

Fittings, Mill Products

*Fittings, Stub Ends, Steel Backing Flanges,
Stainless Steel Flanges & Dimensions*

ALASKAN COPPER



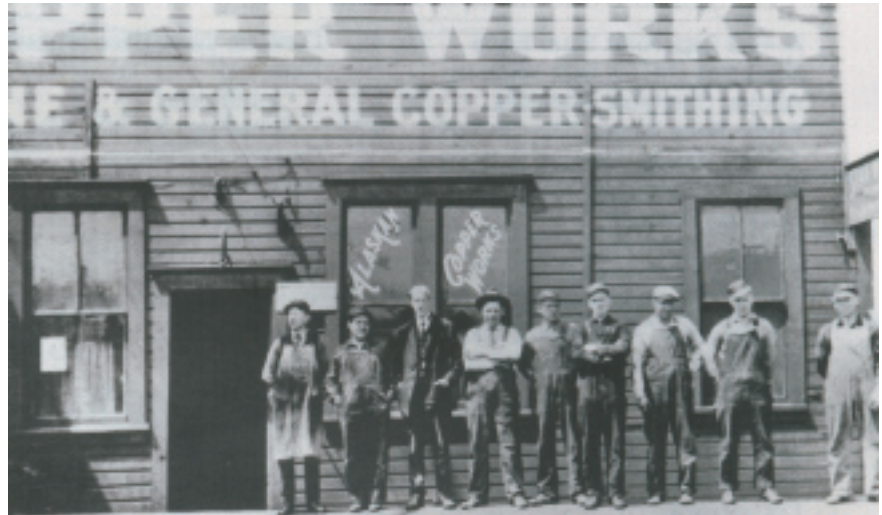
ALASKAN COPPER & BRASS COMPANY

History

When Alaskan Copper Works was founded as a marine coppersmithing company in 1913, one of its major activities was forming and brazing pipe and pipe fittings made from copper, brass and bronze, primarily for use in the Pacific Northwest shipbuilding industry.

Beginning in the 1920's, many of the area's growing process industries, such as pulp and paper, which had relied on wood stave and cast iron as corrosion resistant materials for their tanks and piping, welcomed the development of a new weldable alloy, silicon bronze. This alloy had special advantages in weight, cost and corrosion resistance. Alaskan Copper Works participated in the transition to this innovative metal and in the development of the welding techniques necessary for its proper fabrication.

In the 1930's, alloys with even better corrosion resistance, such as the austenitic stainless steels, became available and quickly came into general use not only in the pulp and paper industry but also in the other process industries then beginning to develop, such as



Alaskan Copper Works yesterday

petrochemical and food processing. Again, Alaskan Copper Works participated in the application of these new, advantageous materials and in the development of the welding and fabricating procedures required to maximize their usefulness.

Over the intervening years, improvements in our manufacturing capacities have seen the standard lengths of most pipe sizes increase from 4 feet to 10 feet and then to 20 feet. Die-formed smooth-flow

elbows began to be made in small sizes and gradually advanced to include larger sizes and many radii and wall thicknesses. Other advances over the years have led to tees being made with smooth-drawn outlets, the development of many available choices in the types of stub ends for different services and our manufacturing of pipe and fittings to advanced specifications and in "exotic" alloys, including our qualification to produce fittings for the nuclear power industry.

As a result, today's customers of the Stainless Products Division of Alaskan Copper Works benefit from the accumulated experience of one of the nation's largest organizations devoted exclusively to the manufacturing of pipe and pipe fittings in stainless steels, high-nickel alloys, duplex stainless alloys, copper-nickel alloys, aluminum, titanium, zirconium, copper and other weldable corrosion resistant alloys.



Alaskan Copper Works today.

Your Source for Corrosion Resistant Alloys

Alaskan Copper & Brass Company combines the largest and most diverse inventory of alloys in the Pacific Northwest with the very latest in material processing equipment. Our goal is to continue to be a true "service center" for our customers. We provide accurate, rapid quotation services and the ability to deliver material on time, preprocessed if necessary to our customer's exact specifications.

Northwest Owned and Operated

Alaskan Copper & Brass Company has been owned and operated by the same family since 1913. In our Seattle, Portland and Canadian distribution facilities, the emphasis has always been on personal service and long term relationships with our customers. Contract terms, credit terms and special stocking programs can be negotiated locally, with people who understand the Northwest market and its customers.

