



**Intercontinental
Technology
Limited.**



World class pipe fittings & flanges for
marine, offshore & sea water systems

www.itlcepz.com





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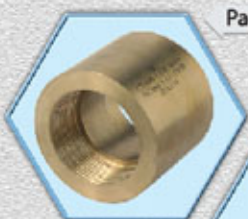
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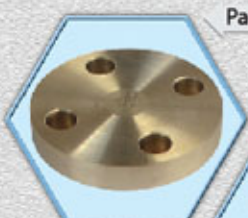
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World class pipe fittings & flanges for marine, offshore & sea water systems



OUR COMPANY

Intercontinental Technology Limited (ITL) is a 100% subsidiary of Amari Metals Limited, UK. Amari is a family of companies across three continents and is mainly engaged in manufacturing, stockholding, processing and distributing ferrous and non-ferrous metal alloys including aerospace grades. Amari is one of Europe's largest independent stockholders, processors and distributors of Aluminium, Steel, Titanium, Nickel and Copper Alloys.

ITL is a manufacturer of Copper-Nickel pipe fittings and flanges for marine, offshore and sea water systems. Since its inception in 1996 it has been manufacturing and exporting top quality Copper-Nickel fittings and flanges to marine and offshore industries across the globe with excellent track record.

ITL has its manufacturing unit at Chittagong Export Processing Zone, Bangladesh, an exclusive industrial zone specified for foreign and local export based industries. The facilities that the zone provides are second to none in the sub-continent. The zone is about 2 Km away from Chittagong sea port, main export-import hub of the country.



MANUFACTURING FACILITIES

Manufacturing unit of ITL was started as a Greenfield site in 1996 and has extended into number of buildings to accommodate increasing markets and demands. The factory is well equipped to produce a wide range of formed, forged and machined components.

The metal cutting section has plasma cutter, band and circular saws. The forming section has a bank of hydraulic presses with maximum capacity up to 850 Ton with required tooling for both cold and hot forming and forging. The machining section has latest CNC machining centres and other conventional lathes, drills, milling machines and purpose built machines. Heat treatment is done in clean natural gas fired furnace equipped with digital controllers and thermograph. For cleaning and surface finish there are acid pickling bath, surface grinders, polishers and shot blasting cabinets. Options of ink jet, electrolytic etching and vibro-etching are there for marking the products.

A well equipped inspection department ensures high quality of the products. All required non-destructive testing and measuring are done in-house. Third party destructive testing facility is also available through qualified testing laboratory. All master gauges of ITL are being calibrated periodically from NAMAS accredited laboratory in the UK and are being used regularly for in house calibration of the gauges and equipments in use.





QUALITY ASSURANCE & APPROVALS

Quality management system (QMS) of ITL is approved to ISO 9001 by Lloyd's as a manufacturer. Each batch of production at ITL is traceable at each stage of production from raw materials supplier up to final inspection of goods at ITL.

QMS of ITL is also approved to PED 97/23/EC by Lloyd's Register. In addition ITL holds PDA approval from renowned classification society ABS for Copper-Nickel fittings.

The workforce at ITL is seen as most valuable asset of the company as they are highly skilled, dedicated and customer focused. They are fully committed to meet customers' requirements as far as products and services of ITL are concerned.

Inspectors at ITL are highly trained and skilled and most of them are qualified to ASNT NDT Level II.



PRODUCTS

ITL mainly produces 90/10 Copper-Nickel butt weld, socket weld, threaded pipe fittings and flanges suitable for any sea water systems.

Raw materials of the finest quality sourced from internationally reputed vendors are only used for manufacturing. Major grades of 90/10 Copper-Nickel used for production at ITL are given in the following table with average chemical compositions and mechanical properties.

Grades	Cu %	Pb %	Fe %	Ni %	Mn %	S %	P %	Zn %	TI* %	C %	UTS N/mm ²	Yield N/mm ²	Elong %
EEMUA 144 7060X	Rem.	0.01 Max	1.5~ 2.0	10~ 11	0.5~ 1.0	0.02 Max	0.02 Max	0.2 Max	0.3 Max	0.05 Max	300	105	30
ASTM/ASME B/SB 466/151/171 C70600	Rem.	0.05 Max	1.0~ 1.8	9~ 11	1.0 Max			1.0 Max			260	90	30
ASTM/ASME B/SB 466/151/171 C70620	86.5 Min	0.02 Max	1.0~ 1.8	9~ 11	1.0 Max	0.02 Max	0.02 Max	0.5 Max		0.05 Max	260	90	30
DIN 86019 2.1972	Rem.	0.01 Max	1.5~ 1.8	9~ 11	1.5~ 1.0		0.02 Max	0.05 Max	0.2 Max	0.05 Max	290	90	30
BS 2871 CN 102	Rem.	0.01 Max	1.0~ 2.0	10~ 11	1.5~ 1.0	0.05 Max			0.3 Max	0.05 Max			
NES 779 (BS EN 1652) CW352H	Rem.	0.01 Max	1.0~ 2.0	10~ 11	0.5~ 1.0	0.05 Max	0.01 Max	0.5 Max	0.2 Max	0.05 Max	280		30

*TI= Total Impurities

Product Range:

Size - NPS 1/2 to NPS 12 / DN 15 to DN 300 / 16mm OD and up to and including 323.9mm OD.

Fitting Types - Butt Welded, Socket Welded, Capillary Brazed and Threaded

Flange Type - Weld Neck, Blind, Slip-On, Socket Weld, Threaded

Manufacturing Standards:

EEMUA 145

EEMUA 146

BS 3799

BS 4504

Section 3.3 /

BS EN 1092

DIN 86036

DIN 86037

DIN 86087

DIN 86088

DIN 86089

DIN 86090

ASME B16.9

ASME B16.11

ASME B16.5

MSS SP- 83

MSS SP-95

MSS SP-97

MSS SP-119

NAVSEA 810

NAVSEA 802

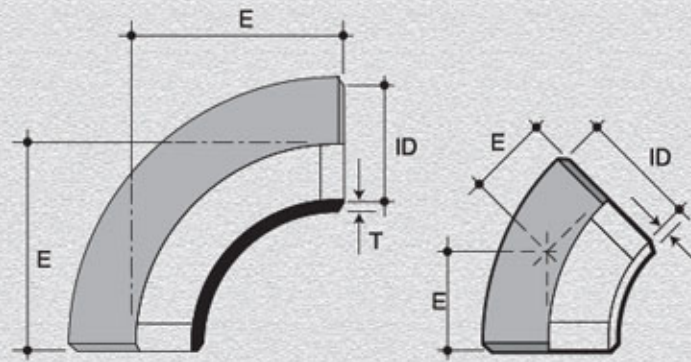
More details about our products are given in following pages.





BUTT WELD ELBOW





Butt Weld Long Radius Elbows

Dimensions to EEMUA 146

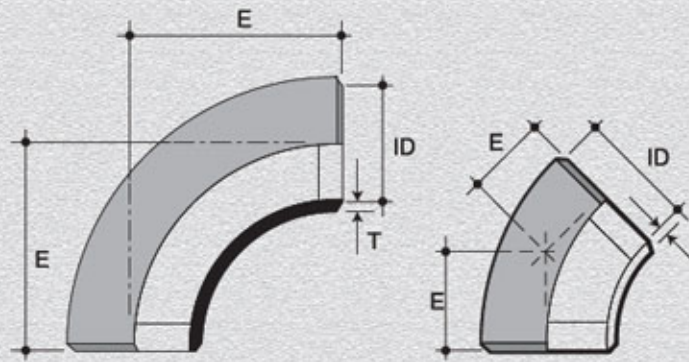
Elbow Size (mm)	Specified Thickness T (mm)		Centre to Face (mm)		Approx. Wt. For 90° (Kg)
	16 bar	20 bar	45°	90°	
30	2.5	2.5	22	38	0.12
38	2.5	2.5	25	48	0.19
44.5	2.5	2.5	29	57	0.26
57	2.5	2.5	35	76	0.50
76.1	2.5	2.5	44	95	0.80
88.9	2.5	2.5	51	114	1.10
108	3.0	3.0	64	152	2.2
159	3.0	3.5	95	229	4.8 / 5.5
219.1	4.0	4.5	127	305	11.6 / 13.0
267	4.5	5.5	159	381	20 / 24.2
323.9	5.5	7.0	190	457	35.3 / 44.7

Butt Weld Long Radius Elbows

Dimensions to DIN 86090

Elbow Size (mm)	Specified Thickness T (mm)		Centre to Face (mm)		Approx. Wt. For 90° (Kg)
	10 bar	14 bar	45°	90°	
30	1.5	1.5	14	33.5	0.06
38	1.5	1.5	19	45	0.10
44.5	1.5	1.5	21	51	0.14
57	1.5	1.5	30	72	0.26
76	2.0	2.0	39	95	0.61
89	2.0	2.5	47	114.5	0.87 / 1.1
108	2.5	2.5	59	142.5	1.64
133	2.5	3.0	75	181	2.58 / 3.1
159	2.5	3.0	89	216	3.70 / 4.8
219	3.0	3.5	126	305	8.66 / 10
267	3.0	4.0	157	378	13 / 17.5
324	4.0	5.0	189	457	26 / 32

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Butt Weld Short Radius Elbows

Dimensions to DIN 86090

Elbow Size (mm)	Specified Thickness T (mm)		Centre to Face (mm)		Approx. Wt. For 90° (Kg)
	10 bar	14 bar	45°	90°	
30	1.5	1.5	12	30	0.05
38	1.5	1.5	14	32.5	0.09
44.5	1.5	1.5	17	40	0.15
57	1.5	1.5	22	52.5	0.25
76	2.0	2.0	29	70	0.45
89	2.0	2.5	34	82.5	0.65 / 0.8
108	2.5	2.5	41	100	1.2
133	2.5	3.0	52	125	1.8 / 2.2
159	2.5	3.0	62	150	2.6 / 3.2
219	3.0	3.5	87	210	6 / 7

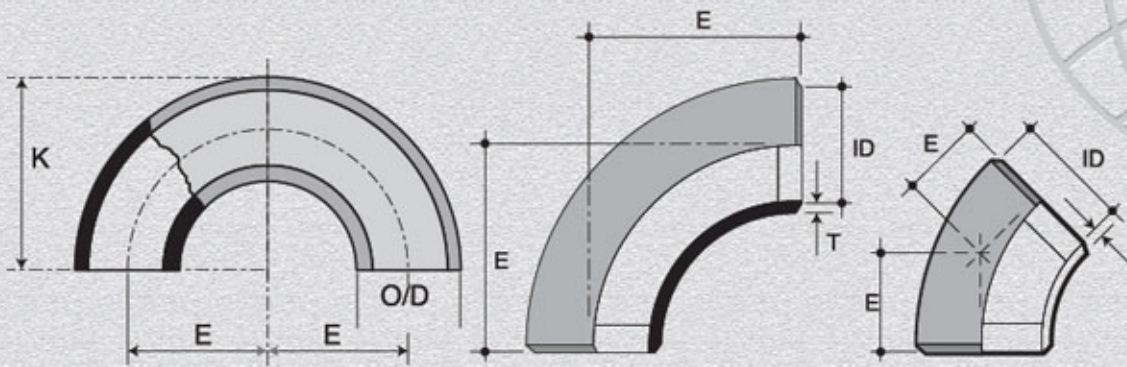
Butt Weld Short Radius Elbows

Dimensions to ASME B 16.9

Nominal Pipe size (NPS)	DN	Outside Diameter at Bevel (mm)	Centre -to-End (mm)	Approx. Wt. For Sch STD / 40s 90° (Kg)
			90° E	
1'	25	33.4	25	0.12
1.1/4"	32	42.2	32	0.2
1.1/2"	40	48.3	38	0.3
2"	50	60.3	51	0.5
2.1/2'	65	73	64	1
3'	80	88.9	76	1.55
3.1/2'	90	101.6	89	2.2
4'	100	114.3	102	3
6"	150	168.3	152	7.3
8"	200	219.1	203	19

*Butt weld elbows of wall thickness Sch 10 to Sch 160 are available. Table above shows weight of Sch STD only.

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Butt Weld Long Radius Elbows & Returns

Dimensions to ASME B 16.9

Nominal Pipe size (NPS)	DN	Outside Diameter at Bevel (mm)	Centre -to-End (mm)		K (mm)	Approx. Wt. For Sch STD / 40s 90° (Kg)
			90° & 180°	45°		
			E	E		
1/2"	15	21.3	38	16	48	0.09
3/4"	20	26.7	38	19	51	0.1
1"	25	33.4	38	22	56	0.2
1.1/4"	32	42.2	48	25	70	0.3
1.1/2"	40	48.3	57	29	83	0.45
2"	50	60.3	76	35	106	0.75
2.1/2"	65	73	95	44	132	1.45
3"	80	88.9	114	51	159	2.3
3.1/2"	90	101.6	133	57	184	3.25
4"	100	114.3	152	64	210	4.45
6"	150	168.3	229	95		11.55
8"	200	219.1	305	127		23

*Butt weld elbows of wall thickness Sch 10 to Sch 160 are available. Table above shows weight of Sch STD only.

Other Butt Weld Elbows

- Long radius & short radius elbows as per NAVSEA 810-1385880
- Long radius & short radius belled end elbows as per NAVSEA 802-5959353 & MSS SP-119

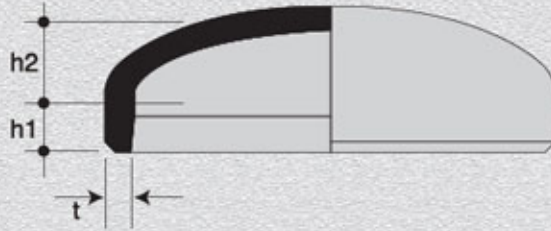
Please contact our sales office for details

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BUTT WELD END CAP





Butt Weld End Caps

Dimension to EEMUA 146

Nominal Size NPS	Specified Size mm	16 bar		20 bar		Approx. Wt. (Kg)
		t min mm	h1+h2 mm	t min mm	h1+h2 mm	
1	30.0	2.25	16.0	2.25	16.0	0.04
1.1/4	38.0	2.25	17.5	2.25	17.5	0.05
1.1/2	44.5	2.25	19.6	2.25	19.6	0.07
2	57.0	2.25	22.0	2.25	22.0	0.11
2.1/2	76.1	2.25	25.7	2.25	25.7	0.2
3	88.9	2.25	28.2	2.25	28.2	.025
4	108.0	2.70	31.7	2.70	31.7	0.42
6	159.0	2.63	41.0	3.12	44.0	0.9 / 1.01
8	219.1	3.54	55.0	4.29	60.0	2.15 / 2.50
10	267.0	4.29	69.0	5.23	69.0	3.63 / 4.43
12	323.9	5.24	80.0	6.34	85.0	6.41 / 8.33

Butt Weld End Caps

Dimensions to ASME B 16.9

Nominal Pipe (NPS)	DN	Outside Diameter Bevel (mm)	Length, E (h1 + h2) (mm)	Limiting Wall Thickness for Length E	Length, E1 (h1 + h2) (mm)	Approx. Wt. For Sch STD / 40s (Kg)
1/2	15	21.3	25	4.57	25	0.04
3/4	20	26.7	25	3.81	25	0.07
1	25	33.4	38	4.57	38	0.12
1.1/4	32	42.2	38	4.83	38	0.16
1.1/2	40	48.3	38	5.08	38	0.25
2	50	60.3	38	5.59	44	0.35
2.1/2	65	73.0	38	7.11	51	0.6
3	80	88.9	51	7.62	64	0.8
3.1/2	90	101.6	64	8.13	76	1.6
4	100	114.3	64	8.64	76	1.8
5	125	141.0	76	9.65	89	2.6
6	150	168.3	89	10.92	102	4.1
8	200	219.1	102	12.7	127	6.25
10	250	273	127	12.7	152	11.3
12	300	323.8	152	12.7	178	21.5

Note: Length E1 Applies for thickness greater than the Limiting wall thickness.

