

PENN Forged Socket Welding Pipe Fittings

ASME B16.11-1996

CLASS 3000 FITTINGS FOR USE WITH SCH 40 & SCH 80 PIPE
AVAILABLE IN A COMPLETE RANGE OF CARBON, STAINLESS STEELS,
ALLOY STEELS, AND NON-FERROUS METALS.



MACHINED FROM SOLID FORGINGS

		CLASS 3000 - For use with Sch 40 & Sch 80 Pipe												
		Nominal Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
90° ELBOW FIGURE NO. 13001	Dimension A	7/8	7/8	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	3	3-3/8	4-3/16	
	Dimension B	7/8	7/8	1-1/16	1-5/16	1-1/2	1-13/16	2-3/16	2-1/2	3	3-5/8	4-5/16	5-7/8	
	Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.545	
	Dimension D	7/16	7/16	7/16	1/2	9/16	5/8	11/16	3/4	7/8	1-3/8	1-1/8	1-9/16	
	Dimension E	7/16	7/16	17/32	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-5/8	2-1/4	2-5/8	
	Approx. Wt.	.20	.17	.24	.48	.68	1.06	1.72	2.33	3.88	7.34	11.61	22.47	
	TEE FIGURE NO. 13002	Dimension A	7/8	7/8	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	3	3-3/8	4-3/16
		Dimension B	7/8	7/8	1-1/16	1-5/16	1-1/2	1-13/16	2-3/16	2-1/2	3	3-5/8	4-5/16	5-7/8
Dimension C		.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.545	
Dimension D		7/16	7/16	7/16	1/2	9/16	5/8	11/16	3/4	7/8	1-3/8	1-1/8	1-9/16	
Dimension E		7/16	7/16	17/32	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-5/8	2-1/4	2-5/8	
Approx. Wt.		.25	.22	.31	.62	.88	1.30	2.00	2.99	4.60	8.49	13.85	27.14	
45° ELBOW FIGURE NO. 13003		Dimension A	3/4	3/4	3/4	7/8	1	1-1/8	1-5/16	1-3/8	1-11/16	2-1/16	2-1/2	3-1/8
		Dimension B	1-1/16	1-1/16	1-1/16	1-5/16	1-1/2	1-13/16	2-3/16	2-1/2	3	4	4-3/4	5-7/8
	Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.545	
	Dimension D	7/16	7/16	7/16	7/16	1/2	9/16	5/8	9/16	11/16	15/16	1-1/4	1-1/2	
	Dimension E	5/16	5/16	5/16	7/16	1/2	9/16	11/16	13/16	1	1-1/8	1-1/4	1-5/8	
	Approx. Wt.	.26	.24	.18	.40	.55	.89	1.23	1.76	3.02	7.62	12.49	19.34	
	CROSS FIGURE NO. 13004	Dimension A	31/32	31/32	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	3-1/4	3-3/4	4-3/16
		Dimension B	1-1/16	1-1/16	1-1/16	1-5/16	1-1/2	1-13/16	2-3/16	2-1/2	3	4	4-3/4	5-7/8
Dimension C		.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.545	
Dimension D		17/32	17/32	7/16	1/2	9/16	5/8	11/16	3/4	7/8	1-5/8	1-1/2	1-9/16	
Dimension E		7/16	7/16	17/32	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-5/8	2-1/4	2-5/8	
Approx. Wt.		.47	.40	.35	.73	.96	1.53	2.32	3.59	5.50	14.98	17.56	30.84	
LATERAL FIGURE NO. 13006		Dimension A	2-1/2	2-1/2	2-1/2	2-1/2	3	3-1/2	4	4-1/2	6	7-1/2	---	---
		Dimension B	1-1/2	1-1/2	1-1/2	1-1/2	1-3/4	2	2-7/16	2-3/4	3-5/16	4	---	---
	Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	---	---	
	Dimension D	13/32	13/32	13/32	13/32	17/32	17/32	17/32	17/32	21/32	21/32	---	---	
	Dimension E	1-3/4	1-3/4	1-3/4	1-3/4	2-1/8	2-1/2	2-13/16	3-3/16	4-3/8	5-5/16	---	---	
	Approx. Wt.	1.25	1.21	1.09	.94	1.47	2.23	3.31	4.89	9.68	18.33	---	---	

