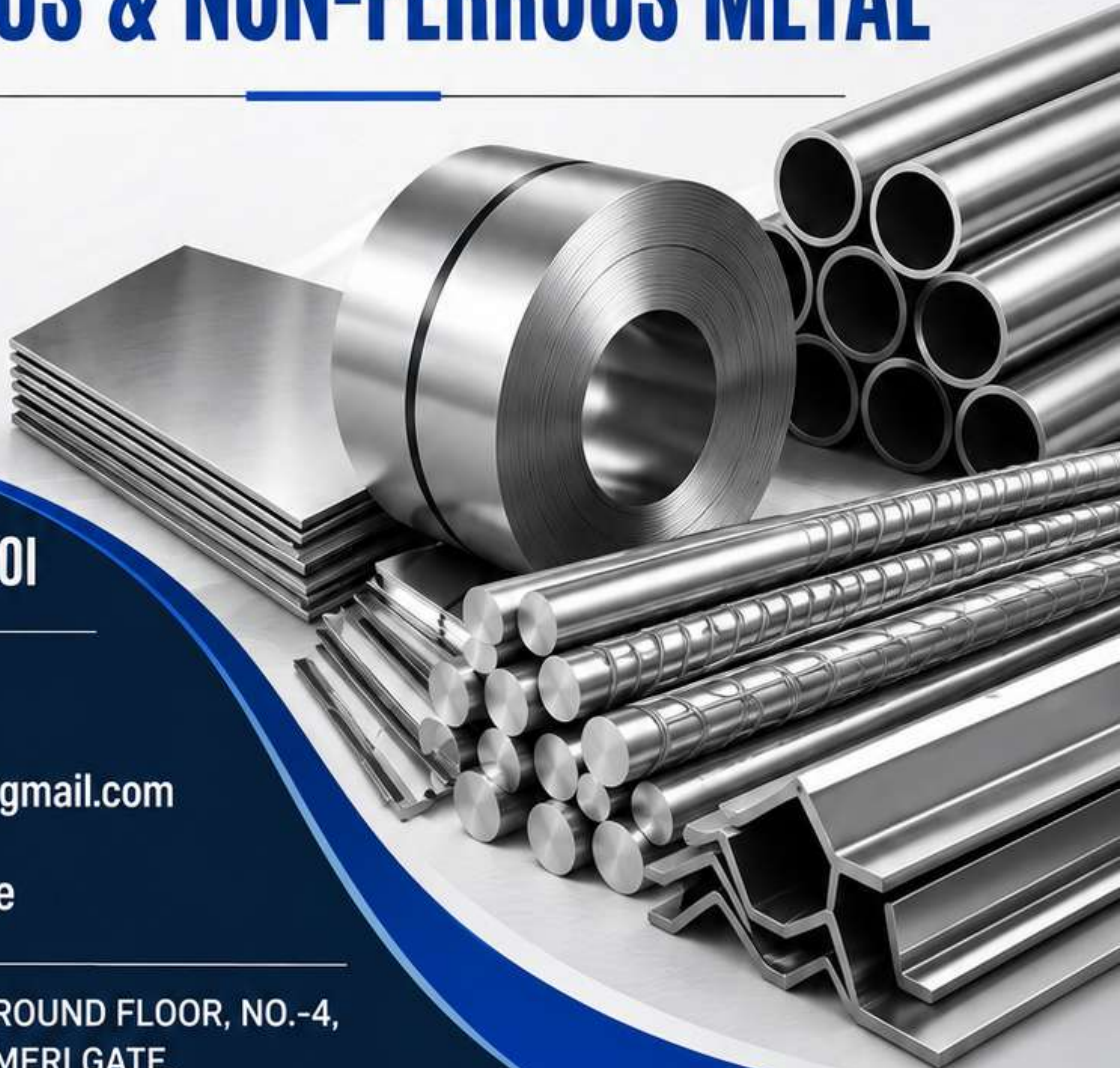




SURYA STEEL

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TECHNICAL HANDBOOK OF FERROUS & NON-FERROUS METAL



 **SUBASH BISHNOI**

 9717416525

 suryasteel6525@gmail.com

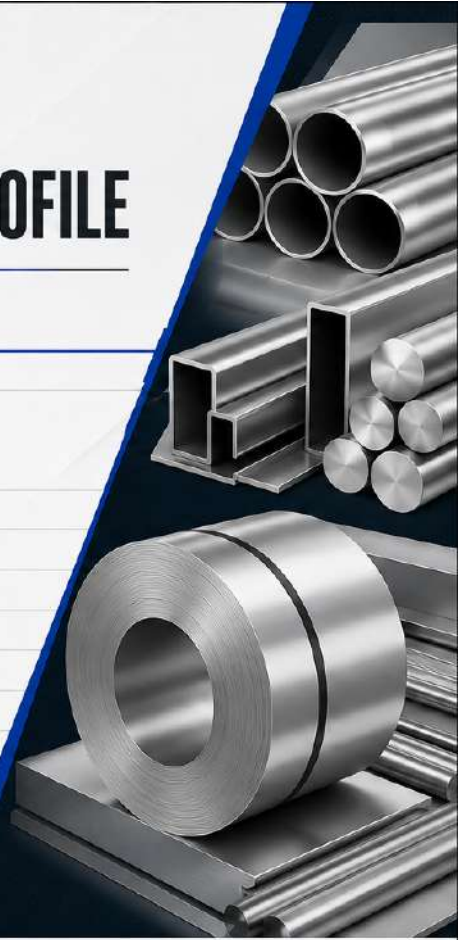
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KUNDEWALAN, AJMERI GATE,
NEW DELHI - 110006



COMPANY PROFILE

Company Name	: SURYA STEEL
Address	: 772-774, UPPER GROUND FLOOR, NO.-4, KUNDEWALAN, AJMERI GATE, NEW DELHI - 110006
Contact No.	: 9717416525
Pin Code	: 110006
City	: New Delhi
Head Office	: Delhi
Country	: India
Business Type	: Importer, Stockists & Suppliers
Proprietor	: Subash Bishnoi
Bank	: HDFC Bank
E-mail	: suryasteel6525@gmail.com
Website	: suryasteel.online
GSTIN	: 07APUPC8808H1ZI