State of the Art Processing Equipment

Preprocessing of customer material has become more important every year due to more exacting quality requirements in most industries. Alaskan has responded to that demand by investing heavily in new processing equipment. Minimize scrap and save inventory costs! Let Alaskan do your material processing.

Customer Service our Specialty

Our sales staff is backed up by one of the most extensive information systems in the metals industry. Each salesperson has instantaneous access to all of our over 20,000 stocking items through a touch-input computer screen. Questions regarding the status of your order can be answered immediately, without a return call. We value your time as much as you do. This catalog covers sizes, weights and specifications of material for the commercial, military, marine, waste-water, petro-chemical, pharmaceutical, beverage and power industries. Call one of our informed and experienced salespeople for the rapid quotation response you expect in these competitive times.

ALASKAN COPPER

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ALASKAN COPPER PROCESSING CAPABILITIES

Coil Processing

Aluminum, brass, copper, copper-nickel and stainless steel coil stock from .010" through $\frac{3}{8}$ " thick and up to 96" wide are levelled and cut to length on Alaskan's custom-made line.

Shearing

Precision shearing from light gauge to $\frac{1}{2}$ " thick copper alloy material, $\frac{1}{2}$ " thick stainless steel and up to $\frac{3}{4}$ " thick aluminum. Sheet or plate can be sheared in 20 foot continuous lengths using an adjustable backgauge. Plate up to 1" thick can be sheared in lengths up to 48".

Sawing

Abrasive sawing of copper alloy material and stainless steel though 4" thick to close tolerance for rectangles and squares. Metal carbide sawing of aluminum plate through 8" thick. Plate up to 96" x 168" can be sawed in full lengths. Plate up to 12 foot long can be sawed with a +/- .005" inch tolerance.

Splice Welding

Simultaneous welding from both sides by automatic gas tungsten-arc process to achieve any required sheet size from stock material. The weld procedures and welder qualifications conform to Section IX of the ASME Boiler and Pressure Vessel Code. The resulting weld has minimum distortion and minimum reinforcement to allow easy forming such as rolling. Material up to 20 feet in length may be welded together.

Plasma Burning

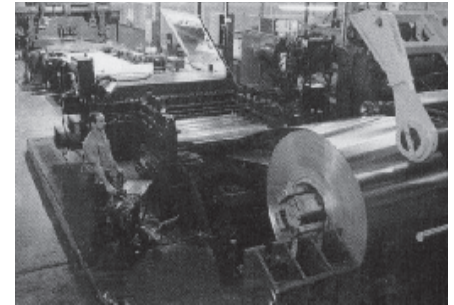
Computerized automatic plasma burning of any shape can be accomplished. All corrosion resistant alloys can be cut up to 3" thick. Up to 96" x 240" material can be accommodated. A water table is utilized to keep slag and the heat affected zone to a minimum.

Do-All Sawing

Automatic multiple cutting up to 16" by 16" bar or 16" diameter round bar, rod or tubing.

Custom Fabrication

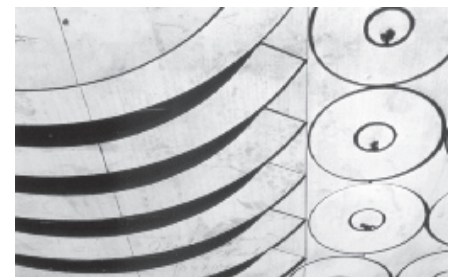
Custom fabrication of most industrial shapes can be performed by our affiliated company, ALASKAN COPPER WORKS. Work will be performed on a complete package basis including material or on a labor only basis utilizing the customer's material. The entire engineering and drafting department of ALASKAN COPPER WORKS is at your disposal, offering computerized design of heat transfer equipment, pressure vessels and tanks.



Alaskan's Cut-To-Length facility allows for efficient use of sheet and plate material.



Order the size that is needed, not just "standard" sizes.



Complex shapes are cut by computerized plasma cutting tables.



Aluminum wet pump pressure vessel used to transfer fish from a ship's hold to the dock.