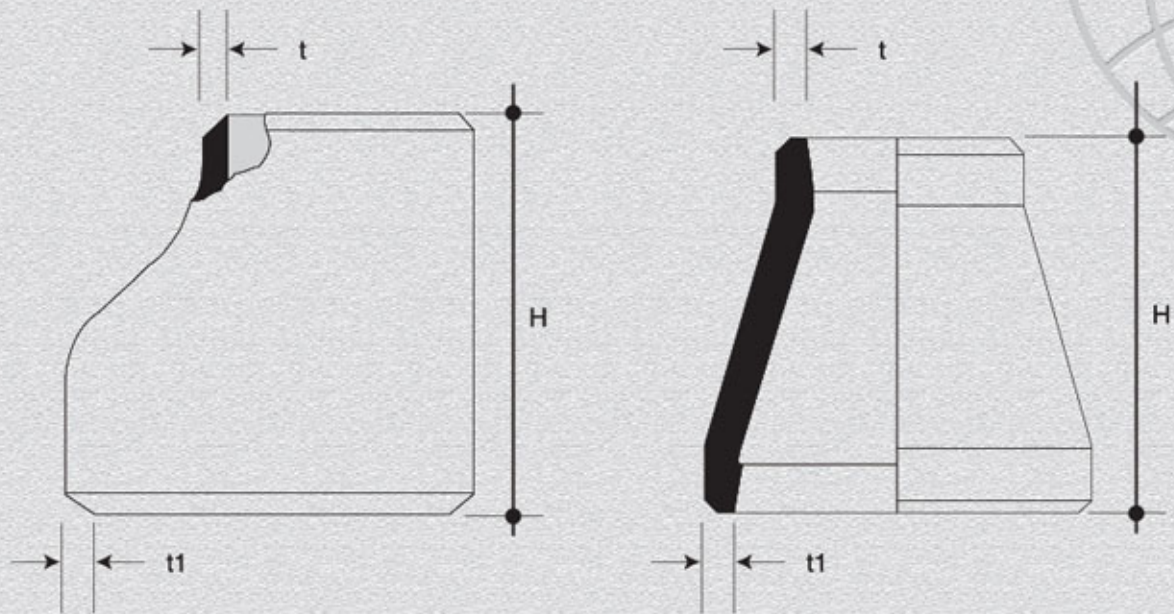
● End Caps as per DIN 28011, NAVSEA 810 are also available, Please contact our sales office for details

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REDUCER



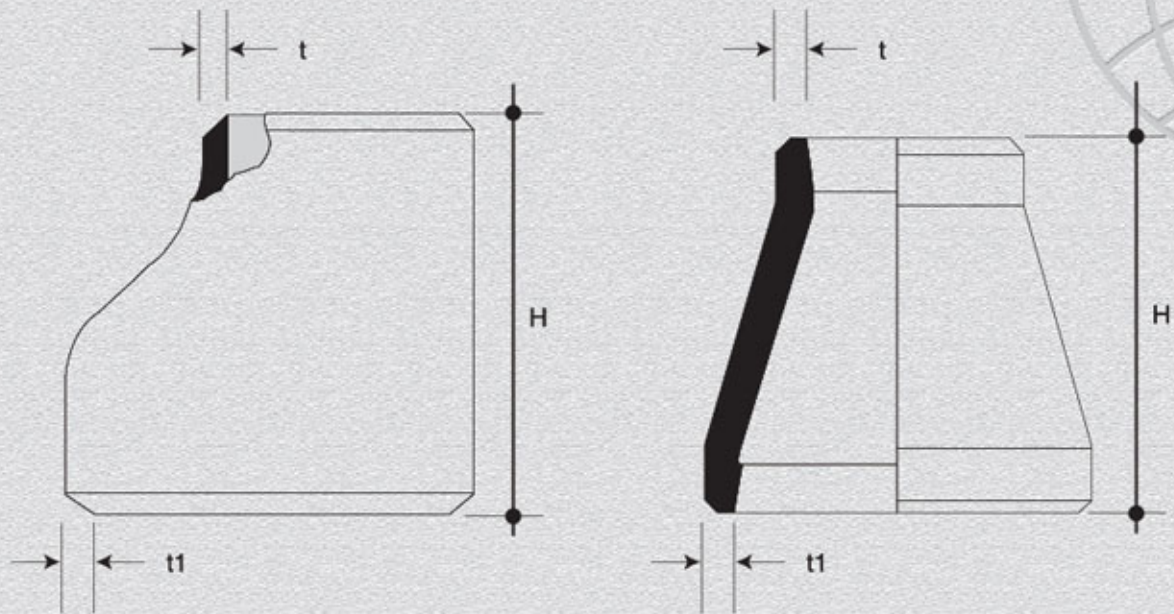


Butt weld Concentric and Eccentric Reducer

Dimension to EEMUA 146 / DIN 86089

Pipe Size (mm)	Length H EEMUA / DIN (mm)	Specified Wall Thickness (mm) t1 x t				Approx. Wt. (Kg)
		10 bar	14 bar	16 bar	20 bar	
30 x 25	51 / 35	1.5 x 1.5	1.5 x 1.5	2.5 x 2.0	2.5 x 2.0	0.06 / 0.09
38 x 30	51 / 50	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	0.08 / 0.12
38 x 25	51 / 50	1.5 x 1.5	1.5 x 1.5	2.5 x 2.0	2.5 x 2.0	0.08 / 0.12
44.5 x 38	64 / 80	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	0.13 / 0.18
44.5 x 30	64 / 80	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	0.13 / 0.18
44.5 x 25	64 / 80	1.5 x 1.5	1.5 x 1.5	2.5 x 2.0	2.5 x 2.0	0.13 / 0.18
57 x 44.5	76 / 80	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	0.16 / 0.26
57 x 38.0	76 / 80	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	0.16 / 0.26
57 x 30.0	76 / 80	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	0.16 / 0.26
76.1 x 57.0	89 / 90	2.0 x 1.5	2.0 x 1.5	2.5 x 2.5	2.5 x 2.5	0.29 / 0.4
76.1 x 44.5	89 / 90	2.0 x 1.5	2.0 x 1.5	2.5 x 2.5	2.5 x 2.5	0.29 / 0.4
76.1 x 38.0	89 / 90	2.0 x 1.5	2.0 x 1.5	2.5 x 2.5	2.5 x 2.5	0.29 / 0.4
88.9 x 76.1	89 / 90	2.0 x 2.0	2.5 x 2.0	2.5 x 2.5	2.5 x 2.5	0.40 / 0.50
88.9 x 57.0	89 / 90	2.0 x 1.5	2.5 x 1.5	2.5 x 2.5	2.5 x 2.5	0.40 / 0.50
88.9 x 44.5	89 / 90	2.0 x 1.5	2.5 x 1.5	2.5 x 2.5	2.5 x 2.5	0.40 / 0.50
108 x 88.9	102 / 100	2.5 x 2.0	2.5 x 2.5	3.0 x 2.5	3.0 x 2.5	0.61 / 0.77
108 x 76.1	102 / 100	2.5 x 2.0	2.5 x 2.0	3.0 x 2.5	3.0 x 2.5	0.61 / 0.77
108 x 57.0	102 / 100	2.5 x 1.5	2.5 x 1.5	3.0 x 2.5	3.0 x 2.5	0.61 / 0.77
133 x 108.0	140	2.5 x 2.5	3.0 x 2.5			1.2 / 1.35
133 x 88.9	140	2.5 x 2.0	3.0 x 2.5			1.2 / 1.35
133 x 76.1	140	2.5 x 2.0	3.0 x 2.0			1.2 / 1.35
133 x 57.0	140	2.5 x 1.5	3.0 x 1.5			1.2 / 1.35

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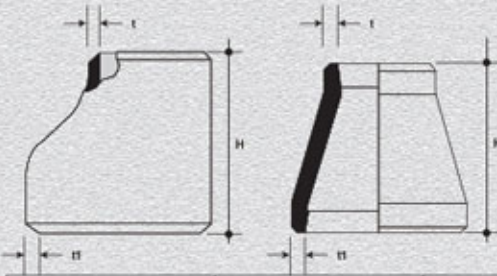


Butt weld Concentric and Eccentric Reducer

Dimension to EEMUA 146 / DIN 86089

Pipe Size (mm)	Length H EEMUA / DIN (mm)	Specified Wall Thickness (mm) t1 x t				Approx. Wt. (Kg)
		10 bar	14 bar	16 bar	20 bar	
159 x 108.0	140 / 150	2.5 x 2.5	3.0 x 2.5	3.0 x 3.0	3.5 x 3.0	1.8 / 1.8
159 x 88.9	140 / 150	2.5 x 2.0	3.0 x 2.5	3.0 x 2.5	3.5 x 2.5	1.8 / 1.8
159 x 76.1	140 / 150	2.5 x 2.0	3.0 x 2.0	3.0 x 2.5	3.5 x 2.5	1.8 / 1.8
159 x 57.0	140 / 150	2.5 x 1.5	3.0 x 1.5	3.0 x 2.5	3.5 x 2.5	1.8 / 1.8
219.1 x 159	152 / 155	3.0 x 2.5	3.5 x 3.0	4.0 x 3.0	4.5 x 3.5	3.42 / 3.55
219.1 x 108	152 / 155	3.0 x 2.5	3.5 x 2.5	4.0 x 3.0	4.5 x 3.0	3.42 / 3.55
219.1 x 88.9	152 / 155	3.0 x 2.0	3.5 x 2.5	4.0 x 2.5	4.5 x 2.5	3.42 / 3.55
219.1 x 76.1	152 / 155	3.0 x 2.0	3.5 x 2.0	4.0 x 2.5	4.5 x 2.5	3.42 / 3.55
267 x 219.1	178 / 210	3.0 x 3.0	4.0 x 3.5	4.5 x 4.0	5.5 x 4.5	5 / 6.53
267 x 159	178 / 210	3.0 x 2.5	4.0 x 3.0	4.5 x 3.0	5.5 x 3.5	5 / 6.53
267 x 108	178 / 210	3.0 x 2.5	4.0 x 2.5	4.5 x 3.0	5.5 x 3.0	5 / 6.53
323.9 x 267	203 / 210	4.0 x 3.0	5.0 x 4.0	5.5 x 4.5	7.0 x 5.5	8.6 / 10.6
323.9 x 219.1	203 / 210	4.0 x 3.0	5.0 x 3.5	5.5 x 4.0	7.0 x 4.5	8.6 / 10.6
323.9 x 159	203 / 210	4.0 x 2.5	5.0 x 3.0	5.5 x 3.0	7.0 x 3.5	8.6 / 10.6

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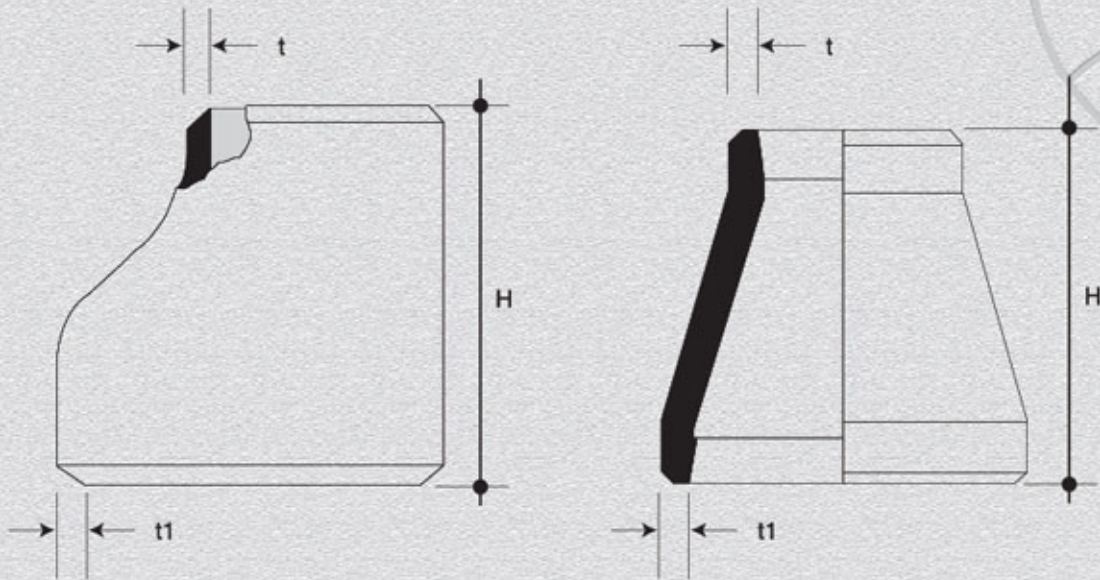


Butt Weld Concentric and Eccentric Reducer

Dimension to ASME B 16.9

Nominal Pipe Size (NPS)	DN	Outside Diameter at Bevel		End-to-end H (mm)	Approx. Wt. For Sch STD / 40s (Kg)
		Large end (mm)	Small end (mm)		
3/4x1/2	20x15	26.7	21.3	38	0.08
1x3/4	25x20	33.4	26.7	51	0.15
1x1/2	25x15	33.4	21.3	51	0.15
1.1/2x1	40x25	48.3	33.4	64	0.3
1.1/2x3/4	40x20	48.3	26.7	64	0.3
1.1/2x1/2	40x15	48.3	21.3	64	0.3
2x1.1/2	50x40	60.3	48.3	76	0.5
2x1.1/4	50x32	60.3	42.2	76	0.5
2x1	50x25	60.3	33.4	76	0.5
2x3/4	50x20	60.3	26.7	76	0.5
2.1/2x2	65x50	73.0	60.3	89	0.9
2.1/2x1.1/2	65x40	73.0	48.3	89	0.9
2.1/2x1.1/4	65x32	73.0	42.2	89	0.9
2.1/2x1	65x25	73.0	33.4	89	0.9
3x2.1/2	80x65	88.9	73.0	89	1.2
3x2	80x50	88.9	60.3	89	1.2
3x1.1/2	80x40	88.9	48.3	89	1.2
3x1.1/4	80x32	88.9	42.2	89	1.2
3.1/2x3	90x80	101.6	88.9	102	1.6
3.1/2x2.1/2	90x65	101.6	73.0	102	1.6
3.1/2x2	90x50	101.6	60.3	102	1.6
3.1/2x1.1/2	90x40	101.6	48.3	102	1.6
3.1/2x1.1/4	90x32	101.6	42.2	102	1.6
4x3.1/2	100x90	114.3	101.6	102	1.8
4x3	100x80	114.3	88.9	102	1.8
4x2.1/2	100x65	114.3	73.0	102	1.8
4x2	100x50	114.3	60.3	102	1.8
4x1.1/2	100x40	114.3	48.3	102	1.8
6x5	150x125	168.3	141.3	140	4.5
6x4	150x100	168.3	114.3	140	4.5
6x3.1/2	150x90	168.3	101.6	140	4.5
6x3	150x80	168.3	88.9	140	4.5
6x2.1/2	150x65	168.3	73.0	140	4.5

World class pipe fittings & flanges for marine, offshore & sea water systems



Butt Weld Concentric and Eccentric Reducer

Dimension to ASME B 16.9

Nominal Pipe Size (NPS)	DN	Outside Diameter at Bevel		End-to-end H (mm)	Approx. Wt. For Sch STD / 40s (Kg)
		Large end (mm)	Small end (mm)		
8 x 6	200 x 150	219.1	168.3	152	7.4
8 x 5	200 x 125	219.1	141.3	152	7.4
8 x 4	200 x 100	219.1	114.3	152	7.4
8 x 3.1/2	200 x 90	219.1	101.6	152	7.4
10 x 8	250 x 200	273.0	219.1	178	12
10 x 6	250 x 150	273.0	168.3	178	12
10 x 5	200 x 125	273.0	141.3	178	12
10 x 4	250 x 100	273.0	114.3	178	12
12 x 10	300 x 250	323.8	273.0	203	18.5
12 x 8	300 x 200	323.8	219.1	203	18.5
12 x 6	300 x 150	323.8	168.3	203	18.5
12 x 5	300 x 125	323.8	141.3	203	18.5

Other Butt Weld Reducer

- Butt weld reducer as per NAVSEA 810-1385880
- Belled end reducer as per NAVSEA 802-5959353 & MSS SP-119

Please contact our sales office for details

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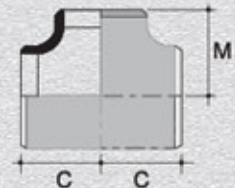
BUTT WELD TEE



Butt Weld Equal Tee

Dimensions to DIN 86088 / EEMUA 146

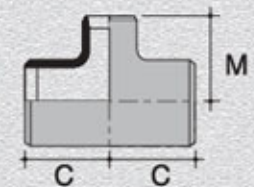
Run & Branch Outside Diameter (mm)	10 Bar Run & Branch Wall Thickness (mm)	14 Bar Run & Branch Wall Thickness (mm)	16 Bar Run & Branch Wall Thickness (mm)	20 Bar Run & Branch Wall Thickness (mm)	Run C (mm)	Branch M (mm)	Approximate Weight (Kg)
16	1.0	1.0	2.0	2.0	25	25	0.04 / 0.07
25	1.5	1.5	2.0	2.0	29	29	0.09 / 0.12
30	1.5	1.5	2.5	2.5	38	38	0.15 / 0.25
38	1.5	1.5	2.5	2.5	48	48	0.25 / 0.40
44.5	1.5	1.5	2.5	2.5	57	57	0.35 / 0.55
57	1.5	1.5	2.5	2.5	64	64	0.47 / 0.80
76.1	2.0	2.0	2.5	2.5	76	76	0.96 / 1.19
88.9	2.0	2.5	2.5	2.5	86	86	1.11 / 1.56
108	2.5	2.5	3.0	3.0	105	105	2.33 / 2.75
133		2.5	3.0		124	124	3.00 / 3.50
159	2.5	3.0	3.0	3.5	143	143	4.60 / 5.50 / 6.50
219.1	3.0	3.5	4.0	4.5	178	178	13 / 15 / 17 / 19
267	3.0	4.0	4.5	5.5	216	216	17 / 22 / 25 / 30
323.9	4.0	5.0	5.5	7.0	254	254	32 / 40 / 44 / 56



