

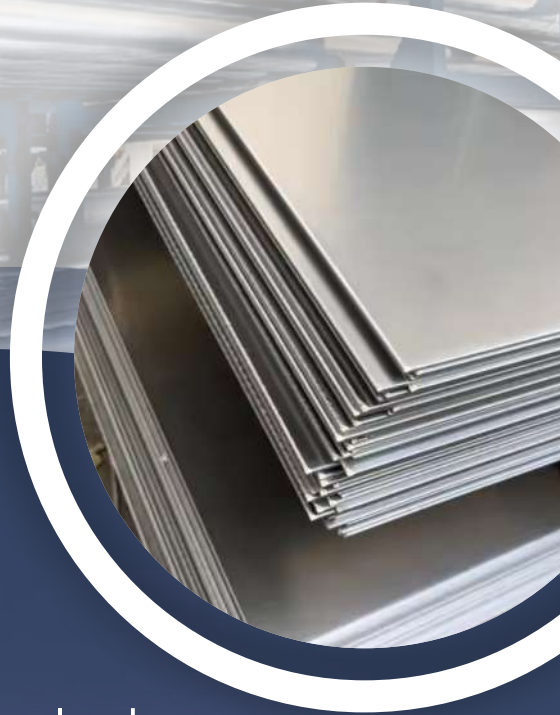


MSME
सूक्ष्म, लघु एवं मध्यम उद्यम
MICRO, SMALL & MEDIUM ENTERPRISES
UDYAM-MH-19-0134777

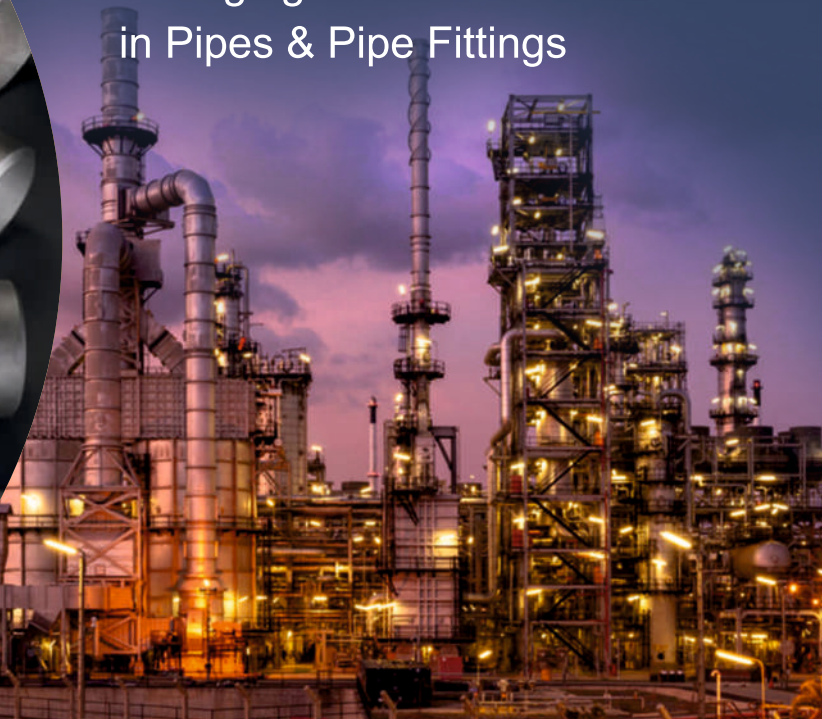


SANJAY METAL

AN ISO 9001:2008 Certified Company



Emerging leader
in Pipes & Pipe Fittings





SANJAY METAL

AN ISO 9001:2008 Certified Company

Introduction

Sanjay Metal is reputed Manufacturer, Importer, Exporter, Stockist, & Suppliers of a comprehensive range of Industrial Product. We supply Stainless Steel, Sheet, Plate, Coil, Pipe, Angle, Channel, Pipe Fitting, Forged Fitting, Rod Bar, Wire Mesh, Nut-Bolts, Copper, Brass, Aluminum, Nickel, Copper- Nickel, Haste Alloy, Monel, Titanium, Inconel, etc. Besides, we import Stainless Steel Sheet, Coil, Plates, Coil, Plates, Pipes, etc. and Supply Ferrous and Non-Ferrous Industrial Raw Material.

All our products meet the international specification for quality and other related norms of the industry. Our products are highly efficacious as well as very reliable, which offers consistent performance for longer period of time. The products, served by us, are used in various industries like sugar mill, Fertilizer industry, Cement Plants, Paper Mills, Petrochemical Plants, Refineries, Glass Industries, Wood Industries, Steel Plants etc. We offer our products in tamper proof packaging to assure completely safety during transit.

Stainless Steel Grade: AISI 201, 202, 202CU, 304, 304H, 304N, 304LN, 3095, 309H, 309Cb, 309HCB, 3105, 310H, 310 CB, 310HCB, 316, 316L, 316H, 316N, 316LN, 317, 317LN, 321, 321H, 347, 347H, 347LN, 348, 348H, 904, 904L etc.

Non Ferrous Metals

Sanjay Metal has an immense pleasure in introducing itself as an estiment organisation that is tagged as one of the leading Stockiest and Suppliers of Ferrous and Non-Ferrous. We provide Non Ferrous Metals in varied forms and shape for the convenience of clients. Monel, Nickel, Inconel, Hastalloy, Copper, Bronze, Titanium, Tantalum, Aluminum, Nickel, HCHCR

Products Offered By Us Include

- Carbon Steel products
- Alloy Steel Products
- Nickel Alloy Products
- Copper Alloy Products

Quality Assurance

We adhere to various quality parameters to provide the best quality products to the clients and in specified time. We never compromise with the quality and keep stringent checks on the Products to offer only flawless products. We obtain products from the reliable sources, which check the quality of products on various measures from procurement to the packaging and they give guaranty of premium quality of products.

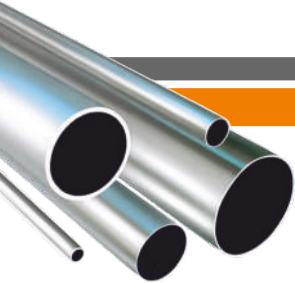
Customer satisfaction is the prime aim of our company and we strive harder to achieve it. Our dedicated team fulfills small as well as bulky requirement of our client within specified time.

Our Values

Commitment to complete customer satisfaction - The customer is at the center of every ewe do. Complete customer satisfaction in terms of products, Services and punctuality-is our bottom line.

Compete product selection - We have got specialised experience and product knowledge, the variety of products in the range of sizes.

Quality Management Our Quality management system is as per the national & international standards. Our Products quality is consistently higher than industry specifications.



SANJAY METAL

AN ISO 9001:2008 Certified Company

Pipes & Tubes



Pipes

Stainless Steel & Duplex Steel Pipe

Size	: ½" to 30"
Schedule	: Sch. 5 to Sch. XXS
Stainless Steel	: ASTM A312, A358 - TP 304/304H/304L/316/316H/316L/316Ti/309/310/317/317L/321/347/904L
Duplex Steel	: ASTM A790 - UNS S31803, S32750, S32760, S32205

Alloy Steel, Carbon Steel & LTCS Pipe

Size	: 1/2" to 36"
Schedule	: Sch. 5 to Sch. XXS
Alloy Steel Pipe	: ASTM A335 Gr. P5, P9, P11, P12, P22 & P91
Carbon Steel	: ASTM A 106 Gr. B ASTM A53
Low Temp. Pipe	: ASTM A 333 Gr. 6
Line Pipe	: API 5L, X 42, 46, 52, 56, 60, 70
Mild Steel & Galvanized Pipe	: IS 1239, IS 3589

Copper & Nickel Alloys Pipe

Size	: ½" NB to 10" NB
Standard	: 10S/40S/80S
Copper Nickel	: C70600 (90:10), C71500 (70:30), C71640
Nickel	: UNS N02200, N02201
Monel	: UNS N04400, N05500, Alloy 20
Inconel	: UNS N06600, N06601, N06625, N08800, N08810, N08825
Hastelloy	: UNS N10276, N06022, N10665, N06455

Tubes

Size	: 6 mm OD to 219.08 mm OD
Thickness	: 0.6mm-10mm-Gauge : 22 SWG/BWG to 10 SWG/BWG
Form	: Round, Square, Rectangle, Coil, 'U' Shap
Length	: Standard Length & Cut Length
Stainless Steel Tube	: ASTM A-213, A-249, A269-TP 304/304H/304L, 316/316H/316L/316Ti, TP 309, 310, 317L, 321, 347, 904 L etc.
Duplex Steel	: ASTM A790 - UNS S31803, S32750, S32760, S32205
Low Alloy Steel Tube	: ASTM A 213 - T-11, T-12, T-22, T-5, T-9 etc.
Carbon Steel Tube	: BS 3059 Gr. 360 / 440, SA 179, SA / ASTM A210 Gr. A1
Copper Nickel Tube	: ASTM B111, C70600 (90:10), C71500 (70:30), C71640
Admiralty Brass Tube	: ASTM B 111 C44300, C44400, C44500, C68700
Copper & Brass Tube	: ASTM B 188 C11000, C12200, C26000, C27000, C28000
Nickel Alloy Tube	: Nickel, Monel, Inconel, Alloy 20 etc.
Specialize	: Capillary Tube, IBR Tubes, Copper Nickel Tube

Titanium

Specification	: B861, B862, B338
Grade	: Gr. 1, R 55250 (CP4), Gr. 2 R 50400 (Cp3) Gr. 3 50550 (Cp2), Gr. A 50700 (Cp1) Gr. 7 52400, Gr. 11 R 52250

Type :- Nominal Size Pipe | OD Size Pipe | Square Pipe

Mill Test Certificate

EN 10204 3.1/3.2
NACE MR0175





SANJAY METAL

AN ISO 9001:2008 Certified Company

Butt Weld Fittings



Stainless Steel & Duplex Steel

Stainless Steel : ASTM A 403 WP - 304/304H/304L/316/316H
316/316Ti, 309, 310, 317L, 321, 347, 904L

