



BUTTWELD FITTINGS





BUTTWELD FITTINGS



AMI is established in early 2015 and is a professional supplier of all kinds of Pipe Fittings and Flanges. With constant technological upgradation and to the fullest customer satisfaction, the company is undoubtedly the brand leader in fittings in the oilfield and Construction sectors. We are equipped with the most modern facilities and a highly qualified workforce, enabling us to offer the widest possible range of fittings and flanges. Our product line embodies the highest standards in quality, productivity and dependability.

AMI will make an exceptional effort to achieve continuous improvement in everything we do. We will deliver defect-free products and services on time to our customers. Our foremost objective is to do all of our tasks right the first time in meeting the requirements of the customer. Quality assurance figures at the raw material stage and persists through all departments until it reaches the customer. We strive to maximize return on our resources and assets through careful capital management, well reasoned risk taking and the establishment of long-term goals for constant growth, integrity and honorable behavior are the integral part of our values.

We, AMI, with many years of experience and expertise, utilize original cutting-edge technologies to our advantage in providing quality products that support the basic needs of life.

AMI fittings are designed and manufactured to withstand some of the world's harshest conditions, which they often need to endure in specialized market sectors such as oil & gas, petrochemicals, power generation and mineral refining.

Our regional warehouses can respond quickly to your needs, your problems and your shipment. Our products are exported to most parts of the world, such North and South America, Europe, Russian countries and Middle East.

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BUTTWELD FITTINGS

AMI Butt weld fittings are made of high quality materials through earthing and precision process, conform to ANSI B16.9, ASTM A234, WPB Standards, JIS 2311 and DIN 2605.

AMI Butt weld fittings have all specification from 1/8" to 36"

Concentric and Eccentric Reducers, Equal and Reducing Tees, 45° and 90° Elbows, Butt weld Caps and Stub Ends, are all part of the comprehensive range of Butt weld fittings carried by **AMI Sdn Bhd**

All our Butt weld fittings conform to relevant material and dimensional specifications and can be supplied complete with material certificates.

A pipe fitting is defined as a part used in a piping system, to change direction or function, which is mechanically joined to the system.

TYPES AND APPLICATIONS OF BUTTWELD FITTINGS

A piping system using Butt weld fittings has many inherent advantages over other forms.

- ◆ Welding a fitting to the pipe means it is permanently leakproof.
- ◆ The continuous metal structure formed between pipe and fittings adds strength to the system.
- ◆ Smooth inner surface and gradual directional changes reduce pressure losses and turbulence and minimise the action of corrosion and erosion.
- ◆ A welded systems utilises a minimum of space.

APPLICABLE STANDARDS

- ◆ **AMI Butt weld fittings** are manufactured, as a rule, in accordance with ASME standards B16.9 and B16.28 for dimensions, shapes and tolerances.
- ◆ **AMI Butt weld fittings** are machined in accordance with ASME B16.25 standards for welding and preparation.
- ◆ Manufacturing methods, quality and so on are based upon ASTM A234, A403 and A420 specifications.
- ◆ Butt weld fittings conforming to dimensions and dimensional tolerances specified in MSS SP-43 can be manufactured on application.
- ◆ Butt weld fittings conforming to MSS SP-75 can be specially manufactured on application.
- ◆ **AMI** has standardized dimensions and dimensional tolerances for Butt weld fittings of 50 inches and larger as no internationally recognized standards exist.

ASME STADARDS

B16.9	Wrought Steel Butt weld fittings
B16.28	Wrought Steel Butt weld Short Radius and Returns
B16.25	Butt weld Ends
B16.11	Forged Fittings, Socket-Welding and Threaded
B36.10	Welded and Seamless Wrought Steel Pipe
B36.19	Stainless Steel Pipe

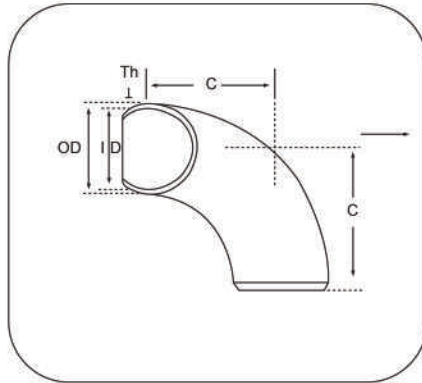
ASTM STANDARDS

A234	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperatures Service
A403	Wrought Austenitic Stainless Steel Piping Fittings
A420	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service

MSS STANDARDS

SP-43	Wrought Stainless Steel Butt weld Fittings
SP-75	High Test Wrought Butt weld Fittings

BUTTWELD FITTINGS



90° ELBOWS

The functions of a 90° elbow is to change direction or flow in a piping systems.

