



# Section 3

## Buttweld

## Specifications

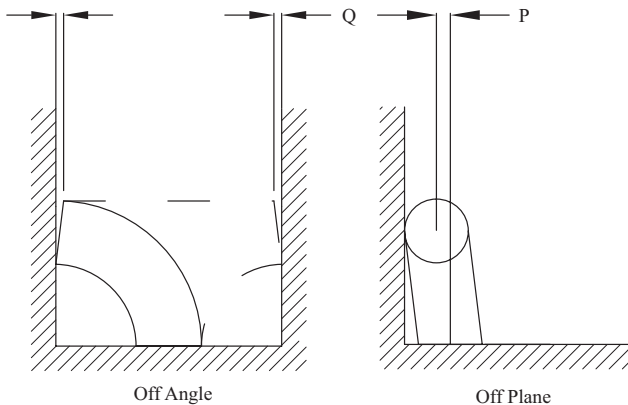
AAP stocks Buttweld made from high quality carbon alloy steel to ASTM A234 which can be used in various piping systems. The advantages of Buttweld include:

- Welding a fitting to the pipe means it is permanently leak proof.
- The continuous metal structure formed between pipe and fitting adds strength to the system.
- Smoother inner surface and gradual direction changes reduce the pressure losses and turbulence and minimises the action of corrosion and abrasion.
- A welded system utilises a minimum of space.

### Buttweld Specifications Standard Weight (Std)

Dimensional Tolerance

Buttweld STD ASTM A234 WPB ANSI B16.9 Dimensional Tolerance							
ALL FITTINGS				90° & 45° ELBOWS	TEES	REDUCERS	CAPS
NOMINAL PIPE SIZE (NPS)	OUTSIDE DIAMETER AT BEVEL	INSIDE DIAMETER AT END	WALL THICKNESS	CENTRE TO END	CENTRE TO END	OVERALL LENGTH	OVERALL LENGTH
1/2" - 2 1/2"	+ 1.5MM - 0.7MM	+0.8MM - 0.8MM	NOT LESS THAN 87.50% OF NOMINAL WALL THICKNESS	+2.0MM - 2.0MM	+2.0MM - 2.0MM	+2.0MM - 2.0MM	+ 3.0MM - 3.0MM
3" - 4"	+ 1.6MM - 1.6MM	+1.5MM - 1.5MM					+6.3MM - 6.3MM
5" - 8"	+2.4MM - 1.6MM						
10" - 18"	+4.0MM - 3.2MM	+3.2MM - 3.2MM					
20"- 24"	+6.4MM - 4.8MM	+4.8MM - 4.8MM					



Angularity		
NOMINAL PIPE SIZE (NPS)	OFF ANGLE (Q)	OFF PLANE (P)
1/2 TO 2 1/2	1.0MM	2.0MM
3 TO 3 1/2	2.0MM	4.0MM
4	3.0MM	5.0MM
5 - 8	3.0MM	6.0MM
10 - 18	4.0MM	10.0MM
20 - 24	5.0MM	10.0MM

# Specifications

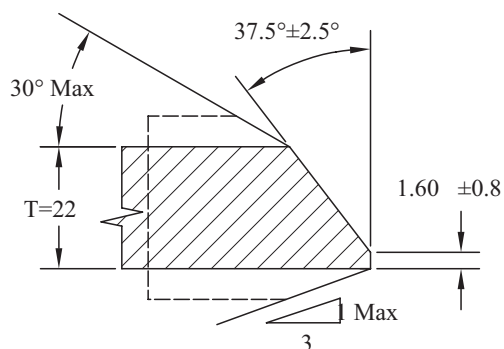
## Dimensional Tolerance

Buttweld SGP JIS B 2311 Dimensional Tolerance						
ALL FITTINGS				90° & 45° ELBOWS	TEES	REDUCERS
NOMINAL PIPE SIZE (NPS)	OUTSIDE DIAMETER AT BEVEL	INSIDE DIAMETER AT END	WALL THICKNESS	CENTRE TO END	CENTRE TO END	OVERALL LENGTH
OUTSIDE DIAMETER AT BEVEL	+2.0MM -2.0MM	+2.0MM -2.0MM	+NOT SPECIFIED -15.00%	+2.0MM -2.0MM	+2.0MM -2.0MM	+2.0MM -2.0MM
3" - 4"	+2.5MM -2.5MM	+2.5MM -2.5MM				
5" - 8"	+3.5MM -3.5MM	+3.5MM -3.5MM		+3.5MM -3.5MM	+3.2MM -3.2MM	+3.2MM -3.2MM

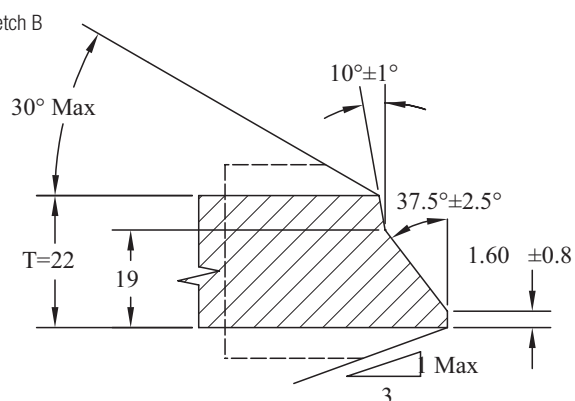
## Welding end Preparation Selection

Buttweld STD ASTM A234 ANSI B16.9 Welding End Preparation to ANSI B16.25	
WALL THICKNESS	WELDING AND PREPARATION
LESS THAN T (*)	CUT SQUARE OR SLIGHTLY CHAMFERED AT MANUFACTURER'S OPTION.
T (*) TO 22 INCLUDED	PLAIN BEVEL AS SKETCH (A)
MORE THAN 22	COMPOUND BEVEL AS SKETCH (B)
NOTE :- ( * )	
	T = 5MM FOR CARBON, FERRITIC ALLOY STEEL OR WROUGHT IRON;
	T = 4MM FOR AUSTENITIC ALLOY STEEL