Duplex & : Standard
Super Duplex : ASTM A815 - UNS S31803, S32205 (2205)
Lean
ASTM A815, 790 - UNS S32304 (2304)
Super Duplex
ASTM A815, 790 - UNS S32750 (2507)
UNS S32760 (Zeron 100)

Hi-Nickel & Titanium

Hi-Nickel

Cupro Nickel : ASTM B 171 C70600 (90:10),
ASTM B 171 C71500 (70:30)
Nickel : ASTM B 366 N02200, N02201
Monel : ASTM B 366 N04400, DIN N05500
Inconel : ASTM B 366 N06600, N06601, N06617
ASTM B 366 N07718
ASTM B 366 N06625
Incoloy : ASTM B 366 N08800, N08810
ASTM B 366 N08825
ASTM B 366 N08020
Hastelloy : ASTM B 366 N10276, N06022
ASTM B 366 N10665
ASTM B 366 N06455

Types

Short Radius Elbow	End Cap
Long Radius Elbow	Concentric Reducer
Return Bend	Eccentric Reducer
Equal, Tee, Reducing Tee	Lap Joint Stub End

Alloy Steel & Carbon Steel

Alloy Steel : ASTM A 234 WPB WP5, WP9, WP11,
WP12, WP91
Carbon Steel : ASTM A 234 WPB, IS 1239 PART II
Low Temp. CS : ASTM A-420 WPL6
Other Service : Hot Dip Galvanizing, Sand Blasting

Cupro Nickel

ASTM B 171 C70600 (90:10),
ASTM B 171 C71500 (70:30)

Monel

ASTM B 366 N04400
DIN N05500

Size

Pipes : ½" to 30"
Schedule : Sch. 5 to Sch. XXS

Titanium

Commercially : ASTM B 363
Pure : Gr.1 R 56250 (CP4) Gr.2 R 50400 (CP3)
Gr.3 R 50550 (CP2) Gr.4 R 50700 (CP1)
Gr.7 R 52400 Gr.11 R 52250
Alloys : ASTM B 363
Gr.5 R 56400 (6Al-4V)
Gr.23 R 56401 (6Al-4V-ELI)
Gr.12 R 53400

Mill Test Certificate

EN 10204 3.1/3.2
NACE MR0175

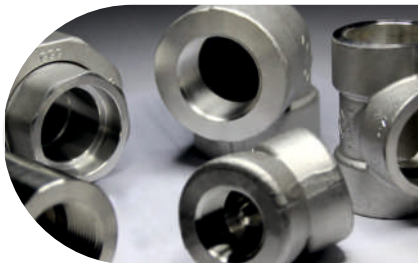




SANJAY METAL

AN ISO 9001:2008 Certified Company

Forged Fittings



Size

Size : 15NB To 100NB (Socket Weld & Threaded)
Class : 3000#, 6000#, 9000#, In ANSI B 16.11

Stainless Steel & Duplex Steel

Stainless Steel : ASTM A 182F - 304/304H/304L/316/316H
316/316Ti, 309, 310, 317L, 321, 347, 904L

Duplex & : ASTM A 182 - F51, F53, F55
Super Duplex

Hi-Nickel & Titanium

Hi-Nickel

Nickel : ASTM B 564 N02200, N02201
Inconel : ASTM B 564 N06600, N06601, N06617
ASTM B 564 N07718
ASTM B 564 N06625
Incoloy : ASTM B 564 N08800, N08810
ASTM B 564 N08825
ASTM B 564 N08020
Hastelloy : ASTM B 564 N10276, N06022
ASTM B 564 N10665
ASTM B 564 N06455

Types

Elbow (45 & 90 Deg)	Coupling
Tee	Cap
Union	Plug
Cross	Bushing
Swage Nipple	Boss

Titanium

Commercially : ASTM B 381
Titanium Pure : Gr.1 R 56250 (CP4) Gr.2 R 50400 (CP3)
Gr.3 R 50550 (CP2) Gr.4 R 50700 (CP1)
Gr.7 R 52400 Gr.11 R 52250

Titanium Alloys : ASTM B 381
Gr.5 R 56400 (6Al-4V)
Gr.23 R 56401 (6Al-4V-ELI)
Gr.12 R 53400

Cupro Nickel

ASTM B 171 C70600 (90:10),
ASTM B 171 C71500 (70:30)

Monel

ASTM B 564 N04400
DIN N05500

Alloy Steel & Carbon Steel

Alloy Steel : ASTM A 234 WPB WP5, WP9, WP11,
WP12, WP91
Carbon Steel : ASTM A 234 WPB, IS 1239 PART II
Low Temp. CS : ASTM A-420 WPL6
Other Service : Hot Dip Galvanizing, Sand Blasting

Inconel®, Incoloy®, Monel®, Hastelloy®, Duplex®
are Registered Trade Marks of their Respective Owners.

Mill Test Certificate

EN 10204 3.1/3.2
NACE MR0175

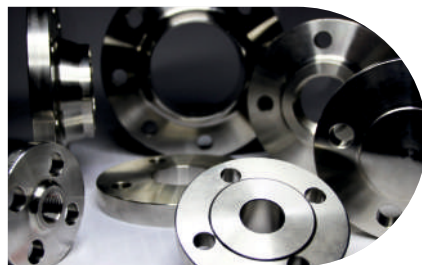




SANJAY METAL

AN ISO 9001:2008 Certified Company

Flanges



Stainless Steel & Duplex Steel

Stainless Steel : ASTM A 182F - 304/304H/304L/316/316H
316/316Ti, 309, 310, 317L, 321, 347, 904L

Duplex & Super Duplex : ASTM A 182 - F51, F53, F55

Alloy Steel, Carbon Steel & LTCS Pipe

Alloy Steel : ASTM A 234 WPB WP5, WP9, WP11, WP12, WP91

Carbon Steel : ASTM A 234 WPB, IS 1239 PART II

Low Temp. CS : ASTM A-420 WPL6

Other Service : Hot Dip Galvanizing, Sand Blasting

Hi-Nickel & Titanium

Hi-Nickel

Nickel : ASTM B 564 N02200, N02201

Inconel : ASTM B 564 N06600, N06601, N06617
ASTM B 564 N07718
ASTM B 564 N06625

Incoloy : ASTM B 564 N08800, N08810
ASTM B 564 N08825
ASTM B 564 N08020

Hastelloy : ASTM B 564 N10276, N06022
ASTM B 564 N10665
ASTM B 564 N06455

Cupro Nickel & Monel

Copper Nickel : ASTM B171 C70600 (90:10),
ASTM B171 C71500 (70:30)

Monel : ASTM B127 N04400
DIN N05500

Size : 1/2"NB to 48"NB, ANSI B 16.5

Class : 150#, 300#, 600#, 900#, 1500#, 2500#,
in ASA 150 & ASA 300

Titanium

Commercially Pure : ASTM B 381 Gr.1 R 56250 (CP4)
Gr.2 R 50400 (CP3) Gr.3 R 50550 (CP2)
Gr.4 R 50700 (CP1) Gr.7 R 52400
Gr.11 R 52250

Alloys : ASTM B 381 Gr.5 R 56400 (6Al-4V)
Gr.23 R 56401 (6Al-4V-ELI)
Gr.12 R 53400

Types

Plate Blank Flange	Slipon Flange
Weldneck Flange	Socketweld Flange
Long Weldneck Flange	RTJ Flange
Screwed Flanges	Spectacle Flange
Blind Flange	Large Flange
Threaded Flange	Deck Flange
Lap Joint Flange	Reducing Flange
Oriface Flange	

Inconel®, Incoloy®, Monel®, Hastelloy®, Duplex®
are Registered Trade Marks of their Respective Owners.

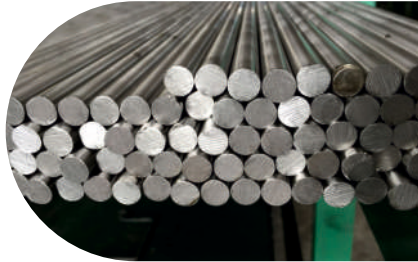




SANJAY METAL

AN ISO 9001:2008 Certified Company

Round Bar



Size :

Bright Bars	: from 5mm Dia upto 350mm Dia
Black Bars	: from 16mm Dia upto 350mm Dia
Square Bars	: from 5mm Dia upto 250mm Dia
Hex Bars	: from 5mm Dia upto 150mm Dia

Specification :

Condition	: Rolled, Forged, Annealed, Picked, Hot Rolled, Cold Roll
------------------	--

Welding Filler Wire :

Nickel Alloys	: 201/200
Monel Alloy	: 400/K-500
Inconel	: 600, 601, 625, 825, 800 / 800H/ 800HT
Hastalloy	: C22, C276, B-2000
Titanium	: Gr. 1, 2, 5, 7, Tantalum SMO 254, Alloy - 904L, Alloy 20, Alloy 330, etc.
Types	: Elbow, Tee, Reducer, Cap, Return Bends, Stub-Ends, Collar, Cross, Insert etc.
Size	: 1/4" NB to 4" NB.
Class	: 3000#, 6000#, 9000#.

Grades :

Stainless Steel	: 304/304, 316/316L/316Ti, 321, 310/310S, 317/317L, 347, 17-4 Ph. 15-5Ph, 904L, 410, 420, 430, 431, 430F, 416, 440C etc. Copper, Brass, Aluminium, Hastalloy, Titanium, Monel, Inconel, Nickel, etc.
Duplex Steel	: UNS 31803, UNS 32205, UNS 32760
Alloy Steel	: F5, F9, F11, F22, F91 Carbon Steel, Mild Steel, Boiler Quality Plates
Specification	: ASTM, AISI, ASME, DIN, UNS etc.