Elbows are split into three groups which define the distance over which they change direction, expressed as a function of the distance from the centre line of one end to the opposite face.

This is known as the centre to face

distance and is equivalent to the radius through which the elbow is bent.

LONG RADIUS ELBOW

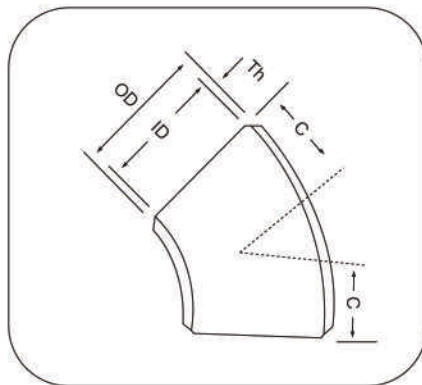
The most common is the long radius (L.R) elbow where the centre to face dimension is always 1 1/2 times the nominal pipe size of the elbow.

SHORT RADIUS ELBOW

In this case the centre to face dimension is the same as the nominal pipe size of the elbow.

EXTRA LONG RADIUS

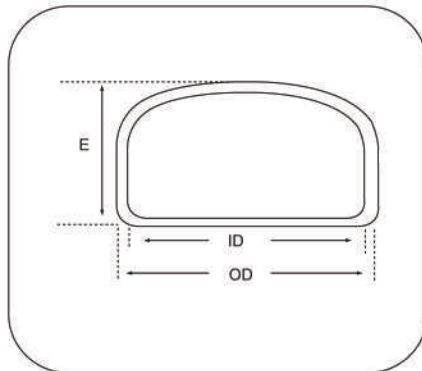
This is where the centre to face dimension is longer than the standard long radius type. The most common of these is where the centre to face dimension is three times the nominal size. i.e 3D



45° ELBOWS

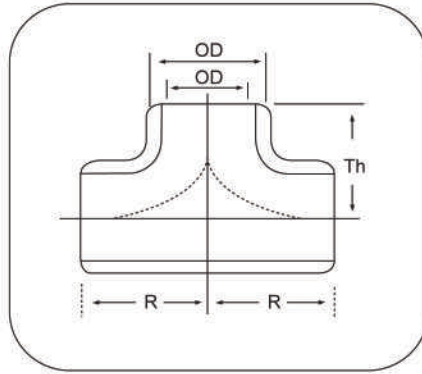
The function of 45° Elbow is the same as a 90° Elbow, but the measurement of dimensions, however, is different to that of the 90° Elbow. The radius of a 45° Elbow is the same as the radius of the 90° L.R. Elbow where 'R' equals 1 1/2 D. However, the centre to face dimension is not equivalent to the radius as in 90° L.R. Elbows, This is measured from each face to the point of intersection of the

centre lines perpendicular to each other. This is due to the smaller degree of bend.



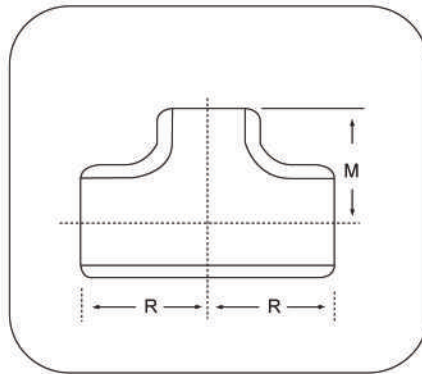
CAPS

The function of an end cap is to block off the end of a line in piping systems. This is achieved by placing the end cap over the open line and welding around the joint.



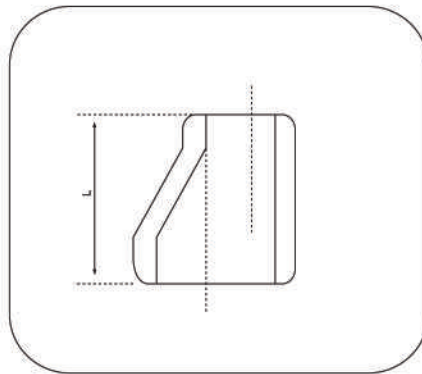
EQUAL TEES

The function of a Tee is to permit flow at 90° to the main direction of flow. The Main flow passes through the 'run' whilst the 90° outlet is known as the 'branch'. The equal Tee is manufactured with all three outlets being the same size.



