



SANE

FOOLAD TAJHIZAT CO

SANE

FOOLAD TAJHIZAT CO

نشانی دفتر مرکزی: تهران، خیابان خیام شمالی
روبروی پارک شهر، نبش کوچه روحی، پلاک ۵، ساختمان صانع
انبار امارات: امارات متحده عربی، دبی، منطقه جبل علی
دفتر عمان: مسقط
انبار تهران: شهر سنگ، شورآباد



۰۲۱-۳۳۹۶۵۹۶۵
۰۲۱-۳۳۹۶۵۵۰۱
www.ft-sane.ir

۰۲۱-۳۳۹۰۴۴۲۰
۰۹۱۲۶۷۷۱۰۱۴
info@ft-sane.ir

OUR STOCK PRODUCT RANGE

Product	Type	Range	Grade
Pipes	C.S Seamless/Welded (ERW/SAW)	¼"-24" (Seamless) 4"-24"(ERW) 24"-100"(SAW)	A53/A106/API5LGR.B/X42/X52/X60 A53/API5LGR.B/X46/X52/X60/X65/X70 A671/A672/CC60/CC70 etc...
	CS-Low Temp	Up to 24"	A333 Gr. 3 & A333 Gr. 6
	Stainless Steel	1/2-"12" (Seamless) 8"-56"(EFW)	A312/A213/A358/ Gr. 304/304L & 316/ 316L,F321, X42-X80
Flanges	CS, Alloy Steel, High Temp/Low Temp, Stainless Steel	¼"-60" ½"-36"	A105N/A350 LF2/A694 F52/A694 F60/ A694/F65, A182 F 304/304L & 316/316L, F347, F51,A694 F 42 TO F 80
Special Flanges	All Grades	ANSI Flanges (2500 Class) API Flanges (10000 Class)	A105N
Fittings	CS-Forged/Reinforced Fittings, CS-Wrought- BW/Alloy/SS	½"-4" (Forged) ¼"-24" (Seamless) 26"-84"(Welded)	A105N, A350 LF2/LF3, F11, F22, SS F 304/ 304L, 306/306L, A234 WPB, A 420 WPL6/ WP3, WP5/11, A403, 304/304L, 326/316L, P5-P11, WPHY A860X42-X80
Valves	CS Forged (#800 to #1500), CS-Casting (#150 to #900)	Upto-2" Upto-86"	A105/A182 Gr. 316//316L/304/304L A216WCB/A351CF3/CF3M/CF8/CF8M
Gaskets	Metallic Spiral Wound	Upto-60" Upto-60"Flanges	A182-304/304L316/316L (Winding & Gasket Rings)
	Ring Gasket (Oval/Octagonal) None- Metallic, CNAF/Gasket Sheets	Upto-60"	Non-Asbestos-Gasket Sheets
Stud Bolts	CS-High & Low Temp	1/8"-4"	Bolts A193 B7/B7M A320 L7/GR4, B8/8M, L7M/ & Nuts-A194 2H/2HM

Standard materials are available in stock, other high strength materials are supplied as per project requirement. In addition, exotic materials can be supplied on requirement basis.

Product	Type	Range	Grade
Pipes	C.S-Ferritic Alloys	Upto-24"	ASTM A335 Gr. P1/P2/P5/P9/P11/P12/
	CS-Low Temp	Upto-24"	ASTM A333 Gr. 3
	Stainless Steel	12"(Seamless) 10"-36"(Welded)	ASTM A312 TP 321/347 ASTM A358 TP 304/ 304L316/316L
	Duplex/Super Duplex	½"-8" (Seamless) 8"-24"(Welded)	ASTM A790 ASTM A928
	Special Alloy/ Nickel - Titanium Alloys.	½"-8" (Seamless) 8"-24"(Welded)	Nickel 200/Nickel 201/ Monel-400/Monel-600
Flanges	Alloy/CS/SS-High Temp/Low Temp	Upto-24"	Alloy Sheet-A182 F1,F2, F5 CS-Low Temp- A350 Lf3 Class-1&2 SS-A182 F321/F347 Duplex F51/F53/ &(Ni-Ti Alloys)
Fittings	Alloy/CS/SS-High Temp/Low Temp	Upto-24"	ASTM A815 UNS 31803/UNS 32750
Valves	Cast & Forged	Upto-24"	Various combinations of Body Material & Trim.

F O O L A D T E J H I Z A T C O

شرکت فولاد تجهیزات صانع با شماره ثبت ۴۷۸۳۶۵ با انگیزه انجام کلیه خدمات فنی ، بازرگانی و تامین کالا و خدمات پیمانکاری در کلیه پروژه های صنعتی در حال احداث، خصوصا در حوزه نفت، گاز، پتروشیمی، نیروگاهی و آب و فاضلاب تاسیس گردید. این شرکت از بدو تاسیس تا کنون توانسته است با بهره گیری از دانش روز به پشتوانه مدیران حرفه ای خود با بیش از ۲۰ سال تجربه و انجام حدود ۳۰ پروژه نفتی ، پتروشیمی و نیروگاهی و فولاد سازی در قالب مدیریت تامین تجهیزات با پیمانکاری اصلی پروژه و با بهره مندی از نیروهای انسانی متخصص و مجرب، خدمات متفاوت در زمینه های تامین و واردات کالا و تجهیزات صنایع فولاد ، نفت ، گاز ، پالایش پتروشیمی ، آب و انرژی از وندورهای مورد تأیید خصوصا در بخش پاپینگ متریال و آهن آلات، تجهیزات برق و ابزار دقیق و ارائه خدمات مشاور فنی و مهندسی قرار دادی در این پروژه ها به انجام برساند .