Sketch A



Sketch B



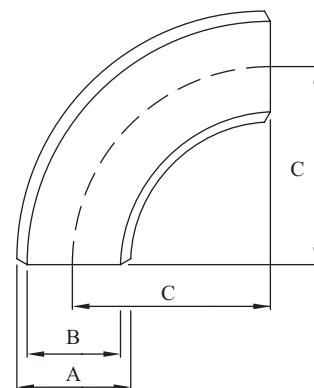
## Material Specifications

Pressure / Temperature Ratings											
SEAMLESS CARBON STEEL PIPE. GRADE B											
Nominal Size DN mm	Temp C			-29 to 38	205	260	350	370	400	430	450
	Wall Thickness			MAXIMUM ALLOWABLE PRESSURE / TEMPERATURE RATINGS IN kPa (TO ANSI/ASME B31.3a)							
		Sched. No.	mm								
15	STD	40	2.77	34416	34416	32528	29255	28910	22372	18589	14972
	XS	80	3.73	48092	48092	45446	40878	40396	31260	25969	20918
20	STD	40	2.87	28070	28070	26526	23860	23578	18245	15158	12209
	XS	80	3.91	39418	39418	37247	33506	33106	25617	21283	17142
25	STD	40	3.38	26251	26251	24804	22310	22048	17060	14173	11417
	XS	80	4.55	36283	36283	34285	38040	30474	23584	19595	15785
32	STD	40	3.56	21614	21614	20421	18369	18155	14049	11672	9404
	XS	80	4.85	30178	30178	28518	25651	25348	19616	16295	13125
40	STD	40	3.68	19444	19444	18375	16529	16329	12636	10500	8454
	XS	80	5.08	27402	27402	25900	23295	23019	17811	14800	11919
50	STD	40	3.91	16378	16378	15468	13925	13759	10645	8847	7124
	XS	80	5.54	23653	23653	22351	20105	19871	15378	12774	10287
65	STD	40	5.16	17914	17914	16929	15227	15048	11644	9674	7793
	XS	80	7.01	24818	24818	23447	21097	20849	16129	13401	10797
80	STD	40	5.49	15558	15558	14696	13222	13063	10108	8399	6766
	XS	80	7.62	21986	21986	20780	18693	18472	14290	11871	9563
100	STD	40	6.02	13187	13187	12464	11210	11079	8571	7124	5739
	XS	80	8.56	19058	19058	18010	16198	16012	12388	12094	8289
125	STD	40	6.55	11561	11561	10921	9825	9708	7517	6243	5038
	XS	80	9.53	17060	17060	16122	14503	14331	11093	9212	7421
150	STD	40	7.11	10500	10500	9928	8924	8819	6828	5670	4568
	XS	80	10.97	16474	16474	15571	14007	13842	10707	8895	7165
200	STD	40	8.18	9246	9246	8737	7855	7765	6008	4995	4024
	XS	80	12.7	14572	14572	13766	12388	12237	9474	7868	6338
250	STD	40	9.27	8385	8385	7923	7131	7048	5450	4527	3652
	XS		12.7	11596	11596	10955	9853	9736	7538	6263	5043
300	STD		9.53	7241	7241	6842	6153	6084	4706	3914	3149
	XS		12.7	9722	9722	9191	8268	8165	6318	5250	4230
350	STD	30	9.53	6580	6580	6222	5595	5533	4279	3555	2866
	XS		12.7	8833	8833	8351	7510	7421	5739	4768	3845
400	STD	30	9.53	5746	5746	5429	4885	4830	3734	3100	2501
	XS	40	12.7	7703	7703	7283	6545	6470	5009	4162	3349
450	STD		9.53	5099	5099	4816	4334	4286	3314	2756	2219
	XS		12.7	6835	6835	6456	5808	5739	4437	3686	2969
500	STD	20	9.53	4582	4582	4327	3893	3852	2976	2474	1991
	XS	30	12.7	6139	6139	5801	5216	5154	3989	3314	2666
600	STD	20	9.53	3810	3810	3603	3238	3197	2474	2060	1660
	XS		12.7	5097	5097	4816	4334	4286	3314	2756	2219



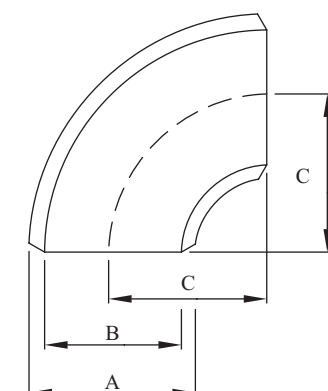
## Buttweld Long Radius Elbow 90 Degree (Std)

Buttweld STD ASTM A234 WPB ANSI B16.9 Long Radius Elbow 90 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WE15	1/2	21.3	15.7	38.1	2.8	0.08
WE20	3/4	26.7	20.9	38.1	2.9	0.08
WE25	1	33.4	26.6	38.1	3.4	0.15
WE32	1 1/4	42.2	35.0	47.8	3.6	0.16
WE40	1 1/2	48.3	40.9	57.2	3.7	0.4
WE50	2	60.3	52.5	76.2	3.9	0.7
WE65	2 1/2	73.0	62.6	95.2	5.2	1.3
WE80	3	88.9	77.9	114.3	5.5	2.0
WE90	3 1/2	101.6	90.2	133.4	5.7	2.8
WE94	4	114.3	102.3	152.4	6.1	3.8
WE95	5	141.3	128.1	190.5	6.6	6.5
WE96	6	168.3	154.1	228.6	7.1	10.1
WE98	8	219.1	202.7	304.8	8.2	20.1
WEX25	10	273.1	254.5	381.0	9.3	36.0
WEX30	12	323.9	304.9	457.2	9.5	53.0
WEX35	14	355.6	336.54	533	9.53	68.0
WEX40	16	406.4	387.34	610	9.53	89.0
WEX45	18	457	437.94	686	9.53	113.0
WEX50	20	508	488.94	762	9.53	140.0
WEX60	24	610	590.94	914	9.53	202.0