Butt Weld Reducing Tee

Dimensions to DIN 86088 / EEMUA 146

Run & Branch Outside Diameter (mm)	10 Bar Run & Branch Wall Thickness (mm)	14 Bar Run & Branch Wall Thickness (mm)	16 Bar Run & Branch Wall Thickness (mm)	20 Bar Run & Branch Wall Thickness (mm)	Run C (mm)	Branch M (mm)	Approximate Weight (Kg)
25 x 16	1.5 x 1.0	1.5 x 1.0	2.0 x 2.0	2.0 x 2.0	29	29	0.07 / 0.09
30 x 25	1.5 x 1.5	1.5 x 1.5	2.5 x 2.0	2.5 x 2.0	38	38	0.15 / 0.20
38 x 30	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	48	42 / 48	0.20 / 0.30
38 x 25	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	48	48	0.20 / 0.30
44.5 x 38	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	57	51 / 57	0.30 / 0.50
44.5 x 30	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	57	45 / 57	0.30 / 0.50
44.5 x 25	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	57	57	0.25 / 0.45
44.5 x 16	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	57	57	0.25 / 0.45
57 x 44.5	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	64	63 / 60	0.40 / 0.60
57 x 38	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	64	57	0.40 / 0.60
57 x 30	1.5 x 1.5	1.5 x 1.5	2.5 x 2.5	2.5 x 2.5	64	51	0.35 / 0.55
76.1 x 57	2.0 x 1.5	2.0 x 1.5	2.5 x 2.5	2.5 x 2.5	76	73 / 70	0.80 / 1.10
76.1 x 44.5	2.0 x 1.5	2.0 x 1.5	2.5 x 2.5	2.5 x 2.5	76	71 / 67	0.80 / 1.10
76.1 x 38	2.0 x 1.5	2.0 x 1.5	2.5 x 2.5	2.5 x 2.5	76	62 / 64	0.75 / 1.00
88.9 x 76.1	2.0 x 2.0	2.5 x 2.0	2.5 x 2.5	2.5 x 2.5	86	83	1.20 / 1.30
88.9 x 57	2.0 x 1.5	2.5 x 1.5	2.5 x 2.5	2.5 x 2.5	86	80 / 76	1.10 / 1.20
88.9 x 44.5	2.0 x 1.5	2.5 x 1.5	2.5 x 2.5	2.5 x 2.5	86	76 / 73	1.10 / 1.20
108 x 88.9	2.5 x 2.0	2.5 x 2.5	3.0 x 2.5	3.0 x 2.5	105	96 / 98	2.00 / 2.25
108 x 76.1	2.5 x 2.0	2.5 x 2.0	3.0 x 2.5	3.0 x 2.5	105	92 / 95	2.00 / 2.25
108 x 57	2.5 x 1.5	2.5 x 1.5	3.0 x 2.5	3.0 x 2.5	105	90 / 89	1.90 / 2.15
133 x 108		2.5 x 2.5	3.0 x 3.0		124	117	3.30 / 4.10
133 x 88.9		2.5 x 2.5	3.0 x 2.5		124	108	3.30 / 4.10
133 x 76.1		2.5 x 2.0	3.0 x 2.5		124	105	3.30 / 4.10
159 x 133		3.0 x 2.5	3.0 x 3.0		143	136	5.50 / 5.65
159 x 108	2.5 x 2.5	3.0 x 2.5	3.0 x 3.0	3.5 x 3.0	143	130	4.60 / 5.50 / 6.50
159 x 88.9	2.5 x 2.0	3.0 x 2.5	3.0 x 2.5	3.5 x 2.5	143	121 / 124	4.60 / 5.50 / 6.50
159 x 76.1	2.5 x 2.0	3.0 x 2.0	3.0 x 2.5	3.5 x 2.5	143	118 / 121	4.60 / 5.50 / 6.50
219.1 x 159	3.0 x 2.5	3.5 x 3.0	4.0 x 3.0	4.5 x 3.5	178	168	13 / 15 / 17 / 19
219.1 x 133		3.5 x 2.5	4.0 x 3.0		178	162	15 / 17
219.1 x 108	3.0 x 2.5	3.5 x 2.5	4.0 x 3.0	4.5 x 3.0	178	156	13 / 15 / 17 / 19
219.1 x 88.9	3.0 x 2.0	3.5 x 2.5	4.0 x 2.5	4.5 x 2.5	178	152	13 / 15 / 17 / 19
267 x 219.1	3.0 x 3.0	4.0 x 3.5	4.5 x 4.0	5.5 x 4.5	216	203	17 / 22 / 25 / 30
267 x 159	3.0 x 2.5	4.0 x 3.0	4.5 x 3.0	5.5 x 3.5	216	194	17 / 22 / 25 / 30
267 x 133		4.0 x 2.5	4.5 x 3.0		216	189	22 / 25
267 x 108	3.0 x 2.5	4.0 x 2.5	4.5 x 3.0	5.5 x 3.0	216	184	17 / 22 / 25 / 30
323.9 x 267	4.0 x 3.0	5.0 x 4.0	5.5 x 4.5	7.0 x 5.5	254	241	32 / 40 / 44 / 56
323.9 x 219.1	4.0 x 3.0	5.0 x 3.5	5.5 x 4.0	7.0 x 4.5	254	229	32 / 40 / 44 / 56
323.9 x 159	4.0 x 2.5	5.0 x 3.0	5.5 x 3.0	7.0 x 3.5	254	219	32 / 40 / 44 / 56

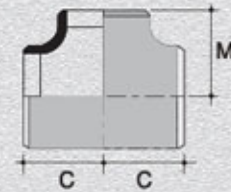




Butt Weld Equal Tee

Dimensions to ASME B16.9

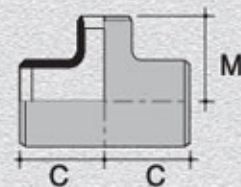
Nominal Pipe Size (NPS)	DN	Outside Diameter at Bevel (mm)	Run C (mm)	Branch M (mm)	Approximate Weight for STD/40s (Kg)
1/2	15	21.3	25	25	0.20
3/4	20	26.7	29	29	0.25
1	25	33.4	38	38	0.35
1 1/4	32	42.2	48	48	0.65
1 1/2	40	48.3	57	57	0.90
2	50	60.3	64	64	2.15
2 1/2	65	73.03	76	76	3.05
3	80	88.9	86	86	4.50
4	100	114.3	105	105	7.00
6	150	168	143	143	19.00
8	200	219.1	178	178	38.00



Butt Weld Reducing Tee

Dimensions to ASME B16.9

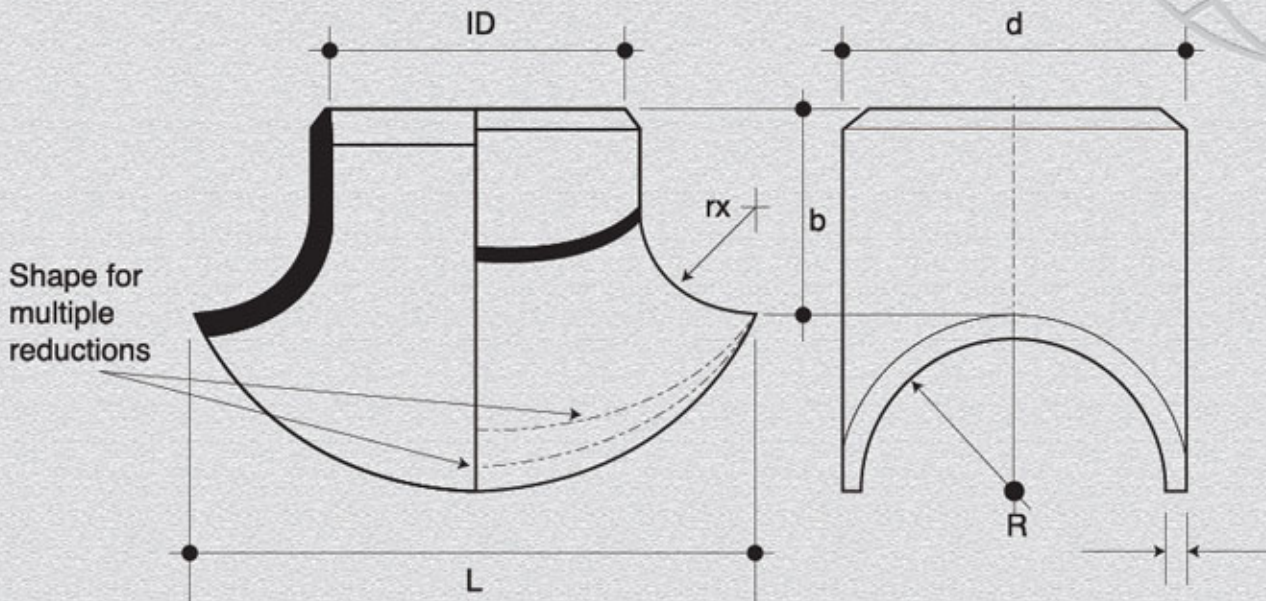
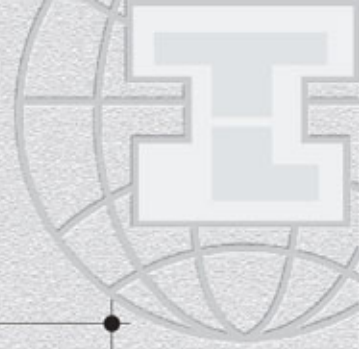
Nominal Pipe Size (NPS)	DN	Outside Diameter at Bevel Run (mm)	Outside Diameter at Bevel Branch (mm)	Run C (mm)	Branch M (mm)	Approximate Weight for SchSTD / 40s (Kg)
3/4 x 1/2	20 x 15	26.7	21.3	29	29	0.25
1 x 1/2	25 x 15	33.4	21.3	38	38	0.35
1 x 3/4	25 x 20	33.4	26.7	38	38	0.35
1 1/4 x 1/2	32 x 15	42.2	21.3	48	48	0.65
1 1/4 x 3/4	32 x 20	42.2	26.7	48	48	0.65
1 1/4 x 1	32 x 25	42.2	33.4	48	48	0.65
1 1/2 x 3/4	40 x 20	48.3	26.7	57	57	0.90
1 1/2 x 1	40 x 25	48.3	33.4	57	57	0.90
1 1/2 x 1 1/4	40 x 32	48.3	42.2	57	57	0.90
2 x 1	50 x 25	60.3	33.4	64	51	2.15
2 x 1 1/4	50 x 32	60.3	42.2	64	57	2.15
2 x 1 1/2	50 x 40	60.3	48.3	64	60	2.15
2 1/2 x 1 1/4	65 x 32	73.03	42.2	76	64	3.05
2 1/2 x 1 1/2	65 x 40	73.03	48.3	76	67	3.05
2 1/2 x 2	65 x 50	73.03	60.3	76	70	3.05
3 x 1 1/2	80 x 40	88.9	48.3	86	73	4.50
3 x 2	80 x 50	88.9	60.3	86	76	4.50
3 x 2 1/2	80 x 65	88.9	73.03	86	83	4.50
4 x 2	100 x 50	114.3	60.3	105	89	7.00
4 x 2 1/2	100 x 65	114.3	73.03	105	95	7.00
4 x 3	100 x 80	114.3	88.9	105	98	7.00
6 x 2 1/2	150 x 65	168	73.03	143	121	19.00
6 x 3	150 x 80	168	88.9	143	124	19.00
6 x 4	150 x 100	168	114.3	143	130	19.00
8 x 4	200 x 100	219.1	114.3	178	156	38.00
8 x 5	200 x 125	219.1	141.3	178	162	38.00
8 x 6	200 x 150	219.1	168	178	168	38.00





SADDLE





Butt Weld Equal & Unequal Saddle

Dimensions to DIN 86087 / EEMUA 146

Header Range (mm)	Branch Outside Diameter (mm)	10 Bar Branch Wall Thickness (mm)	14 Bar Branch Wall Thickness (mm)	16 Bar Branch Wall Thickness (mm)	20 Bar Branch Wall Thickness (mm)	b (mm)	L (mm)	rx (mm)	Approximate* Average Weight (Kg)
457.2 - 38	38	1.5	1.5	2.5	2.5	35	64	13	0.11 / 0.15
457.2 - 44.5	44.5	1.5	1.5	2.5	2.5	35	74	15	0.15 / 0.20
457.2 - 57	57	1.5	1.5	2.5	2.5	40	97	20	0.25 / 0.35
457.2 - 76.1	76.1	2.0	2.0	2.5	2.5	50	126	25	0.55 / 0.65
457.2 - 88.9	88.9	2.0	2.5	2.5	2.5	55	149	30	0.76 / 0.80
457.2 - 108	108	2.5	2.5	3.0	3.0	75	188	40	1.30 / 1.60
457.2 - 133	133		2.5	3.0		85	233	50	1.70 / 2.10
457.2 - 159	159	2.5	3.0	3.0	3.5	95	279	60	2.60 / 3.0 / 3.5
457.2 - 219.1	219.1	3.0	3.5	4.0	4.5	125	379	80	6 / 7 / 8 / 9.5
457.2 - 267	267	3.0	4.0	4.5	5.5	155	447	90	9 / 12 / 14 / 17
457.2 - 323.9	323.9	4.0	5.0	5.5	7.0	185	560	100	13 / 16 / 18 / 25

* Note: Average weight shown above is for equal saddle

World class pipe fittings & flanges for marine, offshore & sea water systems



SOCKET WELD & THREADED FITTING



Socket Weld & Threaded Fittings

ITL offers an extensive range of Socket Weld (SW), Threaded (THD) and Capillary (CAP) Fittings. Below is a summary of the SW, THD and CAP fittings manufactured. All CAP fittings are supplied with silver brazing ring. Usual thread specifications used are NPT, BSPP and BSPT.

Forged SW, THD & Capillary Elbow & Tee : 90° and 45° forged SW Elbow and equal and reducing SW Tee are manufactured as per ASME B16.11 3000# and EEMUA 146. Size range is NPS 1/2 to NPS 2.

90° and 45° forged Capillary Elbow and equal and reducing Capillary Tee are manufactured as per EEMUA 146. Size range is NPS 1/2 to NPS 2.

90° and 45° forged THD Elbow and equal and reducing THD Tee are manufactured as per ASME B16.11 3000#. Size range is NPS 1/2 to NPS 2.

Self Reinforced Branch Connection : Forged Sock-O-Let with maximum branch size of NPS 4 and Thread-O-Let having maximum branch size of NPS 3 are manufactured as per EEMUA 146 and MSS SP-97.

Forged Weld-O-Let, although not a SW fitting but for convenience it has been put under this section. Maximum branch size that ITL can manufacture is NPS 10.

Welding Bosses as per BS 3799 are also manufactured up to NPS 2.

SW, THD and CAP Coupling : Full, half and reducing SW, THD and CAP couplings are manufactured as per EEMUA 146 and ASME B16.11 3000#. Size range is NPS 1/2 to NPS 3.

SW, CAP Adaptor, Connector and Insert : Male and Female adaptor and connector and reducing inserts are manufactured as per customer's / ITL specifications. Socket size is designed as per EEMUA 146. Size range is NPS 1/2 to NPS 2.

Threaded Plugs and Bushes : Round, Square and Hexagonal headed plugs are manufactured as per ASME B16.11 3000#. Reducing hex headed and flush bushes are also manufactured as per the same standard. Size range is NPS 1/2 to NPS 3.

Threaded Swaged Nipples : Both concentric and eccentric THD (TBE, TLE, TSE) as well as plain / bevelled ended swaged nipples are manufactured as per BS 3799 and MSS SP-95. Size range is NPS 3/4 to NPS 3.

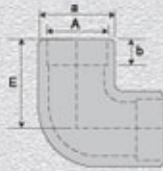
Threaded Pipe Nipples and Hex Nipples : Threaded (TBE, TOE) and plain pipe nipples are manufactured. Also hex headed THD equal and reducing nipples are manufactured as per BS 3799. Size range is NPS 1/2 to NPS 2.

** We also offer custom made SW, THD and CAP fittings and CNC machined components / metal parts as per customer's specifications / drawings. Any enquiry in this regard will be promptly responded by our sales team.



SW & THREADED FORGED ELBOW, TEE





Socket Weld / Capillary Forged Elbow, Tee

Socket Dimensions to EEMUA 146

Pipe Outside Diameter (mm)	Outside Diameter a (mm)	Socket Size A (mm)	Socket Depth b (mm)	Center to Face			Approximate Weight (Kg)
				For 90° Elbow E (mm)	For 45° Elbow E (mm)	For Tee Elbow E (mm)	
16	23.0	16.10	10.0	25.0	19	25.0	0.15 / 0.11 / 0.16
25	32.0	25.10	13.0	27.0	23	27.0	0.30 / 0.20 / 0.30
30	37.0	30.10	13.0	34.0	27	34.0	0.35 / 0.25 / 0.35
38	45.0	38.12	13.0	37.0	29	37.0	0.50 / 0.35 / 0.50
44.5	52.0	44.62	13.0	42.0	32	42.0	0.55 / 0.45 / 0.55
57	65.0	57.25	16.0	47.0	36	47.0	0.80 / 0.75 / 0.80

Socket Weld Forged Elbow, Tee

Dimensions to ASME B16.11 3000#

Nominal Pipe Size (NPS)	Outside Diameter a (mm)	Socket Size A (mm)	Socket Depth b (mm)	Center to Face			Approximate Weight (Kg)
				For 90° Elbow E (mm)	For 45° Elbow E (mm)	For Tee Elbow E (mm)	
1/2	32.0	21.95	10.0	27.0	23	27.0	0.35 / 0.25 / 0.35
3/4	38.0	27.30	13.0	34.0	27	34.0	0.40 / 0.30 / 0.45
1	46.0	34.05	13.0	37.0	29	37.0	0.55 / 0.40 / 0.65
1 1/4	55.0	42.80	13.0	42.0	32	42.0	0.70 / 0.55 / 0.95
1 1/2	62.0	48.90	13.0	47.0	36	47.0	0.95 / 0.75 / 1.3
2	76.0	61.35	16.0	56.0	43	56.0	1.60 / 1.20 / 2.02

Threaded Forged Elbow, Tee

Dimensions to ASME B16.11 3000# / EEMUA 146

Nominal Pipe Size (NPS)	Outside Diameter a (mm)	Thread Size A (NPT)	Thread Length b (mm)	Center to Face			Approximate Weight (Kg)
				For 90° Elbow E (mm)	For 45° Elbow E (mm)	For Tee Elbow E (mm)	
1/2	38.0	1/2"	13.5	33.0	25	33.0	0.40 / 0.30 / 0.45
3/4	46.0	3/4"	14.0	38.0	29	38.0	0.55 / 0.40 / 0.65
1	56.0	1"	17.5	44.0	33	44.0	0.70 / 0.55 / 0.95
1 1/4	62.0	1 1/4"	18.0	51.0	35	51.0	0.95 / 0.75 / 1.3
1 1/2	75.0	1 1/2"	18.5	60.0	43	60.0	1.60 / 1.20 / 2.02
2	84.0	2"	19.0	64.0	45	64.0	2.5 / 1.50 / 3.50