772-774, UPPER GROUND FLOOR, NO.-4,
KUNDEWALAN, AJMERI GATE,
NEW DELHI - 110006



9717416525



suryasteel6525@gmail.com



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Surya Steel is one of major importers, dealers and stockists of a wide range of Steel Pipe, Stainless Steel Pipe, Ferrous and Non-Ferrous Metals. Now one of the successful company in India with rapid growth. We have focused at large on our customers through years of experiences and have gained a strong client database which has made us one of the Major Suppliers of Ferrous and Non-Ferrous Metals to the prominent organisations in the Indian territory including Fertilizers, Heavy Machine Tool Companies, Chemical Plants, Power Sector, Distrilleries, Refineries etc.

Our Marketing and sales team with highly qualified employees are much dedicated and loyal to their work and they have not only increased our reputation as a Company, but also have developed trust and understanding through years of services.

Today we are capable to manufacture world class Pipe-Fittings & Flanges Strictly as per the requirements of our customers with strict quality control in **STAINLESS STEEL (AISI 304,304L, 321, 316, 316L, 317, 317L, 310, 310S etc.,) CARBON STEEL, ALLOY STEEL, HASTALLOY, MONEL, INCONEL, COPPER** and **BRASS**. We are specialists in Manufacturing of S.S. Pipe Fittings, Dairy Fittings and all types of Pipe Fittings of Elbows, Tees etc. in Raised Face, Lapped Joint Face, Large Male-Female, Small Male-Female, Large Tongue & Groove, Small Tongue & Groove, Ring joint and Flanges. Pipe Fittings & Flanges as per special requirements also shall be manufactured by us.

We are extremely particular about quality and this is reflected in our products. We have adopted stringent quality measures to ensure high quality in accordance to the relevant Standards & Codes.

Our mission is to provide the best customers services by supplying world class materials strictly as per the requirements of our clients at reasonable rates irrespective of the quantities small or big, but in respect of agreed delivery time.

We are very keen to start long and fruitful business relationship with any reputed organisation in the world.



9717416525



suryasteel6525@gmail.com



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AJMERI GATE, NEW DELHI – 110006

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Mobile: 9717416525



E-mail: suryasteel6525@gmail.com



Website: suryasteel.online

CHEMICAL COMPOSITION OF STAINLESS STEEL / MECHANICAL PROPERTIES

Grade design ation	C %	MN %	SI %	S %	P %	CR %	NI %	MO %	TI %	UTS		YS % Kg/mm ² min	% EL Min	R.A %
AISI	MAX	MAX	MAX	MAX	MAX					Kg/ mm ² min	(0.2% Offset Kg/mm ² min		Min	
302	0.15	2.00	0.75	0.030	0.045	17.00	8.00			53	21		40	50
						19.00	10.00							
304	0.08	2.00	0.75	0.030	0.045	18.00	8.00			53	21		40	50
						20.00	12.00							
304L	0.03	2.00	0.75	0.030	0.045	18.00	8.00			53	21		40	50
						20.00	12.00							
309	0.20	2.00	0.75	0.030	0.045	22.00	12.00			53	21		40	50
						24.00	15.00							
309S	0.08	2.00	0.75	0.030	0.045	22.00	12.00			53	21		40	50
						24.00	15.00							
310	0.25	2.00	0.75	0.030	0.045	24.00	19.00			53	21		40	50
						26.00	22.00							
310S	0.08	2.00	0.75	0.030	0.045	24.00	19.00			53	21		40	50
						26.00	22.00							
316	0.08	2.00	0.75	0.030	0.045	16.00	10.00	2.00		53	21		40	50
						18.00	14.00	3.00						
316L	0.03	2.00	0.75	0.030	0.045	16.00	10.00	2.00		53	21		40	50
						18.00	14.00	3.00						
316Ti	0.08	2.00	0.75	0.030	0.045	16.00	10.00	2.00	5 x C					
						18.00	14.00	3.00	min					
317	0.08	2.00	0.75	0.030	0.045	16.00	10.00	3.00						
						18.00	14.00	4.00						
321	0.08	2.00	0.75	0.030	0.045	17.00	9.00		5xC	53	21		40	50
						19.00	12.00		min					
347	0.08	2.00	0.75	0.030	0.045	17.00	9.00	NS+	To					
						19.00	13.00	10xC	min					
410	0.15	1.00	0.75	0.030	0.040	11.50				49	28		20	50
						13.50								
420	0.15	1.00	0.75	0.030	0.040	12.00				49	28		20	45
						14.00								
430	0.12	1.00	0.75	0.030	0.040	16.00				49	28		20	45
						18.00								
431	0.20	1.00	0.75	0.030	0.040	15.00				49	28		20	45
						17.00								



9717416525



suryasteel6525@gmail.com



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suryasteel6525@gmail.com



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STAINLESS STEEL SEAMLESS PIPE DIMENSIONS IN MM & WEIGHT PER KG/MTR.