همچنین این شرکت از طریق دفتر خارج از کشور خود در کشور عمان ، توانایی تامین و تجهیز انواع کالا را در خارج از ایران داشته و با ایجاد ساز و کار مطمئن شرایط تحویل آن را فراهم خواهد کرد.

با توجه به سابقه قابل قبول این شرکت در صنعت کشور در زمینه تامین تجهیزات صنعتی بزرگ نفت، گاز پتروشیمی و فولاد سازی ، برند و نام شرکت فولاد تجهیزات صانع در فهرست بلند AVL ثبت گردیده. همچنین این شرکت در فهرست منابع مورد تأیید سازمان توسعه و نوسازی معادن و صنایع معدنی ایران (شرکت ملی فولاد) ثبت گردیده است.

شرکت فولاد تجهیزات صانع مفتخر است با استفاده از تیم مجرب و متخصص خود در بخشهای مختلف مکانیکال (تجهیزات ثابت و دوار) الکتریکال و ابزار دقیق و آشنایی کامل با رویه های خرید و بازرسی پروژه های نفت ، گاز پتروشیمی ، نیروگاه و آبرسانی بر اساس درخواست مشتری و پس از بررسی فنی و مهندسی نسبت به اعلام قیمت اخذ تأیید ، سفارش گذاری ، پیگیری ساخت ، بازرسی و تحویل اقلام مورد سفارش از شرکت های تولید کننده داخلی و خارجی از وندر لیست های مورد تأیید کارفرما اقدام نماید.

SEAL VALVE

Materials

Carbon Steel, Stainless Steel, Alloy Steel, Nickel Alloys, Hastelloy, Inconel, Duplex , Super Duplex & other Austenic Steel Grades.

Types

Ball Valves / Gate Valves / Globe Valves / Check Valves / Butterfly Valves
Line break Valves / Safety relief valves / Choke Valves / Needle Valves
Control Valves & Actuators

Standards

in Accordance to API

Sizes

1/2" to 84", #150 -#2500 varying with material grades.

Body Materials

ASTM A216 WCB, WC6, WC7, ASTM A 105, ASTM A 182 F 304/304L
ASTM A 182 F316/316L, A351 CF3, A351 CF3M, A351 Cf8
A351 CF8M, ASTM A182 F11, ASTM A182 F22, etc.

S

Materials

Carbon Steel, Stainless Steel, Alloy Steel, Nickel Alloys, Hastelloy, Inconel, Duplex / Super Duplex & other Austenic Steel Grades.

E

Types

Seamless, Welded, ERW, EFW, SAW & LSAW with 2 Layer & 3 Layer PE Coating & Cement Lining.

P

Materials Grades

A106 GR. B/ A53 GR. B/ API -51 GR B, A 333 GR.3 & GR. 6,
SS A312 TP 304/304L, TP316/316L, F321,
API 5LX 42 unin 80 PSLI & PSL2, A335- &P91

Sizes

1/2" to 84" - varying with material Grades.

Schedules

SCH 10 Thru SCH XXS or Higher as per customer requirements.

Manufacturers Origin

Eastern Western Europe, Japan, South Korea, Russia, Ukraine & USA
India, china and other countries.

Certification

EN 10204, 3.1, Materials Conforming to NACE MR.OI .75 and related certification for customized products.

P

Standards

ASTM, ASME, API, BS, DIN, AFNOR, JIS, UNI, SIS, GOST

FORGED FITTINGS

Materials

Carbon Steel, Stainless Steel, Alloy Steel, Nickel Alloys, Hastelloy, Inconel, Duplex / Super Duplex & other Austenic Steel Grades.

Material Grades

ASTM A 105 N, ASTM A350 LF2/ LF3, SS A 182 F304/304L, 316/316L F 321, F5, F11, F22, F 91. F 42 to F 80

Types

Elbows (45 & 90) Degrees, Equal & Reducing Tees, Caps, Plugs. Bushings. Half & Full Couplings.O Lets,Swage Nipples, Hex, Nipples. Etc

Sizes

1/2 Thru 6"

Sizes

1/2 to 6"

Glass

3000 to 9000

Types

socket weld & thereaded

West European, South Korea & U.S.A.

EN 10204/3.1, Materials Conforming to NACE MR. 01.75

S E G N A L F

Materials

Carbon Steel, Stainless Steel, Alloy Steel, Nickel Alloys, Hastelloy, Inconel, Duplex / Super Duplex & other Austenic Steel Grades.

Types

Weld Neck, Blinds, Slip On, Threaded, Socket Weld, Orifice, Anchor. (RF, FF, RTJ) from Class 350 thru 2500 & API Flanges to API 6A type 68, Duplex and Chrome Molly up to 10,000 PSI

Materials Grades

ASTM A 105 N, ASTM A 350 LF2/LF3, F 304/F304L, AI 82 F5,F11, F22 F91,F316/316L, F51, ASTM A694 F42 upto PNIO, PN 5,16K, 10K, 20K 30K, 50K & API type 6A6-BX Flanges.

Sizes

1/2" to 84" and above for all grade materials, where 24" & above are available in ASME B16.47 Series A (MSS-SP44-) & Series 605), DIN/JIS/PN also available.

Manufacturers

European/South Korea / Iran / China

Certification

EN 10204/3.1, Materials Conforming to NACE MR. 01.75 and related certification for costumized products

GASKETS

Materials

Carbon Steel, Stainless Steel, Alloy Steel, Nickel Alloys, Hastelloy, Inconel, Duplex / Super Duplex & other Austenic Steel Grades.