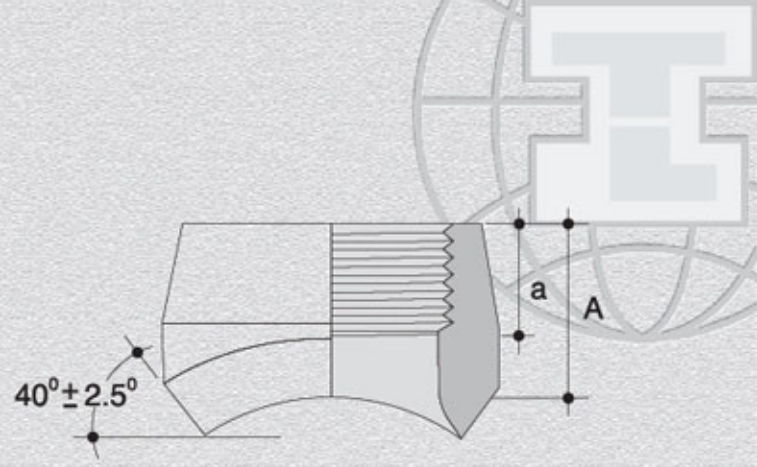
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REINFORCED BRANCH CONNECTION



Threaded Self Reinforced Branch Connection Fittings :

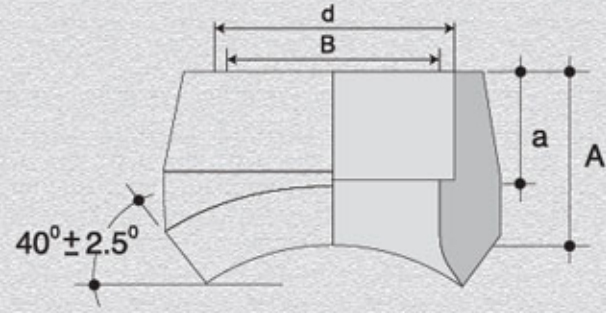


Threadolets Dimension to EEMUA 146

Nominal branch Size in NPT	Header Size Range		A nom. mm	B (bore) nom. mm	Pipe schedule and thickness		Length of Thread a min mm	Approximate Weight (Kg)
	min. mm	max. mm			Sch	mm		
1/2"	25.0	44.5	25.4	11.74	160	4.78	13.5	0.11
	57.0	914	23.8	11.75	160	4.78	13.5	
3/4"	30.0	44.5	26.9	15.58	160	5.56	14.0	0.20
	57.0	914	25.4	15.58	160	5.56	14.0	
1"	38.0	44.5	33.3	20.70	160	6.35	17.5	0.40
	57.0	914	28.6	20.70	160	6.35	17.5	
1.1/4"	57.0	914	33.3	29.50	160	6.35	18.0	0.45
1.1/2"	57.0	914	30.2	34.02	160	7.14	18.5	0.50
2"	76.1	914	38.1	42.82	160	8.74	19.0	0.85

Note: Also available as per MSS SP-97

Socket Weld Self Reinforced Branch Connection Fittings :

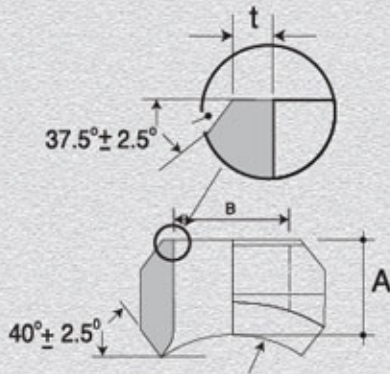


Socket Dimensions to EEMUA 146

Branch specified Outside diameter mm	Header size range		a nom. mm	d		A nom. mm	B (bore)		Approximate Weight (Kg)
	min. mm	max. mm		max. mm	min. mm		Specified mm	min. mm	
16.0	25.0	44.5	10.0	16.121	16.070	25.40	12.445	11.565	0.11
	57.0	914.0	10.0	16.121	16.070	23.80	12.445	11.565	
25.0	30.0	44.5	13.0	25.131	25.080	26.90	21.445	20.575	0.20
	57.0	914.0	13.0	25.131	25.080	26.90	21.445	20.575	
38.0	38.0	44.5	13.0	30.131	30.080	33.30	25.555	24.475	0.35
	57.0	914.0	13.0	30.131	30.080	28.60	25.555	24.475	
30.0	57.0	914.0	13.0	38.146	38.095	33.30	33.570	32.490	0.40
44.5	57.0	914.0	13.0	44.646	44.595	30.20	40.070	38.990	0.45
57.0	76.1	914.0	16.0	57.276	38.10	38.10	52.700	51.620	0.70
76.1	88.9	914.0	19.0	76.376	76.325	46.04	71.800	70.650	1.00
88.9	108.0	914.0	19.0	89.226	89.175	50.80	84.650	83.500	1.45
108	159.0	914.0	24.0	108.326	108.275	57.15	102.850	101.400	2.50

Note: Also available as per MSS SP-97

World class pipe fittings & flanges for marine, offshore & sea water systems



Butt Welding Self Reinforced Branch Connection Fittings :

Weld Olet
Dimension to EEMUA 146

16 BAR								
Branch specified Outside diameter mm	Header size range		A nom. mm	B (bore)		t		Approximate Weight (Kg)
	min. mm	max. mm		max. mm	min. mm	Specified mm	min. mm	
16.0	16	44.5	19.05	12.445	11.565	2.0	1.80	0.09
	57	610.0	17.50	12.445	11.565	2.0	1.80	
25.0	25	44.5	22.0	21.445	20.575	2.0	1.80	0.16
	57	610.0	20.60	21.445	20.575	2.0	1.80	
30.0	30	44.5	27.00	25.555	24.475	2.5	2.25	0.30
	57	610.0	22.20	25.555	34.475	2.5	2.25	
38.0	38	44.5	30.20	33.570	32.490	2.5	2.25	0.45
	57	610.0	25.40	33.570	32.490	2.5	2.25	
44.5	44.5	...	33.30	40.070	38.990	2.5	2.25	0.60
	57	610.0	28.60	40.070	38.990	2.5	2.25	
57.0	57	76.1	38.10	52.700	51.620	2.5	2.25	1.00
	88.9	610.0	33.30	52.700	51.620	2.5	2.25	
76.1	76.1	108.0	47.60	71.800	70.650	2.5	2.25	1.50
	159	610.0	44.50	71.800	70.650	2.5	2.25	
88.9	88.9	108.0	47.60	84.650	83.500	2.5	2.25	2.00
	159	610.0	44.50	84.650	83.500	2.5	2.25	
108.0	108	...	52.40	102.850	101.400	3.0	2.70	3.25
	159	...	49.20	102.850	101.400	3.0	2.70	
	219.1	610.0	49.20	102.850	101.400	3.0	2.70	

16 BAR								
Branch specified Outside diameter mm	Header size range		A nom. mm	B (bore)		t		Approximate Weight (Kg)
	min. mm	max. mm		max. mm	min. mm	Specified mm	min. mm	
16.0	16	44.5	19.05	12.445	11.565	2.0	1.80	0.09
	57	610.0	17.50	12.445	11.565	2.0	1.80	
25.0	25	44.5	22.20	21.445	20.575	2.0	1.80	0.16
	57	610.0	20.60	21.445	20.575	2.0	1.80	
30.0	30	44.5	27.00	25.555	24.475	2.5	2.25	0.30
	57	610.0	22.20	25.555	34.475	2.5	2.25	
38.0	38	44.5	3.20	33.570	32.490	2.5	2.25	0.45
	57	610.0	25.40	33.570	32.490	2.5	2.25	
44.5	44.5	...	33.30	40.070	35.990	2.5	2.25	0.60
	57	610.0	28.60	40.070	35.990	2.5	2.25	
57.0	57	76.1	38.10	52.700	51.620	2.5	2.25	1.00
	88.9	610.0	33.30	52.700	51.620	2.5	2.25	
76.1	76.1	108.0	47.60	71.800	70.650	2.5	2.25	1.50
	159	610.0	44.50	71.800	70.650	2.5	2.25	
88.9	88.9	108.0	47.60	84.650	83.500	2.5	2.25	2.00
	159	610.0	44.50	84.650	83.500	2.5	2.25	
108.0	108	...	52.40	102.850	101.400	3.0	2.70	3.25
	159	...	49.20	102.850	101.400	3.0	2.70	
	219.1	610.0	49.20	102.850	101.400	3.0	2.70	

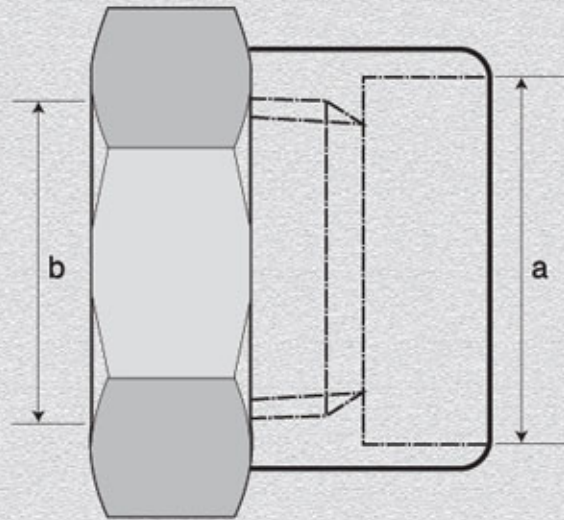
Note: Also available as per MSS SP-97

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ADAPTORS, CONNECTORS & INSERTS

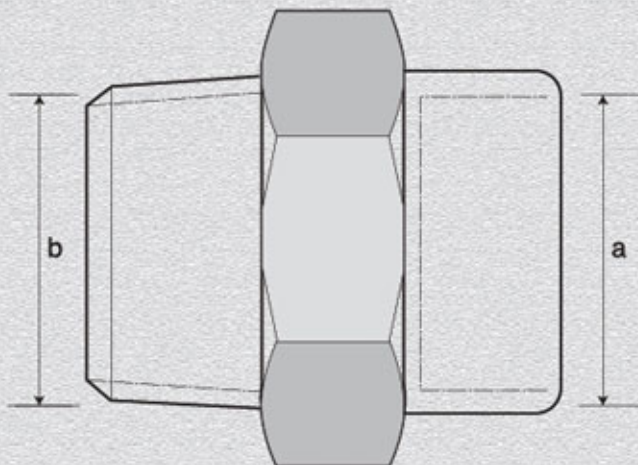




Female Connectors

Socket Dimension as per EEMUA 146

Female Connectors					
Size mm	a mm	b mm	Length mm	A/F mm	Approximate Weight (Kg)
16.0 x 1/2"	16.0	1/2"NPT	35.0	27.0	0.12
25.0 x 3/4"	25.0	3/4"NPT	34.0	32.0	0.14
30.0 x 1"	30.0	1"NPT	40.0	41.0	0.15
38.0 x 1.1/4"	38.0	1.1/4"NPT	42.0	50.0	0.22
44.5 x 1.1/2"	44.5	1.1/2"NPT	46.0	55.0	0.40
57.0 x 2"	57.0	2"NPT	50.0	70.0	0.65

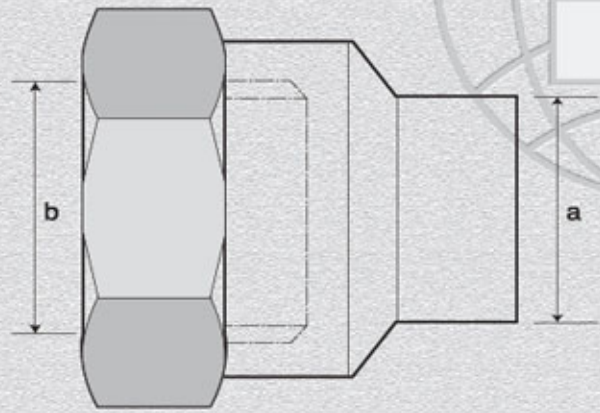


Male Connectors

Socket Dimension as per EEMUA 146

Female Connectors					
Size mm	a mm	b mm	Length mm	A/F mm	Approximate Weight (Kg)
16.0 x 1/2"	16.0	1/2"NPT	35.0	27.0	0.12
25.0 x 3/4"	25.0	3/4"NPT	34.0	32.0	0.20
30.0 x 1"	30.0	1"NPT	40.0	41.0	0.30
38.0 x 1.1/4"	38.0	1.1/4"NPT	42.0	50.0	0.40
44.5 x 1.1/2"	44.5	1.1/2"NPT	46.0	55.0	0.55
57.0 x 2"	57.0	2"NPT	50.0	70.0	0.85

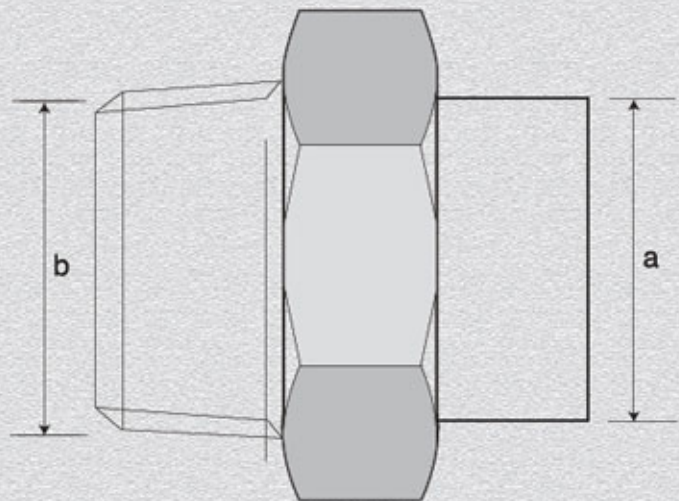
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Female Adaptors

Socket Dimension as per EEMUA 146

Female Adaptors					
Size mm	a mm	b mm	Length mm	A/F mm	Approximate Weight (Kg)
16.0x1/2"	16.0	1/2" NPT	35.0	27.0	0.09
25.0x3/4"	25.0	3/4" NPT	40.0	36.0	0.20
30.0x1"	30.0	1" NPT	46.0	41.0	0.25
38.0x1.1/4"	38.0	1.1/4" NPT	48.0	50.0	0.50
44.5x1.1/2"	44.5	1.1/2" NPT	48.0	55.0	0.55
57.0x2"	57.0	2" NPT	55.0	70.0	0.60

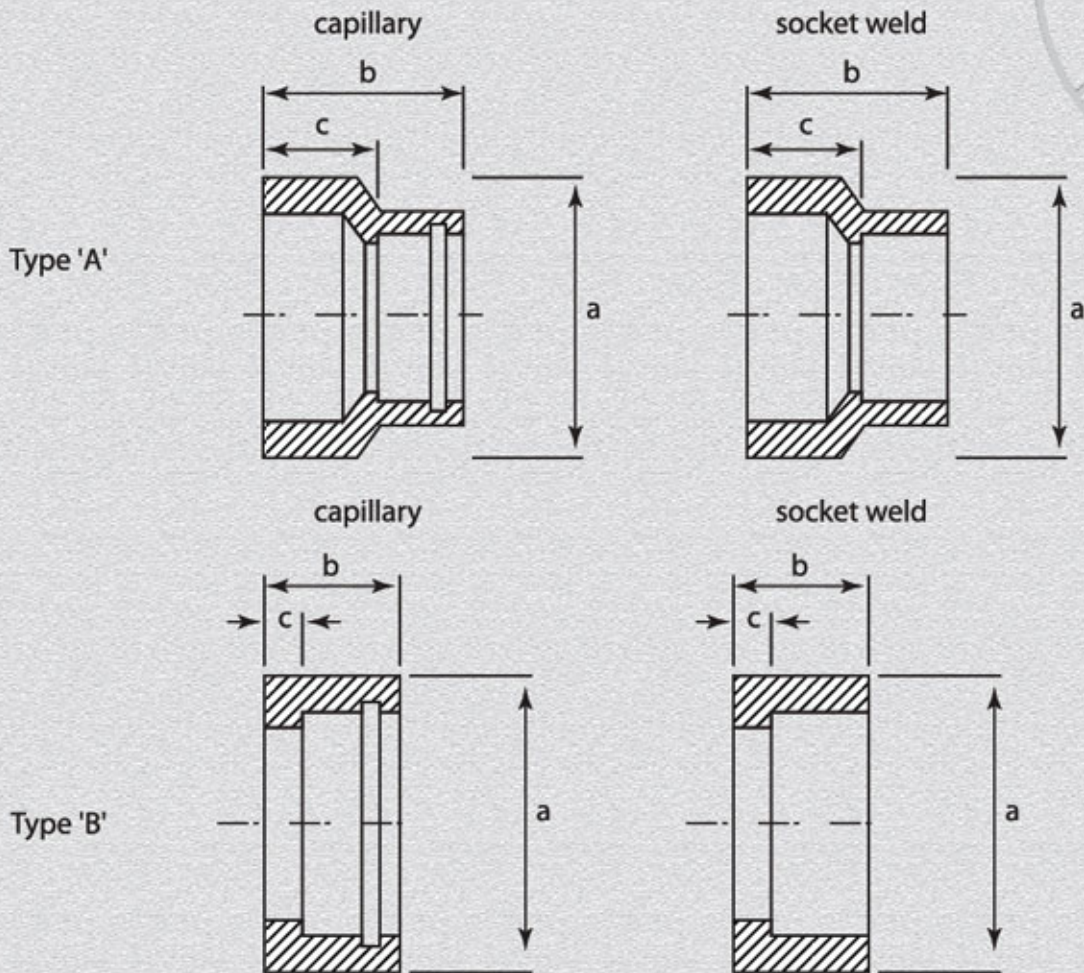


Male Adaptors

Socket Dimension as per EEMUA 146

Male Adaptors					
Size mm	a mm	b mm	Length mm	A/F mm	Approximate Weight (Kg)
16.0x1/2"	16.0	1/2" NPT	41.0	24.0	0.10
25.0x3/4"	25.0	3/4" NPT	40.0	32.0	0.11
30.0x1"	30.0	1" NPT	47.0	36.0	0.22
38.0x1.1/4"	38.0	1.1/4" NPT	50.0	50.0	0.30
44.5x1.1/2"	44.5	1.1/2" NPT	55.5	50.0	0.40
57.0x2"	57.0	2" NPT	64.0	65.0	0.70