NOMINAL CORE		SCHEDULE 5 S		SCHEDULE 10 S		SCHEDULE 20 S		SCHEDULE 40 S		SCHEDULE 80 S		SCHEDULE 160 S		SCHEDULE X X S	
MM	Inch	WT mm	Weight (KG/M)	WT mm	Weight (KG/M)	WT mm	Weight (KG/M)	WT mm	Weight (KG/M)	WT mm	Weight (KG/M)	WT mm	Weight (KG/M)	WT mm	Weight (KG/M)
3	1/8	10.3	-	1.24	0.28	-	-	1.73	0.37	2.41	0.47	-	-	-	-
6	1/4	13.7	-	1.65	0.49	-	-	2.24	0.630	3.02	0.80	-	-	-	-
10	3/8	17.1	-	1.65	0.63	-	-	2.31	0.840	3.20	1.10	-	-	-	-
15	1/2	21.3	1.65	2.11	1.00	2.30	1.07	2.77	1.27	3.73	1.62	4.75	1.94	7.47	2.55
20	3/4	26.7	1.65	2.11	1.28	2.55	1.52	2.87	1.69	3.91	2.20	5.56	2.90	7.82	3.64
25	1	33.4	1.65	2.77	2.09	2.55	1.94	3.38	2.50	4.55	3.24	6.35	4.24	9.09	5.45
32	1.1/4	42.2	1.65	2.77	2.70	3.00	2.90	3.56	3.39	4.85	4.47	6.35	5.61	9.70	7.77
40	1.1/2	48.30	1.65	2.77	2.70	3.00	2.90	3.56	3.399	5.06	4.47	6.35	5.61	9.70	7.77
50	2	60.3	1.65	2.77	3.93	3.00	4.24	3.91	5.44	5.54	7.48	7.74	11.11	11.07	13.44
65	2.1/2	73.0	2.11	3.69	5.26	4.00	6.81	5.16	6.63	7.01	11.41	9.53	14.91	14.02	20.39
80	3	88.9	2.11	4.51	6.45	4.00	8.37	5.49	11.29	7.62	15.27	11.1	21.30	15.24	27.68
100	4	114.3	2.11	5.84	8.36	4.50	12.18	6.02	16.07	8.56	22.32	13.49	33.54	17.12	41.03
125	5	141.3	2.77	9.47	11.57	5.00	16.80	6.55	21.8	9.53	30.97	15.88	49.11	19.05	57.43
150	6	168.3	2.77	11.32	13.84	6.35	25.36	7.11	28.26	11.0	42.56	18.25	67.53	21.95	79.22
200	8	219.1	2.77	14.79	19.96	6.35	33.31	8.18	42.55	12.7	64.64	23.01	111.27	22.23	107.92
250	10	273.1	3.40	22.63	8.76	6.35	41.77	8.74	60.31	15.1	96.01	28.58	172.33	25.40	155.15
300	12	323.9	3.96	31.25	11.30	6.35	49.7	9.53	73.88	17.45	132.08	33.32	238.76	25.40	186.97
350	14	355.6	3.96	34.36	41.13	7.92	67.80	11.13	94.59	Formula : Pipe Weight = (OD-WT) × WT × 0.02466 × Kg/Mtr Permissible variation in out of Diameter (mm)					
400	16	406.4	4.19	41.56	47.29	7.92	77.83	12.7	123.30						
450	18	457.0	4.19	46.81	53.26	7.92	87.71	14.27	155.80						
500	20	508.0	4.78	59.25	68.61	9.53	117.14	15.09	183.43						
600	24	610.0	5.54	82.47	94.45	9.53	141.12	17.48	255.41						

STAINLESS STEEL TUBE

Weight & Thickness of S.S. Pipe & Tubes for Boilers, Heat Exchangers

SIZE	O.D.	10G (3.25)	12G (2.64)	14G (2.03)	16G (1.62)	18G (1.210)	20G (0.91)	22G (0.71)
1/4	6.35	0.075	0.070	0.065	0.058	0.046	0.037	0.030
5/16	7.93	0.114	0.105	0.089	0.079	0.060	0.048	0.038
3/18	9.52	0.152	0.135	0.113	0.097	0.080	0.058	0.046
1/2	12.7	0.226	0.200	0.157	0.134	0.105	0.079	0.063
3/4	19.05	0.386	0.326	0.256	0.215	0.161	0.124	0.097
1	25.4	0.541	0.450	0.351	0.294	0.218	0.167	0.131
1.1/4	31.82	0.696	0.580	0.448	0.375	0.275	0.200	-
1.1/2	38.1	0.851	0.700	0.542	0.452	0.332	-	-
1.3/4	44.45	0.020	0.832	0.646	0.530	0.390	-	-
2	50.8	0.161	0.960	0.733	0.607	0.447	-	-
2.1/4	57.15	0.315	1.085	0.828	0.687	0.504	-	-
2.1/2	63.5	1.472	1.210	0.924	0.792	0.562	-	-
2.3/4	69.85	1.630	1.338	1.022	0.847	0.619	-	-
3	76.2	1.782	1.460	1.115	0.924	0.676	-	-
3.1/2	88.9	2.092	1.718	1.306	1.082	0.791	-	-
4	101.6	2.403	1.971	1.497	1.239	0.905	-	-
4.1/2	114.3	2.713	2.224	1.608	1.397	1.020	-	-
5	127.0	3.023	2.470	1.879	1.554	1.134	-	-
5.1/2	139.7	3.336	2.730	2.070	1.713	1.250	-	-
6	152.4	3.654	2.983	2.261	1.875	1.364	-	-
6.1/2	165.1	3.975	3.256	2.452	2.028	1.478	-	-



9717416525



suryasteel6525@gmail.com



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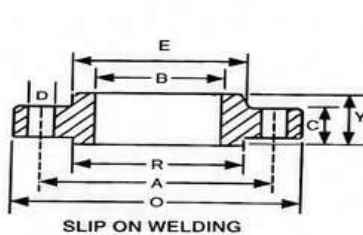
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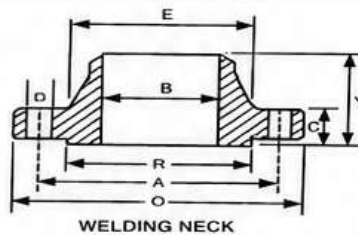
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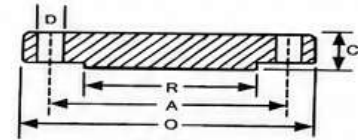
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SLIP ON WELDING



WELDING NECK



BLIND

DIMENSIONS OF CLASS 150 FLANGES (ANSI B 16.5)

(in mm)