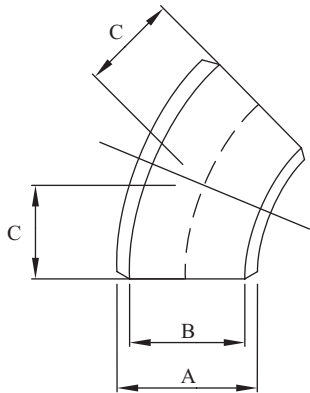


## Buttweld Short Radius Elbow 90 Degree (Std)

Buttweld STD ASTM A234 WPB ANSI B16.28 Short Radius Elbow 90 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WE25SR	1	33.4	26.6	25.4	3.4	0.10
WE32SR	1 1/4	42.2	35.0	31.8	3.6	0.17
WE40SR	1 1/2	48.3	40.9	38.1	3.7	0.24
WE50SR	2	60.3	52.5	50.8	3.9	0.44
WE65SR	2 1/2	73.0	62.6	63.5	5.2	0.8
WE80SR	3	88.9	77.9	76.2	5.5	1.34
WE90SR	3 1/2	101.6	90.2	89	5.7	1.9
WE94SR	4	114.3	102.3	101.6	6.1	2.6
WE95SR	5	141.3	128.1	127.0	6.6	4.3
WE96SR	6	168.3	154.1	152.4	7.1	6.6
WE98SR	8	219.1	202.7	203.2	8.2	13.5
WEX25SR	10	273.1	254.5	254.0	9.3	23.6
WEX30SR	12	323.9	304.9	304.8	9.5	34.6

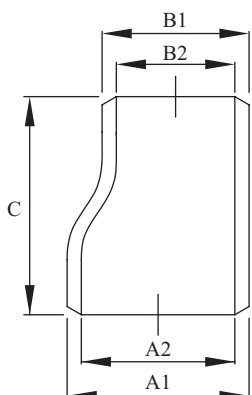


## Buttweld Long Radius Elbow 45 Degree (Std)



Buttweld STD ASTM A234 WPB ANSI B16.9 Long Radius Elbow 45 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WEF15	1/2	21.3	15.7	15.7	2.8	0.04
WEF20	3/4	26.7	20.9	19	2.9	0.04
WEF25	1	33.4	26.6	22.4	3.4	0.08
WEF32	1 1/4	42.2	35.0	25.4	3.6	0.08
WEF40	1 1/2	48.3	40.9	28.4	3.7	0.2
WEF50	2	60.3	52.5	35.1	3.9	0.35
WEF65	2 1/2	73.0	62.6	44.4	5.2	0.7
WEF80	3	88.9	77.9	50.8	5.5	1.1
WEF94	4	114.3	102.3	63.5	6.1	1.9
WEF95	5	141.3	128.1	79.2	6.6	3.3
WEF96	6	168.3	154.1	95.2	7.1	5.0
WEF98	8	219.1	202.7	127.0	8.2	10.0
WEFX25	10	273.1	254.5	158.8	9.3	18.0
WEFX30	12	323.9	304.9	190.5	9.5	26.5
WEFX35	14	355.6	336.54	222.0	9.5	34.0
WEFX40	16	406.4	387.34	254.0	9.5	44.5
WEFX45	18	457	437.94	286.0	9.5	56.5
WEFX50	20	508	488.94	318	9.5	
WEFX60	24	610	590.94	381.0	9.5	101.0

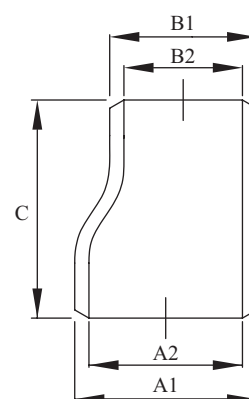
## Buttweld Eccentric Reducer (Std)



Buttweld STD ASTM A234 WPB ANSI B16.9 Eccentric Reducer								
AAP CODE	IMPERIAL SIZE	LARGER DIAMETER		SMALLER DIAMETER		END TO END C	WALL THICKNESS	APPROX. KG/PC
		A1	A2	B1	B2			
WER2515	1 x 1/2	33.7	25.9	21.3	15.7	50.8	3.4	0.1
WER2520	1 x 3/4	33.7	25.9	26.7	20.9	50.8	3.4	0.1
WER3225	1 1/4 x 1	42.2	35	33.7	25.9	50.8	3.6	0.2
WER4015	1 1/2 x 1/2	48.3	40.9	21.3	15.7	63.5	3.7	0.3
WER4032	1 1/2 x 1 1/4	48.3	40.9	42.2	35.0	63.5	3.7	0.3
WER5025	2 x 1	60.3	52.5	33.7	25.9	76.2	3.9	0.4
WER5040	2 x 1 1/2	60.3	52.5	48.3	40.9	76.2	3.9	0.7
WER6540	2 1/2 x 1 1/2	73.0	62.6	48.3	40.9	88.9	5.2	0.6
WER6550	2 1/2 x 2	73.0	62.6	60.3	52.5	88.9	5.2	0.6
WER8050	3 x 2	88.9	77.9	60.3	52.5	88.9	5.5	0.9
WER8065	3 x 2 1/2	88.9	77.9	73.0	62.6	88.9	5.5	1.0
WER9450	4 x 2	114.3	102.3	60.3	52.5	101.6	6.1	1.5
WER9465	4 x 2 1/2	114.3	102.3	73.0	62.6	101.6	6.1	1.6
WER9480	4 x 3	114.3	102.3	88.9	76.7	101.6	6.1	1.6

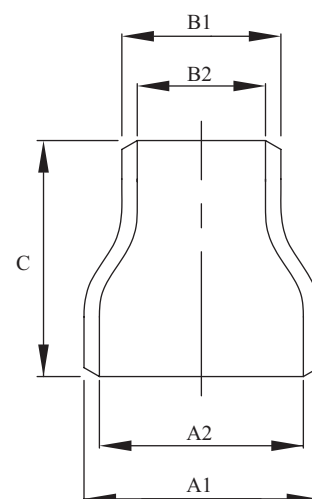
## Buttweld Eccentric Reducer (Std) continued

