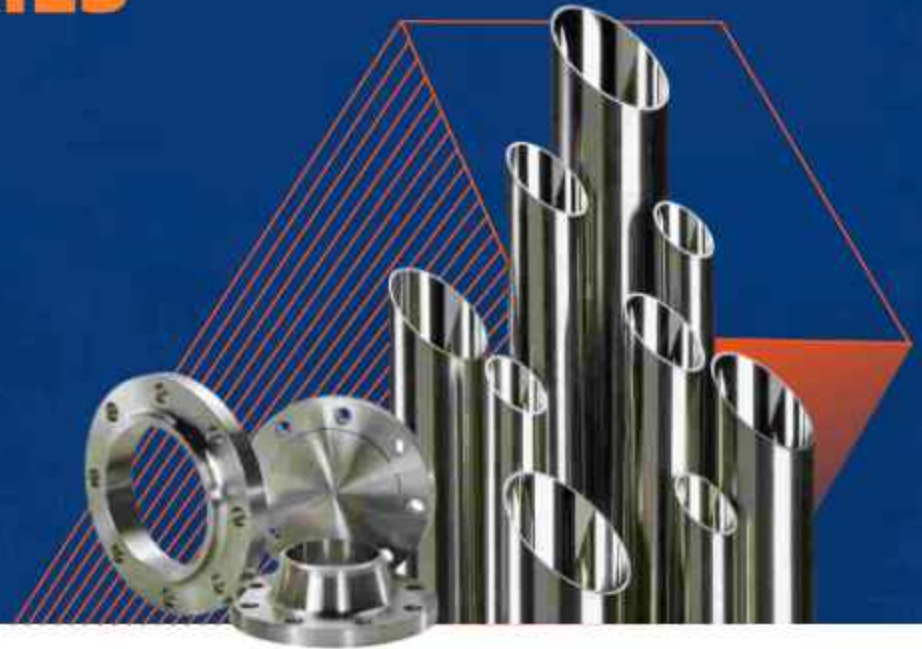


URBAN METAL INDUSTRIES

A House Of All Types of Industrial
Raw Materials & Custom Fabrication
All Over India



MANUFACTURER | EXPORTERS | STOCKIESTS & SUPPLIERS



ABOUT URBAN GROUP

A leading Industry in Metal Industries By Serving Premium Quality Products Range as well as Industrial Fabrication Services in India.

URBAN GROUP Has been in the field of Flange & Pipe Fittings for the past many years covering a major range of size to meet the requirements of Chemical, Fertilizers, Petrochemical, Powers generation and Pharmaceutical Industries, etc.

URBAN GROUP Products are widely used in the piping system of the above Industries as original and replacement items. This formed part of the critical item in the above industries.

We have put in more emphasis on quality and reliability over the years. This is achieved by closely monitoring the quality standards right from raw materials to finished products by an efficient and closely knit inspection group.

Each products are marked with a control number which indicated the history of the raw material used, heat treatment, inspection and performance result manufacturers test certificates are furnished with each supply. we wish to point out that all raw material used are with proper identification and co- relating certificates.

OUR AIM & GOALS



Our Mission

To Develop a professional business affiliation by rendering excellent quality of product and services at competitive rates for long term.



Our Vision

To Strive most reliable position in the field of Piping components and technology support partner for Industrial projects throughout the India and other part of World.



Our Core Values

We are working with the highest ethical standards in all aspects of our activities.
Innovation, quality and service are most important for us and our business.
Priority to establish and maintain positive long - term relationship with our business partners.



OUR CLIENTELES



ASTM- AMERICAN SOCIETY FOR TESTING AND MATERIALS

A 209	Seamless Carbon-Molybdenum Alloy-Steel Boiler and Super-Heater Tubes.
A 210	Seamless Mniom Carbon Steel Boiler and Super heater Tubes.
A 211	Spiral Welded Steel of Iron Pipe.
A 213	Seamless Ferric and Austenitic Alloy Steel Boiler, Super- Heater and Heat-Exchanger Tubes.
A 214	Electric-Resistance-Welded Carbon Steel Heat -Exchanger and Condenser Tubes.
A 226	Electric-Resistance Welded Carbon Steel Boiler and Super Heater Tubes for High-Pressure Service.
A 249	Welded Authentic Steel Boiler, Super Heater, Heat- Exchanger and Condenser Tubes.
A 250	Electric-Resistance-Welded Carbon-Molybdenum Alloy-Steel Boiler and Super Heater Tubes.

ASTM- AMERICAN SOCIETY FOR TESTING AND MATERIALS

A 53	Welded and Seamless Steel Pipe.
A 106	Seamless Carbon Steel Pipe for High-temperature Service.
A 120	Back and Hote-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses.
A 135	Electric Resistance Welded Steel Pipe.
A 161	Seamless Low-carbon and Carbon-Molybdenum Steel Tubes for Refinery Service.
A 178	Electric Resistance Welded Carbon Steel Boiler Tubes.
A 179	Seamless Cold-down low-Carbon Steel Heat-Exchanger and Condenser Tubes.
A 192	Seamless Carbon Steel Boiler Tubes for high Pressure Service.
A 199	Seamless Cold-drawn Intermediate Alloy-Steel Heat- Exchanger and Condenser Tubes.
A 200	Seamless ntermediate Alloy-SSteel Tubes for Refinery Service.

ASTM- AMERICAN SOCIETY FOR TESTING AND MATERIALS

A 252	Welded and Seamless Steel Pipe Piles:
A 268	Seamless and welded perritic Steel Tubing for general Service.
A 269	Seamless and Welded Austenitic Stainless Steel tubing for general service.
A 270	Seamless and Welded Austenitic Stainless Steel Sanitary tubing.
A 271	Seamless Austenitic Chromium-Nickel Steel Tubes for Refinery Service.
A 312	Seamless and Welded austenitic Stainless Steel Pipe.
A 333	Seamless and Welded Steel Pipe for Low Temperature Service.
A 334	Seamless and Welded Carbon and Alloy-Steel Tubes for Low-Temperature Service.
A 335	Seamless Ferritic Alloy-Steel Pipe for High-Temperature Service.
A 376	Seamless Austenitic Steel Pipe For High-Temperature Central-Station Service.



JIS- JAPANESE INDUSTRIAL STANDARDS

G 3452	Carbon Steel Pipes for Ordinary Piping.
G 3454	Carbon Steel Pipes for Pressure Service.
G 3455	Carbon Steel Pipe for High Pressure Service.
G 3456	Carbon Steel Pipes for High Temperature Service.
G 3457	Electric Arc Welded Carbon Steel Pipe.
G 3458	Alloy Steel Pipes.
G 3459	Austenitic Stainless Steel Pipes.
G 3460	Steel Purpose Low Temperature Service.
G 3461	Carbon Steel Boiler and Heat Exchanger Tubes.
G 3462	Alloy Steel Boiler and Heat Exchanger Tubes.
G 3463	Stainless Steel Boiler and Heat Exchanger Tubes.
G 3464	Steel Heat Exchanger Tubes for low Temperature Services.
G 3465	Carbon Steel tubes for General Structural Purposes.
G 3445	Carbon Steel Tubes for Machine Structural Purposes.
G 3441	Alloy Steel Tubes for Structure Purposes.
G 5525	Steel Pipe Piles.
G 3465	Seamless Steel Tubes for Drilling (Drill Rods)
G 3429	Seamless Steel Tubes for high pressure Gas Cylinder.
G 3442	Galvanized Steel Pipe for Water Service.
G 3443	Coating Steel Pipe for Water Service.
G 3451	Deformed Pipe for Coating Steel Pipe for Water Service.

BS- BRITISH STANDARDS

1367	Steel Tubes and Tubulars (Suitable for Screwing to BS 21 Pipe Threads)
3059	Steel Boiler and Super heater Tubes.
1139	Steel Tubes for Scaffolding.
1775	Steel Tubes for Mechanical, Structural and General Engineering Purposes.
3601	Steel Pipes and Tubes for pressure purposes, Carbon Steel Ordinary Duties.
3602	Steel Pipes and tubes for pressure Purposes carbon Steel High Duties.
3603	Steel Pipes and Tubes for Pressure Purposes Carbon and Alloy Steel Low Temperature Duties.
3604	Steel Pipes and Tubes for Pressure Purposes Low and Medium Alloy Steel.
3605	Steel Pipes and Tubes for Pressure Purposes Austenitic Medium Alloy Steel.