Table Showing Fractions, Decimals, Centimeters & Millimeters

Fractional Inch	Decimal Inch	Centimeters	Millimeters	Millimeters	Centimeters	Decimal Inch	Fractional Inch
$\frac{1}{64}$	.0156	.0396	.3969	13.0969	1.310	.5156	$\frac{33}{64}$
$\frac{1}{32}$	.0312	.0792	.7938	13.4938	1.350	.5313	$\frac{17}{32}$
$\frac{3}{64}$	.0469	.1191	1.1906	13.8906	1.389	.5469	$\frac{35}{64}$
$\frac{1}{16}$	.0625	.1588	1.5875	14.2875	1.429	.5625	$\frac{9}{16}$
$\frac{5}{64}$	.0781	.1984	1.9844	14.6844	1.468	.5781	$\frac{37}{64}$
$\frac{3}{32}$	.0938	.2383	2.3813	15.0813	1.508	.5938	$\frac{19}{32}$
$\frac{7}{64}$	.1094	.2779	2.7781	15.4781	1.548	.6094	$\frac{39}{64}$
$\frac{1}{8}$	.125	.3175	3.1750	15.8750	1.588	.625	$\frac{5}{8}$
$\frac{9}{64}$	.1406	.3571	3.5719	16.2719	1.627	.6406	$\frac{41}{64}$
$\frac{5}{32}$	.1563	.3970	3.9688	16.6688	1.667	.6563	$\frac{21}{32}$
$\frac{11}{64}$	.1719	.4366	4.3656	17.0656	1.707	.6719	$\frac{43}{64}$
$\frac{3}{16}$	.1875	.4763	4.7625	17.4625	1.746	.6875	$\frac{11}{16}$
$\frac{13}{64}$	.2031	.5159	5.1594	17.8594	1.786	.7031	$\frac{45}{64}$
$\frac{7}{32}$	.2188	.5558	5.5563	18.2563	1.826	.7188	$\frac{23}{32}$
$\frac{15}{64}$	.2344	.5954	5.9531	18.6531	1.865	.7344	$\frac{47}{64}$
$\frac{1}{4}$	.250	.6350	6.3500	19.0500	1.905	.750	$\frac{3}{4}$
$\frac{17}{64}$	.2656	.6746	6.7469	19.4469	1.945	.7656	$\frac{49}{64}$
$\frac{9}{32}$	.2813	.7145	7.1438	19.8438	1.984	.7812	$\frac{25}{32}$
$\frac{19}{64}$	.2969	.7541	7.5406	20.2406	2.024	.7969	$\frac{51}{64}$
$\frac{5}{16}$	.3125	.7938	7.9375	20.6375	2.064	.8125	$\frac{13}{16}$
$\frac{21}{64}$	.3281	.8334	8.3344	21.0344	2.103	.8281	$\frac{53}{64}$
$\frac{11}{32}$	.3438	.8733	8.7313	21.4313	2.143	.8438	$\frac{27}{32}$
$\frac{23}{64}$	.3594	.9129	9.1281	21.8281	2.183	.8594	$\frac{55}{64}$
$\frac{3}{8}$	.375	.9525	9.5250	22.2250	2.223	.875	$\frac{7}{8}$
$\frac{25}{64}$	.3906	.9921	9.9219	22.6219	2.262	.8906	$\frac{57}{64}$
$\frac{13}{32}$	.4063	1.032	10.3188	23.0188	2.302	.9063	$\frac{29}{32}$
$\frac{27}{64}$	.4219	1.072	10.7156	23.4156	2.342	.9219	$\frac{59}{64}$
$\frac{7}{16}$	.4375	1.111	11.1125	23.8125	2.381	.9375	
$\frac{29}{64}$	.4531	1.151	11.5094	24.2094	2.421	.9531	$\frac{61}{64}$
$\frac{15}{32}$	.4688	1.191	11.9063	24.6063	2.461	.9688	$\frac{31}{32}$
$\frac{31}{64}$.4844	1.230	12.3031	25.0031	2.500	.9844	$\frac{63}{64}$
$\frac{1}{2}$.500	1.270	12.7000	25.4000	2.540	1.000	1

Fittings, Mill Products

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Engineering Data
Copper Alloy 230 Pipe (Red Brass), Copper Pipe
Allowable Interenal Pressure (psi)