Buttweld STD ASTM A234 WPB ANSI B16.9 Eccentric Reducer								
AAP CODE	IMPERIAL SIZE	LARGER DIAMETER		SMALLER DIAMETER		END TO END	WALL THICK-NESS	APPROX. KG/PC
		A1	A2	B1	B2			
WER9594	5 x 4	141.3	128.1	114.3	102.3	127.0	6.6	2.6
WER9680	6 x 3	168.3	154.1	88.9	77.9	139.7	7.1	3.6
WER9694	6 x 4	168.3	154.1	114.3	102.3	139.7	7.1	3.5
WER9695	6 x 5	168.3	154.1	141.3	128.1	139.7	7.1	3.7
WER9894	8 x 4	219.1	202.7	114.3	102.3	152.4	8.2	6.3
WER9895	8 x 5	219.1	202.7	141.3	128.1	152.4	8.2	5.9
WER9896	8 x 6	219.1	202.7	168.3	154.1	152.4	8.2	5.9
WERX2596	10 x 6	273.1	254.5	168.3	154.1	177.8	9.3	10.0
WERX2598	10 x 8	273.1	254.5	219.1	202.7	177.8	9.3	10.7
WERX3098	12 x 8	323.9	304.9	219.1	202.7	203.2	9.5	15.3
WERX30X25	12 x 10	323.9	304.9	273.1	254.5	203.2	9.5	15.7

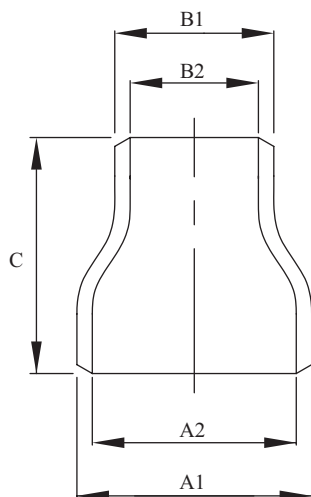


## Buttweld Concentric Reducer (Std)

Buttweld STD ASTM A234 WPB ANSI B16.9 Concentric Reducer								
AAP CODE	IMPERIAL SIZE	LARGER DIAMETER		SMALLER DIAMETER		END TO END	WALL THICK-NESS	APPROX. KG/PC
		A1	A2	B1	B2			
WCR2015	3/4 x 1/2	26.7	20.9	21.3	15.7	38.1	2.9	0.06
WCR2515	1 x 1/2	33.4	26.6	21.3	15.7	50.8	3.4	0.1
WCR2520	1 x 3/4	33.4	26.6	26.7	20.9	50.8	3.4	0.1
WCR3220	1 1/4 x 3/4	42.2	35.0	26.7	20.9	50.8	3.6	0.2
WCR3225	1 1/4 x 1	42.2	35.0	33.4	26.6	50.8	3.6	0.2
WCR4015	1 1/2 x 1/2	48.3	40.9	21.3	15.7	63.5	3.7	0.2
WCR4020	1 1/2 x 3/4	48.3	40.9	26.7	20.9	63.5	3.7	0.2
WCR4025	1 1/2 x 1	48.3	40.9	33.4	26.6	63.5	3.7	0.3
WCR4032	1 1/2 x 1 1/4	48.3	40.9	42.2	35.0	63.5	3.7	0.3
WCR5020	2 x 3/4	60.3	52.5	26.7	20.9	76.2	3.9	0.4
WCR5025	2 x 1	60.3	52.5	33.4	26.6	76.2	3.9	0.4
WCR5032	2 x 1 1/4	60.3	52.5	42.2	35.0	76.2	3.9	0.4
WCR5040	2 x 1 1/2	60.3	52.5	48.3	40.9	76.2	3.9	0.4
WCR6525	2 1/2 x 1	73.0	62.6	33.4	26.6	88.9	5.2	0.6
WCR6532	2 1/2 x 1 1/4	73.0	62.6	42.2	35.0	88.9	5.2	0.6
WCR6540	2 1/2 x 1 1/2	73.0	62.6	48.3	40.9	88.9	5.2	0.6
WCR6550	2 1/2 x 2	73.0	62.6	60.3	52.5	88.9	5.2	0.6
WCR8025	3 x 1	88.9	77.9	33.4	26.6	88.9	5.5	0.8
WCR8040	3 x 1 1/2	88.9	77.9	48.3	40.9	88.9	5.5	0.9
WCR8050	3 x 2	88.9	77.9	60.3	52.5	88.9	5.5	0.9
WCR8065	3 x 2 1/2	88.9	77.9	73.0	62.6	88.9	5.5	1.0
WCR9450	4 x 2	114.3	102.3	60.3	52.5	101.6	6.1	1.5
WCR9465	4 x 2 1/2	114.3	102.3	73.0	62.6	101.6	6.1	1.6
WCR9480	4 x 3	114.3	102.3	88.9	77.9	101.6	6.1	1.6
WCR9580	5 x 3	141.3	128.1	88.9	77.9	127.0	6.6	2.5
WCR9594	5 x 4	141.3	128.1	114.3	102.3	127.0	6.6	2.6
WCR9665	6 x 2 1/2	168.3	154.1	73.0	62.6	139.7	7.1	3.7