Types

Spiral Wound, Ring Joint, OCT & OVAL Ring Joint, CAE CNAF, EPDM, Viton, Neoprene Rubber in accordance to ASME BI 6.20

Materials Grades

316,304, Soft Iron & C.S.

Manufacturers

European / Iran /china

Certification

EN 10204/3.1, Materials Conforming to NACE MR. 01.75 and related certification for customized products.

BUTT WELD FITTINGS

Materials

Carbon Steel, Stainless Steel, Alloy Steel, Nickel Alloys, Hastelloy, Inconel, Duplex / Super Duplex & other Austenic Steel Grades.

Material Grades

ASTM A234 WPB, ASTM A 420, WPL3/WPL6, ASTM A234 WP5, WP11, WP 22, WP96, A 403, 304/304L, 316/316L, ASTM A860, WPHY 42, Upto WPHY 80/MSS-SP-75

Types

ELBOWS (L.R & S.R) 45/90 & 180 Degrees, 1.5D, 3D, 5D, Equal & Un Equal Tees, Concentric & Eccentric Reducers, Caps From SCH STD to SCH XXS or higher as per customer requirments.

Sizes

1/2" to 84" - Varying with material Grades.



EXPANSION JOINTS

METAL EXPANSION JOINTS

SIZES : 3/4" TO 400"
TEMPERATURE 180 TO 800c°

RUBBER EXPANSION JOINTS

SIZES: 1 1/4" TO 60"
TEMPERATURE 20c° TO 100c°

FABRIC EXPANSION JOINTS

SIZES: ORDER MADE
TEMPERATURE 50c° TO 1100c°

BOLTS & NUTS

Materials

Carbon Steel, Stainless Steel, Alloy Steel, Nickel Alloys, Hastelloy, Inconel, Duplex / Super Duplex & other Austenic Steel Grades.

Types

Stud Bolts, Studs, Nuts, Anchor Washers, Eye Bolts, Screw, Cotter pin, Threaded Rod, Fine & Spares. Foundation | Bolt, J Bolt. L Bolt. U Bolt. Etc.

Materials Grades

B7/2H, 87M/2HM, L7 GR/4, GR8/8m and other Stainless Steel Grades.

Coting

PTFE, Flourocarbon coated

Manufacturers

European, South Korea, Iran

Fertification

EN 10204/3.1, Materials Conforming to NACE MR. 01.75 and related certification for costomized products.

Chaldane 11/15

NEEDLE VALVES

Integral Bonnet Needle Valves

Pressure rating up to 5000psi (340bar)@ 100°F(38°C)
Temperature rating: 65°F(-54 °C) to 450° F(232°C)
Ss316, Brass, and Alloy
In-Line or Angle pattern
Vee stem, Regulating stem, soft seat
Sizes: GPI 1/8 to 3/4 in.
Pipe Thread 1/8 to 1/2 in.

Integral Bonnet Bar Stock Needle Valves

Pressure rating up to 6000psi (413bar) @ 100°F (38°C)
Temperature rating: -65°F (-54°C) to 450°F(232°C)
Ss316, Alloy
Vee stem, Regulating stem, Soft seat
Sizes: GPI 1/4 to 1/2 in.
Pipe Thread 1/4 to 3/4 in.

Union Bonnet Needle Valves

Pressure rating up to 6000psi (413bar) @ 100°F (38°C)
Temperature rating: up to 572°F (300°C) with PTFE packing
up to 1200°F(649°C) with Grafoil packing
Standard SS316. optional Alloy 20. and Alloy C276
Non-rotating globe type stem tip
Sizes: GPI 1/8 to 1 in
Pipe Thread 1/8 to 1 in
S/W: 1/4 to 1/2 in

High Pressure Needle Valves

Pressure rating up to 10000psi (689bar) @ 100°F (38°C)
Temperature rating: -65°F (-54°C). to 450°F(233°C)
Ss316
PTFE packing on stem for leak tight seal and long life cycle
Sizes: GPI 1/8 to 1 in.
Pipe Thread 1/4 to 3/4 in.

INSTRUMENTATION FITTINGS

Tube Fittings

Available in Size: 1/16-2 in. and 2mm - 50mm
Compression type double female fittings
Roll threaded construction
Available configurations
Excellent vibration resistance
Excellent leak-tight sealing
Gaugeability and retighten
S316, Brass, Carbon Steel, Alloy 400

Bite Type Tube Fittings (DIN2353)

According to DIN2353 standard
Two cutting edge single ring design
Stainless Steel and Carbon Steel
Metric tube O.D

Bite Type Tube Fittings (JIS B2351)

According to JISB2351 Metric 24°c one
Single Ferrule design
Stainless steel and carbon steel

Instrument Thread Fittings

Size range from 1/8 to 2 inch piping
Standard S316 stainless steel and carbon steel
NPT, ISO/BSP, and SAE threads
According to ASME B31.1 & B31.3
Rolled male threads
Male threads are protected with cap
Exellent threads constructed to ensure leak-free & reliable system

SEAMLESS, WELDED, COIL TUBING

Tubes & Pipes for Heat Exchanger, Electricity Heater & Pressure Gauge
Material: 304/304L, 310L,310S, 316/316L, 317L, 321, 347, Duplex Nikel Alloy, Titanium (Sb338 Gr.1 ~5)