Nom Pipe Size	PIPE WITH THREADED ENDS								PIPE WITH PLAIN ENDS FOR USE WITH WELDED, BRAZED OR SOLDERED FITTINGS							
	Red Brass				Copper				Red Brass				Copper			
	@ 100 F S=8000	@ 200 F S=8000	@ 300 F S=8000	@ 400 F S=5000	@ 100 F S=6000	@ 200 F S=4800	@ 300 F S=4700	@ 400 F S=3000	@ 100 F S=8000	@ 200 F S=8000	@ 300 F S=8000	@ 400 F S=5000	@ 100 F S=8000	@ 200 F S=4800	@ 300 F S=4700	@ 400 F S=3000
REGULAR																
1/8	370	370	370	230	280	210	210	130	2640	2640	2640	1650	1980	1570	1540	980
1/4	870	370	870	550	650	510	510	320	2610	2610	2610	1640	1960	1560	1530	970
3/8	890	890	890	570	670	530	510	320	2280	2280	2280	1440	1710	1350	1330	840
1/2	900	900	900	570	670	530	520	320	2160	2160	2160	1350	1620	1280	1260	800
3/4	810	810	810	520	610	480	470	300	1800	1800	1800	1130	1350	1070	1050	670
1	630	630	630	400	480	370	370	230	1580	1580	1580	1000	1190	940	920	590
1 1/4	690	690	690	430	520	410	400	250	1440	1440	1440	900	1080	890	840	530
1 1/2	630	630	630	400	480	370	370	230	1280	1280	1280	800	960	750	740	470
2	540	540	540	350	410	320	310	190	1050	1050	1050	670	790	620	610	380
2 1/2	450	450	450	280	340	260	250	160	1040	1040	1040	650	780	620	610	380
3	510	510	520	320	380	300	290	180	1000	1000	1000	630	750	590	580	370
3 1/2	570	570	570	370	430	330	330	200	1000	1000	1000	630	750	590	580	370
4	510	510	510	320	380	300	290	180	880	880	880	550	660	530	520	320
5	410	410	410	270	310	230	240	140	710	710	710	450	540	420	410	260
6	340	340	340	220	260	190	200	120	600	600	600	380	450	350	340	220
8	360	360	360	230	270	210	210	130	560	560	560	350	420	320	320	200
10	360	360	360	230	270	210	210	130	520	520	520	330	390	300	300	190
12	320	320	320	200	240	190	200	120	450	450	450	280	340	260	250	160
EXTRA STRONG																
1/8	1960	1960	1960	1240	1470	1160	1140	720	4630	4630	4630	2900	3470	2750	2710	1730
1/4	2210	2210	2210	1340	1660	1310	1290	820	4200	4200	4200	2640	3150	2500	2460	1570
3/8	1840	1840	1840	1150	1380	1090	1070	680	3360	3360	3360	2100	2520	2000	1960	1250
1/2	1760	1760	1760	1100	1320	1040	1030	660	3130	3130	3130	1970	2350	1860	1830	1160
3/4	1510	1510	1510	950	1130	900	880	560	2560	2560	2560	1600	1920	1520	1500	960
1	1340	1340	1340	850	1010	790	780	490	2360	2360	2360	1490	1770	1400	1370	880
1 1/4	1160	1160	1160	730	880	730	680	430	1950	1950	1950	1220	1460	1160	1140	720
1 1/2	1090	1090	1090	680	820	660	640	410	1770	1770	1770	1120	1330	1050	1030	660
2	1000	1000	1000	630	750	590	570	360	1520	1520	1520	950	1140	910	890	560
2 1/2	970	970	970	620	730	580	560	360	1600	1600	1600	1000	1200	950	930	590
3	910	910	910	570	680	530	530	340	1420	1420	1420	900	1070	840	830	530
3 1/2	860	860	860	550	630	510	500	310	1300	1300	1300	820	980	790	760	480
4	840	840	840	530	630	490	480	300	1230	1230	1230	770	920	730	710	460
5	770	770	770	480	580	450	440	340	1080	1080	1080	680	810	640	630	400
6	800	800	800	500	600	470	460	290	1060	1060	1060	670	800	620	610	380
8	710	710	710	450	530	430	410	260	910	910	910	570	680	540	540	340
10	550	550	550	350	420	340	330	200	710	710	710	450	540	440	420	240

Dimensions are in inches. The values above are based on the formula in The Code for Pressure Piping, ANSI B 31.

$$tm = \frac{PD}{2S + 0.8P} + C \quad \text{or} \quad P = \frac{2S(tm - C)}{D - 0.8(tm - C)} \quad \text{or when C is 0, } P = \frac{2S tm}{D - 0.8tm}$$

tm = minimum pipe wall thickness, in inches, P = maximum rated internal working pressure, in pounds per square inch, D = outside diameter of pipe in inches.