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Reducing Insert

Socket Dimension as per EEMUA 146

Large tube outside diameter (mm)	Small tube outside diameter (mm)	Type	a (mm)	b (mm)	c (mm)	Approx. Weight (Kg)
25.00	x 16.00	B	25.00	13.00	3.00	0.054
30.00	x 16.00	A	30.00	26.00	16.00	0.083
30.00	x 25.00	B	30.00	16.00	3.00	0.062
38.00	x 16.00	A	38.00	30.00	20.00	0.136
38.00	x 25.00	A	38.00	30.00	17.00	0.170
38.00	x 30.00	B	38.00	16.00	3.00	0.115
44.50	x 16.00	A	44.50	31.00	21.00	0.180
44.50	x 25.00	A	44.50	31.00	18.00	0.223
44.50	x 30.00	A	44.50	31.00	18.00	0.246
44.50	x 38.00	B	44.50	16.00	3.00	0.282
57.00	x 16.00	A	57.00	37.00	27.00	0.305
57.00	x 25.00	A	57.00	37.00	24.00	0.366
57.00	x 30.00	A	57.00	37.00	24.00	0.398
57.00	x 38.00	A	57.00	37.00	24.00	0.440
57.00	x 44.50	B	57.00	19.00	6.00	0.320

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UNION CONNECTOR

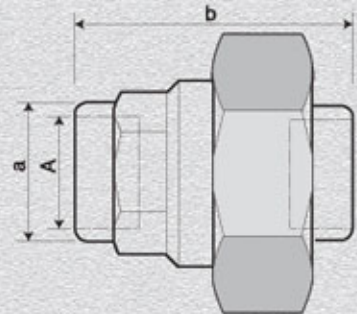




Socket Weld Union

Socket Dimensions to ASME 16.11 3000 lb / BS 3799

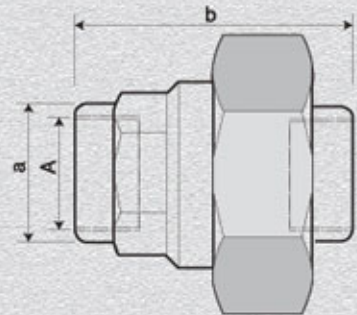
Nominal Pipe Size (NPS)	A (mm)	a (mm)	b (mm)	c A/F (mm)	d A/F (mm)	Approximate Weight (Kg)
1/2	21.70	31.25	38	50	50	0.20
3/4	27.05	37.1	46	50	55	0.30
1	33.80	45.45	52	55	60	0.40
1.1/4	42.55	54.9	54	60	70	0.70
1.1/2	48.65	61.55	56	80	85	0.85
2	60.33	75.25	68	85	90	1.25



Threaded Union

NPT Threads Dimensions to ASME 16.11 3000 lb / BS 3799

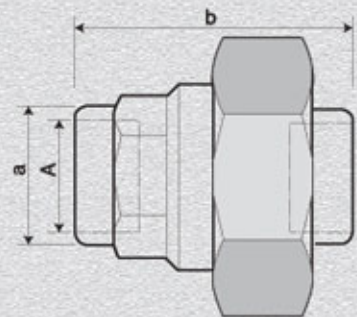
Nominal Pipe Size (NPS)	A (NPT)	a (mm)	b (mm)	c A/F (mm)	d A/F (mm)	Approximate Weight (Kg)
1/2	1/2"	29.0	51	50	50	0.40
3/4	3/4"	35.0	57	50	55	0.50
1	1"	44.0	64	55	60	0.70
1.1/4	1.1/4"	57.0	70	65	70	1.10
1.1/2	1.1/2"	64.0	79	80	85	1.50
2	2"	76.0	89	85	90	2.25



Socket Weld & Capillary Union

Socket Dimensions to EEMUA 146

Tube Outside Diameter (mm)	a (mm)	b (mm)	c A/F (mm)	d A/F (mm)	Approximate Weight (Kg)
16	23	46	41	50	0.55
25	32	46.5	50	50	0.60
30	37	49.5	50	50	0.65
38	45	49.5	55	60	0.85
44.5	52	65.5	60	70	1.15
57	65	71	80	85	1.90



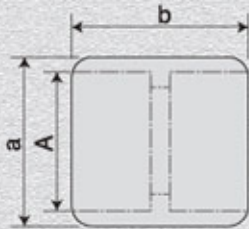


SW, THREADED COUPLING & CAPS

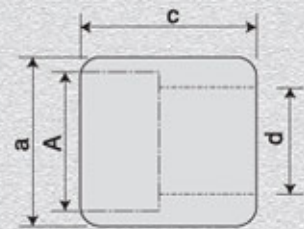


Socket Weld Full & Half Couplings

Dimensions to ASME B 16.11 3000 lb / BS 3799

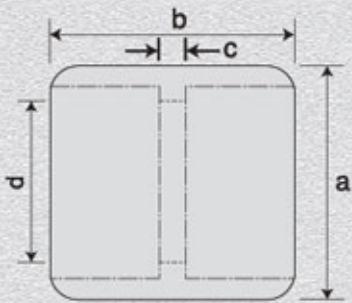


Nominal Pipe Size (inch)	a (mm)	A (mm)	b (mm)	c (mm)	d (mm)	Approx. Weight (Kg)
1/2"	31.25	21.70	29.5	32	16	0.11 / 0.12
3/4"	37.10	27.05	35.5	36.5	21	0.16 / 0.17
1"	45.45	33.80	39.0	42.0	27	0.25 / 0.27
1.1/4"	54.90	42.55	39.0	43.0	35	0.33 / 0.36
1.1/2"	61.55	48.65	39.0	45.0	41	0.40 / 0.45
2"	72.25	61.10	51.0	57.0	53	0.70 / 0.77

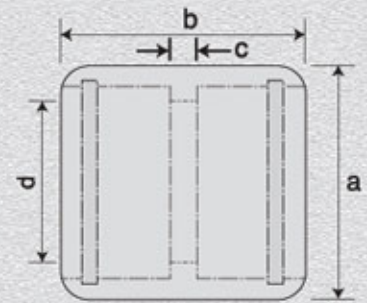


Socket Weld / Capillary Full Couplings

Dimensions to EEMUA 146



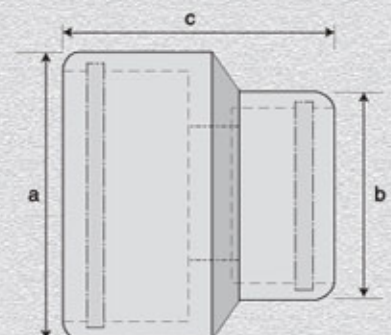
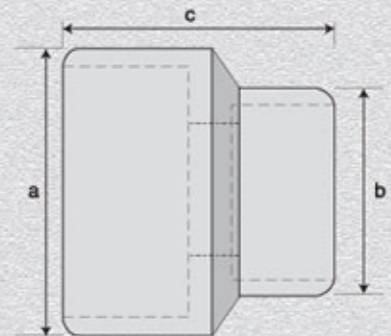
Tube Outside Diameter (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Approx. Weight (Kg)
16	23.0	22.0	2.0	12.0	0.04
25	32.0	28.0	2.0	21.0	0.07
30	37.0	28.0	2.0	25.0	0.08
38	45.0	28.0	2.0	33.0	0.11
44.5	52.0	28.5	2.0	39.5	0.13
57	65.0	34.0	2.0	52.0	0.22



Socket Weld / Capillary Reducing Coupling

Dimensions to EEMUA 146

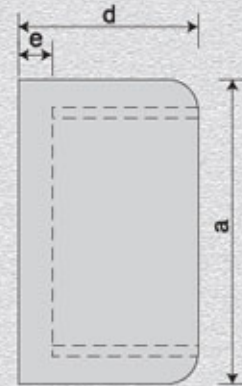
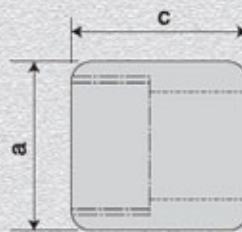
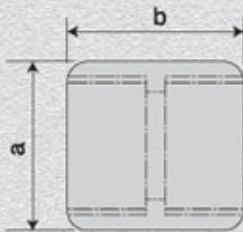
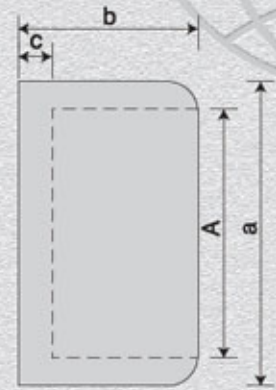
Tube outside diameter (mm)	a mm	b mm	c mm	Approx. Weight (Kg)
25.0 x 16.0	32.0	23.0	26.5	0.12
30.0 x 16.0	37.0	23.0	26.5	0.14
30.0 x 25.0	37.0	32.0	29.5	0.16
38.0 x 16.0	45.0	23.0	29.0	0.20
38.0 x 25.0	45.0	32.0	29.5	0.22
38.0 x 30.0	45.0	37.0	29.5	0.22
44.5 x 16.0	52.0	23.0	30.0	0.26
44.5 x 25.0	52.0	32.0	32.0	0.29
44.5 x 30.0	52.0	37.0	29.5	0.30
44.4 x 38.0	52.0	45.0	29.5	0.30
57.0 x 16.0	65.0	32.0	35.5	0.37
57.0 x 25.0	65.0	32.0	37.0	0.42
57.0 x 30.0	65.0	37.0	35.0	0.42
57.0 x 38.0	65.0	45.0	34.0	0.42
57.0 x 44.5	65.0	52.0	33.0	0.40



Socket Weld Caps

Dimensions to ASME B16.11 3000 lb

Nominal Pipe Size (inch)	a (mm)	A (mm)	b (mm)	c (mm)	Approx. Weight (Kg)
1/2"	31.25	21.70	18.0	6.5	0.09
3/4"	37.10	27.05	23.0	6.5	0.14
1"	45.45	33.80	24.0	9.5	0.24
1.1/4"	54.90	42.55	26.0	9.5	0.34
1.1/2"	61.55	48.65	27.0	11.0	0.46
2"	72.25	61.10	34.0	12.5	0.80

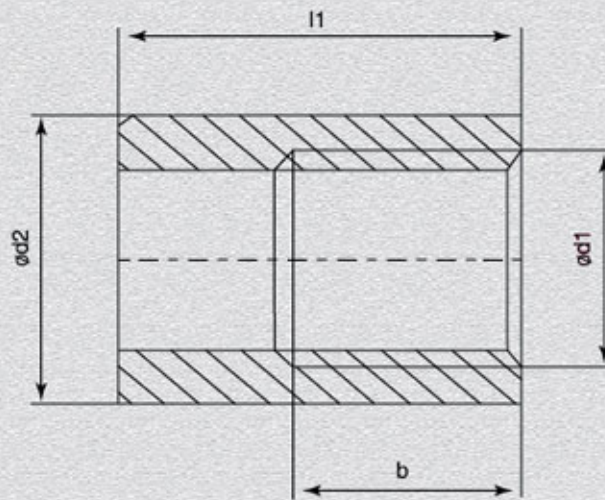


Threaded Couplings, Half Couplings & Caps

Dimensions to ASME B16.11 3000 lb

Nominal Pipe Size (inch)	Tube Outside Diameter (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Approx. Weight (Kg)
1/2"	21.70	29.0	48.0	24.0	32.0	6.5	0.13 / 0.07 / 0.11
3/4"	27.05	35.0	51.0	25.5	37.0	6.5	0.19 / 0.09 / 0.17
1"	33.80	44.0	60.0	30.0	41.0	9.5	0.35 / 0.17 / 0.31
1.1/4"	42.55	57.0	67.0	33.5	44.0	9.5	0.70 / 0.35 / 0.57
1.1/2"	48.65	64.0	79.0	39.5	44.0	11.0	0.96 / 0.50 / 0.73
2"	61.10	76.0	86.0	43.0	48.0	12.5	1.30 / 0.65 / 1.04

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Sockets

Dimensions as per DIN 86103 / Form B

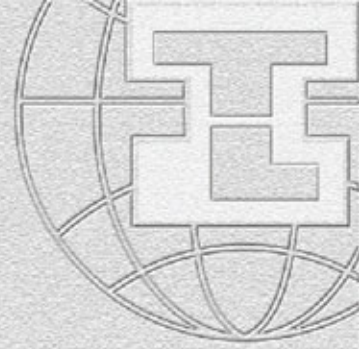
d 1 (BSPP)	d 2 (mm)	l 1 (mm)	b (mm)	Approx. Weight (Kg)
1/4"	20	20	12	0.04
3/8"	25	20	12	0.06
1/2"	30	25	14	0.09
3/4"	38	25	16	0.15
1"	45	25	18	0.20
1.1/4"	55	30	20	0.30
1.1/2"	60	32	22	0.40
2"	75	40	23	0.70



MNGT Gas Nipple

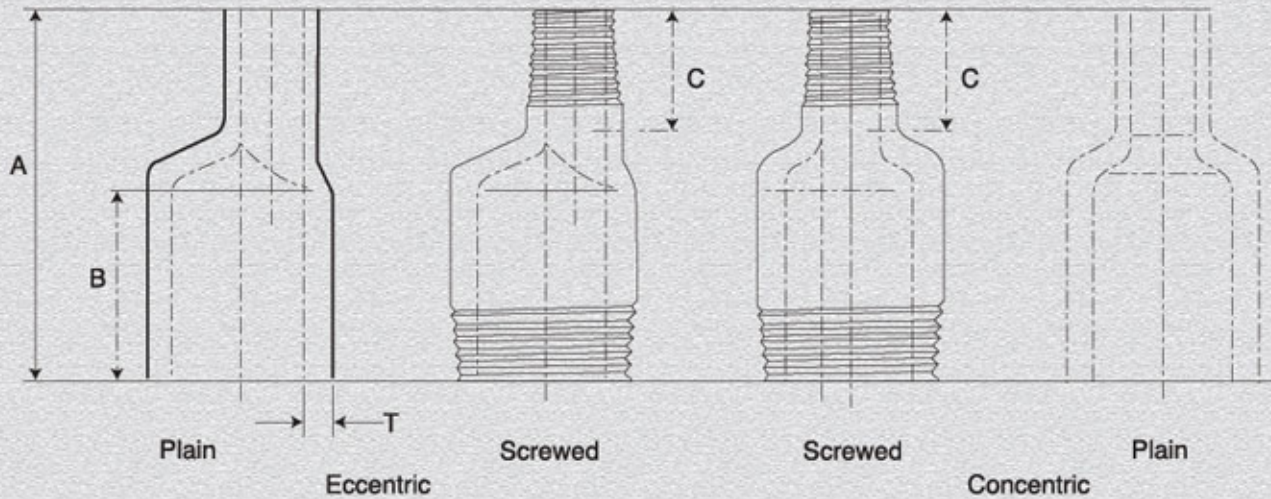
A (MNGT)	L 1 (mm)	L 2 (mm)	L 3 (mm)	t _{min} (mm)	Approx. Weight (Kg)
1/2"	20	20	40	2.5	0.06
3/4"	20	20	40	2.5	0.08
1"	20	20	40	3.0	0.12
1.1/4"	25	25	50	3.0	0.20
1.1/2"	25	25	50	3.0	0.25
2"	35	25	60	3.5	0.40

