAINLESS STEEL FITTINGS

Stainless steel fittings are manufactured from either tubes, sheets or strip depending on product and dimension. SS Elbows, Tees, Reducers, Pressed Collars and Caps are manufactured according to ASTM A403, with different grades (304L, 316L) and different wall thickness (Sch 10S, Sch 40S). Special Types of SS Fittings can be provided. SS forging and machining flange with grades 304L, 316L with different types like welding neck, Slip On Flange, Socket Weld, Blind Lap, Joint and others can also be provided.

Elbows ASTM A 403 (Products range from 1/2" to 24") - **Reducers CC, EC ASTM A 403** (Products range from 1/2" to 24")
- **Tees ASTM A 403** (Products range from 1/2" to 24") - **Flanges** - **Caps**



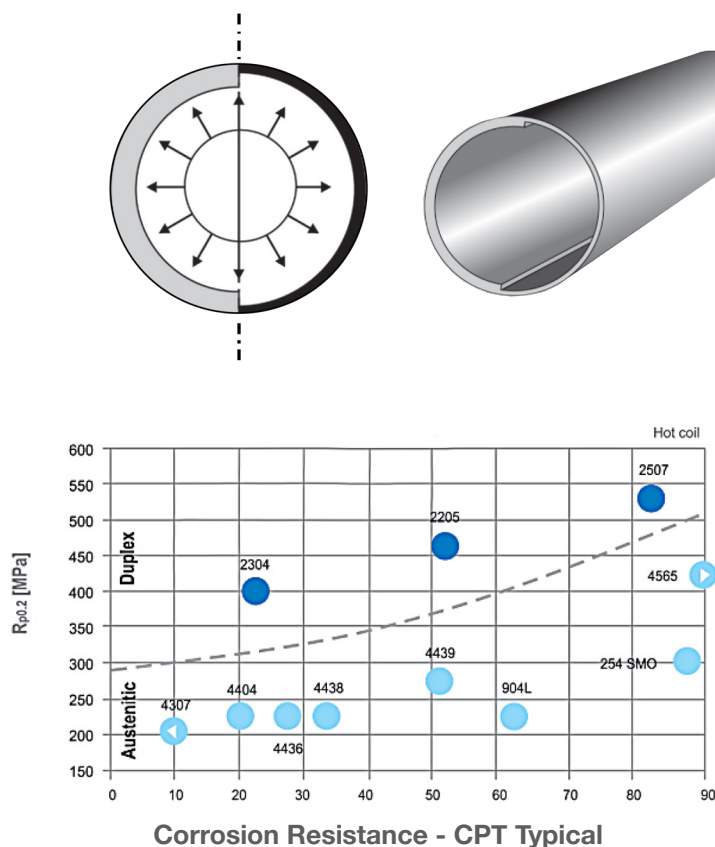
DUPLEX - SUPER DUPLEX

THINNER WALLS, SUBSTANTIAL WEIGHT REDUCTIONS AND REAL COST-SAVINGS

Armetal Stainless Pipe offers the process piping industry an alternative to standard grade Austenitic pipework installations. Our Duplex - Super Duplex Piping System is durable, corrosion resistant and cost effective. The switch from standard grade ISO or ANSI solutions to Duplex - Super Duplex can offer customers benefits from its higher material strength compared with 304L/316L.

Wall thickness can be reduced by up to 50% compared to standard Austenitic grades. This reduction can translate into significant weight reductions in pipe work system, tanks and pressure vessels. Total installed cost- savings including ongoing maintenance expenses can also be reduced. An excellent grade choice for consideration for general pressure application pipework - storage tanks - water heaters and construction applications.

DUPLEX PIPING SYSTEM



- Duplex pipes and fittings allow for a thickness reduction of up to 50%.
- Duplex material has superior erosion properties as well as equal or superior corrosion resistance compared to the austenitic steel grades.
- Corresponding fittings are included in the range.
- Application engineering support is available for the development to tailored customer solutions.

QUALITY

Armetal Stainless Pipe (ASP) guarantees the best quality products and pledges its customers with the highest level of continued services and technical support. We have adopted and realized the benefits of Quality Management Principles into our daily activities to provide a foundation to continually improve upon the company's performance. Armetal stainless pipe (ASP) is committed to passionately driving customer's satisfaction with cost-effective products, consistent, and compliant with their stated requirements and international standards requirements such as API Q1:2013, ISO 9001:2015, OHSAS 18001:2007 and ISO 14001:2015. Recently, our laboratory is established to set a benchmark of quality for the customer in search of excellence in testing services and be owner to have a certificate of ISO/IEC 17025:2017.



ENVIRONMENTAL FRIENDLY METAL



ARMETAL STAINLESS PIPE

> 80%

RECYCLED CONTENT

100%
RECYCLABLE

YOUR PREFERRED PARTNER
IN STAINLESS STEEL PRODUCTS



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