Available Ex-stock With Test Certificate And IBR Test Certificates In Form IIIA/IIIB Available Ex-stock With Certificate ASTM 333 Gr. 6 & Astm 335 P-11, P5, P22

Carbon Steel Seamless Pipes	ASTM A 106 Grade B	Low Temp. Seamless Pipes	ASTM A 333 Grade 6
Carbon Steel Seamless	BS/3059/68/Part I CDS ST-33	Low Temp. Seamless Tubes	ASTM A 334 Grade 1
Boiler Tubes	BS/3059/68/Part/HFS ST-33	Heat Exchanger Tubes	ASTM A 179
Seamless Boiler Tubes	ASTM 210 A-1/DIN 17175/ST 35-8	API Line Pipe	API 5 L Grade B
ERW Boiler Tubes	BS/3059/68 Part I ERW ST-33	MS ERW Pipes	IS 1239 Part I-1979
CDW Boiler Tubes	BS/3059/68 Part I CDW ST-33	Hot Deep Galvanised Pipes	IS 1239 Part I-1979 IS3589
Alloy Steel Seamless Pipes	ASTM 335 P-1, P-5, P-11, P-22	Big Diameter ERW Pipes	ISS 4923 / ASTM - A500
Alloy Steel Seamless Tubes	ASTM 213 T-11, T-22, ASTM 209 T-1 Din 17175 Grade 3 15 Mo3	M.S. Square & Rectangular Section	BSS / 1775, IS 3074
		M.S. General Engineering Tubes	ISS 4711, ISS 3601

Specification for Mild Steel Tubes and Tubes and Tubulars Conforming to IS - 1239 (Part I) : 1990

Nominal Bore(NB)		Class	Outside Diameter MAX MIN		Thickness	SWG	Mass of Black Tube P/E S/S		Black Plain End			Calculated Wt. of Galvanised Tube P/E S/S		Galvanised S & S		
mm	inch		mm	mm			mm	kg/mm	kg/mm	kg/mm	Mtr/Ton	Ft./Ton	kg/mm	kg/mm	Mtr/Ton	Ft./Ton
15	(½")	L	21.40	21.00	2.00	14	0.947	0.956	1056	3465	176	0.999	1.008	992	3255	165
		M	21.80	21.00	2.60	12	1.21	1.22	826	2710	138	1.264	1.274	785	2575	131
		H	21.80	21.00	3.20	10	1.44	1.45	694	2277	116	1.494	1.504	665	2182	111
20	(¾")	L	26.90	26.40	2.30	13	1.38	1.39	725	2379	121	1.441	1.451	689	2260	115
		M	27.30	26.50	2.60	12	1.56	1.57	641	2103	107	1.622	1.632	613	2011	102
		H	27.30	26.50	3.20	10	1.87	1.88	535	1755	89	1.923	1.933	517	1696	86
25	(1")	L	33.80	33.20	2.60	12	1.98	2.00	505	1657	84	2.062	2.082	480	1575	80
		M	34.20	33.30	3.20	10	2.41	2.43	415	1362	69	2.495	2.515	398	1306	66
		H	34.20	33.30	4.00	8	2.93	2.95	341	1119	57	3.028	3.048	328	1076	55
32	(1¼")	L	42.50	41.90	2.60	12	2.54	2.57	394	1293	66	2.641	2.671	374	1227	62
		M	42.90	42.00	3.20	10	3.10	3.13	323	1060	54	3.207	3.237	309	1014	52
		H	42.90	42.00	4.00	8	3.79	3.82	264	866	44	3.887	3.917	255	837	43
40	(1½")	L	48.40	47.80	2.90	11	3.93	3.27	310	1017	52	3.358	3.398	294	965	46
		M	48.80	47.90	3.20	10	3.53	3.60	281	922	47	3.681	3.721	269	883	45
		H	48.80	47.90	4.00	8	4.37	4.41	229	751	38	4.485	4.525	221	725	37
50	(2")	L	60.20	59.60	2.90	11	4.08	4.15	245	805	41	4.225	4.295	233	764	39
		M	60.80	59.70	3.60	9	5.03	5.10	199	653	33	5.166	5.236	191	627	32
		H	60.80	59.70	4.50	7	6.19	6.26	162	531	27	6.349	6.419	156	512	26

TOLERANCE : Thickness : Light : + Unlimited Medium / Heavy : + Unlimited
- 8 % - 10 %

Weight : Light ± 5% Medium/Heavy : ± 7.5%
(For Quantities per load of 10 Tonnes Minimum)

HYDRO TEST PRESSURE : 5 MPa

Nominal Bore(NB)		Class	Outside Diameter MAX MIN		Thickness	SWG	Mass of Black Tube P/E S/S		Black Plain End			Calculated Wt. of Galvanised Tube P/E S/S		Galvanised S & S		
mm	inch		mm	mm			mm	kg/mm	kg/mm	kg/mm	Mtr/Ton	Fl./Ton	kg/mm	kg/mm	Mtr/Ton	Fl./Ton
65	(2½")	L	76.00	75.20	3.20	10	5.71	5.83	175	574	29	5.898	6.018	166	545	28
		M	76.60	75.30	3.60	9	6.42	6.54	156	512	26	6.621	6.741	144	486	25
		H	76.60	75.30	4.50	7	7.93	8.05	126	413	21	8.095	8.215	122	400	20
80	(3")	L	88.70	87.90	3.20	10	6.72	6.89	149	489	25	6.925	7.122	140	459	23
		M	89.50	88.00	4.00	8	8.36	8.53	120	394	20	8.586	8.756	114	374	19
		H	89.50	88.00	4.80	6	9.9	10.40	101	331	17	10.109	10.609	97	318	16
100	(4")	L	113.90	113.00	3.60	9	9.75	10.10	103	338	17	10.276	10.586	94	308	16
		M	115.00	113.10	4.50	7	12.20	12.50	82	269	14	12.758	13.258	75	246	13
		H	115.00	113.10	5.40	5	14.50	14.80	69	226	12	15.252	15.552	64	210	11
125	(5")	L	140.80	138.50	4.80	6	15.90	16.40	63	207	11	16.649	17.149	58	190	10
		M	140.80	138.50	5.40	5	17.90	18.40	56	184	9	18.619	19.119	52	171	9
		H														
150	(6")	L	166.50	163.90	4.80	6	18.90	19.50	53	174	9	19.700	20.300	49	161	8
		M	166.50	163.90	5.40	5	21.30	21.90	47	154	8	22.322	22.922	44	144	7

TOLERANCE : Thickness : Light : + Unlimited Medium / Heavy : + Unlimited
 - 8 % - 10 %

Weight : Light ± 5% Medium/Heavy : ± 7.5%
 (For Quantities per load of 10 Tonnes Minimum)

HYDRO TEST PRESSURE : 5 MPa

Nominal Bore	Maximum Permissible Pressure		Maximum Permissible Temperature
	N/mm ²	Kg/Cm ²	°C
mm			
Up to and including 25 mm	1.20	12.24	260
Over 25 mm up to and including 40 mm	1.03	10.50	260
Over 40 mm up to and including 80 mm	0.86	8.77	260
Over 80 mm up to and including 100 mm	0.69	7.04	260
	0.83	8.47	177
Over 100 mm up to and including 125 mm	0.69	7.04	171
Over 125 mm up to and including 150 mm	0.50	5.10	160

IS : 1239 (Part I) - 1979 Mild Steel Tubes Maximum Permissible Pressure and temperature for tubes for conveying steam

The maximum permissible Pressure and temperature for tubes with screwed and socketed joint shall be as follows.

MAXIMUM PERMISSIBLE PRESSURE AND TEMPERATURE FOR TUBES WITH STEEL COUPLING OR SCREWED AND SOCKETED JOINTS.

Size of Pipes & Tubes			Nominal Thickness and weight									
			Number of Schedule									
			5S		10S		10		20		30	
Nominal Inch.	DN	Outside in Inch.	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m
1/8"	6	10.3	-	-	1.28	0.28	-	-	1.60	0.345	-	-
1/4"	8	13.7	-	-	1.65	0.49	-	-	2.00	0.580	-	-
3/8"	10	17.1	-	-	1.65	0.63	-	-	2.00	0.750	-	-
1/2"	15	21.3	1.65	0.81	2.11	1.00	-	-	2.00	0.957	-	-
3/4"	20	26.7	1.65	1.03	2.11	1.28	-	-	2.50	1.500	-	-
1"	25	33.4	1.65	1.29	2.77	2.08	-	-	3.00	2.240	-	-
1 1/4"	32	42.2	1.65	1.65	2.77	2.69	-	-	3.00	2.910	-	-
1 1/2"	40	48.3	1.65	1.90	2.77	3.12	-	-	3.00	3.370	-	-
2"	50	60.3	1.65	2.38	2.77	3.94	-	-	3.00	4.263	-	-
2 1/2"	65	73.0	2.11	3.70	3.05	5.26	-	-	4.00	6.486	-	-
3"	80	88.9	2.11	4.50	3.05	6.45	-	-	4.00	8.423	-	-
3 1/2"	90	101.6	2.11	5.20	3.05	7.40	-	-	4.50	10.838	-	-
4"	100	114.3	2.11	5.81	3.05	8.34	-	-	4.50	12.555	-	-
5"	125	141.3	2.77	9.45	3.40	11.56	-	-	5.00	16.900	-	-
6"	150	168.3	2.77	11.31	3.40	13.82	-	-	6.35	24.150	-	-
8"	200	219.1	2.77	14.78	3.76	19.94	-	-	6.35	33.31	7.04	36.81
10"	250	273.0	3.40	22.62	4.19	27.83	-	-	6.35	41.75	7.80	51.01
12"	300	323.9	3.96	33.00	4.57	36.00	-	-	6.35	49.71	8.38	65.18
14"	350	355.6	3.96	34.23	4.78	41.18	6.35	54.69	7.92	67.90	9.53	81.25
16"	400	406.4	4.19	41.60	4.78	47.38	6.35	62.64	7.92	77.83	9.53	93.17
18"	450	457.2	4.19	46.83	4.78	53.18	6.35	70.60	7.92	87.75	11.13	122.43
20"	500	508.0	4.78	59.22	5.54	68.50	6.35	78.55	9.53	117.02	12.70	155.12
22"	550	558.8	4.78	63.75	5.54	73.81	6.35	86.50	9.53	129.01	12.70	171.01
24"	600	609.6	5.54	82.60	6.35	94.37	6.35	94.46	9.53	140.88	14.27	209.50
26"	650	660.4	-	-	-	-	7.92	127.43	12.70	202.85	-	-
28"	700	711.2	-	-	-	-	7.92	137.42	12.70	218.73	15.88	272.18
30"	750	762.0	-	-	-	-	7.92	147.36	12.70	234.64	15.88	292.06
32"	800	812.8	-	-	-	-	7.92	157.28	12.70	250.55	15.88	311.95
34"	850	863.6	-	-	-	-	7.92	167.20	12.70	266.46	15.88	331.83
36"	900	914.4	-	-	-	-	7.92	177.13	12.70	282.36	15.88	351.72