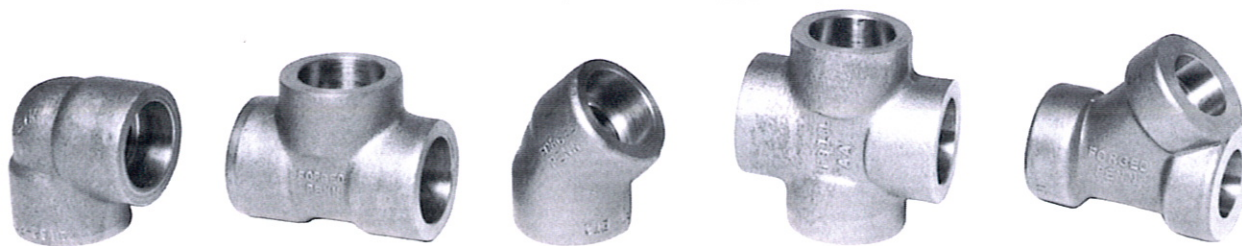
DIMENSIONS IN INCHES
WEIGHTS IN POUNDS

TRUE REDUCING FITTINGS CAN BE FURNISHED
BY BORING STRAIGHT SIZE BLANKS

PENN Forged Socket Welding Pipe Fittings

ASME B16.11-1996

CLASS 6000 FITTINGS FOR USE WITH SCH 160 PIPE
 AVAILABLE IN A COMPLETE RANGE OF CARBON, STAINLESS STEELS,
 ALLOY STEELS, AND NON-FERROUS METALS.



MACHINED FROM SOLID FORGINGS

CLASS 6000 - For use with Sch 160 Pipe												
Nominal Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
Dimension A	7/8	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	2-1/2	3-1/4	3-3/4	4-3/16
Dimension B	7/8	1-1/16	1-5/16	1-1/2	1-13/16	2-3/16	2-1/2	3	3-5/16	4	4-3/4	5-7/8
Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.545
Dimension D	7/16	7/16	1/2	9/16	5/8	11/16	3/4	7/8	7/8	1	1-1/4	1-9/16
Dimension E	7/16	17/32	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-5/8	2-1/4	2-1/2	2-5/8
Approx. Wt.	.37	.32	.60	.92	1.52	2.42	3.18	6.23	7.27	12.06	21.16	27.21
Dimension A	7/8	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	2-1/2	3-1/4	3-3/4	4-3/16
Dimension B	7/8	1-1/16	1-5/16	1-1/2	1-13/16	2-3/16	2-1/2	3	3-5/16	4	4-3/4	5-7/8
Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.545
Dimension D	7/16	7/16	1/2	9/16	5/8	11/16	3/4	7/8	7/8	1	1-1/4	1-9/16
Dimension E	7/16	17/32	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-5/8	2-1/4	2-1/2	2-5/8
Approx. Wt.	.44	.41	.81	1.18	1.93	3.10	4.22	7.59	8.70	15.09	25.24	32.51
Dimension A	3/4	3/4	7/8	1	1-1/8	1-5/16	1-3/8	1-11/16	1-25/32	2-1/16	2-1/2	3-1/8
Dimension B	7/8	1-1/16	1-5/16	1-1/2	1-13/16	2-3/16	2-1/2	3	3-5/16	4	4-3/4	5-7/8
Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.545
Dimension D	7/16	7/16	7/16	1/2	9/16	5/8	9/16	11/16	21/32	13/16	1-1/8	1-1/2
Dimension E	5/16	5/16	7/16	1/2	9/16	11/16	13/16	1	1-1/8	1-1/4	1-3/8	1-5/8
Approx. Wt.	.25	.24	.48	.74	1.25	2.03	2.17	2.39	5.11	8.37	12.02	21.76
Dimension A	31/32	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	2-1/2	3-1/4	3-3/4	4-3/16
Dimension B	1-1/16	1-1/16	1-5/16	1-1/2	1-13/16	2-3/16	2-1/2	3	3-5/16	4	4-3/4	5-7/8
Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.545
Dimension D	17/32	7/16	1/2	9/16	5/8	11/16	3/4	7/8	7/8	1	1-1/4	1-9/16
Dimension E	7/16	17/32	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-5/8	2-1/4	2-1/2	2-5/8
Approx. Wt.	.50	1.12	1.55	1.35	2.29	3.67	5.20	9.26	9.03	18.28	29.07	38.28
Dimension A	2-1/2	2-1/2	2-1/2	2-1/2	3	3-1/2	4	4-1/2	6	7-1/2	---	---
Dimension B	1-1/2	1-1/2	1-1/2	1-1/2	1-3/4	2	2-7/16	2-3/4	3-5/16	4	---	---
Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	---	---
Dimension D	13/32	13/32	13/32	13/32	17/32	17/32	17/32	17/32	21/32	21/32	---	---
Dimension E	1-3/4	1-3/4	1-3/4	1-3/4	2-1/8	2-1/2	2-13/16	3-3/16	4-3/8	5-5/16	---	---
Approx. Wt.	1.45	1.31	1.18	1.04	1.66	2.70	3.84	5.57	11.63	19.10	---	---