REDUCING TEES

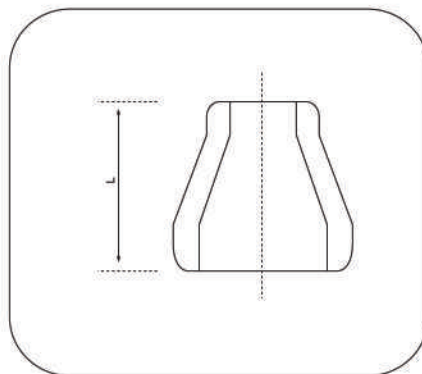
The Reducing Tee is manufactured with the branch outlet smaller than the run to obtain the desired flow and pressure through the system.



ECCENTRIC REDUCERS

The function of both types of reducer is to reduce the line from a larger to a smaller pipe size, this obviously results in an increased flow pressure.

With the Eccentric Reducer the smaller outlet end is off centre to the larger end enabling it to line up with one side of the inlet and not with the other.



CONCENTRIC REDUCERS

The Concentric Reducer is so manufactured that both inlet and outlet ends are on a common centre line. The Concentric reducer is easier and less expensive to produce but does not allow quite the same versatility as the Eccentric Reducer. The lengths of both types are fixed by manufacturing standards.



BUTTWELD FITTINGS

ASTM A 234 WPB ANSI B16.9 ANSI B16.28

NPS (inch)	DN (mm)	OUTSIDE DIAMETER AT BEVEL (mm)	CENTRE- TO-END (mm)	CENTRE- TO-END (mm)	STANDARD WEIGHT			EXTRA STRONG		
					WALL THICKNESS (mm)	APPROX WEIGHT (kg)	APPROX WEIGHT (kg)	WALL THICKNESS (mm)	APPROX WEIGHT (kg)	APPROX WEIGHT (kg)
						45°	90°		45°	90°
		OD	C	C	Th			Th		
2	50	60	35	76	3.91	0.35	0.68	5.54	0.47	0.9
2½	65	73	44	95	5.16	0.75	0.35	7.01	0.86	1.8
3	80	89	51	114	5.49	1.01	2.03	7.62	1.39	2.7
3½	90	102	57	133	5.74	1.42	2.8	8.08	2.14	3.83
4	100	114	64	152	6.02	1.91	3.8	8.56	2.65	5.4
5	125	141	79	190	6.55	3.26	6.4	9.53	4.65	9
6	150	168	95	229	7.11	5.18	10.4	10.97	7.5	14
8	200	219	127	305	8.18	10	20	12.7	15	31
10	250	273	159	381	9.27	18	35	12.7	24	50
12	300	324	190	457	9.53	27	53	12.7	33	68
14	350	356	222	533	9.53	33	66	12.7	43	86
16	400	406	254	610	9.53	46	91	12.7	59	116
18	450	457	286	686	9.53	58	115	12.7	77	147
20	500	508	318	762	9.53	70	139	12.7	92	189
22	550	559	343	838	9.53	89	177	12.7	117	234
24	600	610	381	914	9.53	100	201	12.7	133	273
26	650	660	406	991	9.53	124	247	12.7	164	328
30	750	762	470	1143	9.53	165	331	12.7	214	429
36	900	914	565	1372	9.53	239	478	12.7	318	635
42	1100	1067	660	1600	9.53	320	616	12.7	428	820