Nominal Pipe Size (inch)	Flange Dia O (mm)	Dia of Bolt Circle R	Dia of Bolt Holes B	No. of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia of Bore		Dia of R/F R	Depth of Socket F
							S/O & S/W Y	W/N Y	LJ Y	S/O & SW B	LJ B		
1/2	15	88.9	60.3	15.9	4	11.1	14	46	16	22.2	22.9	34.9	10
3/4	20	98.4	69.9	15.9	4	12.7	14	51	16	27.7	28.2	42.9	11
1	25	107.9	79.4	15.9	4	14.3	16	54	17	34.5	34.9	50.8	13
1 1/4	32	117.5	88.9	15.9	4	15.9	19	56	21	43.2	43.7	63.5	14
1 1/2	40	127.0	98.4	15.9	4	17.5	21	60	22	49.5	50.0	73.0	16
2	50	152.4	120.7	19.0	4	19.0	24	62	25	61.9	62.5	92.1	17
2 1/2	65	177.8	139.7	19.0	4	22.2	27	68	29	74.6	75.4	104.8	19
3	80	190.5	152.4	19.0	4	23.8	29	68	30	90.7	91.4	127.0	21
4	100	228.6	190.5	19.0	8	23.8	32	75	33	116.1	116.8	157.2	-
5	125	254.0	215.9	22.2	8	23.8	35	87	36	143.8	144.4	185.7	-
6	150	279.4	241.3	22.2	8	25.4	38	87	40	170.7	171.4	215.9	-
8	200	342.9	298.5	22.2	8	28.6	43	100	44	221.5	222.2	269.9	-
10	250	406.4	362.0	25.4	12	30.2	48	100	49	276.2	277.4	323.8	-
12	300	482.6	431.8	25.4	12	31.8	54	113	56	327.0	328.2	381.0	-
14	350	533.4	476.3	28.6	12	34.9	56	125	79	359.0	360.2	412.8	-
16	400	596.9	539.8	28.6	16	36.5	62	125	87	410.5	411.2	469.9	-
18	450	596.0	577.9	31.7	16	39.7	67	138	97	461.8	462.3	533.4	-
20	500	698.5	635.0	31.7	20	42.9	71	143	103	513.1	514.3	584.2	-
24	600	812.8	749.3	34.9	20	47.6	81	151	111	616.0	616.0	692.2	-

DIMENSIONS OF CLASS 300 FLANGES (ANSI B 16.5)

(in mm)

Nominal Pipe Size (inch)	Flange Dia O (mm)	Dia of Bolt Circle R	Dia of Bolt Holes B	No. of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia of Bore		Dia of R/F R	Depth of Socket F
							S/O & S/W Y	W/N Y	LJ Y	S/O & SW B	LJ B		
1/2	15	95.2	66.7	15.9	4	14.3	21	51	22	22.2	22.9	34.9	10
3/4	20	117.5	82.6	19.0	4	15.9	24	56	25	27.7	28.2	42.9	11
1	25	123.8	88.9	19.0	4	17.5	25	60	27	34.5	34.9	50.8	13
1 1/4	32	133.3	98.4	19.0	4	19.1	25	64	27	43.2	43.7	63.5	14
1 1/2	40	155.6	114.3	22.2	4	20.7	29	67	30	49.5	50.0	73.0	16
2	50	165.1	127.0	19.0	8	22.3	32	68	33	61.9	62.5	92.1	17
2 1/2	65	190.5	149.2	22.2	8	25.4	37	75	38	74.6	75.4	104.8	19
3	80	209.5	168.3	22.2	8	28.6	41	78	43	90.7	91.4	127.0	21
4	100	254	200.0	22.2	8	31.8	46	84	48	116.1	116.8	157.2	-
5	125	279.4	215.9	22.2	8	36.6	49	97	51	143.8	144.4	185.7	-
6	150	317.5	269.9	22.2	12	36.6	51	97	52	170.7	171.4	215.9	-
8	200	381	330.2	25.4	12	41.3	60	110	62	221.5	222.2	269.9	-
10	250	444.5	387.4	28.6	16	47.7	65	116	95	276.2	277.4	323.8	-
12	300	520.5	450.8	31.7	16	50.8	71	129	102	327.0	328.2	381.0	-
14	350	584.2	514.4	31.7	20	56.4	75	141	111	359.0	360.2	412.8	-
16	400	647.7	571.5	34.9	20	57.2	81	144	121	410.5	411.2	469.9	-
18	450	711.2	628.6	34.9	20	60.4	87	157	130	461.8	462.3	533.4	-
20	500	774.7	685.8	34.9	24	63.5	94	160	140	513.1	514.4	584.2	-
24	600	914.4	812.8	41.3	24	69.9	105	167	152	616.0	616.0	692.2	-

1) Thickness "C" is Exclusive of Raised Face Thickness of 2 mm for Class 150 and 300.



9717416525



suryasteel6525@gmail.com



suryasteel.online



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9717416525



suryasteel6525@gmail.com



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B.S. 10 Table 'D'

Nominal Pipe Size (in mm)	Diameter of Flange	Diameter of Bolt Circle (PCD)	Number of Bolts	Diameter of Bolts	Thickness of Flange
mm	mm	mm	mm	mm	mm
15	95	67	4	13	5
20	102	73	4	13	5
25	114	83	4	13	5
32	121	87	4	12	6
40	133	98	4	13	6
50	152	114	4	16	8
65	165	127	4	16	8
80	184	145	4	16	10
100	216	178	8	16	10
125	254	210	8	16	13
150	279	235	8	16	13
200	337	292	8	16	13
250	406	356	8	16	16
300	457	406	12	19	16
350	527	470	12	22	19
400	578	521	12	22	19
450	641	584	12	22	22
500	705	641	16	22	25
600	826	756	16	25	29

B.S. 10 Table 'F'