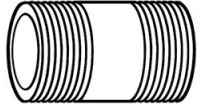
S = allowable stress in annealed material due to internal pressure, at operating temperature, in pounds per square inch.

C = allowance for threading, mechanical strength and/or corrosion, in inches; equals .05 for sizes 3/8" and smaller and the depth of the thread for all other sizes, and equals 0 for pipe with plain ends.

These allowable internal pressures apply to the pipe itself and do not take into account the limitations which may be imposed by the type of joint and the joining material.

Brass Fittings

Standard Red Brass Pipe Nipples



Pipe Size	Part Number		Standard Lengths Part Number										
	Close	Short	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"		
1/8	3/4	188882	1 1/2	188921	176306	176322	176372	176348	176398	176411	176453	176437	176461
1/4	7/8	176487	1 1/2	176526	176542	189066	181165	181181	181204	181246	181220	181270	181296
3/8	1	189066	1 1/2	181327	189147	181377	189210	181385	181416	181440	181424	254918	181466
1/2	1 1/8	181482	1 1/2	181505	181547	181521	181563	181589	181628	181602	181644	181660	181686
3/4*	1 3/8	181717	2	181759		181814	181783	181848	181864	181911	181880	181945	181979
1	1 1/2	182006	2	182022		182072	182056	182103	182129	182179	182153	182195	182218
1 1/4	1 5/8	182234	2	182250		182276	182315	182292	182357	182381	182446	182412	182470
1 1/2	1 3/4	182501	2	182535		182569	182585	182632	182608	182658	182674	182713	182690
2	2	182739	2 1/2	182763			182789	168921	182802	182836	182886	182860	182917
2 1/2	2 1/2	182933	3	182967					182983				183002
3	2 5/8	183036							183052				183086

* 3/4 x 1 1/2 Part Number 168905
 Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Bronze Fittings