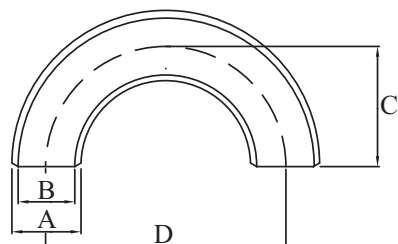


## Buttweld Concentric Reducer (Std) continued



Buttweld STD ASTM A234 WPB ANSI B16.9 Concentric Reducer								
AAP CODE	IMPERIAL SIZE	LARGER DIAMETER		SMALLER DIAMETER		END TO END	WALL THICKNESS	APPROX. KG/PC
		A1	A2	B1	B2			
WCR9680	6 x 3	168.3	154.1	88.9	77.9	139.7	7.1	3.6
WCR9694	6 x 4	168.3	154.1	114.3	102.3	139.7	7.1	3.5
WCR9695	6 x 5	168.3	154.1	141.3	128.1	139.7	7.1	3.7
WCR9894	8 x 4	219.1	202.7	114.3	102.3	152.4	8.2	6.3
WCR9895	8 x 5	219.1	202.7	141.3	128.1	152.4	8.2	5.9
WCR9896	8 x 6	219.1	202.7	168.3	154.1	152.4	8.2	5.9
WCRX2596	10 x 6	273.1	254.5	168.3	154.1	177.8	9.3	10.0
WCRX2598	10 x 8	273.1	254.5	219.1	202.7	177.8	9.3	10.3
WCRX3096	12 x 6	323.9	304.9	168.3	154.1	203.2	9.5	15.2
WCRX3098	12 x 8	323.9	304.9	219.1	202.7	203.2	9.5	15.3
WCRX30X25	12 x 10	323.9	304.9	273.1	254.5	203.2	9.5	15.4
WCRX35X25	14 x 10	355.6	336.5	273.1	254.5	330	9.5	28.0
WCRX35X30	14 x 12	355.6	336.5	323.9	304.9	330	9.5	28.0
WCRX40X25	16 x 10	406.4	387.3	273.1	254.5	356	9.5	35.0
WCRX40X30	16 x 12	406.4	387.3	323.9	304.9	356	9.5	35.0
WCRX40X35	16 x 14	406.4	387.3	355.6	336.5	356	9.5	35.0
WCRX45X30	18 x 12	457	437.9	323.9	304.8	381	9.5	40.0
WCRX45X35	18 x 14	457	437.9	355.6	336.5	381	9.5	40.0
WCRX45X40	18 x 16	457	437.9	406.4	387.3	381	9.5	40.0
WCRX50X30	20 x 12	508	488.9	323.9	304.8	508	9.5	61.0
WCRX50X35	20 x 14	508	488.9	355.6	336.5	508	9.5	61.0
WCRX50X40	20 x 16	508	488.9	406.4	387.3	508	9.5	61.0
WCRX60X45	24 x 18	610	590.9	457.0	437.9	508	9.5	77.0
WCRX60X50	24 x 20	610	590.9	508.0	488.9	508	9.5	77.0

## Buttweld Long Radius Elbow 180 Degree (Std)

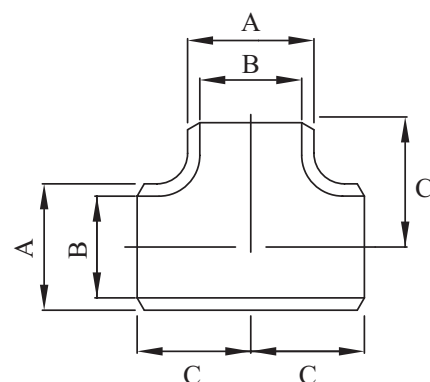


Buttweld STD ASTM A234 WPB ANSI B16.9 Long Radius Elbow 180 Degree							
AAP CODE	IMPERIAL SIZE	A	B	C	D	WALL THICKNESS	APPROX. KG/PC
WE20U	3/4	26.7	20.9	28.4	76.2	2.9	0.16
WE25U	1	33.4	26.6	38.1	76.2	3.4	0.3
WE32U	1 1/4	42.2	35.0	47.8	95.6	3.6	0.32
WE40U	1 1/2	48.3	40.9	57.2	114.4	3.7	0.8
WE50U	2	60.3	52.5	76.2	152.4	3.9	1.4
WE65U	2 1/2	73.0	62.6	95.2	190.4	5.2	2.6
WE80U	3	88.9	77.9	114.3	228.6	5.5	4.0
WE94U	4	114.3	102.3	152.4	304.8	6.1	7.6



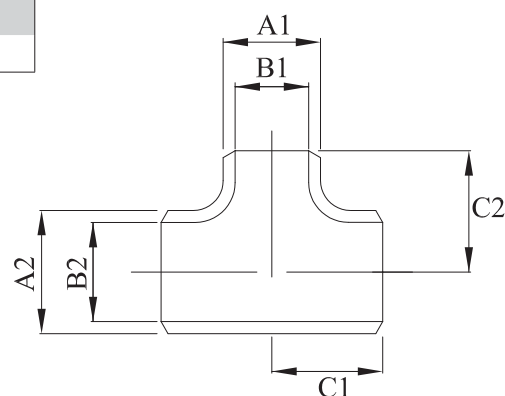
## Buttweld Equal Tee (Std)

Buttweld STD ASTM A234 WPB ANSI B16.9 Equal Tee						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WT15	1/2	22.0	15.7	25	2.9	0.1
WT20	3/4	26.7	20.9	28.4	2.9	0.16
WT25	1	33.4	26.6	38.1	3.4	0.36
WT32	1 1/4	42.2	35.0	47.8	3.6	0.5
WT40	1 1/2	48.3	40.9	57.2	3.7	0.7
WT50	2	60.3	52.5	63.5	3.9	1.0
WT65	2 1/2	73.0	62.6	76.2	5.2	1.8
WT80	3	88.9	77.9	85.9	5.5	2.7
WT94	4	114.3	102.3	104.6	6.1	4.4
WT95	5	141.3	128.1	124.0	6.6	7.0
WT96	6	168.3	154.1	142.7	7.1	10.0
WT98	8	219.1	202.7	177.8	8.2	19.0
WTX25	10	273.1	254.5	215.9	9.3	30.0
WTX30	12	323.9	304.9	254.0	9.5	47.0
WTX35	14	355.6	336.5	279.0	9.5	60.0
WTX40	16	406.4	387.3	305.0	9.5	75.0
WTX45	18	457.0	437.9	343.0	9.5	96.0
WTX50	20	508	488.9	381	9.5	
WTX60	24	610.0	590.9	432.0	9.5	139.0

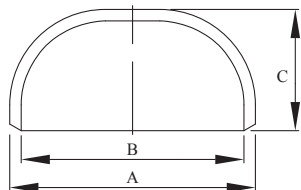


## Buttweld Reducing Tee (Std)

Buttweld STD ASTM A234 WPB ANSI B16.9 Reducing Tee									
AAP CODE	IMPERIAL SIZE	LARGER DIAMETER		SMALLER DIAMETER		CENTRE TO END		WALL THICKNESS	APPROX. KG/PC
		A1	A2	B1	B2	C1	C2		
WT5025	2 x 1	60.3	52.5	33.4	26.6	63.5	63.5	3.9	1.1
WT5040	2 x 1 1/2	60.3	52.5	48.3	40.9	63.5	63.5	3.9	1.0
WT6550	2 1/2 x 2	73.0	62.6	60.3	52.5	76.2	69.8	5.2	1.9
WT8050	3 x 2	88.9	77.9	60.3	52.5	85.9	82.6	5.5	2.4
WT8065	3 x 2 1/2	88.9	77.9	73.0	62.6	85.9	82.6	5.5	2.4
WT9480	4 x 3	114.3	102.3	88.9	77.9	104.6	98.6	6.1	4.0
WT9694	6 x 4	168.3	154.1	114.3	102.3	142.7	130.0	7.1	9.5
WT9896	8 x 6	219.1	202.7	168.3	154.1	177.8	168.1	8.2	18.0