Types

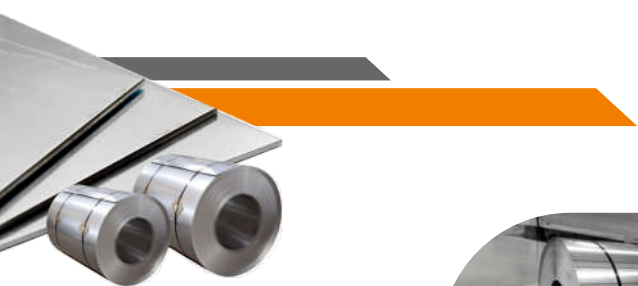
Round Bar / Rod	Tee Bar
Square Bar	Flat Bar
Hexagonal Bar	Angle / Channel Bar

Inconel®, Incoloy®, Monel®, Hastelloy®, Duplex®
are Registered Trade Marks of their Respective Owners.

Mill Test Certificate

EN 10204 3.1/3.2
NACE MR0175

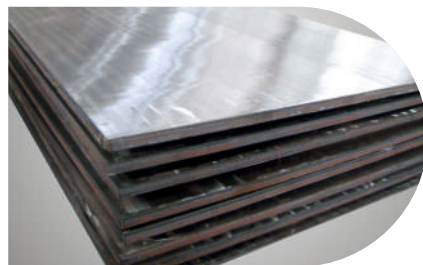
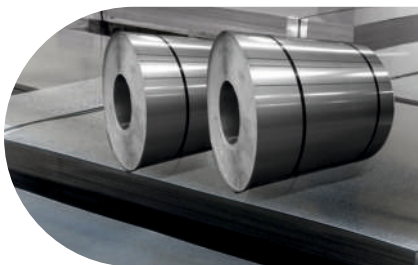




SANJAY METAL

AN ISO 9001:2008 Certified Company

Sheet, Plate & Coils



Stainless Steel & Duplex Steel

Stainless Steel	: ASTM A240 304/304L/316/316L/316Ti/ 309/310/317/317L/321/347/409/410/ 430/904L/SMO 254 / AL6XN
Duplex & Super Duplex	: Standard ASTM A240 - UNS S31803/S32205 (2205) Lean ASTM A240 - UNS S32304 (2304) Super Duplex ASTM A240 - UNS S32750 (2507) ASTM A240 - UNS S32760 (Zeron 100)

Alloy Steel, Carbon Steel / Mild Steel

Alloy Steel Pipe	: ASTM A387 Gr. 11, 12, 22, 5, 91 (CL 1/2)
Carbon Steel	: ASTM A 36 S275 JR IS 2062 Gr. A/B

Aluminium

ASTM B 928 5083 (A95083), 5086 (A95086), 5052 (A95052) T6061 (A96061)

Spring Steel Coils

CR C55, C80, C62, C45

Quenched & Tempered

ASTM A537 CL.1 & 2

Boiler Quality

SA 516 Gr. 70

Hardox

Hardox 400 / 500

Hi-Nickel & Titanium

Hi-Nickel

Nickel	: ASTM B162 N02200, N02201
Inconel	: ASTM B 168 N06600, N06601, N06617 ASTM B 670 N07718 ASTM B 443 N06625
Incoloy	: ASTM B 409 N08800, N08810 ASTM B 424 N08825 ASTM B 462 N08020
Hastelloy	: ASTM B 575 N10276, N06022 ASTM B 333 N10665

Cupro Nickel

ASTM B171 C70600 (90:10), C71500 (70:30)

Monel

ASTM B127 N04400, DIN N05500

Size

Sheets	: 0.8mm to 4mm thk. in 1000 upto 2000 mm Width & 2000 upto 6000 Length
Plates	: 5mm to 100 mm thk. In 1000 upto 2000 mm Width & 2000 upto 8000 Length
Coils	: 0.1 mm thk. to 12mm thk. in 10mm upto 1500 Width
Foils	: 0.01 mm thk. to 0.3 mm thk. in any width
Strips	: 1mm thk. to 100 mm thk. in 10 mm upto 900 mm Width & 1000 upto 6000 Length

Titanium

Commercially Pure	: ASTM B 265 Gr.1 R 56250 (CP4) Gr.2 R 50400 (CP3) Gr.3 R 50550 (CP2) Gr.4 R 50700 (CP1) Gr.7 R 52400 Gr.11 R 52250
Alloys	: ASTM B 265 Gr.5 R 56400 (6Al-4V) Gr.23 R 56401 (6Al-4V-ELI) Gr.12 R 53400

Finish

HR No.1, 2B, BA, Matt, Matt+1 side PVC,
BA + 1side PVC, Chequered

Types

Sheet, Coil, Plate,
Strip, Cut Piece Sheet / Plate

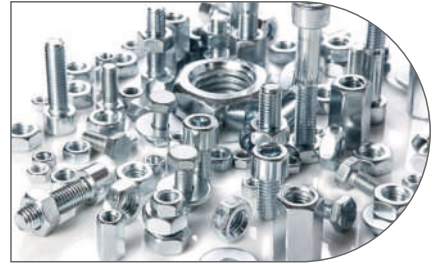




SANJAY METAL

AN ISO 9001:2008 Certified Company

Tube Fitting & Fasteners



TUBE FITTING

Size	: 1/16" to 2 1/2"
Type	: Union tee, Female tee, Branch tee, Run tee, Male connector, Female connector, Elbow, 3 Bulk Head Union, Reducing Union, OD Cap, OD plug.
SS Tube fittings	: Gr. 304, 304H, 309, 310, 316, 316L, 317L, 347, 321, 904L
Duplex S S Tube Fittings	: UNS N031803, N032750, N032760
CS Tube Fittings	: A105
AS Tube Fittings	: Gr. 5, Gr.9, Gr.11, Gr.12, Gr.22, Gr.91
Cu Ni Tube Fittings	: C 70600 (90:10), C71500 (70:30)
Nickel	: UNS N02200, N02201
Monel	: UNS N04400, N05500, Alloy 20
Inconel	: UNS N06600, N06601, N08800, N08810, N08825
Hastelloy	: UNS N10276, N06022, N10665, N06455
Other Services	: Silver Plating
Specialize	: Double compression fitting, Ball Valve, Needle, Check.

Types

Union tee	Male Connector	Reducing union
Female tee	Female Connector	OD cap
Branch tee	Elbow	OD plug
Run tee	Bulk head union	

FASTENERS

Material	: Stainless Steel / Duplex / Super Duplex / Nickel Alloy / Carbon Steel / Alloy Steel
Standard	: ASTM / ASME / ANSI / AISI / DIN
Grade	: 202, 304L, 316L, 317L, 321, 347, 310, 410, 420, 904L, 2205, 2507, Monel, Inconel, Hastelloy, Titanium etc.
Types	: Bolts, Nuts, Washers, Anchor Fasteners, Stud Bolts, Eye Bolt, Stud, Threaded Rod, Cotter Pin, Socket Screw, Fine Fasteners & Spares etc.
Size	: M2 to M100

Types

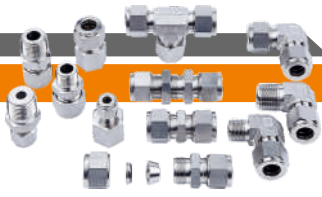
Bolts	Stud Threaded Rod
Nuts	Cotter Pin
Washers	Socket Head Screw
Anchor Fasteners	Fine Fasteners & Spares
Stud Bolts	Foundation
Eye Bolts	Fasteners

Inconel®, Incoloy®, Monel®, Hastelloy®, Duplex® are Registered Trade Marks of their Respective Owners.

Mill Test Certificate

EN 10204 3.1/3.2
NACE MR0175





SANJAY METAL

AN ISO 9001:2008 Certified Company

SS Instrumental Ferrule Fittings



Size : 1 / 16" to 2

SS Tube Fittings : Gr. 304, 304H, 309, 310, 316, 316L, 317L, 321, 347, 904L

Duplex SS Tube Fittings : UNS N031803, N032750, N032760

CS Tube Fitting : A105 AS

Tube Fittings : Gr. 5, Gr.9, Gr 11, Gr. 12, Gr. 22, Gr. 91

Cu Ni Tube Fitting : C70600 (90:10), C71500 (70:30)

Nickel : UNS N02200, N02201

Monel : UNS N04400, N05500

Alloy 20 Inconel : UNS N06601, N06022, N08800, N08810, N08825

Hastelloy : UNS N10276, N06022, N10665, N06455

Other Services : Silver Plating

Specialize : Double Compression Fitting, Ball Valve, Needle, Check

TYPES

Union Tee	Male Connector	Reducing Union
Female Tee	Female Connector	OD Cap
Branch Tee	Elbow	OD Plug
Run Tee	Bulk Head Union	



Union Elbow



Male Elbow



Female Elbow



Union Tee



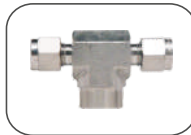
Male Run Tee



Male Branch Tee



Female Run Tee



Female Branch Tee



Union Cross



45 Deg. Elbow



Tube end Closure



Bulk Head Elbow



Positionable Male Elbow



Nut Ferrule



Union



Reducing Union



Bulkhead Union



Male Connector



Female Connector

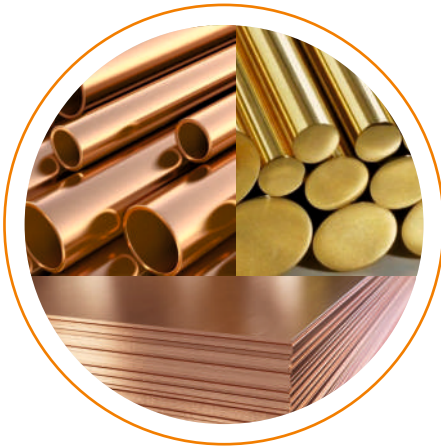


Male Adaptor



Valves

- Stainless Steel** : AISI 304, 304L, 316, 316L, 310, 317, 317L, 321, 347, 904L etc.
- Carbon Steel** : A105, A216, Gr. WCB, Cadmium Plated, Nickel, Chrome Plated etc.
- Non Ferrous Metal** : Copper, Brass, Titanium, Phosphorus Bronze etc.
- Types** : Ball Valve, Gate Valve, Check Valve, Needle Valve, Mini Valve, Gauge Rott Valve, Globe Valve, Manifolds (2 Way, 3 Way, 5 Way)



Copper, Brass, Aluminium, Coils, Sheets, Plates, Flats, Pipes, Rods

Copper : DHP Copper, ETP Copper, DPA Copper, OFHC Copper Tubes, 2mm OD to 200 mm OD with wall thickness of 0.10 mm to 15mm.