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SWAGED NIPPLE



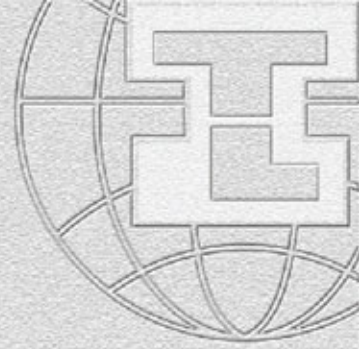


SWAGED NIPPLES

Dimensions to BS 3799 / MSS SP - 95

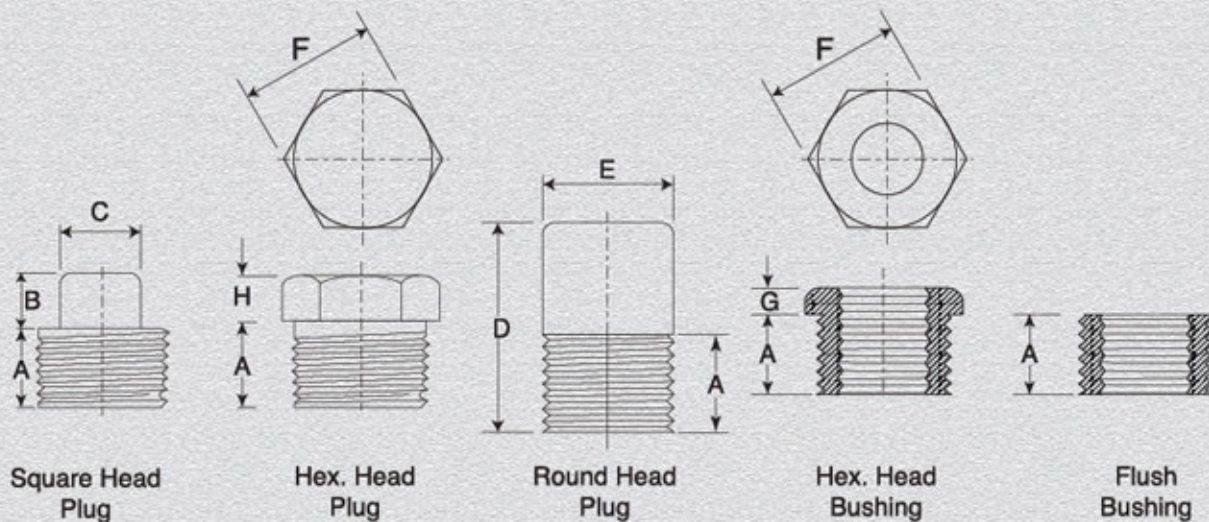
Nominal Size		Parallel Length			Approx. Weight Sch STD / 40s (Kg)
		(mim) A mm	(mim) B mm	(mim) C mm	
NPS	DN				
3/4 x 1/2	20 x 15	95	57	22	0.16
1 x 3/4	25 x 20	102	64	22	0.30
1 x 1/2	25 x 15	102	64	22	0.30
1.1/2 x 3/4	40 x 20	114	70	25	0.60
1.1/2 x 1/2	40 x 15	114	70	25	0.60
2 x 1.1/2	50 x 40	165	108	29	0.95
2 x 1	50 x 25	165	108	29	0.95
2 x 3/4	50 x 20	165	108	29	0.95
2 x 1/2	50 x 15	165	108	29	0.95
2.1/2 x 2	65 x 50	178	114	32	1.75
2.1/2 x 1.1/2	65 x 40	178	114	32	1.75
3 x 2.1/2	60 x 65	203	133	41	2.30
3 x 2	80 x 50	203	133	41	2.30
3 x 1.1/2	80 x 40	203	133	41	2.30
4 x 3	100 x 80	229	140	48	3.65
4 x 2.1/2	100 x 65	229	140	48	3.65

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PLUGS & BUSHES



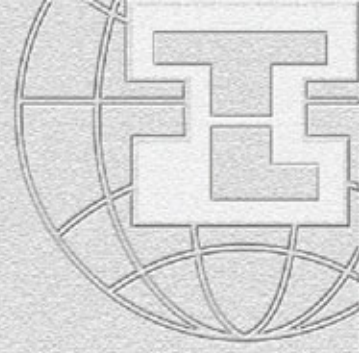


PLUGS AND BUSHINGS

Dimensions to ASME 16.11 3000 lb

Nominal Pipe Size	Min. Length A	Square Head Plugs		Round Head Plugs		Hex plugs and Bushings			Approx. Weight (Kg)			
		Min. Square Height B	Min. Width Flat C	Nominal Head Diameter E	Min. Length D	Nominal Width Flat F	Min. Hex Height		Square Headed Plug	Hex Headed Plug	Round Headed Plug	Hex Headed Bush
						Bushing G	Plug H					
1/2	14	10	14	21	44	22	5	8	0.06	0.08	0.14	0.05
3/4	16	11	16	27	44	27	6	10	0.09	0.20	0.22	0.08
1	19	13	21	33	51	36	6	10	0.18	0.28	0.38	0.11
1.1/4	21	14	24	43	51	46	7	14	0.31	0.50	0.62	0.23
1.1/2	21	16	28	48	51	50	8	16	0.43	0.50	0.81	0.34
2	22	18	32	60	64	65	9	18	0.71	1.31	1.6	0.51
2.1/2	27	19	36	73	70	75	10	19	1.07	1.97	2.5	0.61

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Flanges

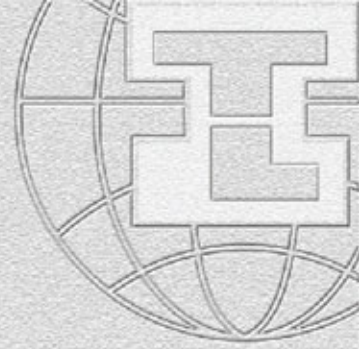
ITL manufactures a wide range of Copper-Nickel Flanges. Different types of flanges manufactured by ITL are summarised below.

Solid Flanges: Types of solid flanges are weld neck, blind, socket weld, threaded, slip on and size range is NPS 1/2 to NPS 12. Major manufacturing standards followed for solid flanges are ASME B16.5, EEMUA 145, BS 4504 Sec 3.3 / EN 1092.

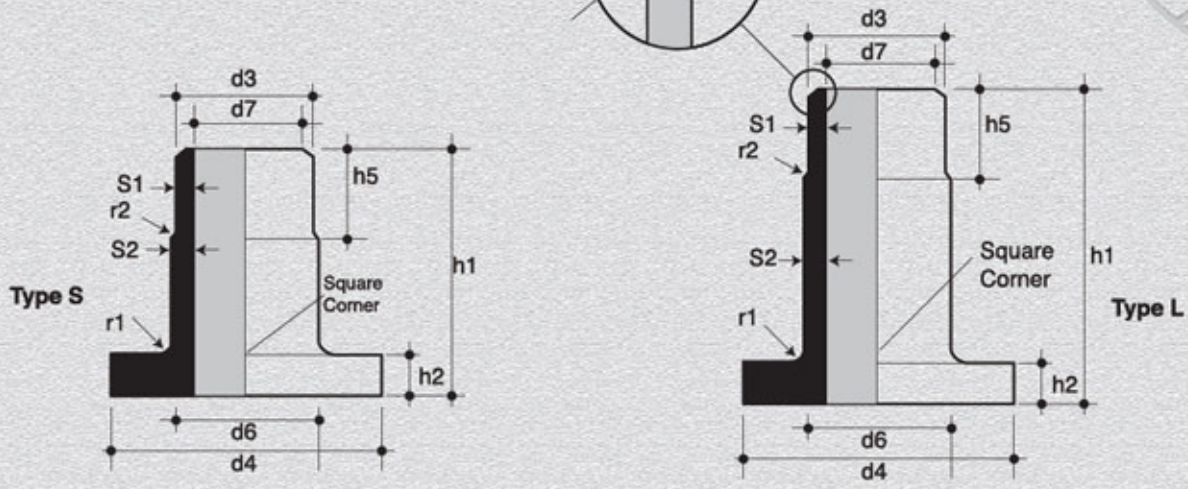
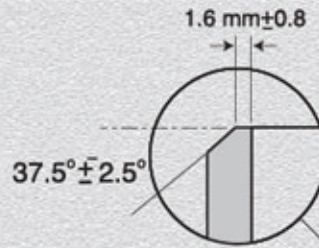
Composite Flanges: Composite weld neck and slip on flanges are manufactured from NPS 1/2 to NPS 12. Manufacturing standards followed are EEMUA 145, DIN 86036, DIN 86037, BS 4504 sec 3.3 / EN 1092, ASME B16.9

Spectacle Blind Flange, Spacer and Spade: Both solid and composite spectacle blind flange, spacer and spades are manufactured as per ASME B16.48 or as per customer's requirements.

All flanges at ITL are either forged from extruded solid rod / seamless pipe or made from rolled plate.



Weld preparation
Applicable to $S1 \geq 3.0\text{mm}$



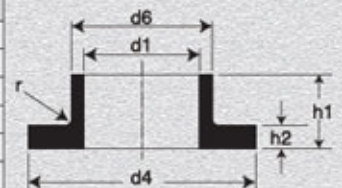
Weld Neck Inner Short & Long Stub Ends Dimensions to EEMUA 145

Size	in.	mm	d3	d4	d6	d7	Type	Type	h2	r1	r2	h5	16 Bar		20 Bar		Approximate Wt.	
							"S"	"L"					S1	S2	S1	S2	S	L
1/2	16	16	40	18	12.00	35	51	4	2	3	15	2.0	3.0	2.0	3.0	0.07	0.08	
3/4	25	25	50	27	21.00	40	51	5	3	3	15	2.0	3.0	2.0	3.0	0.12	0.14	
1	30	30	60	32	25.00	40	51	5	4	3	15	2.5	3.5	2.5	3.5	0.17	0.20	
1.1/4	38	38	70	40	33.03	40	51	5	4	3	15	2.5	3.5	2.5	3.5	0.23	0.25	
1.1/2	44.5	44.5	80	46.5	39.53	45	51	6	4	3	15	2.5	3.5	2.5	3.5	0.32	0.35	
2	57	57	99	59	52.16	45	64	6	5	3	15	2.5	3.5	2.5	3.5	0.45	0.53	
2.1/2	76.1	76.1	120	78	71.23	45	64	6	5	3	15	2.5	3.5	2.5	3.5	0.60	0.70	
3	88.9	88.9	130	91	84.08	50	64	7	5	3	15	2.5	3.5	2.5	3.5	0.75	0.85	
4	108	108	158	110	102.13	50	76	7	5	3	15	3.0	4.0	3.0	4.0	1.1	1.33	
6	159	159	212	161.5	153.75	50	89	9	5	5	15	3.0	4.0	3.5	4.5	2.00	2.61	
8	219.1	219.1	270	222	211.10	50	102	9	5	5	15	4.0	5.5	4.5	6.0	2.95	4.4	
10	267	267	320	270	258	50	127	9	5	5	15	4.5	6.0	5.5	7.0	4.0	7.2	
12	323.9	323.9	370	327	312.8	50	152	11	7	5	16	5.5	7.05	7.0	8.55	5.6	12.0	

** Weights shown above are for 20 Bar WT
Note : Also available as per DIN 86037

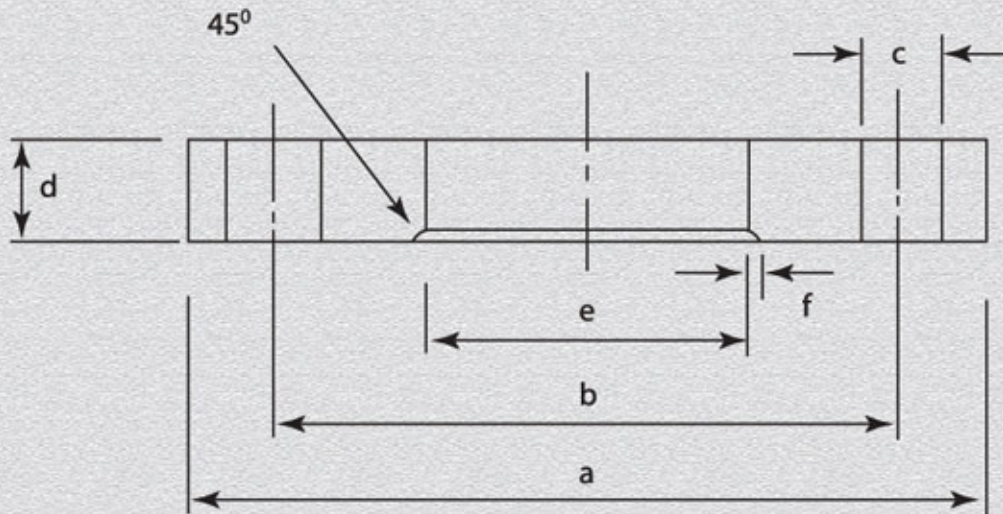
Slip-on Stub Ends : 16 & 20 bar ratings Dimensions to EEMUA 145

Size	in.	mm	d1	d6	d4	h1	h2	r	Approximate Wt.
1/2	16	16.07	21	40	16	5	1	0.055	
3/4	25	25.08	31	53	16	5	1	0.090	
1	30	30.08	36	60	18	5	1	0.147	
1.1/4	38	38.10	45	70	18	5	1	0.185	
1.1/2	44.5	44.60	51	80	19	5	1	0.330	
2	57	57.23	67	99	19	6	1	0.441	
2.1/2	76.1	76.33	87	120	19	6	1	0.540	
3	88.9	89.18	100	130	21	7	1	0.540	
4	108	108.38	120	158	23	7	1	0.799	



Note : Also available as per DIN 86037

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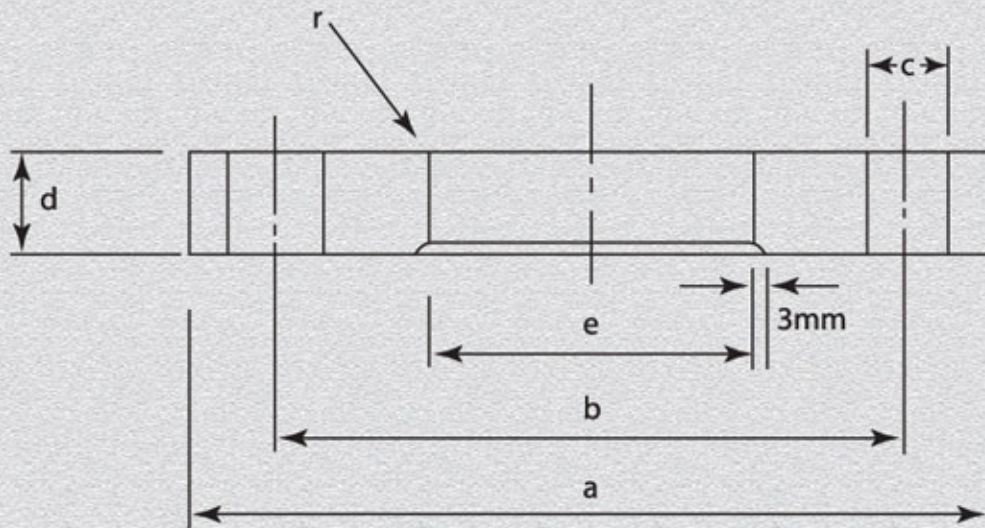
Carbon Steel Outer for Composite Weld Neck Flange

Dimensions to EEMUA 145

Tube Outside diameter mm	a mm	b mm	c mm	Number of bolt holes	d min mm	e mm	f mm	Approx. Wt. (Kg)
16.00	89.00	60.30	15.9	4	14.00	19.00	2	0.565
25.00	98.00	69.80	15.9	4	14.00	28.00	3	0.674
30.00	108.00	79.40	15.9	4	14.00	33.00	3	0.825
38.00	117.00	88.90	15.9	4	14.00	41.00	3	0.949
44.50	127.00	98.40	15.9	4	14.00	48.00	3	1.106
57.00	152.00	120.60	19.0	4	18.00	62.00	3	1.977
76.10	178.00	139.70	19.0	4	18.00	81.00	3	2.627
88.90	190.00	152.40	19.0	4	19.00	94.00	3	3.024
108.00	229.00	190.50	19.0	8	24.00	113.00	3	5.442
159.00	279.00	241.30	22.2	8	27.00	164.00	4	7.823
219.10	343.00	298.40	22.2	8	31.00	225.00	5	12.05
267.00	406.00	362.00	25.4	12	38.00	273.00	5	19.34
323.90	483.00	431.00	25.4	12	41.00	330.00	7	29.48

Note : Also available as per DIN 86037

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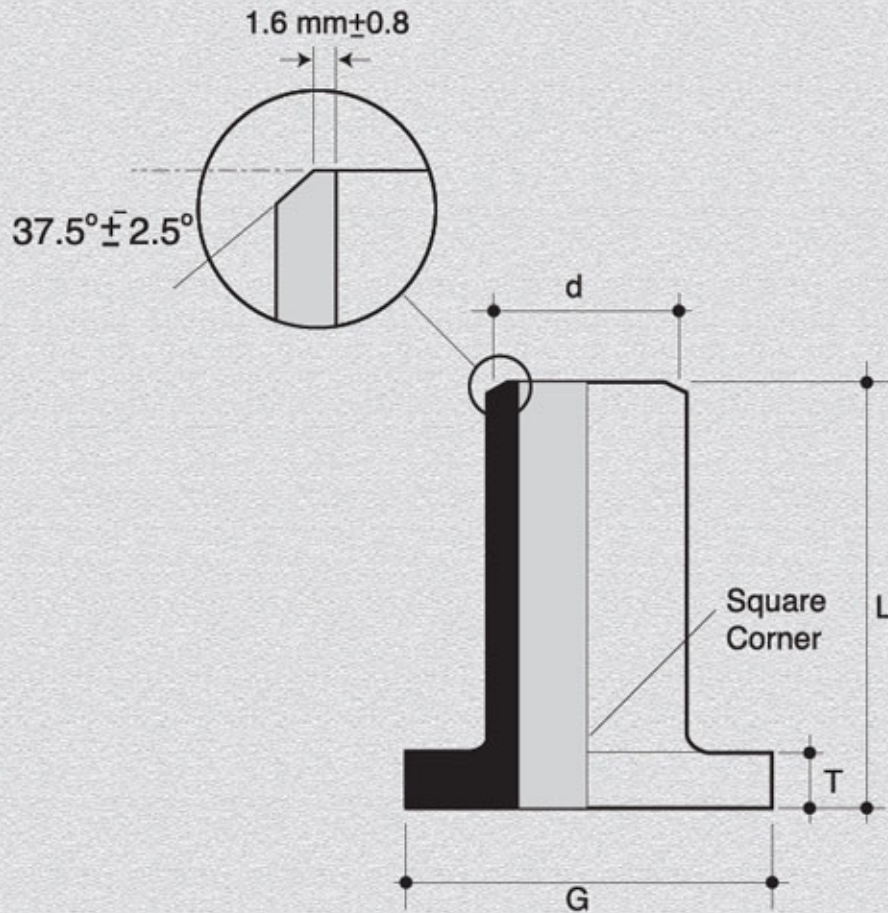
Carbon Steel Outer for Composite Slip On Flange

Dimensions to EEMUA 145

Tube Outside diameter mm	a mm	b mm	c mm	Number of bolt holes	d min mm	e mm	Approx. Wt. (Kg)
16.00	89	60.30	15.9	4	14	23	0.551
25.00	98	69.80	15.9	4	14	33	0.648
30.00	108	79.40	15.9	4	14	38	0.795
38.00	117	88.90	15.9	4	14	47	0.903
44.50	127	98.40	15.9	4	14	53	1.062
57.00	152	120.60	19.0	4	18	69	1.875
76.10	178	139.70	19.0	4	18	89	2.476
88.90	190	152.40	19.0	4	19	103	2.816
108.00	229	190.50	19.0	4	24	123	5.306

Note : Also available as per DIN 86036

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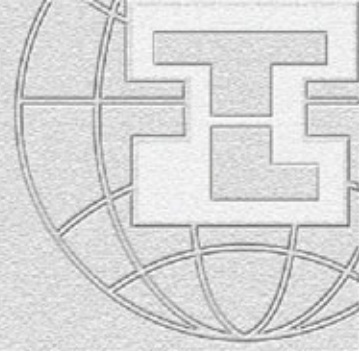
Lap Joint Short & Long Stub Ends Dimensions to ASME B 16.9

Nominal Bore (Inch)	Outside Diameter (mm)	L		G (mm)	Approximate Wt. for Seis STD / 40s	
		(Short) (mm)	(Long) (mm)		(Short) (Kg)	(Long) (Kg)
1/2	21	51	76	35	0.10	0.16
3/4	27	51	76	43	0.15	0.21
1	33	51	102	51	0.17	0.34
1.1/4	42	51	102	64	0.23	0.46
1.1/2	48	51	102	73	0.32	0.64
2	60	64	152	92	0.50	1.2
2.1/2	73	64	152	105	0.75	1.76
3	89	64	152	127	0.01	2.43
4	114	76	152	157	1.71	3.45
6	168	89	203	216	3.41	7.80
8	219	102	203	270	5.90	11.90

Note : 1. Collar thickness T is not less than specified wall thickness of the pipe to which it will be welded.