DIMENSIONS IN INCHES
 WEIGHTS IN POUNDS

TRUE REDUCING FITTINGS CAN BE FURNISHED
 BY BORING STRAIGHT SIZE BLANKS

PENN Forged Socket Welding Pipe Fittings

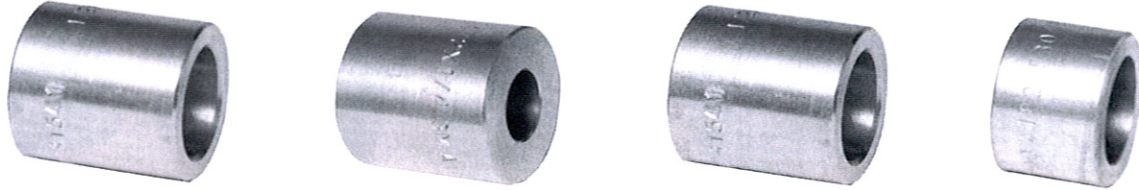
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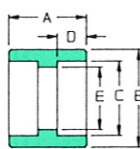
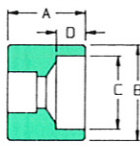
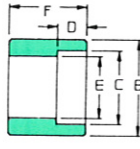
CLASS 3000 FITTINGS FOR USE WITH SCH 40 & SCH 80 PIPE