Nominal Pipe Size (in mm)	Diameter of Flange	Diameter of Bolt Circle (PCD)	Number of Bolts	Diameter of Bolts	Thickness of Flange
mm	mm	mm	mm	mm	mm
15	95	67	4	13	10
20	102	83	4	13	10
25	121	87	4	16	10
32	133	98	4	16	13
40	140	105	4	16	13
50	165	127	4	16	16
65	184	145	8	16	16
80	203	165	8	16	16
100	229	191	8	16	19
125	279	235	8	19	22
150	305	260	12	19	22
200	368	324	12	19	25
250	432	381	16	22	25
300	489	438	16	22	29
350	552	495	16	25	32
400	610	552	20	25	32
450	673	610	20	29	35
500	737	673	24	29	38
600	851	781	24	32	38

B.S. 10 Table 'E'

Nominal Pipe Size (in mm)	Diameter of Flange	Diameter of Bolt Circle (PCD)	Number of Bolts	Diameter of Bolts	Thickness of Flange
mm	mm	mm	mm	mm	mm
15	95	67	4	13	6
20	102	73	4	13	6
25	114	83	4	13	7
32	121	87	4	13	8
40	133	98	4	13	9
50	152	114	4	16	10
65	165	127	4	16	10
80	184	145	4	16	11
100	216	178	8	16	13
125	254	210	8	16	14
150	279	235	8	19	17
200	337	292	8	19	19
250	406	356	8	19	22
300	457	406	12	22	25
350	527	470	12	22	25
400	578	521	12	22	25
450	641	584	12	22	29
500	705	641	16	22	32
600	826	756	16	25	38

B.S. 10 Table 'F'

Nominal Pipe Size (in mm)	Diameter of Flange	Diameter of Bolt Circle (PCD)	Number of Bolts	Diameter of Bolts	Thickness of Flange
mm	mm	mm	mm	mm	mm
15	114	83	4	16	13
20	114	83	4	16	13
25	121	87	4	16	14
32	133	98	4	16	17
40	140	105	4	16	17
50	165	127	4	16	19
65	184	145	8	16	19
80	203	165	8	16	22
100	229	191	8	16	25
125	279	235	8	19	29
150	305	260	12	19	29
200	368	324	12	19	32
250	432	381	16	22	35
300	489	438	16	22	38
350	552	495	16	25	41
400	610	552	20	25	44
450	673	610	20	29	48
500	737	673	24	29	51
600	851	781	24	32	57



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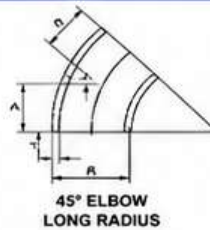
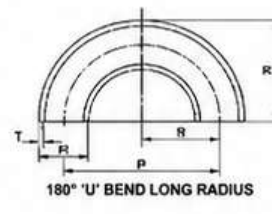
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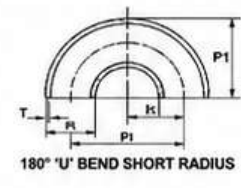
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90° ELBOW
LONG RADIUS90° ELBOW
SHORT RADIUS45° ELBOW
LONG RADIUS

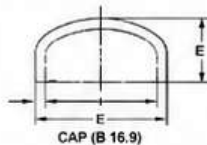
180° "U" BEND LONG RADIUS



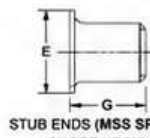
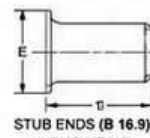
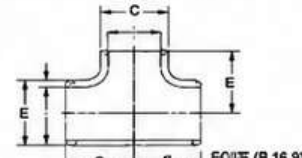
180° "U" BEND SHORT RADIUS

DIMENSIONS OF BUTTWELD FITTINGS (ANSI B 16.9 & B 16.28)

Nominal Pipe Size		Centre to End									Centre to Centre									Back to Face								
		OD D			90° L/R A			45° L/R B			90° S/R A1			180° L/R K			180° S/R P1			180° L/R K			180° S/R K1					
Inch.	mm	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max
1/2	15	21	22	23	36	38	40	14	16	18	-	-	-	60	76	83	-	-	-	41	48	55	-	-	-	-	-	-
3/4	20	26	27	28	38	38	40	17	19	21	-	-	-	69	76	83	-	-	-	36	43	50	-	-	-	-	-	-
1	25	32	33	34	38	48	40	20	22	24	23	25	27	69	76	83	44	51	58	49	56	63	34	41	48	-	-	-
1¼	32	41	42	43	48	54	50	23	25	27	30	33	34	86	95	102	57	64	71	63	70	77	45	52	59	-	-	-
1½	40	47	48	49	55	57	58	27	29	31	34	36	40	107	114	120	69	76	83	70	83	90	55	62	69	-	-	-
2	50	59	60	61	74	76	78	33	35	37	40	43	50	134	152	159	86	102	108	79	95	103	63	70	80	-	-	-
2½	65	72	73	74	90	93	97	40	44	46	50	54	60	164	191	196	102	127	134	95	106	134	78	86	107	-	-	-
3	80	88	89	90	112	114	116	49	51	53	63	67	78	222	229	236	145	152	159	152	159	166	114	121	128	-	-	-
4	100	114	114	116	150	152	154	62	64	66	80	85	96	286	305	312	196	203	210	203	210	217	152	159	166	-	-	-
5	125	140	141	142	188	190	192	77	79	81	100	102	114	378	381	384	248	254	257	254	260	267	189	197	204	-	-	-
6	150	167	168	171	227	229	231	93	95	97	150	152	154	450	457	464	298	305	312	306	313	320	230	237	244	-	-	-
8	200	219	220	222	303	305	307	123	127	129	200	203	216	602	610	617	400	406	413	407	414	421	305	311	320	-	-	-
10	250	273	274	277	379	381	383	157	159	161	252	254	256	752	762	772	498	506	518	511	518	525	384	391	398	-	-	-
12	300	323	324	326	454	457	460	187	190	193	305	305	305	914	921	927	600	619	620	616	619	626	460	467	474	-	-	-
14	350	355	356	358	530	533	536	218	222	223	356	358	359	1067	1076	1077	701	711	721	704	711	718	526	533	540	-	-	-
16	400	406	403	406	607	610	613	251	254	257	403	406	409	1209	1219	1229	803	813	823	806	813	820	603	610	617	-	-	-
18	450	457	457	460	685	688	689	282	286	289	457	460	465	1432	1437	1440	904	914	924	907	914	921	682	689	696	-	-	-
20	500	503	508	514	759	762	765	315	318	321	505	508	511	1514	1524	1534	1000	1016	1026	1009	1016	1023	755	762	769	-	-	-
24	600	605	605	610	911	914	917	378	381	384	607	610	613	1819	1829	1839	1290	1300	1312	1219	1226	1226	907	914	921	-	-	-



