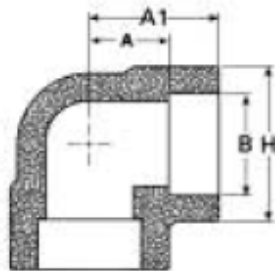




IPS INDUSTRIAL STAINLESS STEEL SOCKET WELD FITTINGS

Stainless Steel • Monel • Nickel • Alloy 20 • Available in all special alloys and many other ferrous and non-ferrous metals



Socket Depth =
Dimension A1 minus Dimension A

Note: May be greater than
the minimum allowed in
B16.11 standard.

CLASS 3000 90° ELBOWS

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 A1	13/16	13/16	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	3	3-3/8	-
Dimension H	7/8	7/8	1-1/64	1-5/16	1-1/2	1-13/16	2-1/4	2-1/2	3-1/32	3-11/16	4-3/8	-
Dimension A	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	-
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	-
Approx. Wt. #	.22	.38	.36	.90	1.52	1.14	1.68	2.26	3.78	7.40	11.60	-

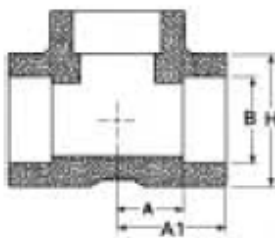
CLASS 6000 90° ELBOWS

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 A1	13/16	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	2-1/2	-	-	-
Dimension H	7/8	1-1/64	1-5/16	1-1/2	1-13/16	2-1/4	2-1/2	3-1/32	3-5/16	-	-	-
Dimension A	7/16	17/32	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-5/8	-	-	-
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	.22	.38	.64	.94	1.58	2.60	3.42	6.18	7.06	-	-	-

CLASS 9000 90° ELBOWS

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 A1	-	-	-	1-1/2	1-3/4	2	2-3/8	2-1/2	3	-	-	-
Dimension H	-	-	-	1-13/16	2-1/2	2-1/2	3-1/32	3-5/16	3-11/16	-	-	-
Dimension A	-	-	-	1	1-1/8	1-1/4	1-3/8	1-1/2	2 1/2	-	-	-
Dimension B	-	-	-	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	-	-	-	1.70	2.90	4.10	6.80	8.96	12.40	-	-	-

Note: Weight Data Estimated



Socket Depth =
Dimension A1 minus Dimension A

Note: May be greater than
the minimum allowed in
B16.11 standard.

CLASS 3000 90° TEES

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 A1	13/16	13/16	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	3	3-3/8	-
Dimension H	7/8	7/8	1-1/64	1-5/16	1-1/2	1-13/16	2-1/4	2-1/2	3-1/32	3-11/16	4-3/8	-
Dimension A	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	-
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	-
Approx. Wt. #	.30	.24	.38	.70	.96	1.46	2.14	2.92	4.56	8.10	13.00	-

CLASS 6000 90° TEES

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 A1	13/16	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	2-1/2	-	-	-
Dimension H	7/8	1-1/64	1-5/16	1-1/2	1-13/16	2-1/4	2-1/2	3-1/32	3-5/16	-	-	-
Dimension A	7/16	17/32	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-5/8	-	-	-
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	.56	.52	.90	2.24	3.80	4.94	4.06	10.26	8.56	-	-	-

CLASS 9000 90° TEES

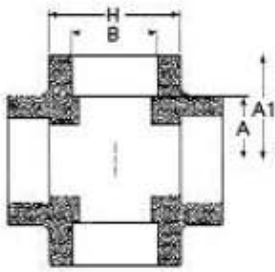
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Dimension A1	-	-	-	1-1/2	1-3/4	2	2-3/8	2-1/2	3	-	-	-
Dimension H	-	-	-	1-13/16	2-1/4	2-1/2	3-1/32	3-5/16	3-11/16	-	-	-
Dimension A	-	-	-	1	1-1/8	1-1/4	1-3/8	1-1/2	2-1/8	-	-	-
Dimension B	-	-	-	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	-	-	-	2.33	3.81	5.45	7.63	10.88	15.50	-	-	-