Brass : 63/37 Brass, 70/30, Brass Admitalty Brass, Aluminium & Other Composition of Brass.

Cupronickel : 95/5 Alloy & 70/30 Alloy

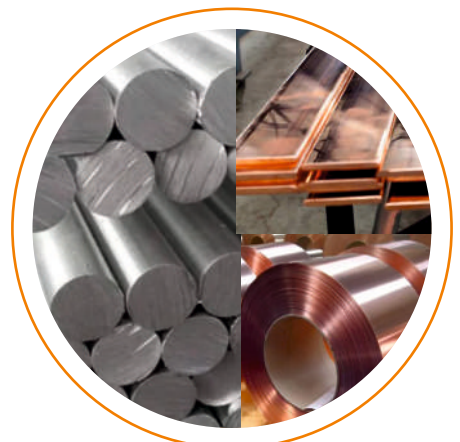
Bronze : Phosperous Bronze AB1 / B2, Aluminium Bronze & Gun Metal

IS Grade : Aluminium

19501, 19500, 19600, 19800, 19000, 24345, 24354, 31000, 43000, 46000, 51000, 52000, 53000, 54300, 55000, 65032, 63400, 64300, 62400, 63401, 74530 etc. Available in all size & thickness.

Testing Facilities

Chemical Analysis
Physical Testing
Hardness Facilities
Hydrostatic Testing
Pneumatic Testing
Stress Corrosion Testing
Dimensional Testing - Flattening,
Drift Test, Bend Tests etc.
NDT - Eddy Current Testing





STAINLESS STEEL PIPE DIMENSION & WEIGHT-KG. PER MTR. (ANSI B36.19)

Nominal Bore		Outside Diameter	Schedule 5S		Schedule 10S		Schedule 40S		Schedule 80S		Schedule 160S		Schedule XXS	
mm	INCH	mm	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)
3	1/8	10.3	1.24	0.276	1.24	0.28	1.73	0.37	2.41	0.47	-	-	-	-
6	1/4	13.7	1.24	0.390	1.65	0.49	2.24	0.631	3.02	0.80	-	-	-	-
10	3/8	17.1	1.24	0.490	1.65	0.63	2.31	0.845	3.20	1.10	-	-	-	-
15	1/2	21.3	1.65	0.800	2.11	1.00	2.77	1.27	3.75	1.62	4.75	1.94	7.47	2.55
20	3/4	26.7	1.65	1.03	2.11	1.28	2.87	1.68	3.91	2.20	5.54	2.89	7.82	3.63
25	1	33.4	1.65	1.30	2.77	2.09	3.38	2.50	4.55	3.24	6.35	4.24	9.09	5.45
32	1 1/4	42.2	1.65	1.65	2.77	2.70	3.56	3.38	4.85	4.47	6.35	5.61	9.70	7.77
40	1 1/2	48.3	1.65	1.91	2.77	3.11	3.68	4.05	5.08	5.41	7.14	7.25	10.16	9.54
50	2	60.3	1.65	2.40	2.77	3.93	3.91	5.44	5.54	7.48	8.74	11.1	11.07	13.44
65	2 1/2	73.0	2.11	3.69	3.05	5.26	5.16	8.63	7.01	11.4	9.53	14.9	14.2	20.39
80	3	88.9	2.11	4.51	3.05	6.45	5.49	11.30	7.62	15.2	11.1	21.3	15.24	27.65
100	4	114.3	2.11	5.84	3.05	8.36	6.02	16.07	8.56	22.3	13.49	33.54	17.12	41.03
125	5	141.3	2.77	9.47	3.40	11.57	6.55	21.8	9.53	31.97	15.88	49.11	19.05	57.43
150	6	168.3	2.77	11.32	3.40	13.84	7.11	28.3	10.97	42.7	18.2	67.56	21.95	79.22
200	8	219.1	2.77	14.79	3.76	19.96	8.18	42.6	12.07	64.6	23.0	111.2	22.23	107.8
250	10	273.1	3.40	22.63	4.19	27.78	9.27	60.5	15.08	96.0	28.6	172.4	25.40	155.15
300	12	323.9	3.96	31.25	4.57	36.00	9.52	73.88	17.45	132.0	33.32	238.76	25.40	186.97
350	14	355.6	3.96	34.36	4.78	41.3	11.13	94.59	19.05	158.08	35.71	281.70	-	-
400	16	406.4	4.19	41.56	4.78	47.29	12.7	123.30	21.41	203.33	40.46	365.11	-	-
450	18	457.2	4.19	46.80	4.78	53.42	14.27	155.80	23.8	254.36	45.71	466.40	-	-
500	20	508.0	4.78	59.25	5.54	68.71	15.09	183.42	26.19	311.2	49.99	564.68	-	-
600	24	609.6	5.54	82.47	6.35	94.45	17.48	255.41	30.96	442.08	59.54	808.22	-	-

WEIGHT & THICKNESS OF S.S. GAUGE PIPES

DIMENSION		10 SWG (3.2 MM)	12 SWG (2.6 MM)	14 SWG (2.1MM)	16 SWG (1.65 MM)	18 SWG (1.2 MM)	19 SWG (1.0 MM)
Size	OD	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR
1/2"	12.7	0.754	0.651	0.552	0.452	0.342	0.290
5/8"	15.875	1.006	0.856	0.718	0.582	0.437	0.369
3/4"	19.05	1.258	1.061	0.883	0.712	0.531	0.448
1"	25.4	1.762	1.470	1.214	0.972	0.720	0.605
1 1/4"	31.75	2.266	1.880	1.544	1.232	0.909	0.763
1 1/2"	38.1	2.770	2.289	1.875	1.492	1.098	0.920
2"	50.8	3.778	3.108	2.537	2.012	1.476	1.235
2 1/2"	63.5	4.786	3.928	3.198	2.531	1.854	1.550
3"	76.2	5.794	4.747	3.860	3.051	2.232	1.865
3 1/2"	88.9	6.802	5.566	4.521	3.571	2.610	2.180
4"	101.6	7.810	6.385	5.183	4.091	2.988	2.495



CARBON STEEL / ALLOY STEEL / SEAMLESS PIPE

ANSI B36.10 CARBON STEEL / ALLOY STEEL / SEAMLESS PIPE WEIGHT PIPE PER KG / MTR

ASTM PIPE SCHEDULE - WALL = WALL THICKNESS MILLIMETRE - WT = WEIGHTS IN Kg. / Mtr.

Nominal Pipe Size		O/D	Schedule 10		Schedule 20		Schedule 30		Schedule STD		Schedule 40		Schedule 60		Schedule Extra Strong (XS)		Schedule 80		Schedule 100		Schedule 120		Schedule 140		Schedule 160		Schedule Double Extra (XS)		
mm	inch	mm	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	
3	1/8	10.3							1.73	0.37	1.73	0.37			2.41	0.47	2.41	0.47											
6	1/4	13.7							2.24	0.63	2.24	0.63			3.02	0.08	3.02	0.08											
10	3/8	17.1							2.31	0.84	2.31	0.84			3.20	1.10	3.20	1.10											
15	1/2	21.3							2.77	1.27	2.77	1.27			3.73	1.62	3.73	1.62							4.78	1.95	7.5	2.55	
20	3/4	26.7							2.87	1.69	2.87	1.69			3.91	2.20	3.91	2.20							5.6	2.90	7.82	3.64	
25	1	33.4							3.38	2.50	3.38	2.50			4.55	3.24	4.55	3.24							6.4	4.24	9.1	5.45	
32	1 1/4	42.2							3.56	3.39	3.56	3.39			4.55	3.24	4.55	3.24							6.4	4.24	9.1	5.45	
40	1 1/2	48.3							3.68	4.05	3.68	4.05			5.08	5.41	5.08	5.41							7.14	7.25	10.2	9.56	
50	2	60.3							3.9	5.44	3.9	5.44			5.5	7.48	5.5	7.48							8.7	11.11	11.1	13.4	
65	2 1/2	73.0							5.16	8.63	5.16	8.63			7.0	11.41	7.0	11.41							9.5	14.92	14.0	20.4	
80	3	88.9							5.5	11.3	5.5	11.3			11.13	27.7	15.24	27.7							9.5	14.92	14.0	20.4	
90	3 1/2	101.6							5.74	13.57	5.74	13.57			8.08	18.63	8.08	18.63										16.2	34.1
100	4	114.3							6.02	16.07	6.02	16.07			8.56	22.3	8.56	22.3	11.13	11.13	28.32				13.5	33.5	17.12	41.03	
125	5	141.3							6.55	21.77	6.55	21.77			9.53	30.9	9.53	30.9	12.7	12.7	40.2				15.9	49.11	19.0	57.4	
150	6	168.3							7.11	28.26	7.11	28.26			10.97	42.5	10.9	42.5			14.3	14.3	54.2			18.3	67.5	21.95	79.22
200	8	219.1			6.35	33.3	7.0	36.8	8.2	42.5	8.2	42.5	10.3	53.1	12.7	64.5	12.7	64.5	15.1	75.92	18.3	90.4	20.6	100.9	23.0	111.27	22.23	108.0	
250	10	273.0			6.35	41.7	7.8	51.3	9.27	60.3	9.27	60.3	12.7	81.5	12.7	81.5	15.1	96.0	18.3	114.7	21.44	133.0	25.4	155	28.6	172.3	25.4	155.0	
300	12	323.8			6.35	49.7	8.4	65.2	9.53	73.8	10.3	79.7	14.3	109.0	12.7	97.4	17.4	132.0	21.4	160.0	25.4	187.0	28.6	208	33.3	238.7	25.4	187.0	
350	14	355.6	6.35	54.6	7.92	68.1	9.53	81.3	9.53	81.3	11.13	94.6	15.1	126.4	12.7	107.0	19.0	158.0	23.8	195.0	27.8	224.0	31.8	253.5	36.7	281.0			
400	16	406.4	6.35	62.6	7.92	77.9	9.5	93.3	9.53	93.3	12.7	123.0	16.7	160.0	12.7	123.0	21.44	203.0	26.2	245.0	30.9	286.0	36.53	333	40.5	366.0			
450	18	457.2	6.35	70.5	7.92	87.7	11.1	122.0	9.53	105.0	14.3	156.0	19.0	160.0	12.7	123.0	21.44	203.0	26.2	245.0	30.9	286.0	36.53	333	40.5	366.0			
500	20	508.0	6.35	78.5	9.53	117.2	12.7	155.1	9.53	117.2	15.1	183.0	20.6	248.0	12.7	155.1	26.2	311.0	32.5	381.0	38.1	441.0	44.4	508	50.0	564.0			
550	22	558.8	6.35	86.4	9.53	129.0	12.7	171.0	9.53	129.0			22.2	294.0	12.7	171.0	28.6	373.0	34.0	451.0	41.3	526.0	47.6	600	54.0	672.0			
600	24	610.0	3.35	94.5	9.53	141.0	14.3	210.0	9.53	141.0	17.4	255.0	24.5	355.0	12.87	187.0	30.9	442.0	38.8	547.7	46.0	640.0	52.4	720	59.5	808.0			
650	26	660.4	7.92	127.0	12.7	203.0			9.53	153.0				202	12.7														
700	28	711.0	7.92	137.4	12.7	218.0	15.8	292.0	9.53	165.0				218	12.7														
750	30	762.0	7.92	147.0	12.7	234.6	15.8	292.6	9.53	176.0				234	12.7														
800	32	812.8	7.92	157.0	12.7	250.6	15.8	312.5	9.53	188.2				251	12.7														
850	34	863.6	7.92	167.0	12.7	282.4	15.8	351.7	9.53	200.0	17.5	364.9		266	12.7														
900	36	914.4	7.92	176.6	12.7	282.4	15.8	352.2	9.53	212.0	19.1	420.4		282	12.7														
A 106 Gr. B																													
APL 5L Gr. B																													
A 333 Gr. 6																													
A335, P5, P9, P22, P91																													