CAP (B 16.9)

STUB ENDS (MSS SP 43)
(SHORT NECK)STUB ENDS (B 16.9)
(LONG NECK)

EQUAL TEES (B 16.9)

DIMENSIONS OF BUTTWELD FITTINGS (ANSI B 16.9 & MSS SP 43)

Nominal Pipe Size		OD			CAP			Stubend		B 16.9			MSS SP 43			Equal Tees					
		D			E			G		M			F			C			M		
Inch.	mm	Min	Nom	Max	Min	Nom	Max	Min	Max	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Min	Nom	Max
1/2	15	20	21	22	22	25	28	34	35	74	76	78	49	51	53	23	25	27	23	25	27
3/4	20	26	27	28	22	25	28	42	43	74	76	78	49	51	53	27	29	31	27	31	31
1	25	32	33	34	35	38	41	50	51	100	102	104	49	51	53	36	38	40	36	38	40
1 1/4	32	41	42	43	35	38	41	63	64	100	102	104	49	51	53	46	48	50	46	48	50
1 1/2	40	47	48	49	38	41	44	72	73	100	102	104	49	51	53	55	57	60	55	57	60
2	50	59	60	61	43	44	47	91	92	150	152	154	62	64	66	62	64	66	62	64	66
2 1/2	65	72	73	74	50	51	54	104	105	150	152	154	62	64	66	74	76	78	74	76	78
3	80	88	89	90	46	51	54	126	127	150	152	154	62	64	66	84	86	88	84	86	88
4	100	114	114	116	60	64	67	156	157	150	152	154	74	76	78	103	105	107	103	105	107
5	125	140	141	142	69	70	72	185	186	200	203	205	74	76	78	123	124	126	123	124	126
6	150	167	168	171	82	89	96	215	216	201	203	205	87	89	91	141	144	145	141	143	145
8	200	219	220	222	101	106	109	269	270	252	254	256	100	102	104	178	180	182	178	180	182
10	250	273	274	277	120	127	134	322	324	252	254	256	125	127	129	214	216	218	214	216	218
12	300	323	324	326	146	152	159	379	381	252	254	256	150	152	154	257	257	254	257	254	257
14	350	355	356	358	160	158	167	411	413	302	305	308	150	152	154	270	270	282	270	282	282
16	400	463	406	410	171	178	185	468	470	302	305	308	150	152	154	302	305	308	302	305	308
18	460	493	406	410	196	203	236	463	433	302	305	308	150	152	154	342	305	309	342	346	349
18	450	457	457	460	196	209	210	531	533	302	305	308	150	152	154	343	346	349	343	346	349
20	500	503	508	514	222	229	236	582	584	302	305	308	150	152	154	384	384	384	384	384	384
24	600	605	605	610	250	260	267	690	692	302	305	308	150	152	154	429	432	435	429	432	435



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SHEETS, COILS, STRIPS

ITEMS	RANGE	FINISH
(1) S.S. Sheets	0.5 mm To 3 mm (thick)	CR
(2) S.S. Coils	0.2 mm To 6 mm (thick)	HR, CR
(3) S.S. Plates	4 mm To 50 mm (thick)	HR
(4) S.S. Flats	20 mm To 100 mm (width) 5 mm To 25 mm (thick)	HR
(5) S.S. Angles	20 mm To 100 mm (width) 3 mm To 10 mm (thick)	HR
(6) S.S. Circles	0.5 mm To 50 mm (thick) (Any Diameter)	HR, CR
(7) S.S. Designer Sheets	1 mm to 4 mm (thick)	Various Design

Grades available : 200, 300 & 400 series**WEIGHT PER SHEET**

U.S.A. / Gross britainline In kg/per sheet				U.S.A. / Gross britainline In kg/per m2	
Thickness in mm	Size in mm			Thickness in mm	Weight Kg / m2
	2000 x 1000	2500 x 1250	3000 x 1500		
0.50	8.00	12.50	-	0.50	4.00
0.56	8.96	14.00	-	0.56	4.43
0.63	10.08	15.75	-	0.63	5.04
0.75	12.00	18.75	-	0.75	6.00
0.88	14.08	22.00	-	0.88	7.04
1.00	16.00	25.00	-	1.00	8.00
1.13	18.00	28.25	-	1.13	9.04
1.25	20.00	31.25	-	1.25	10.00
1.38	22.00	34.50	-	1.38	11.04
1.50	24.00	37.50	54.00	1.50	12.00
1.75	28.00	43.75	63.00	1.75	14.00
2.00	32.00	50.00	72.00	2.00	16.00
2.25	36.00	56.25	81.00	2.25	18.00
2.50	40.00	62.50	90.00	2.50	20.00
2.75	44.00	68.75	99.00	2.75	22.00
3.00	48.00	75.00	108.00	3.00	24.00
3.25	52.00	81.25	117.00	3.25	26.00
3.50	56.00	87.50	126.00	3.50	28.00
3.75	60.00	93.75	135.00	3.75	30.00
4.00	64.00	100.00	144.00	4.00	32.00
4.25	68.00	106.00	153.00	4.25	34.00
4.50	72.00	112.50	162.00	4.50	36.00
5.00	80.00	125.00	180.00	5.30	46.00
5.50	88.00	137.50	198.00	5.50	40.00
5.50	96.00	150.00	216.00	5.50	44.00
6.00	104.00	150.00	214.00	6.00	48.00
6.50	112.00	162.00	234.00	6.50	52.00
7.00	122.00	175.00	252.00	7.00	56.00
7.50	120.00	187.50	270.00	7.50	60.00
8.00	128.00	200.00	288.00	8.00	64.00



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STAINLESS STEEL RODS

Size Range : 2.00 mm to 60.00 mm

Length : 6.00 Mtr.