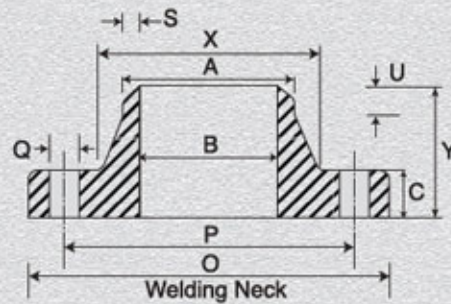
Note : 2. Stub Ends as per MSS SP 43 Type A & B are also available.

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SOLID FLANGES

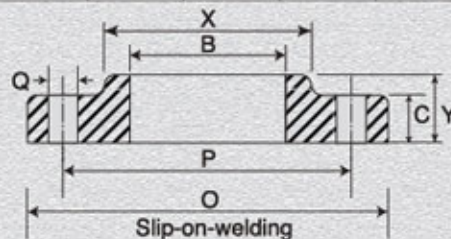




Solid Weld Neck Flange

Dimensions to EEMUA 145, 16 & 20 Bar

Tube Outside Diameter (mm)	Outside Diameter of Flange O (mm)	Thickness of Flange C (mm)	Diameter of Hub X (mm)	Hub Dia. at Weld Chamfer A (mm)	Length Through Hub Y (mm)	Bore of Flange B (mm)	Thickness of Hub at Weld End S (mm)	Parallel Length on Hub U (mm)	Diameter of Bolt Circle P (mm)	Number of Bolt Holes (pcs)	Diameter of Bolt Holes Q (mm)	Approx. Weight (Kg)
16	89	14	23	16.0	48	12.00	2.0	8	60.3	4	15.9	0.72
25	98	16	32	25.0	52	21.00	2.0	7	69.8	4	15.9	1.01
30	108	16	42	30.0	56	25.00	2.5	8	79.4	4	15.9	1.32
38	117	17	51	38.0	57	33.03	2.5	8	88.9	4	15.9	1.63
44.5	127	20	61	44.5	62	39.53	2.5	7	98.4	4	15.9	2.26
57	152	25	73	57.0	64	52.16	2.5	9	120.6	4	19.0	3.74
76.1	178	27	91	76.1	70	71.23	2.5	8	139.7	4	19.0	5.35
88.9	190	27	105	88.9	70	84.08	2.5	8	152.4	4	19.0	5.93
108	229	27	135	108.0	76	102.13	3.0	8	190.5	8	19.0	8.91
159	279	27	192	159	89	152.38*	3.0 / 3.5	8	241.3	8	22.2	12.91
219.1	343	31	246	219.1	98	210.1*	4.0 / 4.5	8	298.4	8	22.2	19.82

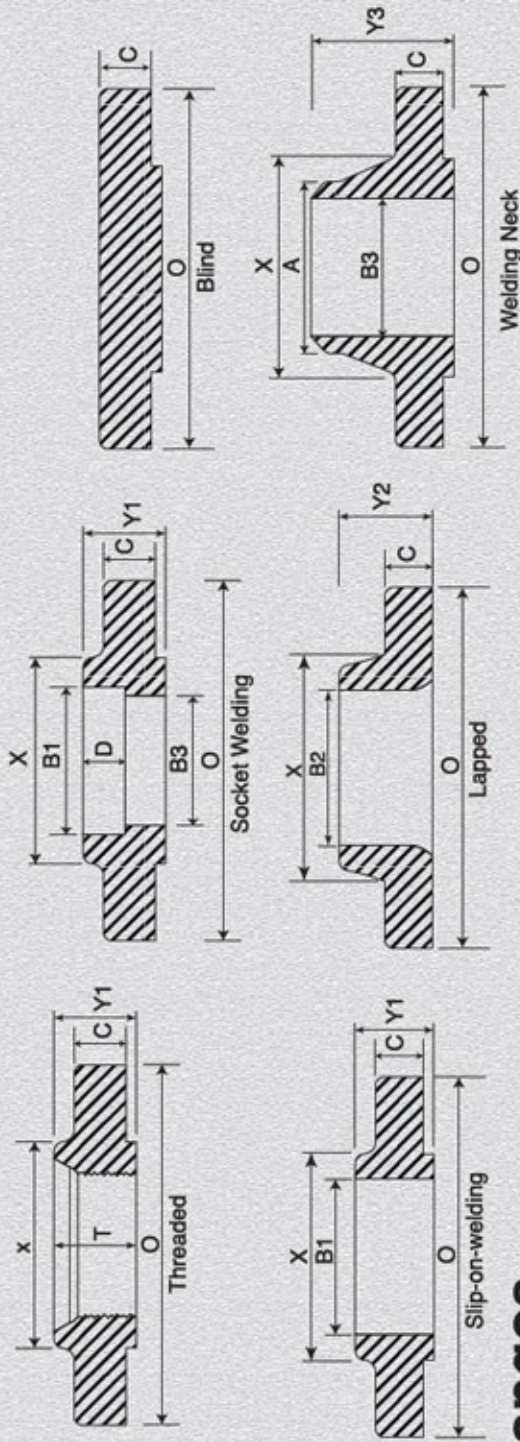


Solid Slip On Flange

Dimensions to EEMUA 145

Tube Outside Diameter (mm)	Outside Diameter of Flange O (mm)	Thickness of Flange C (mm)	Diameter of Hub X (mm)	Length Through Hub Y (mm)	Bore of Flange B (mm)	Corner Radius R (mm)	Diameter of Bolt Circle P (mm)	Number of Bolt Holes (pcs)	Diameter of Bolt Holes Q (mm)	Approx. Weight (Kg)
16	89	14	23	20	16.07	4	60.3	4	15.9	0.70
25	98	16	32	24	25.08	4	69.8	4	15.9	1.00
30	108	16	42	24	30.08	4	79.4	4	15.9	1.30
38	117	17	51	26	38.10	6	88.9	4	15.9	1.60
44.5	127	20	61	26	44.60	6	98.4	4	15.9	2.22
57	152	25	73	28	57.23	6	120.6	4	19.0	3.90
76.1	178	27	91	32	76.33	6	139.7	4	19.0	5.90
88.9	190	27	105	34	89.18	6	152.4	4	19.0	6.75
108	229	27	135	40	108.40	8	190.5	8	19.0	10.05

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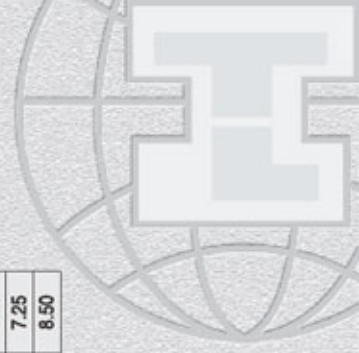


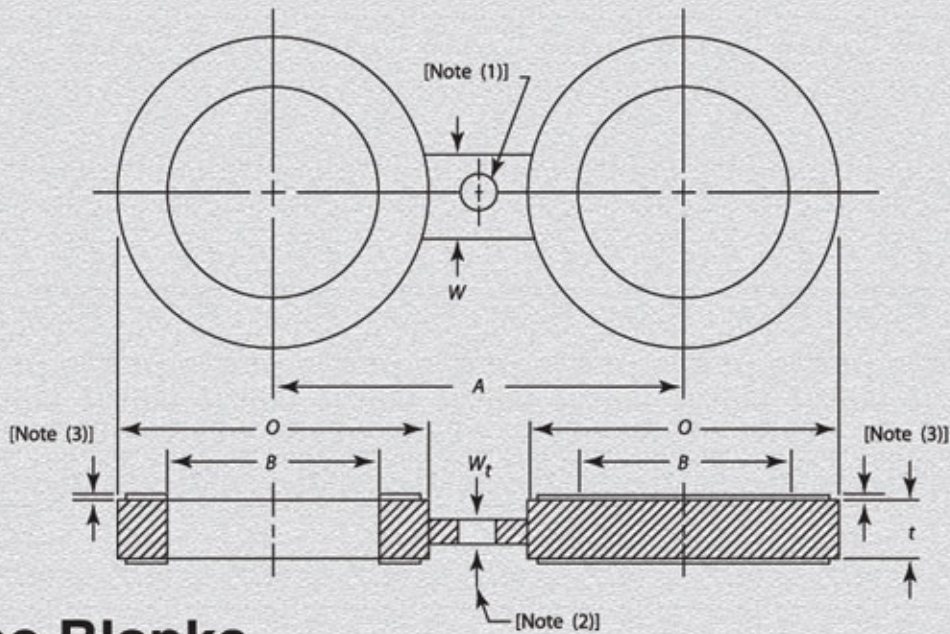
Pipe Flanges

Dimension to ASME B 16.5 150 lb Class

Nominal Pipe Size	Outside diameter of Flange O	Thickness of Flange Min. C	Diameter of Hub X	Hub Diameter beginning of chamfer	Length Through Hub			Thread Length Threaded Flange Min. T	Bore		Corner radius of bore of Lapped Flange r	Depth of Socket D	Approximate Weight (Kg)					
					Threaded Slip-On Socket Welding Y	Threaded Slip-On Socket Welding Y	Welding Neck Y		Slip-On Socket Welding Min. B	Lapped Min. B			Welding Neck Socket Welding B	Threaded	Slip On	Socket Weld	Lapped	Blind
1/2	3.5	0.44	1.19	0.84	0.62	0.62	1.82	0.62	0.88	0.9	0.12	0.38	0.50	0.50	0.50	0.50	0.50	0.60
3/4	3.88	0.5	1.5	1.05	0.62	0.62	2.06	0.62	1.09	1.11	0.12	0.44	0.80	0.80	0.80	0.80	0.80	0.80
1	4.25	0.56	1.94	1.32	0.69	0.69	2.19	0.69	1.36	1.38	0.12	0.5	1.02	0.90	1.02	0.90	1.02	1.25
1.1/4	4.62	0.62	2.31	1.66	0.81	0.81	2.25	0.81	1.7	1.72	0.19	0.56	1.36	1.25	1.36	1.25	1.36	1.50
1.1/2	5	0.69	2.56	1.9	0.88	0.88	2.44	0.88	1.95	1.97	0.25	0.62	1.70	1.60	1.70	1.60	1.70	1.80
2	6	0.75	3.06	2.38	1	1	2.5	1	2.44	2.46	0.31	0.69	2.60	2.50	2.60	2.50	2.60	2.95
2.1/2	7	0.88	3.56	2.88	1.12	1.12	2.75	1.12	2.94	2.97	0.31	0.75	4.20	4.07	4.20	4.07	4.20	4.65
3	7.5	0.94	4.25	3.5	1.19	1.19	2.75	1.19	3.57	3.6	0.38	0.81	4.75	4.65	4.75	4.65	4.75	5.65
3.1/2	8.5	0.94	4.81	4	1.25	1.25	2.81	1.25	4.07	4.1	0.38	..	6.00	5.90	6.00	5.90	6.00	7.25
4	9	0.94	5.31	4.5	1.31	1.31	3	1.31	4.6	4.6	0.44	..	6.70	6.35	6.70	6.35	6.70	8.05

Note : Dimensions are in inch. Other size & class ranges are available on request.





Line Blanks

Dimensions to ASME B16.48 150#

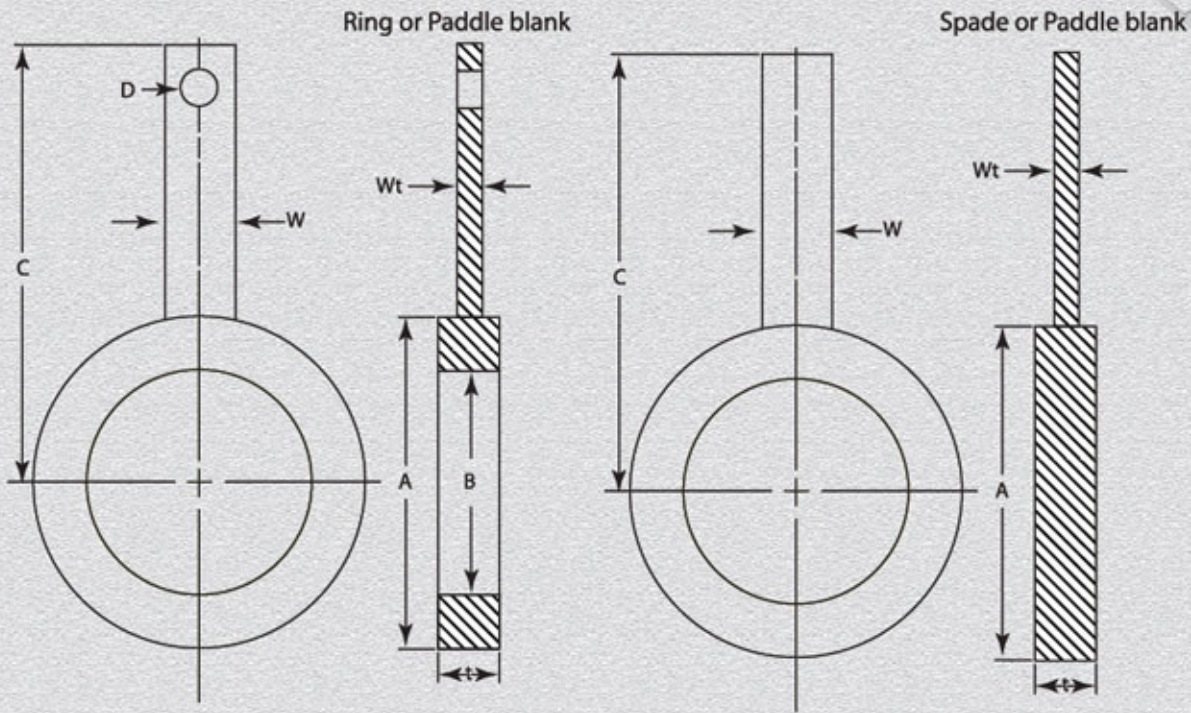
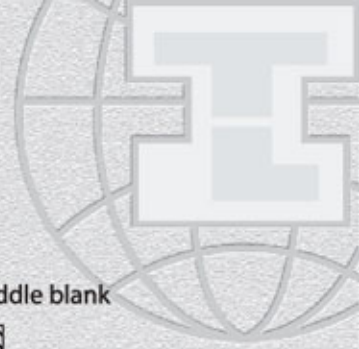
Nominal Pipe Size (NPS)	Inside Diameter B (mm)	Outside Diameter O (mm)	Centerline Dimension A (mm)	Thickness t (mm)	Web Width W (mm)	Approx. Weight (Kg)
1/2	16	51	65	6.4	38	0.30
3/4	21	64	80	6.4	38	0.40
1	27	70	90	6.4	57	0.80
1 1/4	37	79	100	9.7	57	1.00
1 1/2	43	92	115	9.7	57	1.20
2	55	108	125	9.7	67	1.90
2 1/2	67	127	150	12.7	67	3.30
3	83	146	170	12.7	67	4.50
4	108	191	215	15.7	76	6.25
6	162	264	290	22.4	86	11.25
8	212	318	350	28.4	95	17.00
10	265	397	430	35.1	105	28.00
12	315	454	490	41.1	105	45.00

Note 1: Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole and located such that it will not interfere with bolting between two flanges.

Note 2: The thickness of the web (or tie bar) dimension, W_t , shall be capable of supporting the weight of the blank or spacer in all orientations without permanent deformation.