Black & Galvanized

SERIES			LIGHT						MEDIUM						HEAVY					
NOMINAL BORE		O.D.	OUTSIDE DIA		WALL THICK	WEIGHT THICK			OUTSIDE DIA		WALL THICK	WEIGHT			OUTSIDE DIA		WALL THICK	WEIGHT		
INCH	mm	mm	(MIN.) mm	(MAX) mm	mm	P/E Kg/m	S/S Kg/m		(MIN) mm	(MAX) mm	mm	P/E Kg/m	S/S Kg/m		(MIN) mm	(MAX) mm	mm	P/E Kg/m	S/S Kg/m	
1/2	15	21.3	21.0	21.4	2.0	0.947	0.956		21.0	21.8	2.6	1.21	1.22		21.0	21.8	3.2	1.44	1.45	
3/4	20	26.9	26.4	26.9	2.3	1.38	1.39		26.5	27.3	2.6	1.56	1.57		26.5	27.3	3.2	1.87	1.88	
1	25	33.7	33.2	33.8	2.6	1.98	2.00		33.3	34.2	3.2	2.41	2.43		33.3	34.2	4.0	2.93	2.95	
1 1/4	32	42.2	41.9	42.5	2.6	2.54	2.57		42.0	42.9	3.2	3.10	3.13		42.0	42.9	4.0	3.79	3.82	
1 1/2	40	48.3	47.8	48.4	2.9	3.23	3.27		47.9	48.8	3.2	3.56	3.60		47.9	48.8	4.0	4.37	4.41	
2	50	60.3	59.6	60.2	2.9	4.08	4.15		59.7	60.8	3.6	5.03	5.10		59.7	60.8	4.5	6.19	6.26	
2 1/2	65	76.1	75.2	76.0	3.2	5.71	5.83		75.3	76.6	3.6	6.42	6.54		75.3	76.6	4.5	7.93	8.05	
3	80	88.9	87.9	88.7	3.2	6.72	6.89		88.0	89.5	4.0	8.36	8.53		88.0	89.5	4.8	9.90	10.10	
4	100	114.3	113.0	113.9	3.6	9.75	10.00		113.1	115.0	4.5	12.20	12.50		113.1	115.0	5.4	14.50	14.80	
5	125	139.7	-	-	4.5	15.00	-		138.5	140.8	4.8	15.90	16.40		138.5	140.8	5.4	17.90	18.40	
6	150	165.1	-	-	4.5	17.80	-		163.9	166.5	4.8	18.90	19.50		163.9	166.5	5.4	21.30	21.90	



CHEMICAL COMPOSITION OF STAINLESS STEEL

Grade Designation AISI	C Max	Mn Max	P Max	S Max	Si Max	CR	Ni	MO	Other Element
201	0.15	5.50/7.50	0.060	0.030	1.00	16.00/18.00	3.50/5.50	-	0.25N Max
202	0.15	7.50/10.00	0.060	0.030	1.00	17.00/19.00	4.00/6.00	-	0.25N
301	0.15	2.00	0.045	0.040	1.00	16.00/18.00	6.00/8.00	-	-
302	0.15	2.00	0.045	0.030	1.00	17.00/19.00	8.00/10.00	-	-
303	0.15	2.00	0.045	0.15 (min)	1.00	17.00/19.00	8.00/10.00	0.60	-
304	0.08	2.00	0.040	0.030	1.00	18.00/20.00	8.00/10.50	-	-
304L	0.03	2.00	0.045	0.040	1.00	18.00/20.00	8.00/12.00	-	-
308	0.08	2.00	0.040	0.030	1.00	19.00/21.00	10.00/12.00	-	-
309	0.20	2.00	0.045	0.030	1.00	22.00/24.00	12.00/15.00	-	-
309S	0.08	2.00	0.045	0.030	1.00	22.00/24.00	12.00/15.00	-	-
310	0.25	2.00	0.045	0.030	1.50	24.00/26.00	19.00/22.00	-	-
310S	0.08	2.00	0.045	0.030	1.50	24.00/26.00	19.00/22.00	-	-
314	0.25	2.00	0.045	0.030	1.50 to 3.00	23.00/26.00	19.00/22.00	-	-
316	0.08	2.00	0.045	0.030	1.00	16.00/18.00	10.00/14.00	2.00/3.00	-
316L	0.030	2.00	0.045	0.030	1.00	16.00/18.00	10.00/14.00	2.00/3.00	-
317	0.080	2.00	0.045	0.030	1.00	18.00/20.00	11.00/15.00	3.00/4.00	-
317L	0.030	2.00	0.045	0.030	1.00	18.00/20.00	11.00/15.00	3.00/4.00	-
316Ti	0.080	2.00	0.045	0.030	1.00	16.00/18.00	10.00/14.00	2.00/3.00	Ti 5 x C min
321	0.08	2.00	0.045	0.030	1.00	17.00/19.00	9.00/12.00	-	5 x CT (min)
347	0.08	2.00	0.045	0.030	1.00	17.00/19.00	9.00/12.00	-	(10xC NB)
430	0.12	1.00	0.040	0.030	1.00	16.00/18.00	0.75	-	-
446	0.20	1.50	0.040	0.030	1.00	23.00/27.00	0.75	-	0.25N
403	0.15	1.00	0.040	0.030	1.00	11.50/13.50	-	-	-
410	0.15	1.00	0.040	0.030	1.00	11.50/13.50	-	-	-
410S	0.08	1.00	0.040	0.030	1.00	11.50/13.50	0.60 Max	-	-
420	0.15(min)	1.00	0.040	0.030	1.00	12.00/14.00	-	-	-
431	0.20	1.00	0.040	0.030	1.00	15.00/17.00	1.25-2.50	-	-
440A	0.60/0.75	1.00	0.040	0.030	1.00	16.00/18.00	-	0.75 Max	-
440B	0.75/0.95	1.00	0.040	0.030	1.00	16.00/18.00	-	0.75 Max	-
440C	0.95/1.20	1.00	0.040	0.030	1.00	16.00/18.00	-	0.75 Max	-
17.4PH	0.07	1.50	0.040	0.020	0.70	15.00/17.00	3.00/5.00	0.60 Max	-