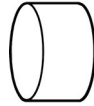
Rough Bronze Screwed Pipe Fittings



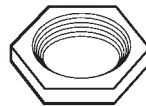
45° Elbows



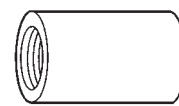
90° Elbows



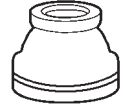
Caps



Lock Nuts



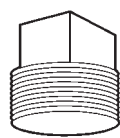
Coupling



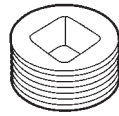
Reducing Coupling



Square Head Plug



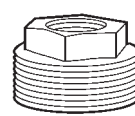
Solid Plug



Countersink Plug



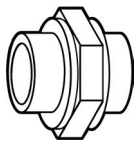
Outside Hex Bushing



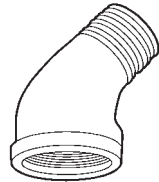
Inside Hex Bushing



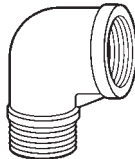
Face Bushing



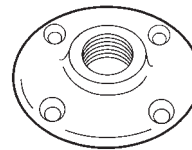
Octagon Union



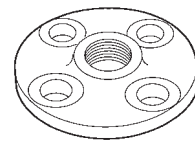
45° Street Elbows



90° Street Elbows



Floor Flanges



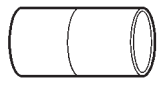
Companion Flanges

Important Dimensions	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
90° Elbows, C-end	17/32	23/32	13/16	1	1 3/16	1 7/16	1 11/16	1 27/32	2 1/8	2 11/16	3 3/32	3 25/32
45° Elbows, C-end	7/16	9/16	5/8	25/32	7/8	1 1/16	1 7/32	1 5/16	1 7/16	1 15/16	2 3/16	2 5/8
90° Street Elbows	15/16	1 1/8	1 1/4	1 15/32	1 21/32	1 31/32	2 1/4	2 15/32	2 7/8			
45° Street Elbows		7/8	15/16	1 1/16	1 7/32	1 13/32	1 5/8	1 13/16	2 1/8			
Straight Tees, C-end	17/32	23/32	13/16	1	1 3/16	1 7/16	1 11/16	1 27/32	2 1/8	2 11/16	3 3/32	3 25/32
Crosses, C-end	17/32	23/32	13/16	1	1 3/16	1 7/16	1 11/16	1 27/32	2 1/8	2 11/16	3 3/32	3 25/32
Caps, Height	1/2	19/32	11/16	3/4	27/32	1	1 1/8	1 5/32	1 5/16	1 11/16	1 13/16	2 3/32
Locknuts, Thickness	3/16	3/16	7/32	1/4	9/32	5/16	3/8	13/32	15/32	5/8	11/16	13/16
Couplings, Length	13/16	1	1 1/16	1 9/32	1 7/16	1 11/16	1 7/8	1 15/16	2 3/16	2 7/8	3 3/16	3 11/16
Cored Plugs, Head Size	9/32	3/8	7/16	9/16	5/8	13/16	15/16	1 1/8	1 5/16	1 1/2	1 11/16	2 1/4
Solid Plugs, Head Size	9/32	3/8	7/16	9/16	5/8	13/16	15/16	1 1/8	1 5/16	1 1/2	1 11/16	2 1/4
Countersink Plugs, Size				3/8	1/2	1/2	3/4	3/4	7/8	1 1/8	1 3/8	2
Outside Hex Bushing												
Inside Hex Bushing												
Octagon Unions, E-E	1 15/32	1 1/2	1 13/16	1 15/16	2 1/8	2 7/16	2 5/8	3	3 3/8	3 13/16	4 1/8	
Floor Flanges, Diameter		2 1/2	2 1/2	3	3	4	5	5	5			
Companion Flanges, Diameter				3 1/2	3 7/8	4 1/4	4 5/8	5	6	7	7 1/2	9

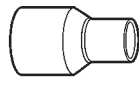
Dimensions are in inches.
 Sizes not shown may be available upon request.