CLASS 6000 FITTINGS FOR USE WITH SCH 160 PIPE

CLASS 9000 FITTINGS FOR USE WITH SCH XXH PIPE

AVAILABLE IN A COMPLETE RANGE OF CARBON, STAINLESS STEELS,
ALLOY STEELS, AND NON-FERROUS METALS



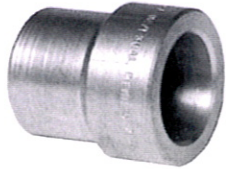
COUPLING		Nominal Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	
 <p>Class 3000-Figure No. 13007 Class 6000-Figure No. 16007 Class 9000-Figure No. 19007</p>	CLASS 3000	Dimension A	1-1/8	1-1/8	1-1/8	1-1/4	1-7/16	1-9/16	1-9/16	1-9/16	2-1/16	2-1/16	2-1/16	2-5/16	2-5/16	
	SCH 40	Dimension B	3/4	7/8	1-1/16	1-1/4	1-1/2	1-13/16	2-1/4	2-1/2	3	3-5/8	4-1/4	5	5-1/2	
		Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.036	4.545	
	SCH 80	Dimension D	7/16	7/16	7/16	7/16	17/32	17/32	17/32	17/32	21/32	21/32	21/32	25/32	25/32	
		Dimension E	.269	.364	.493	.622	.824	1.049	1.380	1.610	2.067	2.469	3.068	3.548	4.026	
	Approx. Wt.	.09	.11	.14	.28	.40	.65	1.05	1.23	2.05	3.12	3.83	6.67	7.13		
 <p>Class 3000-Figure No. 13008 Class 6000-Figure No. 16008 Class 9000-Figure No. 19008</p>	CLASS 3000	Dimension A	1-1/8	1-1/8	1-1/8	1-1/4	1-7/16	1-9/16	1-9/16	1-9/16	2-1/16	2-1/16	2-1/16	---	2-5/16	
	SCH 160	Dimension B	7/8	1	1-1/4	1-1/2	1-3/4	2	2-1/2	2-3/4	3-5/8	4-1/4	5	---	6	
		Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	---	4.545	
	SCH 160	Dimension D	7/16	7/16	7/16	7/16	17/32	17/32	17/32	17/32	21/32	21/32	21/32	---	25/32	
		Dimension E	.157	.250	.359	.466	.614	.815	1.160	1.338	1.689	2.125	2.625	---	3.438	
	Approx. Wt.	.18	.16	.29	.08	.12	1.08	1.61	2.58	4.74	6.36	7.06	---	18.35		
 <p>Class 3000-Figure No. 13009 Class 6000-Figure No. 16009 Class 9000-Figure No. 19009</p>	CLASS 9000	Dimension A	---	---	---	1-1/4	1-7/16	1-9/16	1-9/16	1-9/16	2-1/16	2-1/16	2-1/16	2-5/16	2-5/16	
	SCH XXH	Dimension B	---	---	---	1-3/4	2	2-1/2	2-3/4	3	3-5/8	4-1/2	5-1/2	6	6-1/2	
		Dimension C	---	---	---	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.036	4.545	
	SCH XXH	Dimension D	---	---	---	7/16	17/32	17/32	17/32	17/32	21/32	21/32	21/32	25/32	25/32	
		Dimension E	---	---	---	.252	.434	.599	.896	1.100	1.503	1.771	2.300	2.728	3.438	
	Approx. Wt.	---	---	---	.76	1.40	1.69	2.86	4.62	7.54	10.56	12.10	14.62	16.21		
WATERWAY BORE OF REDUCER IS DETERMINED BY SCHEDULE OF SMALL END																
CLASS 3000	Dimension A	11/16	11/16	11/16	13/16	15/16	1-1/16	1-1/16	1-1/8	1-5/16	1-7/16	1-5/8	1-7/8	1-7/8		
	Dimension B	3/4	7/8	1-1/16	1-1/4	1-1/2	1-13/16	2-1/4	2-1/2	3	3-5/8	4-1/4	5	5-1/2		
SCH 40	Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.036	4.545		
	Dimension D	7/16	7/16	7/16	7/16	17/32	17/32	17/32	17/32	21/32	21/32	21/32	25/32	25/32		
AND	Approx. Wt.	.05	.09	.13	.34	.35	.52	1.01	1.13	2.03	2.79	4.43	6.83	7.86		
CLASS 6000	Dimension A	3/4	3/4	13/16	13/16	1	1-1/8	1-1/8	1-3/16	1-3/16	1-9/16	1-11/16	---	2		
	Dimension B	7/8	1	1-1/4	1-1/2	1-3/4	2	2-1/2	2-3/4	3-5/8	4-1/4	5	---	6		
SCH 160	Dimension C	.426	.560	.693	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	---	4.545		
	Dimension D	7/16	7/16	7/16	7/16	17/32	17/32	17/32	17/32	21/32	21/32	21/32	---	25/32		
Approx. Wt.	.13	.17	.27	.43	.58	1.18	1.41	2.16	3.69	5.24	7.71	---	14.94			
CLASS 9000	Dimension A	---	---	---	1-1/16	1-3/16	1-1/4	1-1/4	1-3/8	1-9/16	1-3/4	2	2-1/8	2-1/8		
	Dimension B	---	---	---	1-3/4	2	2-1/2	2-3/4	3	3-5/8	4-1/2	5-1/2	6	6-1/2		
SCH XXH	Dimension C	---	---	---	.859	1.071	1.335	1.682	1.922	2.410	2.910	3.536	4.036	4.545		
	Dimension D	---	---	---	7/16	17/32	17/32	17/32	17/32	21/32	21/32	21/32	25/32	25/32		
Approx. Wt.	---	---	---	.74	1.34	1.87	2.82	4.50	7.02	10.96	14.03	17.94	20.68			