Dimension (mm)		Tolerance (mm)			
Out Diameter	Wall Thickness	Length	OD	WT	L
15.88~25.40	0.44~2.77	30,000	±0.10	±10%	-0 +3~12
25.40~38.10	0.723.68		±0.15		
38.10~50.80	1.10~5.70		±0.20		
50.80~63.50	1.48~7.94		±0.25		
63.50~76.20	2.47~9.69		±0.30		
Specification		ASTM A213, A249		JIS G3463	KS D3577

Clean Tubes for Sanitary appliances & Semi-Conductor Line
Material: 304/304L, 316/316L, Duplex

Dimension (mm)		Tolerance (mm)			
Out Diameter	Wall Thickness	Length	OD	WT	L
6.35~19.05	1~1.65	6,000	±0.05	±10%	-0 +5
25.40~38.1	1.65~1.65				
50.8~76.1	1.65~1.65				
101.60~	1.65~2.11		±0.08		
Specification		ASTM A269, A270	JIS G3447	KS D3585	

Tubes & Pipes for Ordinary Piping, Dairy, Food & Beverage Industry,
Material: 304/304L, 316/316L, DUPLEX(UNS S31803)

Dimension (mm)			Tolerance (mm)		
Out Diameter	Wall Thickness	Length	OD	WT	L
9.53~25.40	0.44~3.73	25,000	±10%	±0.70	-0 +5
25.40~48.26	1.65~5.08			±1.00	
48.26~60.33	1.65~5.54			±1.20	
Specification		ASTM A269, A249		JIS G3448	KS D3995

BALL VALVES

1000 Psi Ball Valves Pressure rating up to 1000psi (69bar) @ 100°F (38°C) Temperature rating: -65°F(-54°C) to 400°F(205°C) SS316, Brass Butterfly handle optional Sizes: GPI 1/4 to 1 in. Pipe Thread 1/4 to 1 in.	3000psi Ball Valves Pressure rating up to 3000psi (206bar) @ 100°F (38°C) Temperature rating: 50°F (10°C) to 150°F(65°C) SS316, Brass Sealing without system pressure Sizes: GPI 1/16 to 3/4 in. Pipe Thread 1/8 to 1/2 in
High Pressure Ball Valves Pressure rating up to 10.000psi (690bar) @ 100°F (38°C) Temperature rating: -22°F (-30°C) to 265°F (130°C) with PVDF Seat -65°F (-54°C) to 500°F (260°C) with PEEK Seat 55316 Panel mounting and locking device are available 2-way, 3-way Sizes: GPI 1/4 to 1 in./Pipe Thread 1/4 to 1 in.	DIN Type Ball Valves Pressure rating up to 7200psi (500bar) @ 100°F (38°C) Temperature rating: -4°F(-20°C) to 210°F(100°C) SS316 Sizes: Pipe Thread 1/4 to 2 in.

MANIFOLDS, DOUBLE BLOCK & BLEED VALVE

Gauge Root Valves Pressure rating up to 6000psi(413bar) @ 100°F (38°C) Temperature rating: -65°F(-54°C) to 50°F (232°C) SS316 Non-rotating globe stem tip Grafoil packing for high temperature available Standard gauge valve, longer body gauge root valve and extended 4" long body Multi-port designs and Block and Bleed style Sizes: Pipe Thread 1/2 to 3/4 in.	Manifolds Valves Pressure rating up to 6000psi (413bar) @ 100°F (38°C) Temperature rating: -65°F(-54°C) to 973°F(523°C) with Grafoil packing SS 316 2V, 3V and 5V as standard Remote or direct mounting Non-rotating globe stem tip
Double Block & Bleed Valve Pressure rating ASME 150, 300, 600, 900, 2500 JIS 10K, 20K, 30K, 40K, 63K End connection Flanged RF and RTJ Butt weld and socket weld Thread NPT and PT ** Other end connection to customer request Size: 1/4" up to 2" and larger Material Body: A105, F316, F304 Trim: T316, T304 Seat: ptfe, rtfe, nylon, peek, pctfe, carbon graphite **Titanium, monel, hastelloy, albc3 and other special materials are available to customer spec. Maximum working pressure: Lever, oval handle, electric or pneumatic actuator	

HYDRAULIC

- Hydraulic Fitting
- Hydraulic Adaptors
- Metric Din 24 Adaptors
- Pneumatic Fittings
- Quick Release Couplings
- Brass Fittings
- Valves
- Hydraulic Tube Assembly
- Metal Hose Assembly
- Hydraulic Hose Assembly
- Hose Clamps
- Tube Clamps
- Camlok Couplings
- Pneumatic Couplings
- Sae Flange Adaptors
- Metric Adaptors
- Npt Adaptors
- Jic Adaptors
- Orfs Adaptors
- Bsp Adaptors
- Nptf Inverted Flare,sae, Junction Hose Fitting
- Sae Flange Hose Fittings
- Pushlock & Reusable Hose Fittings
- Orfs Hose Fitting
- Crimp Ferrules
- Metric Din 24 Hose Fittings
- Bsp Hose Fittings
- Jic 37 Hose Fittings



SEMLEES, WELDED, COIL TUBING

Ultra precise Tubes & Pipes for Mechanical Parts, Automobile, Air-Pressure Cylinder,
Material: 304/304L, 316/316L, 317, 321, DUPLEX(UNS S31803)

Dimension (mm)		Tolerance (mm)			
Out Diameter	Wall Thickness	Length	OD	WT	L
3.18~15.88	0.70~3.20	10,000	±2%	±2%	-0 +5
15.88~48.26	0.89~5.08				
48.26~88.90	1.65~9.53				
88.90~141.30	1.65~7.62				
Specification		ASTM A269, A249	JIS G3447	KS D3585	