N.B.: Thickness and weight "Standard" "Extra Strong" & "Double Extra Strong" within swell edges have a correspondent Value in



Nominal Thickness and weight																			
Number of Schedule																			
40		60		80		100		120		140		160		Standard (STD)		Extra Strong		Double Ex. Strong	
mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m
1.73	0.37	-	-	2.41	0.47	-	-	-	-	-	-	-	-	1.73	0.37	2.41	0.47	-	-
2.24	0.63	-	-	3.02	0.80	-	-	-	-	-	-	-	-	2.24	0.63	3.02	0.80	-	-
2.31	0.84	-	-	3.20	1.10	-	-	-	-	-	-	-	-	2.31	0.84	3.20	1.10	-	-
2.77	1.27	-	-	3.73	1.62	-	-	-	-	-	-	4.78	1.95	2.77	1.27	3.73	1.62	7.47	2.55
2.87	1.69	-	-	3.91	2.20	-	-	-	-	-	-	5.56	2.90	2.87	1.69	3.91	2.20	7.82	3.64
3.38	2.50	-	-	4.55	3.24	-	-	-	-	-	-	6.35	4.24	3.38	2.50	4.55	3.24	9.09	5.45
3.56	3.39	-	-	4.85	4.47	-	-	-	-	-	-	6.35	5.61	3.56	3.39	4.85	4.47	9.70	7.77
3.68	4.05	-	-	5.08	5.41	-	-	-	-	-	-	7.14	7.25	3.68	4.05	5.08	5.41	10.15	9.56
3.91	5.44	-	-	5.54	7.48	-	-	-	-	-	-	8.74	11.11	3.91	5.44	5.54	7.48	11.07	13.44
5.16	8.63	-	-	7.01	11.41	-	-	-	-	-	-	9.53	14.90	5.16	8.63	7.01	11.41	14.02	20.39
5.49	11.29	-	-	7.62	15.27	-	-	-	-	-	-	11.13	21.30	5.49	11.29	7.62	15.27	15.24	27.68
5.74	13.57	-	-	8.08	18.63	-	-	-	-	-	-	-	-	5.74	13.57	8.08	18.63	-	-
6.02	16.07	-	-	8.56	22.32	-	-	11.13	28.25	-	-	13.49	33.54	6.02	16.07	8.56	22.32	17.12	41.03
6.55	21.77	-	-	9.53	30.94	-	-	12.70	40.28	-	-	15.88	49.11	6.55	21.77	9.53	30.94	19.05	57.43
7.11	28.26	-	-	10.97	42.56	-	-	14.27	54.20	-	-	18.26	67.56	7.11	28.26	10.97	42.56	21.95	79.22
8.18	42.55	10.31	53.08	12.70	64.64	15.09	75.92	18.26	90.44	20.62	100.92	23.01	111.27	8.18	42.55	12.70	64.64	22.22	107.88
9.27	60.29	12.70	81.52	15.09	95.97	18.26	114.70	21.44	133.00	25.40	155.09	28.58	172.33	9.27	60.29	12.70	81.52	25.40	155.09
10.31	79.70	14.27	108.92	17.48	132.04	21.44	159.86	25.40	186.91	28.58	208.00	33.32	238.68	9.53	73.78	12.70	97.43	25.40	186.91
11.13	94.55	15.09	126.71	19.05	158.10	23.83	194.96	27.79	224.65	31.75	253.56	35.71	281.70	9.53	81.25	12.70	107.39	-	-
12.70	123.30	16.66	160.12	21.44	203.53	26.19	245.56	30.96	286.64	36.53	333.19	40.49	364.35	9.53	93.17	12.70	123.30	-	-
14.27	155.87	19.05	205.83	23.83	254.67	29.36	309.76	34.92	363.64	39.67	408.45	45.24	459.59	9.53	105.10	12.70	139.20	-	-
15.09	183.42	20.62	247.83	26.19	311.17	32.54	381.53	38.10	441.49	44.45	508.11	50.01	564.81	9.53	117.02	12.70	155.10	-	-
-	-	22.23	294.25	28.58	373.83	34.93	451.52	41.28	527.02	47.63	600.63	53.98	672.26	9.53	129.01	12.70	171.01	-	-
17.48	254.24	24.61	355.02	30.96	441.78	38.89	547.73	46.02	639.58	52.37	719.63	59.54	807.63	9.53	140.88	12.70	186.94	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.53	152.80	12.70	202.85	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.53	164.80	12.70	218.73	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.53	176.73	12.70	234.64	-	-
17.48	342.70	-	-	-	-	-	-	-	-	-	-	-	-	9.53	188.66	12.70	250.55	-	-
17.48	364.58	-	-	-	-	-	-	-	-	-	-	-	-	9.53	200.59	12.70	266.46	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.53	212.52	12.70	282.36	-	-

schedule for different thickness that suitable the weight can precede by following formula $24.66 (d/t)$

STAINLESS STEEL

Stainless steel is essentially a low carbon steel which contains chromium at 10% or more by weight. It is this addition of chromium that gives the steel its unique stainless, corrosion resisting properties. The Corrosion resistance and other useful properties of the steel are enhanced by increased chromium content and the addition of other elements such as molybdenum, nickel and nitrogen.

Grade AISI	Chemical Composition - Per cent									Nearest Equivalent Specification	
	C Max	Mn Max	P Max	S Max	Si Max	Cr	Ni	Mo	Other Element	I.S.	En'
AUSTENITIC											
201	0.15	5.5/7.5	0.06	0.03	1	16.0/18.0	3.5/5.5	-	-	-	-
202	0.15	7.5/10	0.06	0.03	1	17.0/19.0	4.0/6.0	-	-	-	-
301	0.15	2.0max	0.045	0.040	1.0	16.0/18.0	6.0/8.0	-	-	10Cr17Ni7	-
302	0.15	2.0	0.045	0.030	1.0	17.0/19.0	8.0/10.0	-	E-4-3-4%	07Cr. 18Ni9	En-58A
302HQ	0.03	2.0	0.045	0.03	1	17.0/19.0	9.0/10.0	-	CU:3-4.0	-	-
303	0.15	2.0	0.045	0.15min	1.0	17.0/19.0	8.0/10.0	-	E-4-1% max	15Cr18Ni9	EN-58M
303EHS	0.15	2.0	0.02	0.3-0.33	1	17.0/19.0	8.0/10.0	-	CU:1% max	-	-
304	0.08	2.0	0.045	0.030	1.0	18.0/20.0	8.0/10.0	-	-	04Cr18Ni10	En-58E
304L	0.030	2.0	0.045	0.030	1.0	18.0/20.0	8.0/12.0	-	-	02Cr18Ni11	-
304H.C.	0.05	2.0	0.040	0.03	1	18.0/20.0	8.5/9.5	-	CU:2-2.50	-	-
308	0.08	2.0	0.045	0.030	1.0	18.0/21.0	10.0/12.0	-	-	-	-
308LER	0.02	1.5/2.0	0.025	0.02	0.5	19.0/21.0	9.5/11.0	-	-	-	-
309	0.20	2.0 max	0.045	0.030	1.0	22.0/24.0	12.5/15.0	-	-	20Cr24Ni12	-
309LER	0.03	1.5/2.5	0.02	0.015	0.5	23.0/25.0	12.0/14.0	-	-	-	-
309S	0.08	2.0	0.045	0.030	1.0	22.0/24.0	12.0/15.0	-	-	-	-
310	0.25	2.0	0.045	0.030	1.50	24.0/26.0	19.0/22.0	-	-	10Cr25Ni12	-
310S	0.08	2.0	0.045	0.030	1.50	24.0/26.0	19.0/22.0	-	-	-	-
314	0.25	2.0	0.045	0.030	1.5to3	25.0/26.0	19.0/22.0	-	-	-	-
316	0.08	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	-	04Cr17Ni12Mo2	En 58H
316I	0.030	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	-	03Cr17Ni12Mo2	-
316LER	0.02	1.5/2.0	0.02	0.02	0.5	18.0/20.0	12.0/14.0	2.0/2.75	-	-	-
316Ti	0.080	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	Ti5xCmin	-	-
317	0.08	2.0	0.045	0.030	1.0	18.0/20.0	11.0/15.0	3.0/4.0	-	-	-
317L	0.030	2.0	0.045	0.030	1.0	18.0/20.0	11.0/15.0	3.0/4.0	N:0.10/0.22	-	-
317N	0.08	2.0	0.045	0.03	1	18.0/20.0	11.0/15.0	3.0/4.0	N:0.10/0.22	-	-
321	0.08	2.0	0.045	0.030	1.0	17.0/19.0	9.0/12.0	-	Ti5Cmin	04Cr18Ni10Ti20	En-58C
347	0.08	2.0	0.045	0.030	1.0	17.0/19.0	9.0/12.0	-	Nb/Ta10xCmin	04Cr18Ni10Nb-40	En-58G
904L	0.02	2.0	0.045	0.035	1	19.0/23.0	23.0/28.0	4.0/5.0	CU:1-2	-	-