Note: Weight Data Estimated



IPS INDUSTRIAL STAINLESS STEEL SOCKET WELD FITTINGS

Stainless Steel • Monel • Nickel • Alloy 20 • Available in all special alloys and many other ferrous and non-ferrous metals



CLASS 3000 CROSSES

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 A1	13/16	13/16	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	3	3-3/8	-
Dimension H	7/8	7/8	1-1/64	1-5/16	1-1/2	1-13/16	2-1/4	2-1/2	3-1/32	3-11/16	4-3/8	-
Dimension A	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	-
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	-
Approx. Wt. #	.36	.30	.46	.84	1.14	1.68	2.34	3.06	4.66	15.00	17.60	-

CLASS 6000 CROSSES

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 A1	13/16	31/32	1-1/8	1-5/16	1-1/2	1-3/4	2	2-3/8	2-1/2	-	-	-
Dimension H	7/8	1-1/64	1-5/16	1-1/2	1-13/16	2-1/4	2-1/2	3-1/32	3-5/16	-	-	-
Dimension A	7/16	17/32	5/8	3/4	7/8	1 1/16	1-1/4	1-1/2	1-5/8	-	-	-
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	1.25	1.25	1.38	1.56	2.46	3.98	5.20	9.30	9.00	-	-	-

Socket Depth =
Dimension A1 minus Dimension A

Note: May be greater than
the minimum allowed in
B16.11 standard.

CLASS 9000 45° ELBOW

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 A1	-	-	-	1-1/2	1-3/4	2	2-3/8	2-1/2	3	-	-	-
Dimension H	-	-	-	1-13/16	2-1/4	2-1/2	3-1/32	3-5/16	3-11/16	-	-	-
Dimension A	-	-	-	1	1-1/8	1-1/4	1-3/8	1-1/2	2-1/8	-	-	-
Dimension B	-	-	-	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	-	-	-	3.00	4.85	6.70	9.35	12.60	19.00	-	-	-

Note: Weight Data Estimated

CLASS 3000 45° ELBOW

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 A1	11/16	11/16	3/4	7/8	1	1-1/8	1-5/16	1-3/8	1-11/16	2-1/8	2-9/16	-
Dimension H	7/8	7/8	1-1/64	1-5/16	1-1/2	1-13/16	2-1/4	2-1/2	3-1/32	4	4-3/4	-
Dimension A	5/16	5/16	5/16	7/16	1/2	9/16	11/16	13/16	1	1-1/8	1-1/4	-
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	-
Approx. Wt. #	.02	.16	.24	.46	.58	.94	1.46	1.76	3.00	7.37	12.65	-

CLASS 6000 45° ELBOW

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 A1	11/16	3/4	7/8	1	1-1/8	1-5/16	1-3/8	1-11/16	1-13/16	-	-	-
Dimension H	7/8	1-1/16	1-1/2	1-13/16	2-1/4	2-1/2	3-1/32	2-1/2	3-5/16	-	-	-
Dimension A	5/16	5/16	7/16	1/2	9/16	11/16	13/16	1	1-1/8	-	-	-
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	.11	.26	.54	.68	1.26	2.16	2.40	4.60	5.12	-	-	-

Socket Depth =
Dimension A1 minus Dimension A

Note: May be greater than
the minimum allowed in
B16.11 standard.

CLASS 9000 45° ELBOW

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 A1	-	-	-	1-1/8	1-5/16	1-3/8	1-11/16	1-23/32	2-1/16	-	-	-
Dimension H	-	-	-	1-13/16	2-1/4	2-1/2	3-1/32	3-11/16	4	-	-	-
Dimension A	-	-	-	5/8	3/4	13/16	7/8	1	1-1/8	-	-	-
Dimension B	-	-	-	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	-	-	-	1.40	2.00	2.50	4.30	6.50	10.44	-	-	-

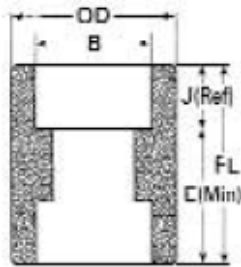
Note: Weight Data Estimated

: Class good sizes 2 1/2" - 4" not covered by B16.11



IPS INDUSTRIAL STAINLESS STEEL SOCKET WELD FITTINGS

Stainless Steel • Monel • Nickel • Alloy 20 • Available in all special alloys and many other ferrous and non-ferrous metals