**NICKEL BASE ALLOYS**

NOMINAL CHEMICAL COMPOSITION, % (not for specification purpose)													
Nickel	Ni	C	Mn	Fe	S	Si	Cu	Cr	Co	Mo	Al	Ti	Other
Nickel 201	99.5	0.08	0.18	0.2	0.005	0.18	0.13	-	-	-	-	-	-
Nickel 201	99.5	0.08	0.18	0.10	0.004	0.08	0.13	-	-	-	-	0.03	Mg 0.05
Nickel 212	97.7	0.10	2.0	0.05	0.005	0.05	0.03	-	-	-	-	-	-
Nickel 222	99.5	0.01	0.02	0.04	0.0025	0.01	0.01	0.01	0.06	-	0.01	0.01	Mg 0.08
Nickel 270	99.98	0.01	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	Mg<0.001
MONEL alloy 400	63.0 min	0.15	1.0	25 max	0.024 max	0.05 max	31.0	-	-	-	-	-	-
MONEL K alloy 500	63.0 min	0.15	1.5 max	2.0 max	0.010 max	0.5	30.0	-	-	-	2.9	0.6	-
Cast MONEL alloy	63.0 min	0.07	0.75	2.5 max	0.02 max	0.04 max	30.0	0.10 max	-	0.20 max	0.05 max	0.01 max	-
Cast MONEL alloy	63.0 min	0.03 max	0.20 max	2.5 max	0.02 max	0.04 max	30.0	0.10	-	0.20 max	0.05 max	0.01 max	-
INCONEL alloy 600	72.0 min	0.15 max	1.0 max	8.0	0.015 max	0.05 max	0.05 max	15.5	-	-	-	-	Nb + Ta
INCONEL alloy 625	60.5	0.10 max	0.25	5.0 max	0.015 max	0.05	-	21.5	-	9.0	0.25	0.25	3.65
INCOLOY alloy 800	32.5	0.10 max	1.5 max	Bal	0.015 max	1.0 max	0.75 max	21.0	-	-	0.38	0.38	-
INCOLOY alloy 825	42.0	0.05 max	1.0 max	Bal	0.03 max	0.5 max	2.25	21.5	-	3.0	0.20 max	0.9	-
INCOLOY alloy 904	32.5	0.025	0.025	Bal	0.015	0.015	0.25	0.25	14.5	-	0.1	1.6	-
Hastelloy B	Rest/Bal	0.10	0.80	5.58	0.7		0.6	1.25	28	-	-	-	-
Hastelloy C	Rest/Bal	0.07	0.80	5.75	0.7		16.0	1.25	17	-	-	-	-
Hastelloy G Alloy	Rest/Bal	0.05	1.0-2.0	18.0-21.0	0.7		1.5	1.25	5.575	-	-	-	-
							21-23.5						

PHYSICAL AND MECHANICAL PROPERTIES

	Density Kg/dm ³	Melting Range °C	Specefic heat at 20°C J/KgC	Thermal Conductivity at 20°C W/mC	Thermal Expansion 10-6°C 20-95°C	Electrical resistivity at 20°C microohm cm	Tensile strength N/mm ²	Hardness HV
Nickel 200	8.89	1435-1445	456	74.9	13.3	9.5	380-550	90-120
Nickel 201	8.89	1435-1445	456	79.2	13.3	7.6	340-410	75-100
Nickel 205	8.89	1435-1445	456	74.9	13.3	9.5	340	77
Nickel 212	8.86	1435-1445	430	44.1	-	10.9	476	144
Nickel 222	8.89	1435-1445	456	74.9	13.3	8.8	340	77
Nickel 270	8.89	1455	460	85.7	13.3	7.5	340	80
Monel alloy 400	8.83	1300-1350	419	21.7	14.1	51.0	480-620	111-151
Monel alloy k-500	8.46	1315-1350	419	17.4	13.7	61.4	620-760	141-189
Inconel alloy 600	8.42	1370-1425	461	14.8	13.3	103	550-690	121-173
Inconel alloy 625	8.44	1290-1350	410	9.8	12.8	129	830-1040	146-247
Incoloy alloy 800	7.95	1355-1385	502	11.7	14.2	99	520-700	121-188
Incoloy alloy 825	8.14	1370-1400	441	10.9	14.0	113	580-730	121-183
Incoloy alloy 904	8.12	-	442	14.9	4.6	72	923	-
Incoloy alloy DS	7.92	1330-1400	452	12.0	14.1	108	680	208



6 MOLY-6% Molydenum Stainless Steels

UNS S32750 & UNS S32760

- 6 MOLY Plate/Sheet
- 6 MOLY Seamless & Welded Tube
- 6 MOLY Seamless & Welded Pipe
- 6 MOLY Round Bar
- 6 MOLY Flanges 44
- 6 MOLY Specialty Forgings

Trade Name	UNS	Super Duplex Industry Specifications	Chemical Composition	Min Tensile (KSI)	Min Yield (KSI)	Elongation 2" %
254 SMO	UNS S31254	ASTM SA-182, SA-240, SA-249, SA-312, SA-358, SA-409, SA-479, SA-480, ASTM A182 (F44), A193 A240, A249, A269, A270 A409, A473, A479, A480 A813, A814, A988 SAE J405	C 0.030 max Cr 19.50-20.5 Cu 0.50-1.00 Mn 1.00 max Mo 6.00-6.50 N 0.18-0.220 Ni 17.50-18.50 P 0.030 max S 0.010 max Si 0.80 max	94	44	35
N/A	UNS N08925	ASME SB-625, SB-649, SB-673, SB-674 ASTM B366, B625, B649, B673, B674, B677	C 0.020 max Cr 19.0-21.0 Cu 0.80-1.50 Fe rem Mn 1.00 max Mo 6.00-7.00 N 0.10-0.20 Ni 24.0-26.0 P 0.045 max S 0.030 max Si 0.50 max	94	43	35
Alloy 25-6Mo/ Alloy 926	UNS N08926	ASME SB-366, SB-625 SB-649 SB-673, SB-674 SB-677 ASTM A240, A249, A269 A270, A314, A358, A480 A888, A959, B366, B472 B625, B649, B673, B674 B677, B804 SAE J405	C 0.020 max Cr 19.0-21.0 Cu 0.50-1.5 Fe rem Mn 2.00 max Mo 6.00-7.00 N 0.15-0.25 Ni 24.0-26.0 P 0.030 max S 0.010 max Si 0.50 max	94	43	35

Super Duplex Stainless Steel

UNS S32750 & UNS S32760

- Super Duplex Plate / Sheet
- Super Duplex Seamless & Welded Tube
- Super Duplex Seamless & Welded Pipe
- Super Duplex Round Bar
- Super Duplex Flanges F53 / F55
- Super Duplex Specialty Forgings
- Super Duplex Seamless & Welded BW Fittings

Trade Name	UNS	Super Duplex Industry Specifications	Chemical Composition	Min Tensile (KSI)	Min Yield (KSI)	Elongation 2" %
SAF 2507	UNS S32750	ASTM A182 F 53, A240, A479, A789, A790, A815, A928, A949, A988 SAE J405	C 0.030 max Cr 24.0-26.0 Mn 1.20 max Mo 3.0-5.0 N 0.24-0.32 Ni 6.0-8.0 P 0.035 max S 0.020 max Si 0.8 max	116	80	15
	UNS S32760	ASTM A182 F55 A240, A276, A314, A473, A479, A789, A790, A815, A988, SAE J405	C 0.030 max Cr 24.0 - 26.0 Cu 0.5 -1.0 Mn 1.0 max Mo 3.0 - 4.0 N 0.2 - 0.3 Ni 6.0 - 8.0 P 0.03 max S 0.01 max W 0.5 - 1.0 Other % Cr + 3.3 x % Mo + 16 x % N = 40 min	109	80	15

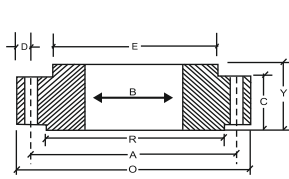
This is a Duplex alloy Stainless Steel designed to feature high strength, resistance to pitting, Stress Corrosion cracking, erosion corrosion and fatigue, crevice corrosion and strong weldability