## Buttweld Cap (Std)

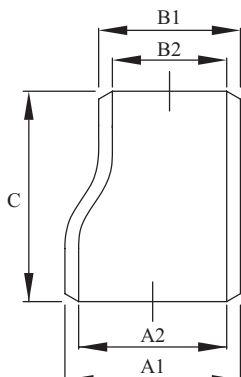


Buttweld STD ASTM A234 WPB ANSI B16.9 Cap						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICK-NESS	APPROX. KG/PC
WC25	1	26.6	33.4	38.1	3.4	0.11
WC32	1 1/4	35.0	42.2	38.1	3.6	0.14
WC40	1 1/2	40.9	48.3	38.1	3.7	0.17
WC50	2	52.5	60.3	38.1	3.9	0.24
WC65	2 1/2	62.6	73.0	38.1	5.2	0.42
WC80	3	77.9	88.9	50.8	5.5	0.67
WC94	4	102.3	114.3	63.5	6.0	1.2
WC95	5	128.1	141.3	76.2	6.6	1.9
WC96	6	154.1	168.3	88.9	7.1	2.8
WC98	8	202.7	219.1	101.6	8.2	5.1
WCX25	10	254.5	273.1	127.0	9.3	8.9
WCX30	12	304.9	323.9	152.0	9.5	13.1
WCX35	14	355.6	336.5	165.0	9.5	15.9
WCX40	16	406.4	387.3	178.0	9.5	20.0
WCX45	18	457.0	437.9	203.0	9.5	25.5
WCX50	20	508	488.9	229	9.5	
WCX60	24	610.0	590.9	267.0	9.5	45.1

## Buttweld Eccentric Reducer (SGP)

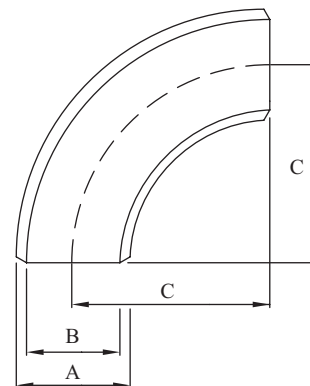


Buttweld SGP JIS B 2311 Eccentric Reducer								
AAP CODE	IMPERIAL SIZE	LARGER DIAMETER		SMALLER DIAMETER		END TO END	WALL THICK-NESS	APPROX. KG/PC
		A1	A2	B1	B2	C		
WZER8065	3 x 2 1/2	89.1	84.9	76.3	72.1	88.9	4.2	0.8
WZER9480	4 x 3	114.3	109.8	89.1	84.6	101.6	4.5	1.5
WZER9694	6 x 4	165.2	160.2	114.3	109.3	139.7	5.0	3.6



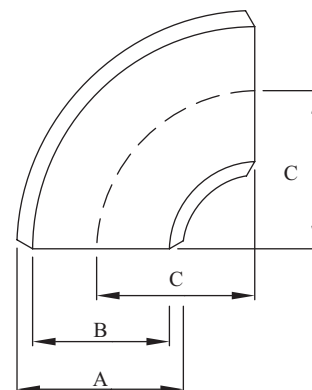
## Buttweld Long Radius Elbow 90 Degree (SGP)

Buttweld SGP JIS B 2311 Long Radius Elbow 90 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WZE50	2	60.5	52.9	76.2	3.8	0.6
WZE65	2 1/2	76.3	67.9	95.3	4.2	1.1
WZE80	3	89.1	80.7	114.3	4.2	1.7
WZE94	4	114.3	105.3	152.4	4.5	2.9
WZE95	5	139.8	130.8	190.5	4.5	4.3
WZE96	6	165.2	155.2	228.6	5.0	6.6
WZE98	8	216.3	204.7	304.8	5.8	13.5

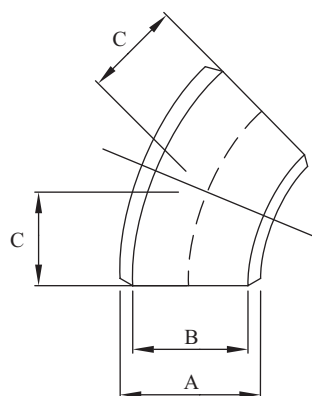


## Buttweld Short Radius Elbow 90 Degree (SGP)

Buttweld SGP JIS B 2311 Short Radius 90 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WZE50SR	2	60.5	52.9	50.8	3.8	0.4
WZE65SR	2 1/2	76.3	67.9	63.5	4.2	0.8
WZE80SR	3	89.1	80.7	76.2	4.2	1.1
WZE94SR	4	114.3	105.3	101.6	4.5	1.9
WZE95SR	5	139.8	130.8	127.0	4.5	3.3
WZE96SR	6	165.2	155.2	152.4	5.0	5.1
WZE98SR	8	216.3	204.7	203.2	5.8	9.8

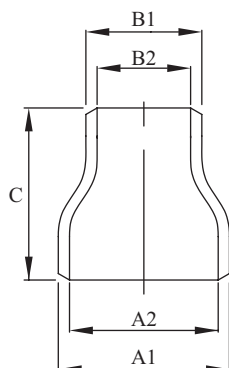


## Buttweld Long Radius Elbow 45 Degree (SGP)



Buttweld SGP JIS B 2311 Long Radius Elbow 45 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WZEF50	2	60.5	52.9	31.6	3.8	0.3
WZEF65	2 1/2	76.3	67.9	69.5	4.2	0.5
WZEF80	3	89.1	80.7	47.3	4.2	0.7
WZEF94	4	114.3	105.3	63.1	4.5	1.3
WZEF95	5	139.8	130.8	78.9	4.5	2.0
WZEF96	6	165.2	155.2	94.7	5.0	3.4
WZEF98	8	216.3	204.7	126.3	5.8	8.1