Irregular & Complex Tubes & Pipes for Precise Mechanical Parts
304/304L, 316/316L, DUPLEX(UNS S31803), Carbon Steel Tube, Copper Tube, Aluminum Tube

Dimension (mm)			Tolerance (mm)		
Out Diameter	Wall Thickness	Length	OD	WT	L
3.0~152.0	0.03~10.00	10,000	As the user wants		

Bending for U-TUBE, BANK-TUBE, FIN TUBE, ECONOMIZER TUBE, SUPER HEATER TUBE
Material: 304/304L, 316/316L, DUPLEX(UNS S31803), Carbon Steel Tube, Copper Tube, Aluminum Tube, H-Beam, I-Beam, Angle, Channel



DIMENSIONS OF SEAMLESS AND WELDED STEEL PIPE AS PER ANSI B36.10 AND B38.19

Measure ment in	Nominal pipe size	Out side dia	Sche dss*	Sch 10S*	Sch 10	Sch 20	Sch 30	Stand and t (40s)	Sch 40	Sch 60	Extra strong	Sch 80	Sch 100	Sch 120	Sch 140	Sch 160	XX strong
Inch	1/8"	0.405	-	0.049	-	-	-	0.068	0.068	-	0.095	0.095	-	-	-	-	-
mm	3	10.287	-	1.245	-	-	-	1.727	1.727	-	2.413	2.413	-	-	-	-	-
Inch	¼"	0.540	-	0.065	-	-	-	0.088	0.088	-	0.119	0.119	-	-	-	-	-
mm	6	13.716	-	1.651	-	-	-	2.235	2.235	-	3.023	3.023	-	-	-	-	-
Inch	3/8"	0.675	-	0.065	-	-	-	0.091	0.091	-	0.126	0.126	-	-	-	-	-
mm	10	17.145	-	1.651	-	-	-	2.311	2.311	-	3.200	3.200	-	-	-	-	-
Inch	½"	0.840	0.065	0.083	-	-	-	0.109	0.109	-	0.141	0.141	-	-	-	0.188	0.294
mm	15	21.336	1.651	2.108	-	-	-	2.769	2.769	-	3.734	3.734	-	-	-	4.775	7.468
Inch	¾"	1.050	0.065	0.083	-	-	-	0.113	0.113	-	0.154	0.154	-	-	-	0.219	0.308
mm	20	26.670	1.651	2.108	-	-	-	2.870	2.870	-	3.912	3.912	-	-	-	5.563	9.093
Inch	1"	1.315	0.065	0.109	-	-	-	0.140	0.140	-	0.191	0.191	-	-	-	0.250	0.385
mm	25	33.401	1.651	2.769	-	-	-	3.556	3.556	-	4.851	4.851	-	-	-	6.350	9.093
Inch	1-1/4	1.660	0.065	0.109	-	-	-	0.140	0.140	-	0.191	0.191	-	-	-	0.250	0.382
mm	32	42.164	1.651	2.769	-	-	-	3.556	3.556	-	4.851	4.851	-	-	-	6.350	9.703
Inch	1-1/2"	1.900	0.065	0.109	-	-	-	0.145	0.145	-	0.200	0.200	-	-	-	0.281	0.400
mm	40	48.260	1.651	2.769	-	-	-	3.683	3.683	-	5.080	5.080	-	-	-	7.137	10.160
Inch	2"	3.375	0.065	0.109	-	-	-	0.154	0.154	-	0.218	0.218	-	-	-	0.344	0.436
mm	50	60.325	1.651	2.769	-	-	-	3.912	3.912	-	5.537	5.537	-	-	-	8.738	11.074
Inch	2-1/2"	2.875	0.083	0.120	-	-	-	0.203	0.203	-	0.276	0.276	-	-	-	0.375	0.552
mm	65	73.025	2.108	3.048	-	-	-	5.156	5.156	-	0.7010	0.7010	-	-	-	9.525	14.021
Inch	3"	3.500	0.083	0.120	-	-	-	0.216	0.216	-	0.300	0.300	-	-	-	0.438	0.600
mm	80	88.900	2.108	3.048	-	-	-	5.486	5.486	-	7.620	7.620	-	-	-	11.125	15.240
Inch	3-1/2"	4.000	0.083	0.120	-	-	-	0.226	0.226	-	0.318	0.318	-	-	-	-	-
mm	90	101.600	2.108	3.048	-	-	-	5.740	5.740	-	8.077	8.077	-	-	-	-	-
Inch	4"	4.500	0.083	0.120	-	-	-	0.237	0.237	-	0.337	0.337	-	0.438	-	0.531	0.670
mm	100	114.300	2.108	3.048	-	-	-	6.020	6.020	-	8.560	8.560	-	11.12 5	-	13.487	17.120
Inch	5"	5.563	0.109	0.134	-	-	-	0.258	0.258	-	0.375	0.375	-	0.500	-	0.625	0.750
mm	125	141.300	2.769	3.404	-	-	-	6.553	6.553	-	9.525	9.525	-	12.700	-	15.875	19.050
Inch	6"	6.625	0.109	0.133	-	-	-	0.280	0.280	-	0.432	0.432	-	0.562	-	0.719	0.864
mm	150	168.275	2.769	3.404	-	-	-	7.112	7.112	-	10.973	10.973	-	14.27 5	-	18.263	21.946
Inch	8"	8.625	0.109	0.148	-	0.250	0.277	0.322	0.322	0.406	0.500	0.500	0.594	0.719	0.812	0.906	0.875
mm	200	219.075	2.769	3.759	-	6.350	7.036	8.179	8.179	10.312	12.700	12.700	15.088	18.263	20.625	23.012	22.225
Inch	10"	10.750	0.134	0.165	-	0.250	0.307	0.365	0.365	0.500	0.500	0.500	0.719	0.844	1.000	1.125	1.000