Note: Dimensions FL; E; J; are min. requirements to meet B16.11. Actual lengths may be greater than dimensions shown

CLASS 3000 FULL COUPLING, REDUCER • WEIGHT # REFERS TO FULL COUPLING ONLY

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 FL	1	1	1	1-1/16	1-5/16	1-3/8	1-3/8	1-3/8	1-7/8	1-13/16	1-13/16	2-1/8
Dimension E (Min)	.190	.190	.130	.260	.260	.340	.340	.340	.590	.550	.550	.550
Dimension OD	3/4	7/8	1-1/16	1-1/4	1-1/2	1-7/8	2-1/4	2-1/2	3	3-5/8	4-5/16	5-1/2
Dimension J (Ref)	3/8	3/8	3/8	5/8	1/2	1/2	1/2	1/2	5/8	5/8	5/8	3/4
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
Approx. Wt. #	.09	.11	.18	.28	.41	.91	1.04	1.13	2.87	3.30	4.44	8.10

CLASS 6000 FULL COUPLING, REDUCER • WEIGHT # REFERS TO FULL COUPLING ONLY

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 FL	1	1	1	1-1/16	1-5/16	1-3/8	1-3/8	1-3/8	1-7/8	1-7/8	1-7/8	2-1/8
Dimension E (Min)	.190	.190	.130	.260	.260	.340	.340	.340	.590	.550	.550	.550
Dimension OD	7/8	1	1-1/8	1 3/8	1-11/16	2	2-1/2	2-3/4	3-3/8	4-1/4	5	6
Dimension J (Ref)	3/8	3/8	3/8	5/8	1/2	1/2	1/2	1/2	5/8	5/8	5/8	3/4
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
Approx. Wt. #	.13	.17	.28	.51	.70	1.56	1.59	2.35	5.17	6.00	7.20	11.92

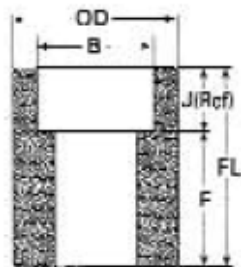
CLASS 9000 FULL COUPLING, REDUCER • WEIGHT # REFERS TO FULL COUPLING ONLY

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 FL	-	-	-	1-1/64	1-11/32	1-11/32	1-11/32	1-11/32	1-53/64	-	-	-
Dimension E (Min)	-	-	-	.260	.260	.340	.340	.340	.590	-	-	-
Dimension OD	-	-	-	1-11/16	2	2-1/2	2 3/4	3	3-5/8	-	-	-
Dimension J (Ref)	-	-	-	3/8	1/2	1/2	1/2	1/2	5/8	-	-	-
Dimension B	-	-	-	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	-	-	-	.61	1.00	1.65	1.78	2.00	3.51	-	-	-

Note: Class good sizes 2 1/2' - 4" not covered by B16.11

CLASS 3000 HALF COUPLING

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 FL	1	1	1-1/16	1-1/4	1-13/32	1-9/16	1-5/8	1-11/16	2-3/16	2-1/4	2-5/16	2-9/16
Dimension F (Min)	.590	.590	.630	.820	.880	1.040	1.110	1.170	1.540	1.590	1.650	1.780
Dimension OD	3/4	7/8	1-1/16	1-1/4	1-1/2	1-7/8	2-1/4	2-1/2	3	3-5/8	4-5/16	5-1/2
Dimension J (Ref)	3/8	3/8	3/8	5/8	1/2	1/2	1/2	1/2	5/8	5/8	5/8	3/4
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
Approx. Wt. #	.10	.14	.21	.34	.53	1.06	1.33	1.66	3.10	3.27	5.65	10.20



Note: Dimensions FL; F; J; are min. requirements to meet B16.11. Actual lengths may be greater than dimensions shown