DIMENSIONS IN INCHES

WEIGHT IN POUNDS

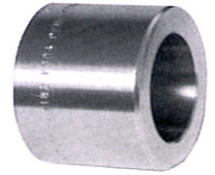
SCREWED END BY SOCKET WELD END ADAPTER

COUPLINGS CAN BE FURNISHED



TYPE 1

PENN Forged Socket Welding Pipe Reducer Inserts
 MSS STANDARD PRACTICE, SP-79 *
 AVAILABLE IN A COMPLETE RANGE OF CARBON, STAINLESS STEELS,
 ALLOY STEELS, AND NON-FERROUS METALS



TYPE 2

Nominal Pipe Sizes	Dia. C	Dia. D	CLASS 3000 *				CLASS 6000 *				CLASS 9000						
			For use with Sch 40 & Sch 80 Pipe				For use with Sch 160 Pipe				For use with Sch XXH Pipe						
			INSERT TYPE	DIMENSIONS			INSERT TYPE	DIMENSIONS			INSERT TYPE	DIMENSIONS					
				A	B	E		F	A	B		E	F	A	B	E	F
1/4 X 1/8	.540	.426	1	7/16	3/4	3/4	9/16	1	7/16	13/16	7/8	5/8	1	7/16	7/8	1	1/2
3/8 X 1/4	.675	.560	1	7/16	3/4	7/8	9/16	1	7/16	13/16	1-1/16	5/8	1	7/16	1	1-1/4	9/16
3/8 X 1/8	.675	.426	1	7/16	3/4	3/4	9/16	1	7/16	13/16	7/8	5/8	1	7/16	7/8	1	9/16
1/2 X 3/8	.840	.693	1	7/16	13/16	1-1/16	5/8	1	7/16	7/8	1-5/16	5/8	1	7/16	1-1/8	1-1/2	5/8
1/2 X 1/4	.840	.560	1	7/16	13/16	7/8	5/8	1	7/16	13/16	1	5/8	1	7/16	1	1-1/4	5/8
1/2 X 1/8	.840	.426	2	7/16	13/16	-	-	1	7/16	13/16	7/8	5/8	1	7/16	7/8	1	5/8
3/4 X 1/2	1.050	.859	1	1/2	7/8	1-1/4	11/16	1	1/2	1	1-1/2	3/4	1	1/2	1-3/16	1-3/4	11/16
3/4 X 3/8	1.050	.693	2	7/16	5/8	-	-	1	7/16	7/8	1-5/16	3/4	1	7/16	1-1/16	1-1/2	11/16
3/4 X 1/4	1.050	.560	2	7/16	11/16	-	-	2	7/16	7/8	-	-	1	7/16	1	1-1/4	11/16
3/4 X 1/8	1.050	.426	2	7/16	11/16	-	-	2	7/16	7/8	-	-	2	7/16	1-1/4	-	-
1 X 3/4	1.315	1.071	1	9/16	15/16	1-1/2	3/4	1	9/16	1-1/8	1-3/4	13/16	1	9/16	1-5/16	2-1/4	3/4
1 X 1/2	1.315	.859	2	1/2	5/8	-	-	1	1/2	1-1/8	1-1/2	13/16	1	1/2	1-3/16	1-3/4	3/4
1 X 3/8	1.315	.693	2	7/16	11/16	-	-	2	7/16	7/8	-	-	1	7/16	1	1-1/2	3/4
1 X 1/4	1.315	.560	2	7/16	3/4	-	-	2	7/16	15/16	-	-	2	7/16	1-3/8	-	-
1-1/4 X 1	1.660	1.335	1	5/8	1	1-13/16	13/16	1	5/8	1-3/16	2-1/4	7/8	1	5/8	1-3/8	2-1/2	13/16
1-1/4 X 3/4	1.660	1.071	2	9/16	11/16	-	-	2	9/16	13/16	-	-	1	9/16	1-3/16	2-1/4	13/16