Tolerances : h9 / h10 Standard

*From a size of 6 mm to 60 mm, the cut tolerance is +2 / -0 mm

*Customize Specifications & Bright Bar Tolerances

*Raw Material: Jindal, Viraj & Gujarat & Bhansali

**SEAMLESS & ERW :**

Specification

202, 304, 304L, 316, 316L, 310S, 321, 321H

**DIMENSION AND WEIGHT CHART OF STAINLESS STEEL ROD, HEXAGONAL BAR & SQUARE BAR
AS PER S.S. 316, 316L, 304
(316 ROUND BAR)**

SIZE (MM)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
3.00	0.05	0.02	0.30
3.17	0.06	0.02	0.32
4.00	0.10	0.03	0.58
4.76	0.14	0.04	0.84
5.00	0.16	0.05	0.95
6.00	0.23	0.08	1.37
7.00	0.31	0.09	1.85
8.00	0.41	0.12	2.45
9.00	0.52	0.16	3.10
10.00	0.64	0.19	3.85
12.00	0.92	0.28	5.50
14.00	1.25	0.38	7.50
16.00	1.63	0.50	9.80
18.00	2.07	0.63	12.40
20.00	2.56	0.78	15.35
25.00	4.00	1.22	24.00
30.00	5.76	1.76	34.60
35.00	7.85	2.39	47.10
40.00	10.24	3.12	61.45

SIZE (MM)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
45.00	12.95	3.94	77.70
50.00	16.00	4.87	96.00
55.00	19.30	5.89	115.80
60.00	23.04	7.02	138.20
65.00	27.04	8.25	162.30
70.00	31.36	9.56	188.15
75.00	36.00	10.97	216.00
80.00	41.00	12.48	246.00
85.00	46.28	14.08	277.70
90.00	51.84	15.78	311.05
95.00	57.76	17.58	346.60
100.00	64.00	19.48	384.00
110.00	77.44	23.60	464.65
120.00	92.16	28.10	552.95
130.00	108.16	33.00	648.95
140.00	125.44	38.20	752.65
150.00	144.00	43.80	864.00
160.00	163.84	49.84	983.00
180.00	207.36	63.10	1244.15

SIZE (MM)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
200.00	256.00	78.00	1536.00
220.00	309.76	94.40	1858.55
240.00	368.64	112.20	2211.85
250.00	400.00	122.00	2400.00
260.00	432.64	132.00	2595.85
280.00	501.76	152.80	3010.55
300.00	576.00	175.40	3456.00
320.00	655.36	199.60	3932.15
350.00	784.00	238.80	4704.00
400.00	1024.00	312.20	6144.00
450.00	1296.00	394.80	7776.00
500.00	1600.00	487.00	9600.00
550.00	1936.00	590.00	11616.00
600.00	2304.00	702.40	13824.00
650.00	2704.00	824.00	16224.00
700.00	3136.00	956.00	18816.00
750.00	3600.00	1097.00	21600.00
800.00	4096.00	1248.00	24576.00
900.00	5184.00	1578.00	31104.00

WEIGHT OF STEEL HEXAGON BAR

SIZE AF (mm)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
8	0.23	0.07	1.34
10	0.36	0.11	2.16
12	0.52	0.16	3.13
14	0.71	0.22	4.27

SIZE AF (mm)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
16	0.92	0.28	5.52
18	1.17	0.36	6.99
20	1.44	0.44	8.64
22	1.74	0.53	10.46

SIZE AF (mm)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
24	2.07	0.63	12.44
25	2.16	0.66	12.96
28	2.77	0.84	16.62
32	3.69	1.12	22.14

WEIGHT OF STEEL SQUARE BAR

SIZE AF (mm)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
6	0.22	0.07	1.30
8	0.40	0.12	2.42
10	0.62	0.19	3.72
12	0.89	0.27	5.32
14	1.21	0.37	7.26
16	1.58	0.48	9.50

SIZE AF (mm)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
18	2.00	0.61	12.02
20	2.47	0.75	14.82
22	2.98	0.90	17.88
24	3.55	1.08	21.30
25	3.86	1.18	23.16
28	4.83	1.47	28.98

SIZE AF (mm)	WEIGHT IN Kg.		
	Per Mtr.	Per Ft.	Per Piece 6 Mtr.
30	5.55	1.69	33.30
32	6.31	1.92	37.86
35	7.54	2.29	45.24
38	8.90	2.71	53.40
40	9.87	3.00	59.22
50	15.40	4.69	92.40



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PRODUCTS RANGE



STAINLESS STEEL : Sheets, Plates, Tubes, Pipes, Rods, Wires, Strips and Pipe fitting like Ball Valves, Elbow, bends, Stubend, Tees, Flanges, Reducer, Bolts and Nuts, Screws in the grade of AISI 304, 304L, 316L, 310, 321, 410 & 420 etc.

NON FERROUS : Copper, Brass, Aluminium, Phosphorous, Bronze, Gun Metal, Lead, Zinc, Tin Metal, Nickel, Monel, Inconel, Hastelloy in all Shapes and Sizes:-

We are also specialists in Copper Tubes Refrigeration quality of 50' and 100' coils in various sizes and thickness.

ALLOY STEELS : En-8, 9, 19, 24, 31, 36, 45, 47, 20, Mn-Cr5 etc. SAE 8620, OHNS, HCHCR, H.S.S. Magnese strips in all shapes and sizes.



