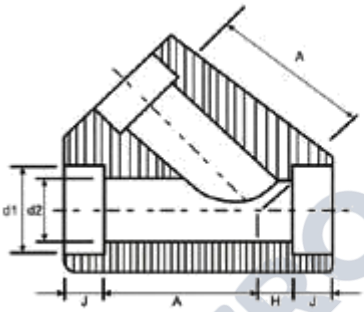
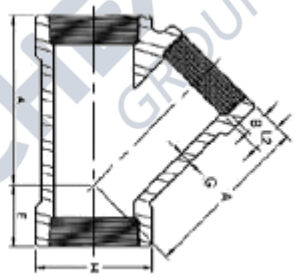
SOCKET WELD LATERAL TEE FITTINGS SPECIFICATION

Type	Socket Weld Lateral Tee Fittings
Standard	ASME B16.9, B16.28, ASTM A234 A420 MSS-75 MSS-79, DIN 2605 2609 2616
Material	Carbon Steel, Alloy Steel, Stainless Steel.
Size	1/2 to 80-inch/DN15-DN2000.
Connection	Socket weld
Thickness	Sch5s, Sch10s, Sch20s, Sch30, Sch40.Sch60, Sch80, Sch100, Sch120, Sch140, Sch160, XS, XXS, STD.
Pressure Rating	2000LBS, 3000LBS, 6000LBS, 9000LBS.





		1/2	3/4	1	1 1/4	1 1/2	2
Class 3000	B	1 5/16	1 9/16	1 27/32	2 7/32	2 1/2	3 1/32
	C	0.855	1.065	1.330	1.675	1.915	2.406
	D	3/8	1/2	1/2	1/2	1/2	5/8
	K	2 1/8	2 9/16	3	3 1/2	3 15/16	4 3/4
	L	3	3 9/16	4 1/8	4 13/16	5 3/8	6 7/16
	Wt	1.000	1.500	2.375	3.750	4.125	6.285

		1/2	3/4	1	1 1/4	1 1/2
Class 6000	B	1 9/16	1 27/32	2 7/32	2 1/2	3 1/32
	C	0.855	1.065	1.330	1.675	1.915
	D	3/8	1/2	1/2	1/2	1/2
	K	2 9/16	3	3 1/2	3 15/16	4 3/4
	L	3 9/16	4 1/8	4 13/16	5 3/8	6 7/16
	Wt	2.000	3.063	5.125	6.250	11.938

		1/2	3/4	1	1 1/4	1 1/2	2
Class 9000 XXS Bore	B	1 27/32	2 7/32	2 1/2	3 1/32	3 11/32	-
	C	0.855	1.065	1.330	1.675	1.915	-
	D	9/16	5/8	11/16	7/8	7/8	-
	K	3	3 1/2	3 15/16	4 3/4	5	-
	L	4 1/8	4 13/16	5 3/8	6 7/16	6 5/8	-
	Wt	1.75	2.38	3.75	6.88	6.88	-

Material	Fittings	Flanges
Carbon Steel	A234 Gr WPA	A105
	A234 Gr WPB	A105
	A234 Gr WPC	A105
Carbon Steel Alloy High-Temp	A234 Gr WP1	A182 Gr F1
	A234 Gr WP11	A182 Gr F11
	A234 Gr WP12	A182 Gr F12
	A234 Gr WP22	A182 Gr F22
	A234 Gr WP5	A182 Gr F5
	A234 Gr WP9	A182 Gr F9
Carbon Steel Alloy Low-Temp	A420 Gr WPL6	A350 Gr LF2
	A420 Gr WPL3	A350 Gr LF3
Austenitic Stainless Steel	A403 Gr WP304	A182 Gr F304
	A403 Gr WP316	A182 Gr F316
	A403 Gr WP321	A182 Gr F321
	A403 Gr WP347	A182 Gr F347

Fittings

•A234 = This specification covers wrought carbon steel and alloy steel fittings of seamless and welded construction.

•A420 = Standard specification for piping fittings of wrought carbon steel and alloy steel for low-temperature service.

•A403 = Standard specification for wrought austenitic stainless steel piping fittings.

Flanges

•A105 = This specification covers standards for forged carbon steel piping components, that is, flanges, fittings, Valves, and similar parts, for use in pressure systems at ambient and higher-temperature service conditions.

•A182 = This specification covers forged or rolled alloy and stainless steel pipe flanges, forged fittings, and Valves and parts for high-temperature service.

•A350 = This specification covers several grades of carbon and low alloy steel forged or ring-rolled flanges, forged fittings and Valves for low-temperature service.