DIMENSIONS OF SEAMLESS AND WELDED STEEL PIPE AS PER ANSI B36.10 AND B38.19

Measure ment in	Nominal pipe size	Out side dia	Sche dss*	Sch 10S*	Sch 10	Sch 20	Sch 30	Stand and t (40s)	Sch 40	Sch 60	Extra strong	Sch 80	Sch 100	Sch 120	Sch 140	Sch 160	XX strong
mm	250	273.050	3.404	4.191	-	6.350	7.798	9.271	9.271	12.700	12.700	15.088	18.263	21.43 8	25.400	28.575	25.400
Inch	12"	12.750	0.156	0.180	-	0.250	0.330	0.375	0.406	0.562	0.500	0.688	0.844	1.000	1.125	1.312	1.000
mm	300	323.850	3.962	4.572	-	6.350	8.382	9.525	10.312	14.275	12.700	17.475	21.438	25.40 0	28.575	33.325	25.403
Inch	14"	14.000	0.156	0.188	0.250	0.312	0.375	0.375	0.438	0.594	0.500	0.750	0.938	1.094	1.250	1.406	-
mm	350	355.600	3.962	4.775	6.350	7.925	9.525	9.525	11.125	15.088	12.700	19.050	23.825	27.78 8	31.750	35.712	-
Inch	16"	16.000	0.165	0.188	0.250	0.312	0.375	0.375	0.500	0.656	0.500	0.844	1.031	1.219	1.438	1.594	-
mm	400	406.400	4.191	4.775	6.350	7.925	9.525	9.525	12.700	16.662	12.700	21.438	26.187	30.96 3	36.525	40.488	-
Inch	18"	18.000	0.165	0.188	0.250	0.312	0.438	0.375	0.562	0.750	0.500	0.938	1.156	1.375	1.562	1.781	-
mm	450	457.200	4.191	4.775	6.350	7.925	11.125	9.525	14.275	19.050	12.700	23.825	29.362	34.92 5	39.675	45.237	-
Inch	20"	20.000	0.188	0.218	0.250	0.375	0.500	0.375	0.594	0.812	0.500	1.031	1.281	1.500	1.750	1.969	-
mm	500	508.800	4.775	5.537	6.350	9.525	12.700	9.525	15.088	20.625	12.700	26.187	32.537	38.10 0	44.450	50.013	-
Inch	22"	22.000	0.188	0.218	0.250	0.375	0.500	0.375	-	0.875	0.500	1.125	1.375	1.625	1.875	2.125	-
mm	550	528.800	4.775	5.537	6.350	9.525	12.700	9.525	-	22.225	12.700	28.575	34.925	41.27 5	47.625	53.975	-
Inch	24"	24.000	0.218	0.250	0.250	0.375	0.562	0.375	0.688	0.969	0.500	1.219	1.531	1.812	2.062	2.344	-
mm	600	609.600	5.537	6.350	9.525	14.275	9.525	9.525	17.475	24.613	12.700	30.963	38.885	46.02	52.375	59.538	-
Inch	26"	26.000	-	0.312	0.500	-	-	0.375	-	-	0.500	-	-	-	-	-	-
mm	650	660.400	-	7.925	12.700	-	-	9.525	-	-	12.700	-	-	-	-	-	-
Inch	28"	28.000	-	0.312	0.500	-	0.625	0.375	-	-	0.500	-	-	-	-	-	-
mm	700	711.200	-	7.925	12.700	-	15.875	9.525	-	-	12.700	-	-	-	-	-	-
Inch	30"	30.000	0.250	0.312	0.500	0.500	0.625	0.375	-	-	0.500	-	-	-	-	-	-
mm	750	762.000	6.350	7.925	12.700	12.700	15.875	9.525	-	-	12.700	-	-	-	-	-	-
Inch	32"	32.000	-	0.312	0.500	0.500	0.625	0.375	-	-	0.500	-	-	-	-	-	-
mm	800	812.800	-	7.925	12.700	12.700	15.875	9.525	-	-	12.700	-	-	-	-	-	-
Inch	34"	34.000	-	0.312	0.500	0.500	0.625	0.375	-	-	0.500	-	-	-	-	-	-
mm	850	863.600	-	7.925	12.700	12.700	15.875	9.525	-	-	12.700	-	-	-	-	-	-
Inch	36"	36.000	-	0.312	0.500	0.500	0.625	0.375	0.750	-	0.500	-	-	-	-	-	-
mm	900	914.400	-	7.925	12.700	15.875	9.525	19.050	-	-	12.700	-	-	-	-	-	-