Grade AISI	Chemical Composition - Per cent									Nearest Equivalent Specification	
	C Max	Mn Max	P Max	S Max	Si Max	Cr	Ni	Mo	Other Element	I.S.	En'
FERRITIC											
410	0.15	1.00	0.04	0.03	1.0	11.5/13.5	0.60	-	-	12Cr13	En-56A
416	0.15	1.25	0.06	0.15min	1.0	12.0/14.0	1.25/2.50	-	-	-	-
420	0.15min	1.0	0.04	0.03	1.0	12.0/14.0	0.60	-	-	-	En-56C&D
430	0.12	1.0	0.04	0.03	1.0	16.0/18.0	0.60	-	-	07Cr17	En-60
430L	0.03	1.0	0.04	0.03	1.0	16.0/18.0	0.60	-	-	-	-
430F	0.12	1.25	0.06	0.15min	1.0	16.0/18.0	0.60	-	-	-	-
431	0.2	1.0	0.04	0.03	1.0	15.0/17.0	1.25/2.5	-	-	-	En-57
17.4PH	0.07	1.0	0.04	0.03	1.0	15.0/17.0	3.0/5.0	-	NB:0.15/0.45	-	-
DUPLEX											
1905	0.03	1.2/1.8	0.04	0.03	1.2/2	18.0/19.0	4.3/5.2	2.5/3	N:0.50/0.10	-	-
2205	0.03	2	0.03	0.02	1.0	21.0/23.0	4.5/6.5	2.5/3.5	N:0.8/0.20	-	-
2506	0.08	1.0	0.04	0.03	0.75	26.0/28.0	4/5	1.3/2	-	-	-



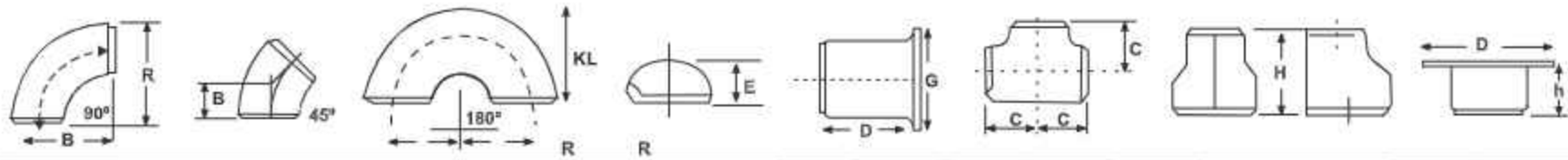


The following table represents size range, product standards and material grades of industrial pipe fittings like stainless steel, carbon steel & alloy steel pipe fittings etc. The range includes.

**MATERIAL TYPE:-**

Stainless Steel	ASTM A403 WP304, 304L, 304H, 316, 316L, 316Ti, 317, 317L, 321, 309, 310, 310S, 347, 347H, 904L etc.
Carbon Steel	ASTM A-234 WPB/A420 WPL 3/A420 WPL6/MSS-SP-75 WPHY 42/46/52/56/60/65/70 etc. (IBR & NON IBR)
Alloy Steel	ASTM A234, GR.WP1, WP5, W9, WP11, WP12, WP22, WP91 etc.
Others	Monel, Nickel, Inconel, Hastalloy, Copper, Brass, Bronze, Titanium, Bismuth, Aluminium, High Speed Steel, Zinc, Lead etc.
Type	Elbow, Tee, Reducer, Return Bends, Stub-Ends, Cap, Collar, Nipple, Cross, Insert, etc.
Size Range	1/8" NB to 48" NB [Seamless & ERW (Welded)]
Wall Thickness	Sch. 5S to Sch. XXS

Used to allow flow of Fluids, like steam, water, air, oil, etc, through the desired cross-section with diversion of flow to the desired point



Nom. Bore Inch	Pipe O.D.	Wall Thickness				Radius				R					Length				
		5S	10S	40S	80S	1D	1.5D	2D	3D	A	B	C	E	G	L	L	H	D	H
1/2	21.34	1.65	2.11	2.77	3.73	12.7	19.06	25.4	38.1	12.7	15.9	25.4	25.4	34.9	50.8	76.2	50.8	42	8
3/4	26.67	1.65	2.11	2.87	3.91	19.05	28.57	38.10	57.15	19.05	11.1	28.6	25.4	42.8	50.8	76.2	50.8	52	8
1	33.40	1.65	2.77	3.38	4.55	25.4	38.1	50.8	76.2	52.4	22.2	38.1	38.1	50.8	50.8	101.6	50.8	65	10
1 1/4	42.16	1.65	2.77	3.56	4.85	31.75	47.6	63.5	95.25	31.75	25.0	47.6	38.1	63.1	50.8	101.6	50.8	72	12
1 1/2	48.26	1.65	2.77	3.68	5.08	38.1	57.15	76.2	114.3	38.10	28.6	57.2	38.	73.0	50.8	101.6	63.5	82	12
2	60.32	1.65	2.77	3.91	5.54	50.8	76.2	101.6	152.4	50.8	34.0	63.5	38.1	92.0	63.5	152.4	76.2	98	16
2 1/2	73.02	2.11	3.05	5.16	7.01	63.5	95.25	127.0	190.5	63.5	44.0	76.2	38.1	104.8	63.5	152.4	88.9	118	15
3	88.90	2.11	3.05	5.49	7.62	76.2	114.30	152.4	228.6	76.2	50.8	85.7	50.8	127.0	63.5	152.4	88.9	130	18
3 1/2	101.60	2.11	3.05	5.74	8.08	88.9	133.35	177.8	266.7	88.9	57.2	99.3	63.5	139.7	76.2	152.4	101.6	140	18
4	114.30	2.11	3.05	6.02	8.56	101.6	152.4	203.2	304.8	101.6	63.5	104.8	63.5	157.2	76.2	152.4	101.6	168	20
5	141.30	2.77	3.40	6.55	9.52	127.0	190.5	254.0	381.0	127.0	82.6	123.8	76.2	185.7	76.2	203.2	127.0	188	25
6	168.27	2.77	3.40	7.11	10.97	152.4	228.6	304.8	457.2	152.4	95.3	142.7	88.9	215.9	88.9	203.2	139.7	215	25
8	219.07	2.77	3.76	8.18	12.7	203.2	304.8	406.4	609.6	203.2	127.0	177.5	101.6	270.0	101.6	203.2	152.4	270	30
10	273.05	3.40	4.19	9.27	12.7	254.0	381.0	508.0	762.0	254.0	158.7	275.9	127.0	324.0	127.0	254.0	177.8	330	35
12	323.85	3.96	4.57	9.52	12.7	304.8	457.2	609.6	914.4	340.8	190.5	254.0	152.4	381.0	152.4	254.0	203.2	400	40
14	355.60	3.96	4.76	9.52	12.7	355.6	533.4	711.2	1066	355.6	222.2	280.0	165.1	412.8	152.4	305.0	330.2	470	40
16	406.40	4.19	4.76	9.52	12.7	406.4	609.6	812.8	1219	406.4	254.0	340.8	177.8	470.0	152.4	305.0	355.6	535	40
18	457.20	4.19	4.76	9.52	12.7	457.2	685.8	914.4	1372	457.2	285.7	343.0	203.2	533.4	152.4	305.0	381.0	535	40
20	508.00	4.76	5.54	9.52	12.7	508.0	762.0	1015	1524	508.0	317.6	381.0	228.6	584.2	152.4	305.0	508.0	642	40
24	609.60	5.54	6.35	9.52	12.7	609.6	914.4	1219	1829	-	881.0	431.8	266.7	698.5	152.4	305.0	508.0	693	40



The following table represents the size range, product standards, and material grades of industrial steel flanges, stainless steel, carbon steel & alloy steel flanges, etc. The range includes:

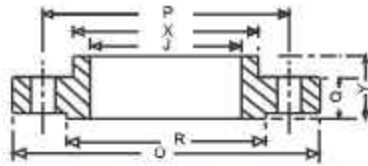


MATERIAL TYPE:-

Stainless Steel	ASTM A-240/A182 F 304, 304L, 304H, 316, 316L, 316Ti, 309, 309H, 310, 310S, 317, 317L, 321, 347, 904L.
Carbon Steel	ASTM A105/IS- 2062, A350 LF3/A350 Lf2, Lf3 etc.(IBR & NON IBR)
Alloy Steel	ASTM A182 F1/F5/F9/F11/F22/F91etc.
Others	Monel, Nickel, Inconel, Hastalloy, Copper, Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead etc.
Type	Slipon, Blind, Weld Neck, Socket Weld, Screwed, Lap Joint, Ring Joint, Spectacle, Orifcae, Reducing, Plate, Plate Blank etc.
Size Range	1/2" NB to 48" NB
Wall Thickness	150#, 300#, 600#, 900#, 1500#, 2500#, BS-10 Standard Table D, E, F, H & ALSO DIN Standard

- Used to connect ends of pipes, inlets & outlets of equipments allowing flow from one point to the desired points with necessary diversion of flow of fluids like Air, steam, water, oil etc.
- To allow equipment, instruments, etc, to be install edinto the flowing media for proper control of the flow,
- To allow provision for easy maintenance of the processing systems under any working condition.