Reducing Tees & Reducers

ASTM A 234 WPB ANSI B16.9 ANSI B16.28

REDUCING TEE		ECCENTRIC REDUCER					CONCENTRIC REDUCER			
RUN		OUTLET or REDUCED END		NOMINAL CENTER TO END OF TEES		NOMINAL LENGTH REDUCERS (mm)	APPROXIMATE WEIGHTS			
NPS (INCH)	DN (mm)	NPS (INCH)	DN (mm)	RUN (mm)	OUTLET (mm)		STANDARD (kg)		EXTRA STRONG (kg)	
				R	M	L	TEE	REDUCER	TEE	REDUCER
2	50	3/4	20	64	44	76	0.91	0.37	1.22	0.4
		1	25	64	51	76	0.91	0.4	1.22	0.41
		1 1/4	32	64	57	76	0.95	0.43	1.27	0.46
		1 1/2	40	64	60	76	1	0.47	1.27	0.54
2 1/2	65	1	25	76	57	89	1.36	0.64	1.91	0.7
		1 1/4	32	76	64	89	1.45	0.72	1.95	0.79
		1 1/2	40	76	67	89	1.6	0.78	2.04	0.92
		2	50	76	70	89	1.6	0.8	2.04	1.02
3	80	1	25	86	67	89	2.27	1	2.72	1.11
		1 1/4	32	86	70	89	2.31	1	2.72	1.18
		1 1/2	40	86	73	89	2.31	1.1	2.81	1.22
		2	50	86	76	89	2.36	1.16	2.95	1.25
		2 1/2	65	86	83	89	2.72	1.2	3.4	1.32
3 1/2	90	1 1/4	32			102	3.4	1.2		1.4
		1 1/2	40	95	79	102	3.4	1.23	5	1.45
		2	50	95	83	102	3.72	1.26	5.1	1.52
		2 1/2	65	95	89	102	3.76	1.28	5.4	1.59
		3	80	95	92	102	4.31	1.31	5.7	1.81
4	100	1	25			102	5.44	1.3		1.86
		1 1/2	40	105	86	102	5.44	1.33	5.9	1.95
		2	50	105	89	102	4.26	1.35	5.9	2.04
		2 1/2	65	105	95	102	4.26	1.37	6.2	2.1
		3	80	105	98	102	4.31	1.4	6.4	2.2
		3 1/2	90	105	102	102	4.35	1.42	6.8	2.2
5	125	2	50	124	105	127	6.6	1.49	8.1	2.4
		2 1/2	65	124	108	127	6.6	1.52	8.3	2.5
		3	80	124	111	127	6.6	1.61	8.5	2.6
		3 1/2	90	124	114	127	6.8	1.67	9.1	2.8
		4	100	124	117	127	6.9	1.74	10.2	3
6	150	2	50	143	121	140	8.9	1.94	13.6	3.5
		2 1/2	65	143	121	140	9.1	2	14.1	3.7
		3	80	143	124	140	9.5	2.1	14.3	4
		3 1/2	90	143	127	140	9.8	2.18	14.5	4.3
		4	100	143	130	140	9.8	2.3	14.7	5
		5	125	143	137	140	10.4	2.41	15	5.4
8	200	3	80	178	152	152	17.2	3.31	29	6.6
		3 1/2	90	178	152	152	17.7	3.47	29	7.3
		4	100	178	156	152	18.4	3.68	29	7.5
		5	125	178	162	152	18.6	3.8	30	7.7
		6	150	178	168	152	20	4.1	30	8.4
10	250	3	80	216	184	178	32	5	41	9.5
		4	100	216	184	178	34	5.6	41	10.4
		5	125	216	191	178	34	6.8	43	11.3
		6	150	216	194	178	36	7.7	44	12.7
12	300	8	200	216	203	178	36	9.5	45	13.4
		4	100	254	216	203	46	10.4	59	14.5
		6	150	254	129	203	47	12.6	61	15.5
		8	200	254	229	203	47	13.5	63	16
		10	250	254	241	203	59	14.4	67	18
14	350	6	150	279	238	330	66	26	83	27
		8	200	279	248	330	66	27	84	28
		10	250	279	250	330	67	27	86	28
		12	300	279	270	330	68	29	88	34
16	400	6	150	305	264	356	81		104	
		8	200	305	273	356	84	31	106	40
		10	250	305	283	356	88	32	111	43
		12	300	305	295	356	95	34	117	46
		14	350	305	305	356	99	36	117	48
18	450	8	200	343	298	381	106		136	
		10	250	343	308	381	112	36	140	51
		12	300	343	321	381	117	37	149	52
		14	350	343	330	381	122	38	153	53
		16	400	343	330	381	127	38	158	54
20	500	8	200	381	324	508	133		172	
		10	250	381	333	508	139		175	
		12	300	381	346	508	143	50	182	68
		14	350	381	356	508	149	53	190	69
		16	400	381	356	508	155	56	196	72
22	550	18	450	381	368	508	161	57	204	75
		10	250	419	359	508	166		214	
		12	300	419	371	508	173		217	
		14	350	419	381	508	179	58	221	76
		16	400	419	381	508	187	60	226	78
		18	450	419	394	508	195	64	237	79
		20	500	419	406	508	201	65	245	82
24	600	10	250	432	384	508	205	68	252	83
		12	300	432	397	508	206	69	255	85
		14	350	432	406	508	212	70	259	87
		16	400	432	406	508	217	71	265	88



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