EQUIVALENTS SPECIFICATIONS OF ASTM TO BRITISH, FRENCH, GERMAN, ITALIAN AND SWEDISH STANDARDS

MATERIAL	U.S. SPECIFICATIONS	BRITISH	FRENCH	GERMAN	ITALIAN	SWEDISH	NOTES
Carbon steel line pipe	API5L Seamless Grade A Grade B Electric resistance welded Grade A Grade B	BS. 3601 HFS 22 or CDS 22 HFS 27 or CDS 27	GAPAVE 411 A 37C A 42 C	DIN 1629 St 35 St 45	Aq 35 UNI 663C Aq 45 UNI 663C	SIS 1233-05 SIS 1434-05	1,2 3,4
		Electric resistance weldedBs 3601 Grade A Grade B	ERW 22 ERW 27	... ...	...	SIS 1233-06 SIS 1434-06	45
		Electric fusion welded Grade A Grade B	BS 3601 (Double welded) EFW 22 EFW 27	DIN 1626 Blatt 3st 34-2/ Fusion Blatt 4 st 37-2/welded	... ...	...	2,4 5
		Furnace butt Welded	BS 3601 BW 22	DIN 1626 Blatt st 34-2 Furnace butt welded	...	...	
Carbon steel pipe	ASTM A 53 Seamless Grade A Grade B Electric resistance welds Grade A Grade B Furnace butt Welded	BS. 3601 HFS 22 or CDS 22 HFS 22 or CDS 22	Gapave 411 A 37 C A 42 C	Din 1629 St 35 St 45	Aq35 Uni 663C SIS Aq45 Uni 663C SIS	1233-05 1434-05	1,2 3,4
		BS 3601 ERW 22 ERW 27 BS 3601 BS 22	... ... ... ... ...	Din 1626 Blatt 3 St 34-2 Electric St 37-2 Resistance welded Din 1626 Blatt 3 St 34-2 Furnace butt welded	... ... ... ... ...	... ... ... ... ...	4
Carbon steel boiler tube, seamless	ASTM A83	BS 3059/1 or 2	Gapave 211 A 37 C	Din 1629 St 35	...	... ...	4
Silicon-killed carbon steel pipe for high temperature Service	ASTM A 106 Grade A Grade B Grade C	BS 3602 HFS 23 HFS 27 HFS 35	Gapave 421 A 37 C A 42 C A 48 C	Din 1717 St 35.8 St 45.8	Aq35 Uni 663C SIS Aq45 Uni 663C SIS	1234-05 1435-05	2,3 4,6 Contd.

EQUIVALENTS SPECIFICATIONS OF ASTM TO BRITISH, FRENCH, GERMAN, ITALIAN AND SWEDISH STANDARDS

MATERIAL	U.S. SPECIFICATIONS	BRITISH	FRENCH	GERMAN	ITALIAN	SWEDISH	NOTES
Electric fusion welded steel pipe	ASTM A 134	BS 3601 EFW	...	Din 1626 Blatt 2 Electric furion welded	...	...	2,4
Electric resistance welded steel pipe	ASTM A 135 Grade A Grade B	BS 3601 ERW 22	... ...	Din 1626 Blatt 3 Din 34- Electric resis-2 St 37-2 tance welded	... ... ...	SIS 1233-06 SIS 1434-06	4
Electric fusion welded steel pipe	ASTM A 139 Grade A Grade B	BS 3601 EFW 22 ERW 27	... ... ...	Din 1626 Blatt 2 St 37 St 42	... ... ...	...	2,4
Electric fusion welded pipe for high temperature service	ASTM A 155 Class 2 C 45 C 50 C 55 KC 55 KC 60 KC 65 KC 70	 BS. 3602 EFW 28 ... BS. 3602 EFW 28S	... ... ... ... ... ... ...	Din 1626 Blatt 3mit Abnahmezeugnis C St 34-2 St 37-2 St 42-2 St 42-2 St-killed St 42-2 St-killed St 52-3 St 52-3	... ... ... ... ... ... ...	... ... ... ... ... ... ...	2,4 7,8
Austenitic stainless steel pipe	ASTM A 312 TP 304 TP 304H TP 304L TP 310 TP 316 TP 316H TP 316L TP 317 TP 321 TP 321H TP 347 TP 347H	BS 3605 Grade 801 Grade 811 Grade 801L Grade 805 Grade 845 Grade 855 Grade 845L Grade 846 Grade 822 Ti Grade 832 Ti Grade 822 Nb Grade 822 Nb	... ... ... ... ... ... ... ... ... ... ... ...	4301 ... 4306 4841 4401 4436 ... 4404 ... 4541 ... 4550 ...	X5CrNi189 ... X2 CrNi189 15CrNiSi2520 X5CrNiMo 1810 ... X2CrNiMo 1810 4541 X10CrNiTi189 4550 X10CrNiNb18.9	... X 8CrNi910 ... X3CrNi911 X25CrNi2520 X8CrNiD1712 X8CrNiTi1810 ... X8CrNiNb1811	... SIS 2333-02 ... SIS 2352-02 SIS 2361-02 SIS 2343-02 ... SIS 2353-02 ... SIS 2337-02 ... SIS 2338-02
Pipe for low temperature service	ASTM A333 Grade 1 Grade 3	BS 3603 27 LT 50 503 LT 100	... ... ...	0437 5637	SEW680TTS141 10N1 14	... ...	9 Contd...
	...	...	Gapave 222 Afnor 1503	Din 17175	15MO3	...	

EQUIVALENTS SPECIFICATIONS OF ASTM TO BRITISH, FRENCH, GERMAN, ITALIAN AND SWEDISH STANDARDS

MATERIAL		U.S. SPECIFICATIONS	BRITISH	FRENCH	GERMAN	ITALIAN	SWEDISH	NOTES	
Samples ferritic alloy pipe for elevated temperature tube service	ASTM A335	P1	...	...	WSN5423	16MO5	...	...	
		P2	...	Afnor 15CD2-05	...	...	...	...	
		P12	HF620 or CD 620	...	Din17175	13CrMo44	...	SIS 2216-05	
		P11	HF621 or CD 621	Afnor 10CCD5-05	...	...	...	...	
		P22	HF622 or CD 622	Afnor 10CCD9-10	DIN17175	13CrMo44	...	SIS2216-05	
	ASTM B241	P5	HF625 or CD 625	...	...	...	...	...	
		P9	...	Afnor Z10CD9	...	...	SIS2203-05		
Aluminium alloy pipe		303 h112	...	...	Din 1746 A1 MnF10	...	...		
		5154 H112	BS 1471NT5 or	...	Din 1746 A1 Mg3F8	...	...		
		...	BS 1474NT5	...	...	...	...		
		6061 T6	BS 1471 HT 20WP	...	Din 1746 A1 MgSi 1F32	...	...		