CLASS 6000 HALF COUPLING

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 FL	1	1	1-1/16	1-1/4	1-13/32	1-5/16	1-5/8	1-11/16	2-3/16	2-1/4	2-5/16	2-9/16
Dimension F (Min)	.590	.590	.630	.820	.880	1.040	1.110	1.170	1.540	1.590	1.650	1.780
Dimension OD	7/8	1	1-1/8	1-3/8	1-11/16	2	2-1/2	2-3/4	3-3/8	4-1/4	5	6
Dimension J (Ref)	3/8	3/8	3/8	3/8	1/2	1/2	1/2	1/2	5/8	5/8	5/8	3/4
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
Approx. Wt. #	.15	.19	.32	.55	.80	1.70	1.83	2.90	5.37	5.92	8.50	14.00

CLASS 9000 HALF COUPLING

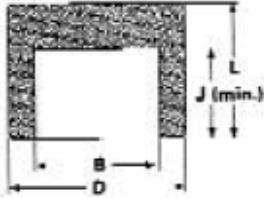
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
Dimension FL	-	-	-	1-13/64	1-3/8	1-1/2	1-39/64	1-43/64	2-5/32	-	-	-
Dimension F (Min)	-	-	-	.820	.880	1.040	1.110	1.170	1.540	-	-	-
Dimension OD	-	-	-	1-11/16	2	2-1/2	2-3/4	3	3-5/8	-	-	-
Dimension J (Ref)	-	-	-	3/8	1/2	1/2	1/2	1/2	5/8	-	-	-
Dimension B	-	-	-	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	-	-	-	.74	1.14	1.99	2.34	2.76	4.85	-	-	-

Note: Class good sizes 2 1/2' - 4" not covered by B16.11



IPS INDUSTRIAL STAINLESS STEEL SOCKET WELD FITTINGS

Stainless Steel • Monel • Nickel • Alloy 20 • Available in all special alloys and many other ferrous and non-ferrous metals



CLASS 3000 CAPS • ASME B16.11

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 L	11/16	11/16	11/16	3/4	7/8	1	1-1/32	1-3/32	1-1/4	1-3/8	1-1/2	1-3/4
Dimension D	3/4	7/8	11/16	1-1/4	1-1/2	1-7/8	2-1/4	2-1/2	3	3-5/8	4-5/16	5-1/2
Dimension J (Min)	3/8	3/8	3/8	3/8	1/2	1/2	1/2	1/2	5/8	5/8	5/8	5/8
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
Approx. Wt. #	.07	.14	.14	.20	.34	.64	.82	1.12	1.80	2.95	5.0	

CLASS 6000 CAPS • ASME B16.11

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 L	3/4	3/4	3/4	11/16	15/16	1-1/16	1-1/16	1-1/8	1-3/8	1-1/2	1-5/8	2
Dimension D	7/8	1	1-1/8	1-3/8	1-11/16	2	2-1/2	2-3/4	3-5/8	4-1/4	5	6
Dimension J (Min)	3/8	3/8	3/8	1/2	1/2	1/2	1/2	1/2	5/8	5/8	5/8	3/4
Dimension B	.420	.555	.690	.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545
Approx. Wt. #	.12	.14	.14	.30	.50	.79	1.22	1.56	3.47	5.20	7.46	12.75

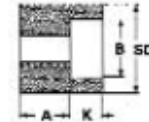
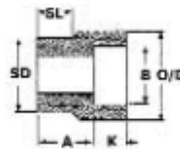
CLASS 9000 CAPS • ASME B16.11

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 L	-	-	-	15/16	1-1/8	1-3/16	1-3/16	1-1/4	1-1/2	-	-	-
Dimension D	-	-	-	1-11/16	2	2-1/2	2-3/4	3	3-5/8	-	-	-
Dimension J (Min)	-	-	-	3/8	1/2	1/2	1/2	1/2	5/8	-	-	-
Dimension B	-	-	-	.855	1.065	1.330	1.675	1.915	2.406	-	-	-
Approx. Wt. #	-	-	-	.59	.93	1.56	1.81	2.30	3.87	-	-	-