Note 3: Raised Face Joint Blanks. The gasket seating surface finish and dimensions for raised face line blanks shall be in accordance with ASME B16.5. A raised face may be specified at the option of the purchaser. The height of the raised faces shall be in addition to the thicknesses, t , listed in Dimensions

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Spacer & Spade

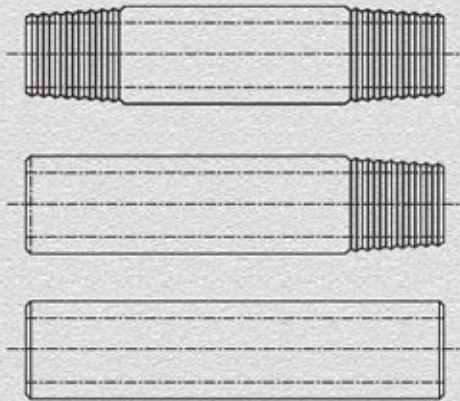
Dimensions to ASME B16.48 150#

Nominal Pipe Size (NPS)	Outside Diameter A (mm)	Inside Diameter B (mm)	Center to End C (mm)	Thickness t (mm)	Web Width W (mm)	Approx. Weight (Kg)
1/2	45	16	126	3	32	0.20 / 0.30
3/4	54	21	131	3	32	0.25 / 0.35
1	64	27	136	3	32	0.45 / 0.56
1 1/4	73	42	145	6.4	32	0.50 / 0.60
1 1/2	83	48	145	6.4	32	0.56 / 0.85
2	102	61	155	6.4	32	0.90 / 1.35
2 1/2	107	73	170	6.4	32	1.50 / 2.30
3	133	89	170	6.4	32	2.00 / 3.30
4	172	114	202	9.7	38	2.65 / 4.35
6	219	168	225	12.7	38	4.40 / 8.60
8	276	219	267	12.7	38	5.25 / 13.00
10	337	273	322	15.7	44	9.50 / 22.5
12	406	324	357	19.1	44	13.35 / 35.00

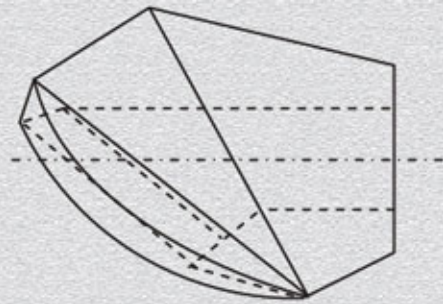
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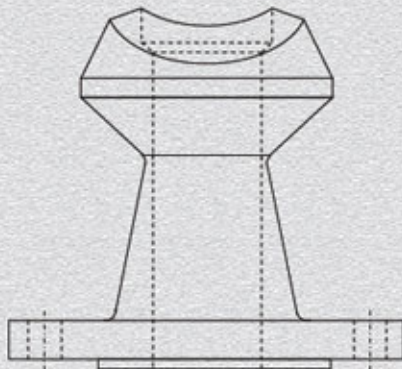
Special Items Available on Request



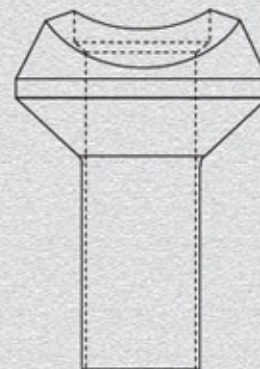
Threaded & Plain Ends Pipe Nipple



Elbowlet



Weld-o-flange



Nipolet

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marine, offshore & sea water systems



70/30 Copper-Nickel Fittings & Flanges

ITL also produces 70/30 Copper-Nickel butt weld, socket weld, threaded pipe fittings and flanges.

Major grades of 70/30 Copper-Nickel used for production at ITL are given in the following table with average chemical compositions and mechanical properties.

Grades	Cu %	Pb %	Fe %	Ni %	Mn %	S %	P %	Zn %	TI %	C %	UTS N/mm ²	Yield N/mm ²	Elong. %
ASTM/ASME B / SB 466/151/171 C71500	Rem.	0.05 Max	0.4~ 1.0	29~ 33	1.0 Max			1.0 Max			310	125	30
ASTM/ASME B / SB 466/151/171 C71520	65 Min	0.02 Max	0.4~ 1.0	29~ 33	1.0 Max	0.02 Max	0.02 Max	0.5 Max		0.05 Max	310	125	30
BS 2871 CN 107	Rem	0.03 Max	0.4~ 1.0	30~ 32	0.5~ 1.5	0.02 Max	0.02 Max	0.5 Max	0.3 Max	0.05 Max			
NES 780 CW354H	Rem.	0.02 Max	0.4~ 1.0	30~ 32	0.5~ 1.5	0.05 Max	0.02 Max	0.5 Max	0.2 Max	0.05 Max	280		30

*TI= Total Impurities

Product Range:

Size – NPS 1/2 to NPS 12 / DN 15 to DN 300 / 16mm OD and up to and including 323.9mm OD.

Fitting Types – Butt Welded, Socket Welded, Capillary Brazed and Threaded

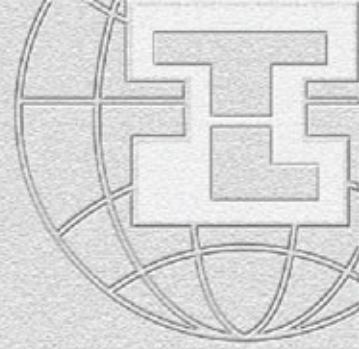
Flange Type – Weld Neck, Blind, Slip-On, Socket Weld, Threaded

Manufacturing Standards:

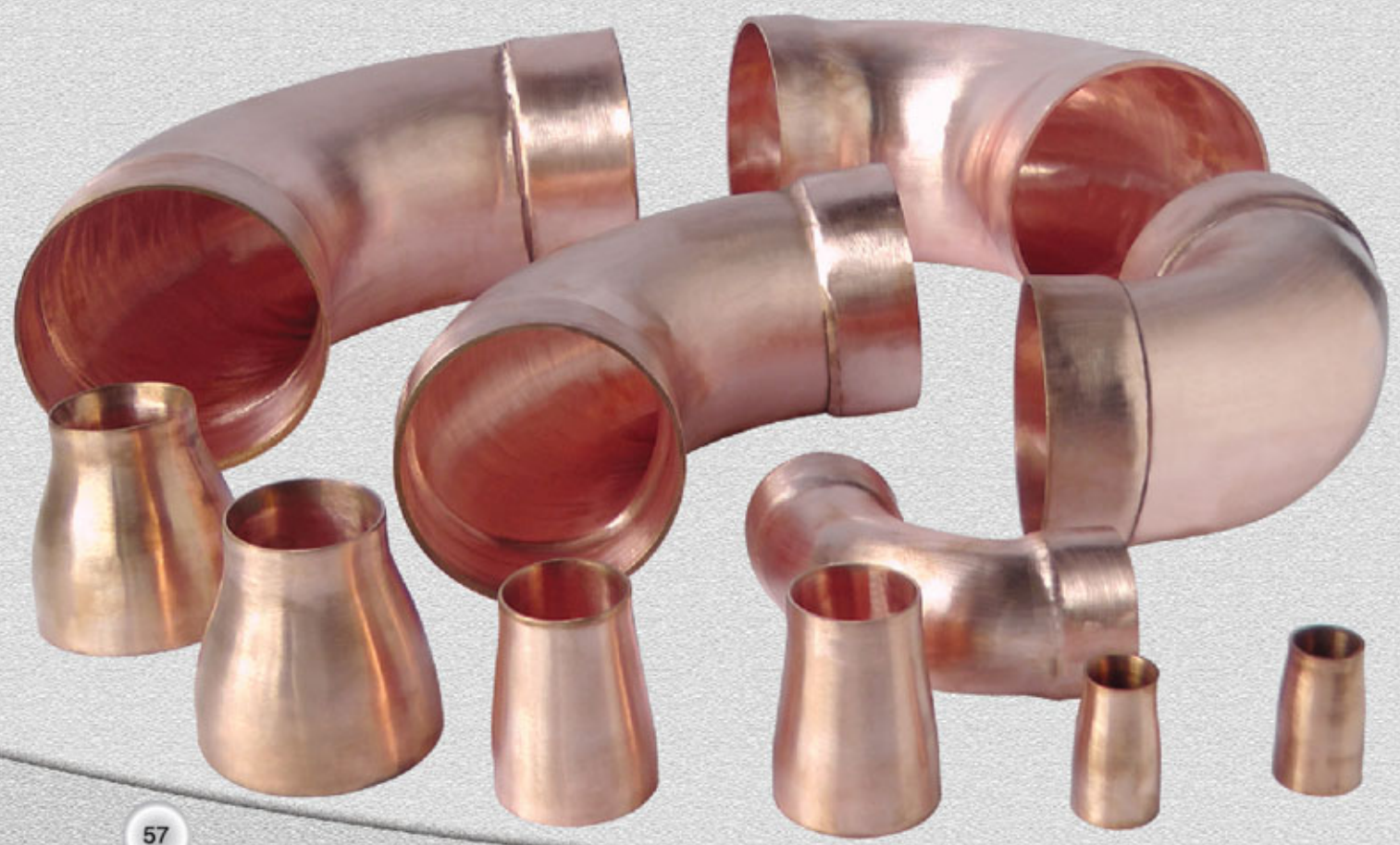
EEMUA 145	DIN 86036	DIN 86089	ASME B16.5
EEMUA 146	DIN 86037	DIN 86090	MSS SP- 83
BS 3799	DIN 86087	ASME B16.9	MSS SP-95
BS 4504 Section 3.3 / BS EN 1092	DIN 86088	ASME B16.11	MSS SP-97

Please contact our sales office for further details.

World class pipe fittings & flanges for
marine, offshore & sea water systems



COPPER FITTINGS FOR HVAC & FRESH WATER SYSTEM





Copper Fittings for HVAC, Drinking Water & DWV Systems

ITL produces wrought copper fittings for HVAC, Drinking Water, Drainage, Wastage and Vent systems.

Major grades of materials used for these fittings are as follows :

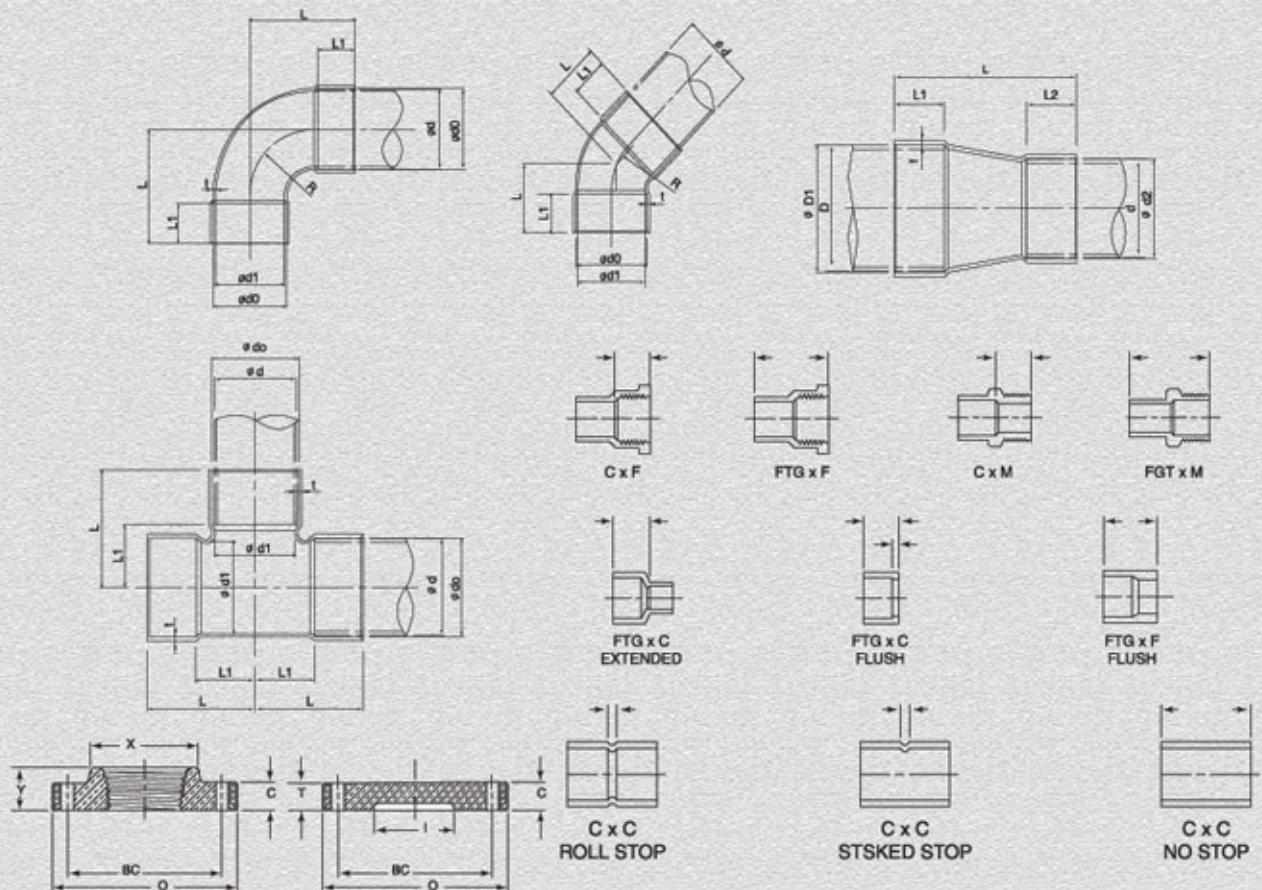
ASTM B42 / B68 / B75 / B88 / B124 / B280 / B306 C12200 / BS 2871 C106

Manufacturing standards used for these fittings are as follows :

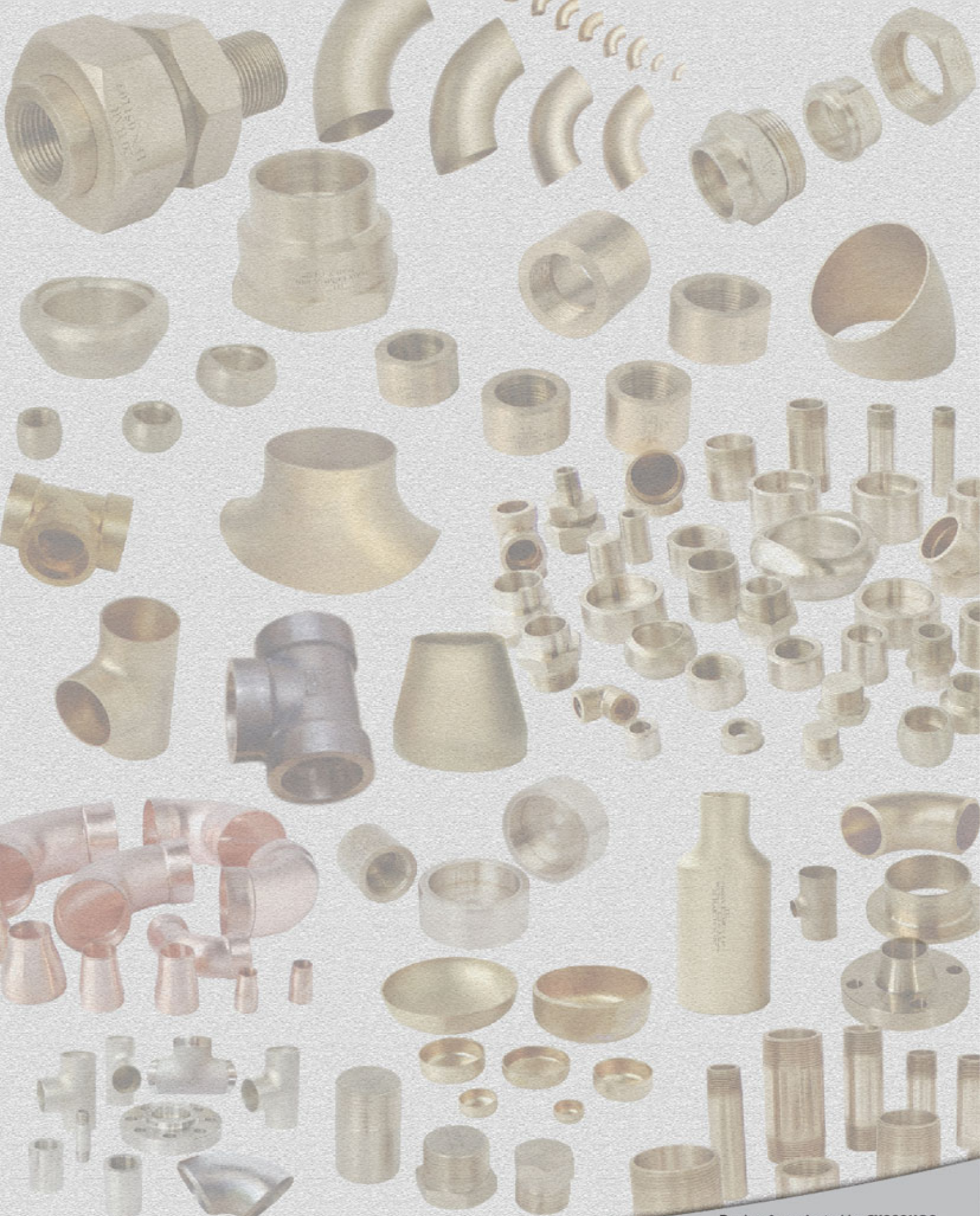
ASME B16.22, ASME B16.23, ASME B16.24, ASME B16.29

MSS SP-104

Common types of copper fittings produced in ITL are as follows :



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