Notes:

1. For pipe fabricated to ASA B 31.3 steel should be specified to be open hearth, electric furnace or basic oxygen. Alternatively, Thomas steel is acceptable if fully killed or if it meets the following composition requirements:
S 0.05% max , P 0.05% max, N 0.009% max .2. Ramming steel is not acceptable for seamless or fusion welded pipe.
3. Analysis and test certificates are required.
4. Above 650°F use mechanical properties quoted in the appropriate national standard as a basis for design in critical applications.
5. For British and Swedish standard welded pipe supplied as equivalent to API 5L Grade B specify:
"Welded seams to be non- destructively tested in accordance with para. 11.5 and 11.6 of API 5L. Din 1626 Blatt 4 already requires an equivalent degree of testing.
6. Specify "Silicon-killed" for Gapave 421, Din 17175 and UNI 663.
7. Above 1000°F use mechanical properties accepted be the national code-writing body as a basis for design in critical applications.
8. Din 1626 Blatt 4 may be used as equivalent to ASTM A 155 Class 1.
9. SEW Stahl - Eisen Werkstoffblatt.

ASTM DESIGNATION OF MATERIALS

MATERIAL	PLATE	PIPE	ELECTRIC FUSION WELDED PIPE	TUBES	CASTINGS	FORGINGS	WROUGHT FITTINGS	CLADDING
Carbon Steel	A-285-GR, A, B &C	A-53 GR, A&B	A-671 GR, CA-55 A-677 GR, A45- A65	A-214 (WELDED) A-179 (SEAMLESS)	A-216 GR, WCA, WCB & WCC	A-105 A-181 CL 60 OR70 A-266 CL I, II, OR III	A-234 GR, WPB	
Killed Steel	A-515 GR, 55- 70 A-516 GR, 55-70	A-106 GR, A&B	A-672 GR B55- B70 A-672 GR, C55- C70	A-179	A-216 GR, WCA, WCB & WCC	A-105 A-181 CL 60 OR 70 A-266 CL I, II, OR III	A-234 GR, WPB	
C-1/2 Mo	A-204 GR, A, B &C	A-335 GR, P1	A-691 GR, CM 65-CM75	A-209 GR, T1	A-217 WC1 GR	A-182 GR, F1A- 336 CL, F1	A-213 GR, T12	
1 Cr-1/2Mo	A-387 GR, 12	A-335 GR,P12	A-691 GR, 1Cr	A-213 GR, T12		A-182 GR, F12 A-336 CL, F12	A-234 GR,WP11	
1-1/4 Cr-1/2 Mo	A-387 GR, 11	A-335 GR, P11	A-691 GR, 1-1/4Cr	A-199 GR, T11 A- 213 GR, T11	A-217 GR, WC6	A-182 GR, F21 A-336 CL, F21	A-234 GR,WP22	
2-1/4 Cr-1Mo	A-387 GR, 22	A-335 GR, P22	A-691 GR, 2-1/4 Cr	A-199 GR, T22 A-219 GR, T22	A-217GR, WC9	A-182 GR, F22 A- 336 CL, F22	A-234 GR,WP22	
3Cr-1Mo	A-387 GR, 5 (Formerly A- 357)	A-335 GR, P21	-	A-199 GR, T11 A- 213 GR, T11	-	A-182 GR, F9 A- 336 CL, F9	-	
5 Cr-1/2 Mo	A-387 GR, 5 (Formerly A- 357)	A-335 GR, P5	A-691 GR, 9Cr.	A-199 GR, T5 A- 213 GR, T5	A-217 GR, C5	A-182 GR, F5 A- 336 CL, F5	A-234 GR,WP5	
9Cr-1Mo	A-387 GR, 9	A-335 GR, P9	A-691 GR, 9Cr	A-199 GR, T9 A-213 GR, T9	A-217 GR, C12	A-182 GR, F9 A- 336 CL, F9	A-234 GR,WP9	
12Cr-TP405	A-240 TP405	A-268 GR, TP405	-	A-268 GR, TP405	-	-	-	A-263
13 Cr-TP410	A-240 TP410	A-268 GR, TP410	-	A-268 GR, TP410	A-217 GR, C15	A-182 GR, F6 A- 336 CL, F6	-	A-263
13 Cr-TP410S	A-240 TP410S							A-263
17 Cr-TP430	A-240 TP430	A-268 GR		A-268 GR, TP430				A-263
18 Cr-8Ni-TP304	A-240 TP304	A-312 GR, TP304 A-376 GR, TP304	A-368 GR, 304	A-213 GR, TP304 A-249 GR, TP304	A-361 GR, CF8 A-744 GR, CF8	A-182 GR, F304 A-336 CL, F304	A-403 GR,WP304	A-264
18 Cr-8Ni-TP304L	A-240 TP304L	A-312 GR, TP304L	A-368 GR, 304L	A-213 GR, TP304L A-249 GR, TP304L	A-361 GR, CF3 A-744 GR, CF3	A-182 GR, F304L A-336 GR, F304L	A-403 GR,WP304L	A-264