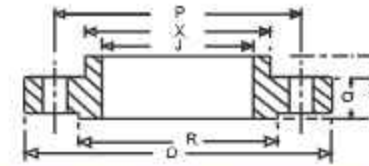
CLASS 150



Nominal Pipe Size	Outside Diameter of Flange		Thickness of Flange (min)		Diameter of Raised Face		Diameter of Bore		Length Through Hub		Diameter of Hub at Base		Number of bolt Holes	Diameter of Bolt		Diameter of Bolt Circle	
	O	Q	R	J	Y	X	P	D									
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		inch	mm		
½	3⅝	86.9	7/16	11.0	1.3/8	34.9	0.88	22.40	5/8	15.9	1.3/16	30.2	4	½	12.7	2.3/8	60.3
¾	3⅝	96.4	¾	12.7	1.11/16	42.9	1.09	27.70	5/8	15.9	1%	38.1	4	½	12.7	2%	69.9
1	4%	108.0	9/16	14.3	2	50.8	1.36	34.50	11/16	17.5	1.15/16	49.2	4	½	12.7	3.1/8	79
1¼	4%	117.5	5/8	15.9	2%	63.5	1.70	43.20	13/16	20.6	2.5/16	58.7	4	½	12.7	3%	88.9
1½	5	127.0	11/16	17.5	2.7/8	73.0	1.95	49.50	7/8	22.2	2.9/16	65.1	4	¾	12.7	3.7/8	96.4
2	6	152.4	¾	19.1	3.5/8	92.1	2.44	62.00	1	25.4	3.1/16	77.8	4	5/8	15.9	4%	120.7
2½	7	177.8	7/8	22.2	4.1/8	104.8	2.94	74.70	1.1/8	28.6	3.9/16	90.5	4	5/8	15.9	5%	139.7
3	7%	190.5	15/16	23.8	5	127.0	3.57	90.70	1.3/16	30.2	4%	106.0	4	5/8	15.9	6	152.4
3½	8%	215.9	15/16	23.8	5%	139.7	4.07	103.40	1¼	31.8	4.13/16	122.2	8	5/8	15.9	7	177.8
4	8	228.6	15/16	23.8	6.3/16	157.2	4.57	116.10	1.5/16	33.3	5.5/16	134.9	8	5/8	15.9	7%	190.5
5	10	254.0	15/16	23.8	7.5/16	165.7	5.66	143.80	1.7/16	38.5	6.7/16	163.5	8	¾	19.1	8%	215.9
6	11	279.4	1	25.4	8%	215.9	6.72	170.70	1.9/16	39.7	7.9/16	192.1	8	¾	19.1	9%	241.3
8	13%	342.9	1.1/8	28.6	10.5/8	269.9	8.72	221.50	1%	44.5	9.11/16	246.1	8	¾	19.1	11%	288.5
10	16	406.4	1.3/16	30.2	12%	323.9	10.86	276.40	1.15/16	49.2	12	304.8	12	7/8	22.2	14%	362.0
12	19	482.6	1¼	31.8	15	381.0	12.88	327.20	2.3/16	55.6	14.3/8	365.1	12	7/8	22.2	17	431.8
14	21	533.4	1.3/8	34.9	16¼	412.8	14.14	359.20	2%	57.2	15%	400.1	12	1	25.4	18%	478.3
16	23%	586.9	1.7/16	36.5	18%	469.9	16.16	410.50	2%	63.5	18	457.2	16	1	25.4	21%	539.8
18	25	635.0	1.9/16	39.7	21	533.4	18.18	461.80	2.11/16	68.3	19.7/8	504.8	16	1.1/8	26.6	22%	577.9
20	27%	686.5	1.11/16	42.9	23	584.2	20.20	513.10	2.7/8	73.0	22	558.8	20	1.1/8	26.6	25	635.0
22	29%	749.3	1.13/16	46.0	25%	641.4	22.22	564.40	3.1/8	79.4	24	609.6	20	1¼	31.8	27%	692.2
24	32	812.8	1.7/8	47.6	27%	692.2	24.25	616.00	3.1/4	82.6	26.1/8	663.6	20	1¼	31.8	29%	749.3

NOTES : Dimensions of Thickness Q & of Length through Hub Y include thickness of raised 1/16 inch (1.6mm)
Diameter of bolt-holes shall not be 1/8" (3.2mm) greater than the diameter of bolt.

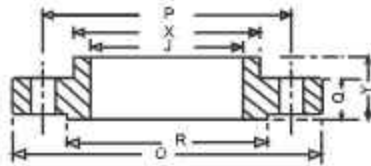
CLASS 300



Nominal Pipe Size	Outside Diameter of Flange		Thickness of Flange (min)		Diameter of Raised Face		Diameter of Bore		Length Through Hub		Diameter of Hub at Base		Number of bolt Holes	Diameter of Bolt		Diameter of Bolt Circle	
	O	Q	R	J	Y	X	P	D									
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		inch	mm		
½	3.3/4	95.3	9/16	14.3	1.3/8	34.9	0.88	22.40	7/8	22.2	1%	38.1	4	½	12.7	2.5/8	66.7
¾	4.5/8	117.5	5/8	15.9	1.11/16	42.9	1.09	27.70	1	25.4	1.7/8	47.6	4	5/8	15.9	3%	82.6
1	4.7/8	123.8	11/16	17.5	2	50.8	1.36	34.50	1.1/16	27.0	2.1/8	54.0	4	5/8	15.9	3%	88.9
1¼	5%	133.4	¾	19.1	2%	63.5	1.70	43.20	1.1/16	27.0	2%	63.5	4	5/8	15.9	3.7/8	98.4
1½	6.1/8	155.6	13/16	20.6	2.7/8	73.0	1.95	49.50	1.3/16	30.2	2%	69.9	4	¾	19.1	4%	114.3
2	6%	165.1	7/8	22.2	3.5/8	92.1	2.44	62.00	1.5/16	33.3	3.5/16	84.1	8	5/8	15.9	5	127.0
2½	6%	190.5	1	25.4	4.1/8	104.8	2.94	74.70	1%	38.1	3.15/16	100.0	8	¾	19.1	5.7/8	149.2
3	8%	209.6	1.1/8	28.6	5	127.0	3.57	90.70	1.11/16	42.9	4.5/8	117.5	8	¾	19.1	6.5/8	168.3
3½	9	228.6	1.3/16	30.2	5%	139.7	4.07	103.40	1%	44.5	5%	133.4	8	¾	19.1	7%	184.2
4	10	254.0	1%	31.8	6.3/16	157.2	4.57	116.10	1.7/8	47.6	5%	146.1	8	¾	19.1	7.7/8	200.0
5	11	279.4	1.3/8	34.9	7.5/16	165.7	5.66	143.80	2	50.8	7	177.8	8	¾	19.1	9%	235.0
6	12%	317.5	1.7/16	36.5	8%	215.9	6.72	170.70	2.1/16	52.4	8.1/8	206.4	12	¾	19.1	10.5/8	269.9
8	15	381.0	1.5/8	41.3	10.5/8	269.9	8.72	221.50	2.7/16	61.9	10%	260.4	12	7/8	22.2	13	330.2
10	17%	444.5	1.7/8	47.6	12%	323.9	10.86	276.40	2.5/8	66.7	12.5/8	320.7	16	1	25.4	15%	387.4
12	20%	520.7	2	50.8	15	381.0	12.88	327.20	2.7/8	73.0	14%	374.7	16	1.1/8	26.6	17%	450.9
14	23	584.2	2.1/8	54.0	16%	412.8	14.14	359.20	3	76.2	16%	425.5	20	1.1/8	26.6	20%	514.4
16	25%	647.7	2%	57.2	18%	469.9	16.16	410.50	3%	82.6	18	482.6	20	1%	31.8	22%	571.5
18	28	711.2	2.3/8	60.3	21	533.4	18.18	461.80	3%	88.9	21	533.4	24	1¼	31.8	24%	628.7
20	30%	774.7	2%	63.5	23	584.2	20.20	513.10	3%	95.3	23.1/8	587.4	24	1%	31.8	27	685.8
22	33	838.2	2.5/8	66.7	25%	641.4	22.22	564.40	4	101.6	25%	641.4	24	1%	31.8	29%	743.0
24	36	914.4	2%	69.9	27%	692.2	24.25	616.00	4.3/16	106.4	27.5/8	701.7	24	1%	31.8	32	812.8

NOTES : Dimensions of Thickness Q & of Length through Hub Y include thickness of raised 1/16 inch (1.6mm)
Diameter of bolt-holes shall not be 1/8" (3.2mm) greater than the diameter of bolt.