Note: Class 6000 sizes 2 1/2" - 4" not covered by B16.11

REDUCER INSERTS

MSS-SP-79 STAINLESS STEEL • MUNEL • ALLOY 20
MACHINED FROM SOLID BAR
NOMENCLATURE AS USED IN MSS-SP-79



CLASS 3000 • SCHEDULE 40 BORE
FOR USE WITH SCHEDULE 40 OR 80 PIPE

Pipe Size	Type	K	A	SD	B	O/D	SL
1/2 x 3/8	1	.400	.840	.840	.695	1-1/16	.590
1/2 x 1/4	1	.400	.840	.840	.560	7/8	.590
1/2 x 1/8	1	.400	.840	.840	.425	7/8	-
3/4 x 1/2	1	.420	.910	1.050	.860	1-1/4	.660
3/4 x 3/8	2	.420	.850	1.050	.695	1-1/8	-
3/4 x 1/4	2	.400	.720	1.050	.560	1-1/8	-
3/4 x 1/8	2	.400	.720	1.050	.425	1-1/8	-
1 x 3/4	1	.560	.980	1.315	1.070	1-1/2	.710
1 x 1/2	2	.480	.860	1.315	.860	1-3/8	-
1 x 3/8	2	.410	.730	1.315	.695	1-3/8	-
1 x 1/4	2	.400	.790	1.315	.560	1-3/8	-
1-1/4 x 1	1	.560	1.040	1.660	1.335	1-7/8	.770
1-1/4 x 3/4	2	.540	.730	1.660	1.070	1-3/4	-
1-1/4 x 1/2	2	.480	.790	1.660	.860	1-3/4	-
1-1/2 x 1-1/4	1	.560	1.160	1.900	1.680	2-3/16	.840
1-1/2 x 1	2	.600	.730	1.900	1.335	2	-
1-1/2 x 3/4	2	.540	.790	1.900	1.070	2	-
1-1/2 x 1/2	2	.480	.850	1.900	.860	2	-
2 x 1-1/2	1	.560	1.290	2.375	1.920	2-1/2	.960
2 x 1-1/4	2	.670	.850	2.375	1.680	2-1/2	-
2 x 1	2	.600	.920	2.375	1.335	2-1/2	-
2 x 3/4	2	.540	.980	2.375	1.070	2-1/2	-
2 x 1/2	2	.480	1.040	2.375	.860	2-1/2	-

CLASS 6000 • SCHEDULE 160 BORE
FOR USE WITH SCHEDULE 160 PIPE

Pipe Size	Type	K	A	SD	B	O/D	SL
1/2 x 3/8	1	7/16	.910	.840	.695	1-1/8	5/8
1/2 x 1/4	1	3/8	.910	.840	.560	1	5/8
1/2 x 1/8	1	3/8	3/16	.840	.425	7/8	11/16
3/4 x 1/2	1	1/2	1	1.050	.860	1-3/8	3/4
3/4 x 3/8	1	7/16	.880	1.050	.695	1-1/8	3/4
3/4 x 1/4	2	3/8	7/8	1.050	.560	-	-
3/4 x 1/8	2	3/8	11/16	1.050	.425	-	-
1 x 3/4	1	9/16	1-1/8	1.315	1.070	1-3/4	13/16
1 x 1/2	1	1/2	1-1/8	1.315	.860	1-3/8	13/16
1 x 3/8	2	7/16	7/8	1.315	.695	-	-
1 x 1/4	2	3/8	15/16	1.315	.560	-	11/16
1-1/4 x 1	1	5/8	1-3/16	1.660	1.335	2	7/8
1-1/4 x 3/4	1	9/16	13/16	1.660	1.070	1-3/4	7/8
1-1/4 x 1/2	1	1/2	7/8	1.660	.860	1-3/4	7/8
1-1/2 x 1-1/4	1	11/16	1-3/8	1.900	1.680	2-1/2	1
1-1/2 x 1	1	5/8	1-1/16	1.900	1.335	2	1
1-1/2 x 3/4	1	9/16	1	1.900	1.070	2	1
1-1/2 x 1/2	1	1/2	1-1/16	1.900	.860	2	1
2 x 1-1/2	1	11/16	1-17/32	2.375	1.920	2-3/4	1-1/8
2 x 1-1/4	2	11/16	1-5/16	2.375	1.680	-	-
2 x 1	2	5/8	1	2.375	1.335	-	-
2 x 3/4	2	9/16	1-1/16	2.375	1.070	-	-
2 x 1/2	2	1/2	1-1/8	2.375	.860	-	-