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BUTT WELD FITTINGS

Range	- 15 NB to 1200 NB in Sch. 5, 10, 20, 30, 40, 60, 80, 100, 120, 140, 160, XXS
Type	- Bend – Long & Short Radius to 1.5D, 2D, 3D, 5D, 6D, 10D etc. Elbow – 45 Deg., 90 Deg., & 180 Deg. Tee – Equal Tee, Unequal Tee Reducer – Con. & Ecc. CAP, Nipple, Swage & Barrel, Stubend – Long & Short etc.
Stainless Steel	- ASTM A 403 WP – TP 304, 4L, L, 316, H, L, Ti, 309, 310, 317L, 321, 347, 904L, 220
Carbon Steel	- ASTM A234 WPB, A420 WPL6
Alloy Steel	- ASTM A234 WP – P5, P9, P11, P12, P21, P22, P91, & P92
Mild Steel & Galvanized	- ISI Material
Nickel Alloy	- Cupro Nickel, Hastelloy, Nickel, Monel, Inconel, Alloy 20 etc.
Other Ferrous Fitting	- DAIRY FITTINGS, AL & SO FER DRAWING
Other Services	- Polish, Heat Treatment, Galvanizing, Sand Blasting etc.
Test Certificate	- MTC, IBR TC, Lab. TC from Govt. App. Lab with Third Party Inspection

Stockists of :



Stockists of :



Quality Control Norms :

- ◆ Chemical Testing
- ◆ Dimension Inspection
- ◆ Hardness Testing
- ◆ Hydro Testing
- ◆ Radiography
- ◆ Tensile Testing
- ◆ Visual Inspection



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Three Pc Ball Valve



T C Ball Valve



Y-Type Strainer



Screwy Ball Valve



Camlock Coupling



TC Clamp



Tee



Elbow



Union



Elbow



Toe



Blind Flange



Reducing Elbow



Cross



Male Female Bush



Flange SORF



Long Stub End



Reducer



Hex Nipple



Forged Steel Cross



SW Coupling



Barrel Nipple



Check Nut



End Cap



High Pressure Tee



SW Tee



SW Elbow 45°



Sample Cock Valve



Weld Neck Flange



Float Valve



Two Way Valve (3WAY)



Three Way Valve (3WAY)



Tanker Valve



Butterfly Valve with Lever



Butterfly Valve with Gear



Mercer Valve with Union



Disk Filter with Union



In Line Filter



TC Butterfly Valve



Tanker Valve



Safety Ball Removing



Diaphragm Valve



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RFV with Union (SMS)



N R V Welded



Angular Valve



Reducer Concentric



Reducing Eccentric



Reducing Liner



Inline Sight Glass



DN 100, Side Glass



Welded Union



Tee



U-Bend



Bend



Din Union



SMS Union



Blind Nut



Bend 45°



Long Bend



Bend 45°



Boil Ferrt



C-Logger



Foot Valve



TC Clamp



Welded Clamp



Socket Clamp



NRV Vertical



Three Way Valve



Ball Valve



Union



Female Connector



Union Tee



Gate Valve



Gate Valve



Range Type Ball Valve



Three Way Manifold



Two Way Manifold



M/F Female Valve

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✉️ suryasteel6525@gmail.com

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📍 772-774, UPPER GROUND FLOOR, NO.-4, KUNDEWALAN, AJMERI GATE, NEW DELHI – 110006



S. No.	DESCRIPTION	FORMULA
1	Weight of Stainless Steel Pipes	$O.D. (mm) - W.T. (mm) \times W.T. (mm) \times 0.00756 = Kg. (per ft.).$
2	Weight of Stainless Steel Pipes	$O.D. (mm) - W.T. (mm) \times W.T. (mm) \times 0.0248 = Kg. (per mtr.).$
3	Weight of Stainless Steel Rounds	$Dia (mm) \times Dia (mm) \times 0.0019 kg (Per ft.)$
4	Weight of Stainless Steel Hexagonal Rods	$Dia (mm) \times Dia (mm) \times 0.00215 kg (Per ft.)$
5	Weight of Stainless Steel Square Rods	$Dia (mm) \times Dia (mm) \times 0.0024 kg (Per ft.)$
6	Weight of Stainless Steel Sheets	$(A) Length (mtr.) \times Width (mtr.) \times Thk (mm.) \times 8 = Kg (Per Sheet)$
7	Weight of Stainless Steel Circle in MM per PIECE	$Dia (mm) \times Dia (mm) \times Thk (mm) + 160000 = Weight Per Pc.$
8	Weight of Stainless Steel Flat in MM per ft.	$Weight \times -304 \times Thickness \times 8 = Weight Per ft.$
9	Weight of Copper Pipe	$O.D. (mm) - W.T. (mm) \times 0.0087 = kg (Per ft.)$
10	Weight of S.S. Sheets, Plate, Pipe, round, Hex, Circle, Square	$Flat \div 3 = Aluminium Weight Approx.$
11	Making of pipe from Sheet or Plate :	$O.D. - thick \times 3.14 = Width of Cutting Sheet of Plate$
12	Pressure Conversion :	$kg/mm^2 \times 1422.3 = Psi = kg / cm^2 \times 14.223$



1 Feet
= 0.3048 meter



1 Mtr.
= 3.2808 ft.



1 Inch
= 25.4 mm



1 pound
= 0.454 (45359243) kgs.



9717416525



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SURYA STEEL

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• INDUSTRIES WE SERVE •



PAPER MILLS

01



DAM PROJECT

02



SUGAR PLANT

03



POWER HOUSE

04



PETROCHEMICALS

05



OFFSHORE PLATFORM

06



FERTILIZER PLANT

07



STEEL PLANT

08



PHARMACEUTICALS

09



CHEMICAL &
ALLIED PLANTS

10



WE SUPPLY PREMIUM QUALITY STAINLESS STEEL PRODUCTS
THAT KEEP INDUSTRIES **STRONG AND FUTURE READY.**



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