SOCKET WELD LATERAL TEE FITTINGS CHEMICAL COMPOSITION

CHEMICAL COMPOSITION (IN PERCENTAGE)										
Grade	C (Max)	Mn (Max)	P (Max)	S (Max)	Si (Max)	Cr	Ni	Mo	Nitrogen (Max)	Cu/ Others
301	0.15	2.00	0.045	0.030	1.00	16.00 - 18.00	6.00 - 8.00	-	0.10	-
304	0.08	2.00	0.045	0.030	0.75	18.00 - 20.00	8.00- 10.50	-	0.10	-
304L	0.030	2.00	0.045	0.030	0.75	18.00 - 20.00	8.00- 12.00	-	0.10	-
310S	0.08	2.00	0.045	0.030	1.50	24.00- 26.00	19.00 - 22.00	-	-	-
316	0.08	2.00	0.045	0.030	0.75	16.00 - 18.00	10.00 - 14.00	2.00 - 3.00	0.10	-
316L	0.030	2.00	0.045	0.030	0.75	16.00 - 18.00	10.00 - 14.00	2.00 - 3.00	0.10	-
317	0.08	2.00	0.045	0.030	0.75	18.00 - 20.00	11.00 - 14.00	3.00 - 4.00	0.10	-
317L	0.030	2.00	0.045	0.030	0.75	18.00 - 20.00	11.00 - 15.00	3.00 - 4.00	0.10	-
321	0.08	2.00	0.045	0.030	0.75	17.00 - 19.00	9.00 - 12.00	-	0.10	Ti5 (C + N) Min or 0.70 max
347	0.08	2.00	0.045	0.030	0.75	17.00 - 19.00	9.00 - 13.00	-	-	Cb= 10x (C Min) or 1.00 Max
409	0.08	1.00	0.040	0.010	1.00	10.50 - 11.75	0.50	-	-	Ti= 6x (C+ N) Min or 0.70 Max
409M	0.03	0.81.2	0.030	0.030	0.40.75	11.00- 12.00	1.5 max.	-	-	Ti= 6x (C) Min or 0.70 Max
410S	0.08	1.00	0.040	0.030	1.00	11.50- 13.50	0.60	-	-	-
410	0.15	1.00	0.040	0.030	1.00	11.50- 13.50	0.75	-	-	-
420	0.35	0.50	0.035	0.015	0.50	12.00 - 13.00	0.20.3	-	-	-
430	0.12	1.00	0.040	0.030	1.00	16.00 - 18.00	0.75	-	-	-
JSL AUS	0.08	7.08.0	0.070	0.030	0.75	15.50 - 16.50	4.25 - 4.75	-	-	0.9 - 1.10
JS- 203	0.08	9.2510.25	0.070	0.030	0.75	14.25 - 15.25	2.25 - 2.75	-	-	1.60- 2.0
301M	0.10	4.55.5	0.060	0.030	0.75	14.50 - 15.50	6.0 - 7.0	-	-	1.70- 1.90
* Thickness of 1.27mm & below will have elongation of 20% min.										

MECHANICAL PROPERTIES

MECHANICAL PROPERTIES					
Grade	Tensile Strength Mpa, (Min)	Yield Strength Mpa. (Min)	%Age Elongation in 50mm gauge length min	Hardness (Max)	
				BHN	Rb
301	515	205	40	217	95
304	515	205	40	201	92
304L	485	170	40	201	92
310S	515	205	40	217	95
316	515	205	40	217	95
316L	485	170	40	217	95
317	515	205	35	217	95
317L	515	205	40	217	95
321	515	205	40	217	95
347	515	205	40	201	92
409	380	170	20	179	88
409M	430	275	20	187	90
410S	415	205	22	183	89
410	450	205	20	217	89
420	700(max)	-	15	217	95
430	450	205	22	183	89
JSL AUS	515	205	40	217	95
JS- 203	515	205	40	217	95
301M	515	205	40	217	95

SS	316	316H	316N	316L	316Ti
Ni	10 – 14	10 – 14	10 – 14	10 – 14	10 – 14
Fe			Balance		
Cr	16 – 18	16 – 18	16 – 18	16 – 18	16 – 18
Mo	2 – 3	2 – 3	2 – 3	2 – 3	2 – 3
C	0.08 max	0.10 max	0.03 max	0.03 max	0.08 max
Si	0.75 max	0.75 max	0.75 max	0.75 max	0.75 max
Mn	2 max	2 max	2 max	2 max	2 max
P	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max
S	0.030 max	0.030 max	0.030 max	0.030 max	0.030 max
N	0.1 max		0.1 max	0.1 max	0.1 max
Ti					5 X % (C + N)

MECHANICAL & PHYSICAL PROPERTIES

Density	**8.0 g/cm3**
Melting Point	1400 °C (2550 °F)
Tensile Strength	Psi – 75000 , MPa – 515
Yield Strength (0.2%Offset)	Psi – 30000 , MPa – 205
Elongation	35 %

C:	**≤0.03**	**Mn:**	**≤2.0**
Si:	≤0.75	Fe:	62.0 – 69.0
Ni:	10.0~14.0	P:	≤0.045
S:	≤0.03	N:	≤0.1
Mo:	2.0~3.0	Cr:	16.0~18.0

Strength of extension :	**σb (MPa)≥620**
Offset yield strength:	σ0.2 (MPa)≥205
Elongation:	δ5 (%)≥30
Reduction of area:	ψ (%)≥40
Density:	7.98 g/cm3,