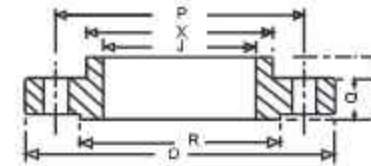
CLASS 600



Nominal Pipe Size	Outside Diameter of Flange		Thickness of Flange (min)		Diameter of Raised Face		Diameter of Bore		Length Through Hub		Diameter of Hub at Base		Number of bolt Holes	Diameter of Bolt		Diameter of Bolt Circle	
	O		Q		R		J		Y		X			P			
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		inch	mm	inch	mm
1/2	3.3/4	85.3	9/16	14.3	1.3/8	34.9	7/8	22.40	7/8	22.2	1 1/8	38.1	4	1/2	12.7	2.5/8	66.7
3/4	4.5/8	117.5	5/8	15.9	1.11/16	42.9	1	27.70	1	25.4	1.7/8	47.6	4	5/8	15.9	3/4	82.6
1	4.7/8	123.8	11/16	17.5	2	50.8	1.1/16	34.50	1.1/16	27.0	2.1/8	54.0	4	5/8	15.9	3/4	88.9
1 1/4	5 1/4	133.4	13/16	20.6	2 1/2	63.5	1.1/8	43.20	1.1/8	28.6	2 1/2	63.5	4	5/8	15.9	3.7/8	98.4
1 1/2	6.1/8	155.6	7/8	22.2	2.7/8	73.0	1 1/4	49.50	1 1/4	31.8	2 3/4	69.9	4	3/4	19.1	4 1/4	114.3
2	6 1/2	165.1	1	25.4	3.5/8	92.1	1.7/16	62.00	1.7/16	38.5	3.5/16	84.1	8	5/8	15.9	5	127.0
2 1/2	6 3/4	190.5	1.1/8	28.6	4.1/8	104.8	1.5/8	74.70	1.5/8	41.3	3.15/16	100.0	8	3/4	19.1	5.7/8	149.2
3	8 1/4	209.6	1 1/4	31.8	5	127.0	1.13/16	90.70	1.13/16	46.0	4.5/8	117.5	8	3/4	19.1	6.5/8	166.3
3 1/2	9	228.6	1.3/8	34.9	5 1/2	139.7	1.15/16	103.40	1.15/16	49.2	5 1/4	133.4	8	7/8	22.2	7 1/4	184.2
4	10 1/4	273.1	1 1/2	38.1	6.3/16	157.2	2.1/8	116.10	2.1/8	54.0	6	152.4	8	7/8	22.2	8 1/4	215.9
5	13	330.2	1 3/4	44.5	7.5/16	185.7	2.3/8	143.80	2.3/8	60.3	7.7/16	188.9	8	1	25.4	10 1/4	266.7
6	14	355.6	1.7/8	47.6	8 1/2	215.9	2.5/8	170.70	2.5/8	66.7	8 1/4	222.3	12	1	25.4	11 1/4	292.1
8	16 1/2	419.1	2.3/16	55.6	10.5/8	269.9	3	221.50	3	76.2	10 1/4	273.1	12	1.1/8	28.6	13 1/4	349.3
10	20	508.0	2 1/2	63.5	12 1/2	323.9	3.3/8	276.40	3.3/8	85.7	13 1/4	342.9	16	1 1/4	31.8	17 1/4	431.8
12	22	558.8	2.5/8	66.7	15	381.0	3.5/8	327.20	3.5/8	92.1	15 1/4	400.1	20	1 1/4	31.8	19 1/4	489.0
14	23 1/2	603.3	2 3/4	69.9	16 1/2	412.8	3.11/16	359.20	3.11/16	93.7	17 1/4	431.8	20	1.3/8	34.9	20 1/4	527.1
16	27	685.8	3	76.2	18 1/2	469.9	4.3/16	410.50	4.3/16	106.4	18 1/4	495.3	20	1 1/2	38.1	23 1/4	603.3
18	29 1/4	743.0	3 1/4	82.6	21	533.4	4.5/8	461.80	4.5/8	117.5	21 1/4	546.1	22	1.5/8	41.3	25 1/4	654.1
20	32	812.6	3 3/4	88.9	23	584.2	5	513.10	5	127.0	24	609.6	24	1.5/8	41.3	28 1/4	723.9
22	34 1/4	870.0	3 3/4	95.3	25 1/2	641.4	5 1/4	564.40	5 1/4	133.4	26 1/4	666.8	24	1 1/2	44.5	30.5/8	777.9
24	37	939.8	4	101.6	27 1/2	692.2	5 1/2	616.00	5 1/2	139.7	28 1/4	717.6	24	1.7/8	47.6	33	838.2

NOTES : Dimensions of Thickness Q & of Length through Hub Y include thickness of raised 1/16 inch (1.6mm) Diameter of bolt-holes shall not be 1/8" (3.2mm) greater than the diameter of bolt.

CLASS 900



Nominal Pipe Size	Outside Diameter of Flange		Thickness of Flange (min)		Diameter of Raised Face		Diameter of Bore		Length Through Hub		Diameter of Hub at Base		Number of bolt Holes	Diameter of Bolt		Diameter of Bolt Circle	
	O		Q		R		J		Y		X			P			
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		inch	mm	inch	mm
1/2	3.3/4	85.3	9/16	14.3	1.3/8	34.9	0.88	22.40	7/8	22.2	1 1/8	38.1	4	1/2	12.7	2.5/8	66.7
3/4	4.5/8	117.5	5/8	15.9	1.11/16	42.9	1.09	27.70	1	25.4	1.7/8	47.6	4	5/8	15.9	3/4	82.6
1	4.7/8	123.8	11/16	17.5	2	50.8	1.36	34.50	1.1/16	27.0	2.1/8	54.0	4	5/8	15.9	3/4	88.9
1 1/4	5 1/4	133.4	13/16	20.6	2 1/2	63.5	1.70	43.20	1.1/8	28.6	2 1/2	63.5	4	5/8	15.9	3.7/8	98.4
1 1/2	6.1/8	155.6	7/8	22.2	2.7/8	73.0	1.95	49.50	1 1/4	31.8	2 3/4	69.9	4	3/4	19.1	4 1/4	114.3
2	6 1/2	165.1	1	25.4	3.5/8	92.1	2.44	62.00	1.7/16	38.5	3.5/16	84.1	8	5/8	15.9	5	127.0
2 1/2	6 3/4	190.5	1.1/8	28.6	4.1/8	104.8	2.94	74.70	1.5/8	41.3	3.15/16	100.0	8	3/4	19.1	5.7/8	149.2
3	8 1/4	209.6	1 1/4	31.8	5	127.0	3.57	90.70	1.13/16	46.0	4.5/8	117.5	8	3/4	19.1	6.5/8	166.3
3 1/2	9	228.6	1.3/8	34.9	5 1/2	139.7	4.07	103.40	1.15/16	49.2	5 1/4	133.4	8	7/8	22.2	7 1/4	184.2
4	10 1/4	273.1	1 1/2	38.1	6.3/16	157.2	4.57	116.10	2.1/8	54.0	6	152.4	8	7/8	22.2	8 1/4	215.9
5	13	330.2	1 3/4	44.5	7.5/16	185.7	5.66	143.80	2.3/8	60.3	7.7/16	188.9	8	1	25.4	10 1/4	266.7
6	14	355.6	1.7/8	47.6	8 1/2	215.9	6.72	170.70	2.5/8	66.7	8 1/4	222.3	12	1	25.4	11 1/4	292.1
8	16 1/2	419.1	2.3/16	55.6	10.5/8	269.9	8.72	221.50	3	76.2	10 1/4	273.1	12	1.1/8	28.6	13 1/4	349.3
10	20	508.0	2 1/2	63.5	12 1/2	323.9	10.88	276.40	3.3/8	85.7	13 1/4	342.9	16	1 1/4	31.8	17 1/4	431.8
12	22	558.8	2.5/8	66.7	15	381.0	12.88	327.20	3.5/8	92.1	15 1/4	400.1	20	1 1/4	31.8	19 1/4	489.0
14	23 1/2	603.3	2 3/4	69.9	16 1/2	412.8	14.14	359.20	3.11/16	93.7	17 1/4	431.8	20	1.3/8	34.9	20 1/4	527.1
16	27	685.8	3	76.2	18 1/2	469.9	16.16	410.50	4.3/16	106.4	18 1/4	495.3	20	1 1/2	38.1	23 1/4	603.3
18	29 1/4	743.0	3 1/4	82.6	21	533.4	18.18	461.80	4.5/8	117.5	21 1/4	546.1	22	1.5/8	41.3	25 1/4	654.1
20	32	812.6	3 3/4	88.9	23	584.2	20.20	513.10	5	127.0	24	609.6	24	1.5/8	41.3	28 1/4	723.9
22	34 1/4	870.0	3 3/4	95.3	25 1/2	641.4	22.22	564.40	5 1/4	133.4	26 1/4	666.8	24	1 1/2	44.5	30.5/8	777.9
24	37	939.8	4	101.6	27 1/2	692.2	24.25	616.00	5 1/2	139.7	28 1/4	717.6	24	1.7/8	47.6	33	838.2

NOTES : Dimensions of Thickness Q & of Length through Hub Y include thickness of raised 1/16 inch (1.6mm) Diameter of bolt-holes shall not be 1/8" (3.2mm) greater than the diameter of bolt.