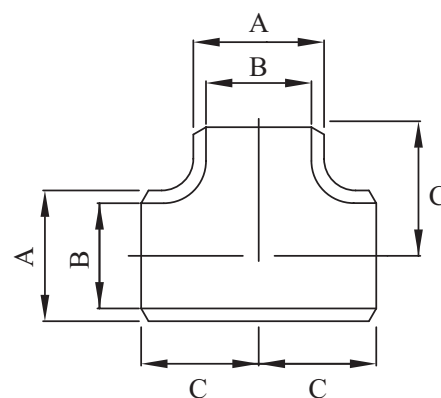
## Buttweld Concentric Reducer (SGP)



Buttweld SGP JIS B 2311 Concentric Reducer								
AAP CODE	IMPERIAL SIZE	LARGER DIAMETER		SMALLER DIAMETER		END TO END	WALL THICK-NESS	APPROX KG/PC
		A1	A2	B1	B2	C		
WZCR6550	2 1/2 x 2	76.3	72.1	60.5	56.3	88.9	4.2	0.5
WZCR8050	3 x 2	89.1	84.9	60.5	56.3	88.9	4.2	0.7
WZCR8065	3 x 2 1/2	89.1	84.9	76.3	72.1	88.9	4.2	0.8
WZCR9450	4 x 2	114.3	109.8	60.5	56	101.6	4.5	1.2
WZCR9465	4 x 2 1/2	114.3	109.8	76.3	71.8	101.6	4.5	1.5
WZCR9480	4 x 3	114.3	109.8	89.1	84.6	101.6	4.5	1.5
WZCR9665	6 x 2 1/2	165.2	152.2	76.3	71.3	139.7	5.0	2.3
WZCR9680	6 x 3	165.2	160.2	98.1	93.1	139.7	5.0	2.4
WZCR9694	6 x 4	165.2	160.2	114.3	109.3	139.7	5.0	2.6
WZCR9695	6 x 5	165.2	160.2	139.8	134.8	139.7	5.0	3.5
WZCR9896	8 x 6	216.3	210.5	165.2	159.4	152.4	5.8	5.8

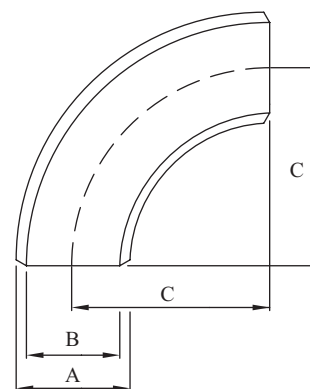
## Buttweld Equal Tee (SGP)

Buttweld SGP JIS B 2311 Equal Tee						
AAP CODE	IMPERIAL SIZE	A	B.	C	WALL THICKNESS	APPROX. KG/PC
WZT50	2	60.5	52.9	63.5	3.8	0.9
WZT65	2 1/2	76.3	67.9	76.2	4.2	1.7
WZT80	3	89.1	80.7	85.7	4.2	2.0
WZT94	4	114.3	105.3	104.8	4.5	3.4
WZT95	5	139.8	130.8	123.8	4.5	5.8
WZT96	6	165.2	155.2	142.9	5.0	11.4
WZT98	8	216.3	204.7	177.8	5.8	17.9



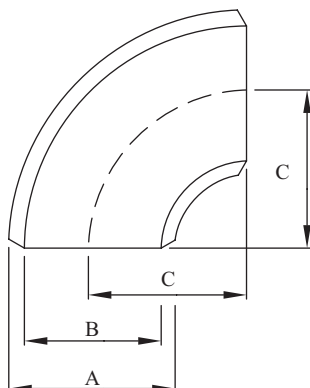
## Buttweld Long Radius Elbow 90 Degree (X-Stg)

Buttweld X-STG ASTM A234 WPB ANSI B16.9 Long Radius Elbow 90 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WE15X	1/2	21.3	13.84	38.1	3.7	0.1
WE20X	3/4	26.7	18.88	38.1	3.9	0.1
WE25X	1	33.4	24.3	38.1	4.6	0.2
WE32X	1 1/4	42.2	32.5	47.8	4.9	0.4
WE40X	1 1/2	48.3	38.14	57.2	5.1	0.5
WE50X	2	60.3	49.22	76.2	5.5	1.0
WE65X	2 1/2	73.0	58.98	95.2	7.0	1.8
WE80X	3	88.9	73.66	114.3	7.6	2.9
WE94X	4	114.3	97.18	152.4	8.6	5.7
WE96X	6	168.3	146.36	228.6	11.0	16.3



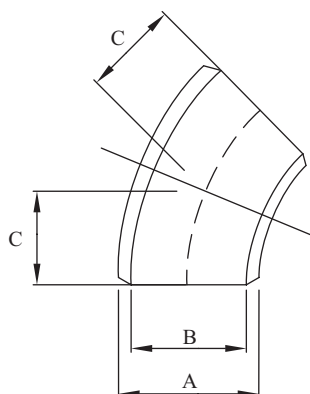


## Buttweld Short Radius Elbow 90 Degree (X-Stg)



Buttweld X-STG ASTM A234 WPB ANSI B16.28 Short Radius Elbow 90 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WE40SRX	1 1/2	48.3	38.14	38.1	5.08	0.3
WE50SRX	2	60.3	49.22	50.8	5.54	0.7
WE65SRX	2 1/2	73.0	58.98	63.5	7.01	1.4
WE80SRX	3	88.9	73.66	76.2	7.62	1.8
WE94SRX	4	114.3	97.18	101.6	8.56	3.7
WE96SRX	6	168.3	146.36	152.4	10.97	10.4
WE98SRX	8	219.1	193.7	304.8	12.7	31.3
WEX25SRX	10	273.1	247.7	381	12.7	49.4
WEX30SRX	12	323.9	298.5	457.2	12.7	71.2