1-1/4 X 1/2	1.660	.859	2	1/2	3/4	-	-	2	1/2	7/8	-	-	2	1/2	1-5/16	-	-
1-1/2 X 1-1/4	1.900	1.682	1	11/16	1-1/8	2-1/4	7/8	1	11/16	1-3/8	2-1/2	1	1	11/16	1-5/8	3	7/8
1-1/2 X 1	1.900	1.335	2	5/8	11/16	-	-	1	5/8	1-5/32	2-1/4	1	1	5/8	1-5/16	2-1/2	7/8
1-1/2 X 3/4	1.900	1.071	2	9/16	3/4	-	-	2	9/16	1	-	-	2	9/16	1-3/8	-	-
1-1/2 X 1/2	1.900	.859	2	1/2	13/16	-	-	2	1/2	1-1/16	-	-	2	1/2	1-7/16	-	-
2 X 1-1/2	2.375	1.922	1	3/4	1-1/4	2-1/2	1	1	3/4	1-17/32	3	1-1/8	1	3/4	1-5/8	3-5/8	1
2 X 1-1/4	2.375	1.682	2	11/16	13/16	-	-	2	11/16	15/16	-	-	1	11/16	1-1/2	3	1
2 X 1	2.375	1.335	2	5/8	7/8	-	-	2	5/8	1	-	-	2	5/8	1-7/16	-	-
2 X 3/4	2.375	1.071	2	9/16	15/16	-	-	2	9/16	1-1/16	-	-	2	9/16	1-1/2	-	-
2 X 1/2	2.375	.859	2	1/2	1	-	-	2	1/2	1-1/8	-	-	2	1/2	1-9/16	-	-
2-1/2 X 2	2.875	2.410	1	7/8	1-13/16	3	1-1/2	1	7/8	1-11/16	3-5/8	1-1/4	1	7/8	1-3/4	4-1/4	1-1/16
2-1/2 X 1-1/2	2.875	1.922	2	3/4	1-3/8	-	-	2	3/4	1-3/8	-	-	1	3/4	1-7/16	3-5/8	1-1/16
2-1/2 X 1-1/4	2.875	1.682	2	11/16	1-7/16	-	-	2	11/16	1-7/16	-	-	2	11/16	1-5/8	-	-
2-1/2 X 1	2.875	1.335	2	5/8	1-1/2	-	-	2	5/8	1-1/2	-	-	2	5/8	1-11/16	-	-
3 X 2-1/2	3.500	2.910	1	7/8	1-1/2	3-5/8	1-1/4	1	7/8	2-1/4	4-1/4	1-3/4	1	15/16	1-15/16	5	1-1/8
3 X 2	3.500	2.410	2	7/8	1	-	-	2	7/8	1-1/4	-	-	1	7/8	1-1/2	4-1/4	1-1/8
3 X 1-1/2	3.500	1.922	2	3/4	1-1/8	-	-	2	3/4	1-1/4	-	-	2	3/4	1-11/16	-	-
3 X 1-1/4	3.500	1.682	2	11/16	1-3/16	-	-	2	11/16	1-1/4	-	-	2	11/16	1-3/4	-	-
3 X 1	3.500	1.335	2	5/8	1-1/4	-	-	2	5/8	1-5/8	-	-	2	5/8	1-13/16	-	-
4 X 3	4.500	3.536	2	1-1/16	1-5/16	-	-	1	1	2-9/16	4-3/4	1-3/4	1	1	2	5-1/2	1-1/4
4 X 2-1/2	4.500	2.910	2	7/8	1-1/2	-	-	2	7/8	2	-	-	2	15/16	1-11/16	-	-
4 X 2	4.500	2.410	2	7/8	1-1/2	-	-	2	7/8	2	-	-	2	7/8	1-3/4	-	-
4 X 1-1/2	4.500	1.922	2	3/4	1-5/8	-	-	2	3/4	2-1/8	-	-	2	3/4	1-7/8	-	-
4 X 1-1/4	4.500	1.682	2	11/16	1-11/16	-	-	2	11/16	2-3/16	-	-	2	11/16	1-15/16	-	-
4 X 1	4.500	1.335	2	5/8	1-3/4	-	-	2	5/8	2-1/4	-	-	2	5/8	2	-	-

DIMENSIONS IN INCHES

Male socket weld by female threaded end adapter inserts can be furnished.