TABLE D

FOR WORKING STEAM PRESSURE UPTO 50 LBS PER SQ. INCH

Nominal Pipe Size	O.D. of Pipe	O.D.	P.C. D.	No. of Bolt	Dia of Bolt	Thickness
1 / 2"	21.3	95.3	66.7	4	12.7	4.8
3 / 4"	26.7	101.3	73.0	4	12.7	4.8
1"	33.4	114.3	82.6	4	12.7	4.8
1-1/4"	42.2	120.7	87.3	4	12.7	6.4
1-1/2"	48.3	133.4	98.4	4	12.7	6.4
2"	60.3	152.4	114.3	4	15.9	7.9
2-1/2"	73.0	165.1	127.0	4	15.9	7.9
3"	88.9	184.2	145.1	4	15.9	9.5
3-1/2"	101.6	203.2	165.1	4	15.9	9.5
4"	114.3	215.9	177.8	4	15.9	9.5
5"	141.3	254.0	209.6	8	15.9	12.7
6"	168.3	279.4	235.6	8	15.9	12.7
7"	190.5	304.8	260.4	8	15.9	12.7
8"	219.1	336.6	292.1	8	15.9	12.7
9"	244.5	368.3	323.9	8	15.9	15.9
10"	273.0	406.4	355.6	8	19.1	15.9
12"	323.9	457.2	406.4	12	19.1	15.9
14"	355.6	527.1	469.6	12	22.2	19.1
16"	406.4	577.9	520.7	12	22.2	19.1
18"	457.2	641.4	584.2	12	22.2	22.2
20"	508.0	704.9	641.4	16	22.5	25.4
24"	609.6	825.5	755.7	16	25.4	28.6

TABLE E

FOR WORKING STEAM PRESSURE UPTO 100 LBS PER SQ. INCH

Nominal Pipe Size	O.D. of Pipe	O.D.	P.C. D.	No. of Bolt	Dia of Bolt	Thickness
1 / 2"	21.3	95.3	66.7	4	12.7	6.4
3 / 4"	26.7	101.3	73.0	4	12.7	6.4
1"	33.4	114.3	82.6	4	12.7	7.1
1-1/4"	42.2	120.7	87.3	4	12.7	7.9
1-1/2"	48.3	133.4	98.4	4	12.7	8.7
2"	60.3	152.4	114.3	4	15.9	9.5
2-1/2"	73.0	165.1	127.0	4	15.9	10.3
3"	88.9	184.2	145.0	4	15.9	11.1
3-1/2"	101.6	203.2	165.1	8	15.9	11.9
4"	114.3	215.9	177.8	8	15.9	12.7
5"	141.3	254.0	209.6	8	15.9	14.3
6"	168.3	279.4	235.6	8	19.1	17.5
7"	190.5	304.8	260.4	8	19.1	19.1
8"	219.1	336.6	292.1	8	19.1	19.1
9"	244.5	368.3	323.9	12	19.1	20.6
10"	273.0	406.4	355.6	12	19.1	22.2
12"	323.9	457.2	406.4	12	22.2	25.4
14"	355.6	527.1	469.6	12	22.2	25.4
16"	406.4	577.9	520.7	12	22.2	25.4
18"	457.2	641.4	584.2	16	22.2	28.6
20"	508.0	704.9	641.0	16	22.2	31.8
24"	609.6	825.5	755.7	16	25.4	38.1

TABLE F FOR WORKING STEAM PRESSURE ABOVE 100 LBS AND UPTO 150 LBS PER SQ. INCH

Nominal Pipe Size	O.D. of Pipe	O.D.	P.C. D.	No. of Bolt	Dia of Bolt	Thickness
1 / 2"	21.3	95.3	66.7	4	12.7	9.5
3 / 4"	26.7	101.3	73.0	4	12.7	9.5
1"	33.4	120.7	87.3	4	15.9	9.5
1-1/4"	42.2	133.4	98.4	4	15.9	12.7
1-1/2"	48.3	139.7	104.8	4	15.9	12.7
2"	60.3	165.1	127.0	4	15.9	15.9
2-1/2"	73.0	184.2	145.0	8	15.9	15.9
3"	88.9	203.2	165.1	8	15.9	15.9
3-1/2"	101.6	215.9	177.8	8	15.9	19.1
4"	114.3	228.6	190.5	8	15.9	19.1
5"	141.3	279.4	235.0	8	19.1	22.2
6"	168.3	304.8	260.4	12	19.1	22.2
7"	190.5	336.6	292.1	12	19.1	22.2
8"	219.1	368.3	323.9	12	19.1	25.0
9"	244.5	406.4	355.6	12	22.2	25.0
10"	273.0	431.8	381.0	12	22.2	25.0
12"	323.9	489.0	438.2	16	22.2	28.6
14"	355.6	552.5	495.3	16	25.4	31.8
16"	406.4	609.6	552.5	20	25.4	31.8
18"	457.2	673.1	609.6	20	28.6	34.9
20"	508.0	736.6	673.1	24	28.6	38.1
24"	609.6	850.9	781.1	24	31.8	41.3

TABLE H For working Steam pressure ABOVE 150 LBS AND UPTO 250 LBS PER SQ. INCH

Nominal Pipe Size	O.D. of Pipe	O.D.	P.C. D.	No. of Bolt	Dia of Bolt	Thickness
1 / 2"	21.3	114.3	82.6	4	15.9	12.7
3 / 4"	26.7	114.3	82.6	4	15.9	12.7
1"	33.4	120.7	87.3	4	15.9	14.3
1-1/4"	42.2	133.4	98.4	4	15.9	17.0
1-1/2"	48.3	139.7	104.8	4	15.9	17.0
2"	60.3	165.1	127.0	4	15.9	19.1
2-1/2"	73.0	184.2	145.0	8	15.9	19.1
3"	88.9	203.0	165.1	8	15.9	22.2
3-1/2"	101.6	215.9	177.8	8	15.9	22.2
4"	114.3	228.6	190.5	8	15.9	25.4
5"	141.3	279.4	235.0	8	19.1	28.6
6"	168.3	304.8	260.4	12	19.1	28.6
7"	190.5	336.6	292.1	12	19.1	31.8
8"	219.1	368.3	323.9	12	19.1	31.8
9"	244.5	406.4	355.6	12	22.2	34.9
10"	273.0	431.8	381.0	12	22.2	34.9
12"	323.9	489.0	438.2	16	22.2	38.1
14"	355.6	552.5	495.3	16	25.4	41.3
16"	406.4	609.6	552.5	20	25.4	44.5
18"	457.2	673.1	609.6	20	28.6	47.6
20"	508.0	736.6	673.1	24	28.6	50.8
24"	609.6	850.9	781.1	24	31.8	57.2



The following table represents size range, product standards and material grades of forged high pressure fittings, screwed, like stainless steel, carbon steel & alloy steel etc. The range includes :-



MATERIAL TYPE:-

Stainless Steel	ASTM A182 F304/304L/ 304H/ 316/ 316L/ 317/ 317L/ 321/ 310/ 347/ 904L etc.
Carbon Steel	ASTM A105/ A105N/ A694 F42/46/52/56/60/65/70/ A350LF3/ A350 LF2 etc.
Alloy Steel	ASTM A182 F1/F5/F9/F11/F22/F91etc.
Others	Monel, Nickel, Inconel, Hastalloy, Copper, Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead, etc.
Type	Elbow, Tee, Union, Cross, Coupling, Cap, Bushing, Plug, Swage Nipple, Welding Boss, Hexagon Nipple, Barrel Nipple, Welding Nipple, Parraler Nipple, Street Elbow, Hexagon Nut, Hose Nipple, Bend, Adapter, Insert, Cross, Weldolet, Elbowlet, Sockolet, Thredolet, Nipolet Letrolet, etc.
Size Range	1/8" NB to 4" NB (Threaded)
Wall Thickness	150#, 3000#, 6000# & 9000#.

Used to allow of fluids through desired sizes of flowing cross - section with diversion of flow to the desired points under normal conditions.