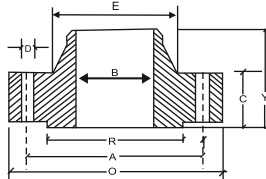


SUMMARY OF THE MAIN ASTM STANDARDS GENERALLY USED FOR PIPING

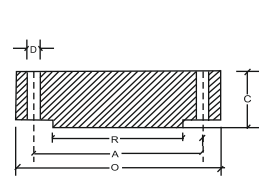
		Chemical requirement percent (%)										Mechanical requirements				
	Grade	C Max	MN max	P max	S max	Si max	Ni	Cr	Mo	Cu	Others	Tensile Strength mini-Mpa	Yield Strength mini-Mpa	Elong. Mini %	Impact test at C F	
ASTM	A	0.25	0.95	0.05	0.06		0.40 max	0.40 max	0.15 max	0.40 max	0.08 max	330	205	36		
	B	0.30	1.20	0.05	0.06		0.40 max	0.40 max	0.15 max	0.40 max	0.08 max	415	240	29.5		
A53	A	0.25	0.27-0.93	0.035	0.035	0.10 min	0.40 max	0.40 max	0.15 max	0.40 max	0.08 max	330	205	L35-T25		
	B	0.30	0.29-1.06	0.035	0.035	0.10 min	0.40 max	0.40 max	0.15 max	0.40 max	0.08 max	415	240	L30-T16.5		
A106	A	0.25	0.27-0.93	0.035	0.035	0.10 min	0.40 max	0.40 max	0.15 max	0.40 max	0.08 max	485	275	L30-T16.5		
	B	0.30	0.29-1.06	0.035	0.035	0.10 min	0.40 max	0.40 max	0.15 max	0.40 max	0.08 max	485	275	L30-T16.5		
A312	TP 304	0.08	2.00	0.040	0.030	0.75	8.00-11.0	18.0-20.0				515	205	L35-T25		
	TP 304L	0.035	2.00	0.040	0.030	0.75	8.00-13.0	18.0-20.0				485	170	L35-T25		
	TP 310S	0.08	2.00	0.045	0.030	0.75	19.0-22.0	24.0-26.0	0.75 max			515	205	L35-T25		
	TP 316	0.08	2.00	0.040	0.030	0.75	11.0-14.0	16.0-18.0	2.00-3.00			515	205	L35-T25		
	TP316L	0.035	2.00	0.040	0.030	0.75	10.0-15.0	16.0-18.0	2.00-3.00			485	170	L35-T35		
	TP317L	0.035	2.00	0.040	0.030	0.75	11.0-15.0	18.0-20.0	3.00-4.00			515	205	L35-T25		
	TP321	0.08	2.00	0.040	0.030	0.75	9.00-13.0	17.0-20.0			Ti>5xC<0.70 Cb + Ta > 10xC < 1.10	515	205	L35-T25		
	TP 347	0.08	2.00	0.040	0.030	0.75	9.00-13.0	17.0-20.0				515	205	L35-T25		
A333	3	0.19	0.31-0.64	0.025	0.025	0.18-0.37	3.18-3.82					450	240	L30-T20	-100 -150	
	4	0.12	0.50-1.05	0.025	0.025	0.08-0.37	0.47-0.98	0.44-1.01		0.40-0.75	Al 0.40-0.30	415	240	L30-T16.5	-100 -150	
	6	0.30	0.29-1.06	0.025	0.025	0.10 min						415	240	L30-T16.5	- 45 - 50	
	7	0.19	0.90	0.025	0.025	0.13-0.32	2.03-2.57					450	240	L30-T22	- 75 - 100	
	8	0.13	0.90	0.025	0.025	0.13-0.32	8.40-9.60					690	515	L22	-195- 320	
	9	0.20	0.40-1.06	0.025	0.025		1.60-2.24			0.75-1.25		435	315	L28	- 75 - 100	
	P1	0.10-0.20	0.30-0.80	0.025	0.025	0.10-0.05			0.44-0.65			380	205	L30-T20		
	P2	0.10-0.20	0.30-0.61	0.25	0.025	0.10-0.30		0.50-0.81	0.440.65			380	205	L30-T20		
A335	P5	0.15	0.30-0.60	0.025	0.025	0.50		4.00-6.00	0.45-0.65			415	205	L30-T20		
	P9	0.15	0.30-0.60	0.025	0.025	0.25-1.00		8.00-10.0	0.90-1.10			415	205	L30-T20		
	P11	0.05-0.15	0.30-0.60	0.025	0.025	0.50-1.00		1.00-1.50	0.44-0.65			415	205	L30-T20		
	P12	0.05-0.15	0.30-0.61	0.025	0.025	0.50		0.80-1.25	0.44-0.65			415	220	L30-T20		
	P15	0.05-0.15	0.30-0.60	0.025	0.025	1.15-1.65		-	0.44-0.65			415	205	L30-T20		
	P21	0.05-0.15	0.30-0.60	0.025	0.025	0.50		2.65-3.35	0.80-1.06			415	205	L30-T20		
	P22	0.05-0.15	0.30-0.60	0.025	0.025	0.50		1.90-2.60	0.87-1.13		Cb-0.06-0.10, V<0.18-0.25, N<0.030-0.070 Al<0.40 max	415	205	L30-T20		
	P91	0.08-0.12	0.30-0.60	0.025	0.025	0.20-0.50	0.40max	8.00-9.50	0.85-1.05			585	415	L20		
	A358	TP304	0.08	2.00	0.045	0.030	0.75	8.0-10.50	18.0-20.0	-			Class 1 : Double welded pipes & full Radiography			
		TP310	0.08	2.00	0.045	0.030	0.50	19.0-22.0	24.0-26.0	-			Class 2 : Double welded no Radiography			
TP316		0.08	2.00	0.045	0.030	0.75	10.0-14.0	16.0-18.0	2.0-3.0			Class 3 : Single welded full Radiography				
TP316L		0.08	2.00	0.045	0.030	0.75	10.0-14.0	16.0-18.0	2.0-3.0			Class 4 : Single welded full Radiography root pass without addition of filler				
TP317L		0.030	2.00	0.045	0.030	0.75	11.0-15.0	18.0-20.0	3.0-4.0			Class 5 : Double Welded spot Radiography				
TP321		0.08	2.00	0.045	0.030	0.75	9.0-12.0	17.0-19.0	-		Ti>5xC<0.70 Cb + Ta > 10xC < 1.10					
TP347	0.08	2.00	0.045	0.030	0.75	9.0-13.0	17.0-19.0	-								
Formula - Sheet Width Required for Rolled & Welded Pipes - O. D. (mm) - Thickness (mm) x 3.14 = Sheet Width																
L - Longitudinal T - Transverse																



SLIP-ON FLANGE



WELDING NECK FLANGE



BLIND FLANGE

CLASS 150 LBS

Nominal Pipe Size (mm) (inch)	Flange Dia	Dia of Bolt Circle	Dia of Bolt Holes	No of Holes	Thk of Flange	Dia of Hub	Length through Hub Dia of Bore					Dia of R/F	Depth of Socket	Pipe Dia
							S/O & S/W	W/N	L/J	S/O & S/W	L/J			
							Y	Y	Y	B	B			
O	A	D	C	E	Y	Y	Y	B	B	R	F	X		
15 ½	88.9	60.3	15.9	4	11.1	30.2	15.9	47.6	15.9	22.3	22.9	34.9	9.5	21.33
20 ¾	98.4	69.8	15.9	4	12.7	38.1	15.9	52.4	15.9	27.7	28.2	42.9	11.1	26.67
25 1	107.9	79.4	15.9	4	14.3	49.2	17.5	55.6	17.5	34.5	35.0	50.8	12.7	33.40
32 1 ¼	117.5	88.9	15.9	4	15.9	58.7	20.6	57.1	20.6	43.2	43.7	63.5	14.3	42.16
40 1 ½	127.0	98.4	15.9	4	17.5	65.1	22.2	61.9	22.2	49.5	50.0	73.0	15.9	48.26
50 2	152.4	120.6	19.0	4	19.0	77.8	25.4	63.5	25.4	62.0	62.5	92.1	17.5	60.31
65 2 ½	177.8	139.7	19.0	4	22.2	90.5	28.6	69.8	28.6	74.7	75.4	104.8	19.0	73.02
80 3	190.5	152.4	19.0	4	23.8	107.9	30.2	69.8	30.2	90.7	91.4	127.0	20.6	88.90
100 4	228.6	190.5	19.0	8	23.8	134.9	33.3	76.2	33.3	116.1	116.8	157.2	23.8	114.30
125 5	254.0	215.9	22.2	8	23.8	163.5	36.5	88.9	36.5	143.8	144.5	185.7	23.8	141.30
150 6	279.4	241.3	22.2	8	25.4	192.1	39.7	88.9	39.7	170.7	171.4	215.9	27.0	168.27
200 8	342.9	298.4	22.2	8	28.6	246.1	44.4	101.6	44.4	221.5	222.2	269.9	31.7	219.07
250 10	406.4	361.9	25.4	12	30.2	304.8	49.2	101.6	49.2	276.3	277.4	323.8	33.3	273.05
300 12	482.6	431.8	25.4	12	31.8	365.1	55.6	114.3	55.6	327.1	328.2	381.0	39.7	323.85
350 14	533.4	476.2	28.6	12	34.9	400.0	57.1	127.0	79.4	259.1	360.2	412.7	41.3	355.60
400 16	596.9	539.7	28.6	16	36.5	457.2	63.5	127.0	87.3	410.5	411.2	469.9	44.4	406.40
450 18	635.0	577.8	31.7	16	39.7	504.8	68.3	139.7	96.8	461.8	462.3	533.4	49.2	457.20
500 20	698.5	635.0	31.7	20	42.9	558.8	73.0	144.5	103.2	513.1	514.3	584.2	54.0	508.00
600 24	812.8	749.3	34.9	20	47.6	663.6	82.5	152.4	111.1	615.9	615.9	692.1	63.5	609.60

CLASS 300 LBS

Nominal Pipe Size (mm) (inch)	Flange Dia	Dia of Bolt Circle	Dia of Bolt Holes	No of Holes	Thk of Flange	Dia of Hub	Length through Hub Dia of Bore					Dia of R/F	Depth of Socket	Pipe Dia
							S/O & S/W	W/N	L/J	S/O & S/W	L/J			
							Y	Y	Y	B	B			
15 1/2	95.2	66.7	15.9	4	14.3	38.1	22.2	52.4	22.2	22.3	22.9	34.9	9.5	21.33
20 3/4	117.5	82.5	19.0	4	15.9	47.6	25.4	57.1	25.4	27.7	28.2	42.9	11.1	26.67
25 1	123.8	88.9	19.0	4	17.5	54.0	27.0	61.9	27.0	34.5	35.0	50.8	12.7	33.40
32 1 1/4	133.3	98.4	19.0	4	19.0	63.5	27.0	65.1	27.0	43.2	43.7	63.5	14.3	42.16
40 1 1/2	155.6	114.3	22.2	4	20.6	69.8	30.2	68.3	30.2	49.2	50.0	73.0	15.9	48.26
50 2	165.1	127.0	19.0	8	22.2	84.1	33.3	69.8	33.3	62.0	62.5	92.1	17.5	60.31
65 2 1/2	190.5	149.2	22.2	8	25.4	100.0	38.1	79.2	38.1	74.7	75.4	104.8	19.0	73.02
80 3	209.5	168.3	22.2	8	28.6	117.5	42.9	79.4	42.9	90.7	91.4	127.0	20.6	88.90
100 4	254.0	200.0	22.2	8	31.8	146.0	47.6	85.7	47.6	116.1	116.8	157.2	23.8	114.30
125 5	279.4	234.9	22.2	8	34.9	177.8	50.8	98.4	50.8	143.8	144.5	185.7	-	141.30
150 6	317.5	269.9	22.2	12	36.5	206.4	52.4	98.4	52.4	170.7	171.4	215.9	-	168.27
200 8	381.0	330.2	25.4	12	41.3	260.3	61.9	111.1	61.9	221.5	222.2	269.9	-	219.07
250 10	444.5	387.3	28.6	16	47.6	320.7	66.7	117.5	95.2	276.3	277.4	323.8	-	273.05
300 12	520.7	450.8	31.7	16	50.8	374.6	73.0	130.2	101.6	327.1	328.2	381.0	-	323.85
350 14	584.2	514.3	31.7	20	54.0	425.4	79.2	142.9	111.1	259.1	360.2	412.7	-	355.60
400 16	647.7	571.5	34.9	20	57.2	482.6	82.5	146.0	120.6	410.5	411.2	469.9	-	406.40
450 18	711.2	628.5	34.9	24	60.3	533.4	88.9	158.7	130.2	461.8	462.3	533.4	-	457.20
500 20	774.7	685.8	34.9	24	63.5	587.4	98.2	161.9	139.7	513.1	514.3	584.2	-	508.00
600 24	914.4	812.8	41.3	24	69.8	701.7	106.4	168.3	152.4	615.9	615.9	692.1	-	609.60