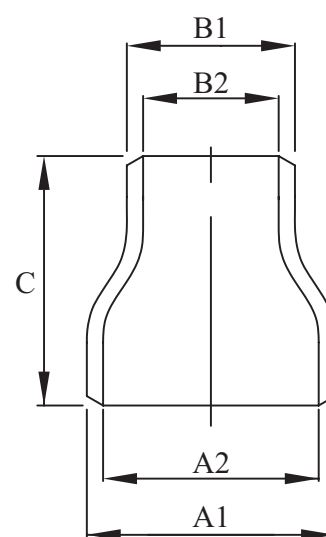
## Buttweld Long Radius Elbow 45 Degree (X-Stg)



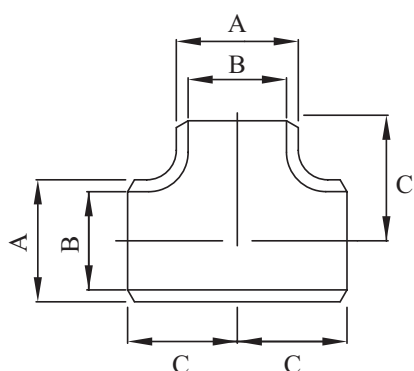
Buttweld X-STG ASTM A234 WPB ANSI B16.9 Long Radius Elbow 45 Degree						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WEF20X	3/4	26.7	18.9	19.0	3.91	0.1
WEF25X	1	33.4	24.3	22.4	4.55	0.1
WEF32X	1 1/4	42.2	32.5	25.4	4.85	0.3
WEF40X	1 1/2	48.3	38.1	28.4	5.08	0.3
WEF50X	2	60.3	49.2	35.1	5.54	0.6
WEF65X	2 1/2	73.0	59.0	44.4	7.01	1.1
WEF80X	3	88.9	73.7	50.8	7.62	1.4
WEF94X	4	114.3	97.2	63.5	8.56	2.5
WEF96X	6	168.3	146.4	95.2	10.97	8.3

## Buttweld Concentric Reducer (X-Stg)

Buttweld X-STG ASTM A234 WPB ANSI B16.9 Concentric Reducer								
AAP CODE	IMPERIAL SIZE	LARGER DIAMETER		SMALLER DIAMETER		END TO END	WALL THICKNESS	APPROX. KG/PC
		A1	A2	B1	B2	C		
WCR2515X	1 x 1/2	33.4	24.3	21.3	12.2	50.8	4.6	0.2
WCR2520X	1 x 3/4	33.4	24.3	26.7	17.6	50.8	4.6	0.2
WCR3220X	1 1/4 x 3/4	42.2	32.5	26.7	17.0	50.8	4.9	0.2
WCR3225X	1 1/4 x 1	42.2	32.5	33.4	23.7	50.8	4.9	0.2
WCR4020X	1 1/2 x 3/4	48.3	38.1	26.7	16.5	63.5	5.1	0.3
WCR4025X	1 1/2 x 1	48.3	38.1	33.4	23.2	63.5	5.1	0.3
WCR4032X	1 1/2 x 1 1/4	48.3	38.1	42.2	32.0	63.5	5.1	0.3
WCR5025X	2 x 1	60.3	49.2	33.4	22.3	76.2	5.5	0.5
WCR5032X	2 x 1 1/4	60.3	49.2	42.2	31.1	76.2	5.5	0.5
WCR5040X	2 x 1 1/2	60.3	49.2	48.3	37.2	76.2	5.5	0.5
WCR6540X	2 1/2 x 1 1/2	73.0	59.0	48.3	34.3	88.9	7.0	0.9
WCR6550X	2 1/2 x 2	73.0	59.0	60.3	46.3	88.9	7.0	0.9
WCR8040X	3 x 1 1/2	88.9	73.7	48.3	33.1	88.9	7.6	1.3
WCR8050X	3 x 2	88.9	73.7	60.3	45.1	88.9	7.6	1.3
WCR8065X	3 x 2 1/2	88.9	73.7	73.0	57.8	88.9	7.6	1.3
WCR9450X	4 x 2	114.3	97.2	60.3	43.2	101.6	8.6	2.2
WCR9465X	4 x 2 1/2	114.3	97.2	73.0	55.9	101.6	8.6	2.2
WCR9480X	4 x 3	114.3	97.2	88.9	71.8	101.6	8.6	2.2
WCR9594X	5 x 4	141.3	122.2	114.3	95.2	127.0	9.5	3.8
WCR9680X	6 x 3	168.3	146.4	88.9	67.0	139.7	11.0	5.4
WCR9694X	6 x 4	168.3	146.4	114.3	92.4	139.7	11.0	5.4
WCR9695X	6 x 5	168.3	146.4	141.3	119.4	139.7	11.0	5.4



## Buttweld Equal Tee (X-Stg)

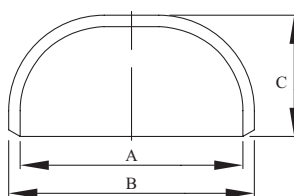


Buttweld X-STG ASTM A234 WPB ANSI B16.9 Equal Tee						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WT15X	1/2	21.3	13.8	25.0	3.7	0.2
WT20X	3/4	26.7	18.9	28.4	3.9	0.3
WT25X	1	33.4	24.3	38.1	4.6	0.4
WT32X	1 1/4	42.2	32.5	47.8	4.9	0.8
WT40X	1 1/2	48.3	38.1	57.2	5.1	1.1
WT50X	2	60.3	49.2	63.5	5.5	1.7
WT65X	2 1/2	73.0	59.0	76.2	7.0	3.0
WT80X	3	88.9	73.7	85.9	7.6	4.3
WT94X	4	114.3	97.2	104.6	8.6	7.3
WT96X	6	168.3	146.4	142.7	11.0	19.0
WT98X	8	219.1	193.7	304.8	12.7	30.34

## Buttweld Cap (X-Stg)



Buttweld X-STG ASTM A234 WPB ANSI B16.9 Cap						
AAP CODE	IMPERIAL SIZE	A	B	C	WALL THICKNESS	APPROX. KG/PC
WC50X	2	49.2	60.3	38.1	5.5	0.3
WC65X	2 1/2	59.0	73.0	38.1	7.0	0.5
WC80X	3	73.7	88.9	50.8	7.6	0.9
WC94X	4	97.2	114.3	63.5	8.6	1.5
WC96X	6	146.4	168.3	88.9	11.0	4.5
WCX25X	10	273.1	355.6	127	12.7	19.9



## Notes

[illegible]