NOTE : FOR 12.7 MM AND 15.87 BOLTS DIA THE DIAMETERS OF THE HOLES WILL BE 1.58MM LARGER AND FOR 19.01 AND ABOVE THE HOLE DIA WILL BE 3.17 LARGER.

INDUSTRIAL VALVES

The following table represents size range, product standards and material grades of forged high pressure fittings, screwed, like stainless steel, carbon steel & alloy steel etc.

The range includes:

VALVES TYPE :-

Type of Valves Available in MS, SS, CI, IC, Brass, etc.	<ul style="list-style-type: none"> • Ball Valves • Gate Valves • Globe Valves • Non Return Valves • Butterfly Valves 	<ul style="list-style-type: none"> • Spherical Disc Valves • Strainer Valves • Din Globe Valves • Din Non Return Valves
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M.S. ANGEL

Size in mm	Weight in kgs. per feet	Weight in kgs. per Mtr.
20X20X3	0.274	0.899
25X25X3	0.335	1.099
25X25X5	0.548	1.800
31X31X3	0.390	1.280
35X35X5	0.792	2.599
37X37X3	0.518	1.700
40X40X3	0.548	1.798
40X40X5	0.915	3.002
40X40X6	1.066	3.498
50X50X5	1.158	3.799
50X50X6	1.372	4.502
60X60X6	1.645	5.397
65X65X6	1.767	5.798
65X65X8	2.346	7.697
65X65X10	2.864	9.400
75X75X6	2.072	6.798
75X75X8	2.712	8.898
75X75X10	2.072	10.998
80X80X8	2.925	9.597
90X90X6	2.499	8.199
90X90X8	3.292	10.801
90X90X10	4.084	13.400
100X100X6	2.804	9.200
100X100X8	3.687	12.097
100X100X10	4.545	14.912
100X100X12	5.395	17.701
110X110X2	5.973	19.600
130X130X10	5.973	19.600

M.S. BEAMS

Size in mm	Weight in kgs. per feet	Weight in kgs.
100x50	2.712	8.900
125x75	4.053	13.300
150x75	4.571	14.997
175x85	5.943	19.499
200x100	7.893	25.897
250x125	11.612	38.099
300x140	14.782	48.500
350x140	16.125	52.906
400x140	19.080	62.601
450x150	22.280	73.100
500x180	26.730	87.700
600x210	37.370	122.600

M.S. CHANNELS

Size in mm	Weight in kgs.	Weight in kgs.
75x40	2.172	7.126
100x50	2.925	9.597
125x65	3.992	13.098
150x75	5.120	16.799
175x75	5.973	19.597
200x75	6.796	22.298
250x80	9.326	30.599
300x90	11.063	36.298
400x400	19.270	50.300
150x150x10	6.950	22.803
150x150x12	8.290	27.199
150x150x16	10.911	35.799
150x150x20	13.441	44.100

CHEQUERED PLATES

Size in mm	Weight in kgs. per Sq. / Ft.	Weight in kgs. per Sq. / Mt.
5	4.210	45.300
6	4.942	53.200
8	6.400	68.900
10	7.860	84.600
12	9.318	100.300

GALVANISED SHEETS

Gauge	MM	Weight in kgs. per Sq. / Ft.	Weight in kgs. per Sq. / Mt.
16	1.60	1.170	12.596
18	1.20	0.936	10.072
20	0.91	0.760	8.070
22	0.71	0.606	6.527
24	0.63	0.490	5.277
26	0.50	0.396	4.267
28	0.40	0.324	3.486
30	0.31	0.266	2.866



INDUSTRIES WE SERVE



IRON & STEEL PLANT



MINES



DISTILLERIES



CEMENT PLANT



PAPER INDUSTRIES



FERTILIZER INDUSTRIES



CHEMICAL INDUSTRIES



SOLAR ENERGY



BEVERAGE INDUSTRIES



OIL & GAS INDUSTRIES



REFINERY PLANT



TEXTILE INDUSTRIES



PHARMACY INDUSTRIES



SUGAR INDUSTRIES



DAIRY INDUSTRIES



FOOD INDUSTRIES



AUTOMOBILE INDUSTRIES



POWER PLANT

Sophisticated design, unbeatable quality, rapid assembly and excellent safety - that is what **URBAN METAL GROUP** stands for. So, take the time to discover our wide range of certified glass handrails, glass adapters and glass clamps, as well as our many other innovative solutions for top-quality Stainless Steel Structural work.

URBAN's system are renowned for their flexibility. Thanks to their modular design, you can mix and match components in any way you wish, creating truly unique handrail. That is how, together, we bring your vision to life.

OUR FACILITIES

- Customized Designs
- In House Production
- Professional & Experienced Team
- Turnkey Solutions



AIRPORTS



HOSPITAL



MALLS & CINEMA



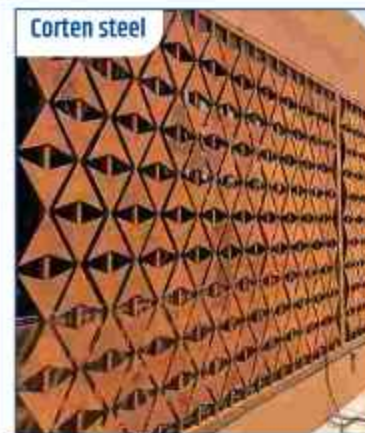
RESIDENTIAL



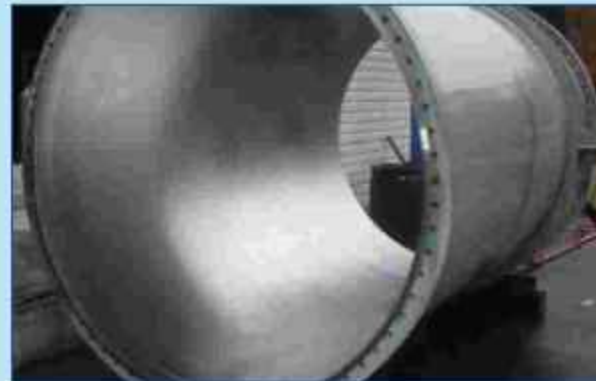
COMMERCIALS



TRANSPORTATION



We are engaged in offering excellent SS Tube of all lengths and sizes Electropolishing service to our valued customers. In addition, we manufacture and supply Orthopedic implants.



OTHER SERVICE



Fabrication Work



Water Treatment



Laser Cutting Work



Labour Work
Contractor



All type of
Project work

WEIGHT FORMULA

WEIGHT OF STAINLESS STEEL / CARBON STEEL PIPES & TUBES

OD (mm) - W.T. (mm) X W.T. (mm) X 0.022466 = KG / MTR.

WEIGHT OF STAINLESS STEEL SHEET

Length (mm) x Width (mm) x Thk. (mm) x 8 = KG. / SHEET

WEIGHT OF STAINLESS STEEL SHEET

Length (mm) x Width (mm) x Thk. (mm) x 7.85 = KG. / SHEET

WEIGHT OF STAINLESS STEEL SHEET CIRCLE & BLANKS

O.D. (mm) x O.D. (min) x Thk. (mm) / 160 / 1000= KG./PCS.

WEIGHT OF STAINLESS STEEL ROUNDS

Dia. (mm) x Dia. (mm) x 0.00623 = KG./ MTR.

WEIGHT OF STAINLESS STEEL HEXAGONAL RODS

Dia. (mm) x Dia. (mm) x 0.00679= KG. / MTR.

WEIGHT OF STAINLESS STEEL SQUARE RODS

Dia. (mm) x Dia. (mm) x 0.00787= KG. / MTR.

WEIGHT OF COPPER PIPES

O.D. (mm) - W.T. (mm) x W.T. (mm) x 0.0285 = KG / MTR.

WEIGHT OF ALUMINUM PIPES

O.D. (mm) - W.T. (mm) x W.T. (mm) x 0.0282 = KG / MTR.

WEIGHT OF ALUMINUM SHEET

Length (mtr.) x Width (mm) x Thk. (mm) x 2.66= KG. / SHEET

WEIGHT OF LEAD SHEET

Length (mtr.) x Width (mm) x Thk. (mm) x 11.2 = KG. / MTR.

SHEET WIDTH REQD. FOR ROLLED & WELDED PIPE

O.D. (mm) - Thk.(mm) x 3.14 = SHEET WIDTH (mm)

WEIGHT FOR SQUARE / RECTANGLE PIPES

Length from 4 Angle (OD) / 3.14 - Thk. (mm) x Thk. (mm) x 0.00756
= KG. / PER FEET

WEIGHT FOR CONVERSION OF MTR. TO FEET

Weight of 1 Mtr. 3.2808 = Feet

FORMULA FOR HEALTHY BUSINESS

Honesty + Quality of Goods + Quick Service
+ Reasonable rate = Good Health of Business

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PRAVIN PATEL
+91 82001 49003

KAMLESH CHAUDHARY
+91 95584 54081



Shop No. 4/2, Janak Industrial Estate,
Chakudiya Mahadev Road, Rakhial,
Ahmedabad, 380 023 Gujarat



info@urbanmetals.in
urbanmetalindustries@gmail.com



www.urbanmetals.in

We provide quality, what customer needs.