CLASS 600 LBS

Nominal Pipe Size (mm)	Flange Dia	Dia of Bolt Circle	Dia of Bolt Holes	No of Holes	Thk of Flange	Dia of Hub	Length through Hub Dia of Bore					Dia of R/F	Depth of Socket	Pipe Dia
							S/O & S/W	W/N	L/J	S/O & S/W	L/J			
	O	A	D	C	E	Y	Y	Y	B	B	R	F	X	
15	95.2	66.7	15.9	4	14.3	38.1	22.2	52.4	22.3	22.8	34.9	9.5	21.33	
20	117.5	82.5	19.0	4	15.9	47.6	25.4	57.1	25.4	27.7	28.1	42.9	11.1	26.87
25	123.8	88.9	19.0	4	17.5	54.0	27.0	61.9	26.9	34.5	35.0	50.8	12.7	33.40
32	133.3	98.4	19.0	4	20.6	63.5	28.6	66.7	28.4	43.2	43.6	63.5	14.2	42.16
40	155.6	114.3	22.2	4	22.2	69.8	31.7	69.8	31.7	49.5	50.0	73.0	15.8	48.26
50	165.1	127.0	19.0	8	25.4	84.1	36.5	73.0	36.5	62.0	62.4	92.1	17.4	60.31
65	190.5	149.2	22.2	8	28.6	100.0	41.3	79.4	41.1	74.7	75.4	104.8	19.0	73.32
80	209.5	168.3	22.2	8	31.8	117.5	46.0	82.5	45.9	90.7	91.4	127.0	-	88.90
100	273.0	215.9	25.4	8	38.1	152.4	54.0	101.6	53.8	116.1	116.8	157.2	-	114.30
125	330.2	266.7	28.6	8	44.4	188.9	60.3	114.3	60.4	143.8	144.5	185.7	-	141.30
150	355.6	292.1	28.6	12	47.6	222.2	66.7	117.5	66.5	170.7	171.4	215.9	-	168.27
200	419.1	349.2	31.7	12	55.6	273.0	76.2	133.3	76.2	221.5	222.2	269.9	-	219.07
250	508.0	431.8	34.9	16	63.5	342.9	85.7	152.4	111.2	276.3	277.4	323.8	-	273.05
300	558.8	488.9	34.9	20	66.7	400.0	92.1	155.6	117.3	327.1	328.2	381.0	-	323.85
350	603.2	527.0	38.1	20	69.9	431.8	93.7	165.1	127.0	359.1	360.1	412.7	-	355.60
400	685.8	603.2	41.3	20	76.2	495.3	106.4	177.8	139.7	410.5	411.2	469.9	-	406.40
450	742.9	654.0	44.5	20	82.6	546.1	117.5	184.1	152.4	461.8	462.3	533.4	-	457.20
500	812.8	723.9	44.4	24	88.9	609.9	127.0	190.5	165.1	513.1	514.3	584.2	-	508.00
600	938.8	838.2	50.8	24	101.6	717.5	139.7	203.2	184.1	615.9	615.9	692.1	-	609.60

CLASS 900 LBS

Nominal Pipe Size (mm)	Flange Dia	Dia of Bolt Circle	Dia of Bolt Holes	No of Holes	Thk of Flange	Dia of Hub	Length through Hub Dia of Bore					Dia of R/F	Depth of Socket	Pipe Dia
							S/O & S/W	W/N	L/J	S/O & S/W	L/J			
O	A	D	C	E	Y	Y	Y	B	B	R	F	X		
15	120.3	82.5	22.2	4	22.2	38.1	31.7	60.3	31.7	22.3	22.8	34.9	9.5	21.33
20	130.2	88.9	22.2	4	25.4	44.4	34.9	69.8	35.0	27.7	28.1	42.9	11.1	26.67
25	149.2	101.6	25.4	4	28.6	52.4	41.3	73.0	41.1	34.5	35.0	50.8	12.7	33.40
32	158.7	111.1	25.4	4	28.6	63.5	41.3	73.0	41.1	43.2	43.6	63.5	14.2	42.16
40	177.8	123.8	28.6	4	31.8	69.8	44.4	82.5	44.4	49.5	50.5	73.0	15.8	48.26
50	215.9	165.1	25.4	8	38.1	104.8	57.1	101.8	57.1	62.0	62.4	92.1	17.4	60.31
65	244.5	190.5	28.6	8	41.3	123.8	63.5	104.8	63.5	74.7	75.4	104.8	19.0	73.02
80	241.3	190.5	25.4	8	38.1	127.0	53.9	101.6	53.8	90.7	91.4	127.0	-	88.90
100	292.1	234.9	31.7	8	44.4	158.7	69.8	114.3	69.8	116.0	116.8	157.2	-	114.30
125	349.2	279.4	35.0	8	50.8	190.5	79.3	127.0	79.2	143.7	144.5	185.7	-	141.30
150	381.0	317.5	31.7	12	55.6	234.9	85.8	139.7	85.8	170.6	171.4	215.9	-	168.27
200	469.9	393.7	38.1	12	63.5	298.4	101.6	162.0	114.3	221.4	222.2	269.9	-	219.07
250	546.1	469.9	38.1	16	69.8	368.3	107.9	184.1	127.0	276.3	277.3	323.8	-	273.05
300	609.6	533.4	38.1	20	79.3	419.1	117.4	200.0	142.7	327.1	328.1	381.0	-	323.85



FORMULA OF CALCULATING WEIGHT

1) WEIGHT OF S. S. PIPE

O.D. (mm) - W. Thick (mm) X W. Thick (mm) X 0.0248 = Wt. Per Mtr.

O.D. (mm) - W. Thick (mm) X W. Thick (mm) X 0.00756 = Wt. Per Feet

2) WEIGHT OF S. S. ROUND BAR

DIA (mm) X DIA (mm) X 0.00623 = Wt. Per Mtr.

DIA (mm) X DIA (mm) X 0.0019 = Wt. Per Feet

3) WEIGHT OF S. S. SQUARE BAR

DIA (mm) X DIA (mm) X 0.00788 = Wt. Per Mtr.

DIA (mm) X DIA (mm) X 0.0024 = Wt. Per Feet

4) WEIGHT OF S. S. HEXAGONAL BAR

DIA (mm) X Thick (mm) X 0.00680 = Wt. Per Mtr.

DIA (mm) X Thick (mm) X 0.002072 = Wt. Per Feet

5) WEIGHT OF S. S. FLAT BAR

Width (mm) X Thick (mm) X 0.00798 = Wt. Per Mtr.

Width (mm) X Thick (mm) X 0.00243 = Wt. Per Feet

6) WEIGHT OF S. S. SHEETS & PLATES

Length (Mtrs) X Width (Mtrs) X Thick (mm) X 8 = Wt. Per PC

Length (Fit) X Width (Fit) X Thick (mm) X 3/4 = Wt. Per PC

7) WEIGHT OF S. S. CIRCLE

O.D. (mm) - Thick (mm) X Thick (mm) $\div$ 160 = Gms. PC

DIA (mm) X DIA (mm) X Thick (mm) X 0.0000063 = kg. Per PC

8) WEIGHT OF S. S. CIRCLE

O.D. (mm) - Thick (mm) X Thick (mm) X 0.0260 = Wt. Per Mtr.

9) WEIGHT OF LEAD PIPE

O.D. (mm) - Wt. (mm) X Wt. (mm) X 0.0345 = Wt. Per Mtr.

10) WEIGHT OF ALUMINIUM PIPE

O.D. (mm) X Width (Mtr.) X Thick (mm) X 0.0083 = Wt. Per PC

11) WEIGHT OF ALUMINIUM SHEET

Length (Mtr.) X Width (Mtr.) X Thick (mm) X 2.69 = Wt. Per PC

12) WEIGHT OF CONVERSION OF MTR. TO FEET

Wt. of Mtr. $\div$ 3.2808 = Wt. Per Feet

APPLICATION INDUSTRIES

- ACID & CHEMICAL INDUSTRIES
- AUTOMOBILE INDUSTRIES
- BEVARAGE INDUSTRIES
- CEMENT INDUSTRIES
- ELECTRIC & ELECTRONIC INDUSTRIES
- FERTILIZERS INDUSTRIES
- IRON & STEEL PLANTS
- MINES
- OIL & GAS INDUSTRIES
- PAPER & PULP INDUSTRIES
- PHARMACY INDUSTRIES
- PETRO CHEMICAL PLANTS
- POWER PLANT
- REFINERY PLANTS
- SUGAR INDUSTRIES
- SPACE CENTRE
- TEXTILE INDUSTRIES
- WIND POWER PLANT



SANJAY METAL

AN ISO 9001:2008 Certified Company

MFG., STOCKISTS & SUPPLIERS OF :

Stainless Steel, AISI 304, 304L, 316, 316L, 310, 321, 410, Brass, Copper, Aluminium, Zinc, Lead, Tin, P. B., Monel, Nickel, Inconel, Rods, Pipes, Sheets, Pipe Fittings etc.

REGD. ADDRESS :

47, Balkrishna Niwas, 3rd Floor, Office No 92, 2nd Panjrapole, C P Tank, Mumbai - 400 004.

Tel.: +91 22 6743 7361 **Mob.:** +91 9321980327

FITTINGS MANUFACTURING UNIT :

Plot No. 2, Royal, Industrial Estate, Near S.P.S Godown, Godav Road, Bhayander (W), Dist. Thane - 401 105.

PIPE MANUFACTURING UNIT :

Ground Floor, Shed No. B-2, Galaxy Industrial Park, Dhamatvan, Ahmedabad, Gujarat - 382 435.

Mob.: +91 86195 94119

Email : sanjay.metal@rediffmail.com | **Web.:** www.sanjaymetals.com