Copper Fittings

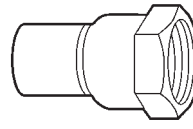
Solder Joint Tube Fittings



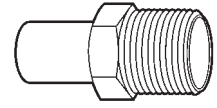
600
Couplings with Stop



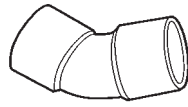
600-2
Fitting Reducer



603
Female Adaptor



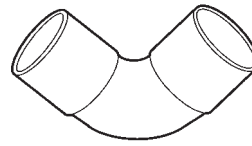
604
Male Adaptor



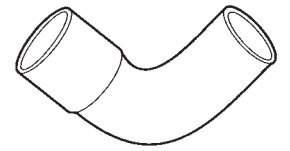
606
45° Elbow



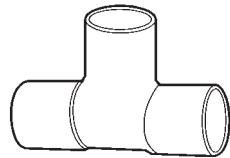
606-2
45° Street Elbow



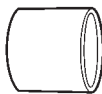
607
90° Elbow



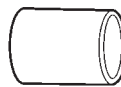
607-2
90° Street Elbow



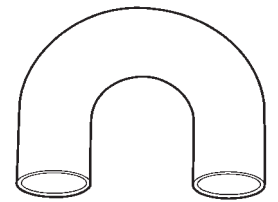
611
Tee



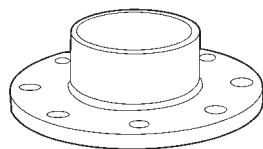
617
Tube Cap



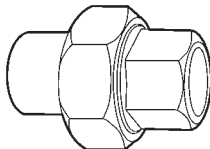
618
Flush Blushing



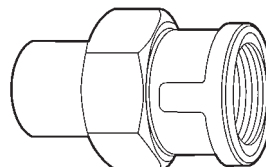
638
Return Bend



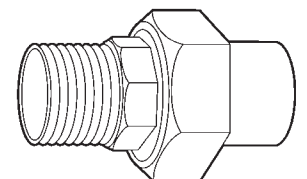
741
Companion Flange



733
Union



733-3
Union

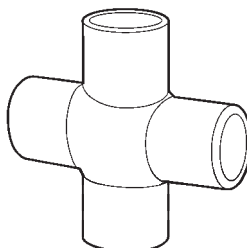


733-4
Union

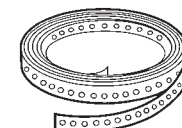
Tube Straps



624
2 Hole - 1 Tube



735
Cross



623
1/4" wide x 25 ft. & 50 ft. roll
1" wide x 25 ft. random roll

Perforated Copper Hanger Strip

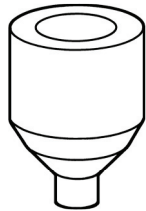
Nom. Size	1/8	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Will Fit Tube of this OD	1/4	3/8	1/2	5/8	3/4	7/8	1 1/8	1 3/8	1 5/8	2 1/8	2 5/8	3 1/8	3 5/8	4 1/8

Copper-Nickel Fittings

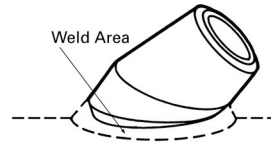
90-10 & 70-30 Copper-Nickel Bosses



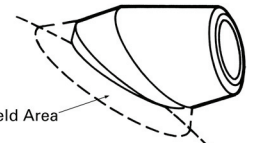
Straight Pipe Outlet



NAVSEA Outlet



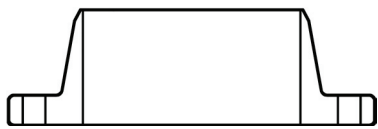
Lateral Outlet



Elbow Outlet

- Bosses Provide a contoured internal joint with a gradual transition from header to branch allowing full penetration welds while reducing installation costs over tees or other nozzle connections.
- Boss outlets can be supplied with threaded, socket welding or butt welding ends. Socket welding ends can be grooved for pre-installed sil-braze rings per MIL-F-1183.
- Bosses can be manufactured to non-standard dimensions or alloys and are available in full and reducing sizes.

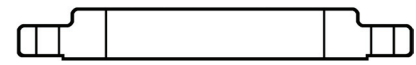
Sold Copper-Nickel Flanges, Classes 150, 250, 300 and 700



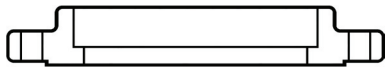
Weld Neck



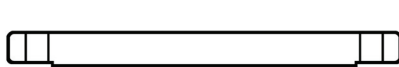
Weld Neck



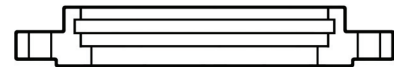
Slip-On



Socket Welding



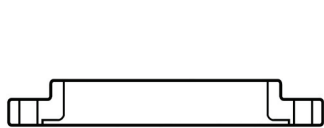
Blind



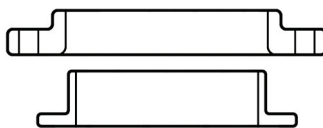
Silver-Brazing

- Solid 90-10 and 70-30 copper nickel flanges are available in sizes $\frac{1}{2}$ " nominal and larger.
- Flanges can be supplied as slip-on, threaded, socket welding or weld neck.
- Silver-brazing flange ends comply dimensionally with MIL-F-1183 and can be finished as a face fed socket without a groove, or a grooved socket for use with a pre-inserted silver-brazing ring. Rings are ordered and supplied separately.
- Flanges may be ordered manufactured from material conforming to the requirements of MIL-C-15726F or ASTM B 171.
- Alloys UNS C70600 and UNS C71500.

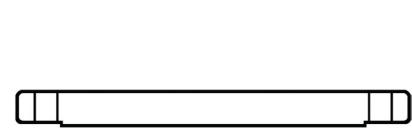
Special Copper-Nickel Flanges, Classes 150, 250 and 300



Overlay



Composite



Clad

- These special flanges offer an economical alternative to the solid copper-nickel flanges listed above and are available in sizes $\frac{1}{2}$ " nominal and larger.
- Overlay slip-on flanges utilize a forged steel slip-on flange which is weld overlaid with copper-nickel material on the gasket and wetted surfaces.
- Composite flange sets are generally used instead of weld neck flanges when butt welding to a pipe or fitting is necessary but a loose backing flange is desired for ease of installation.
- Clad blind flanges utilize a forged steel blind flange which is clad with copper-nickel material on the wetted surfaces.

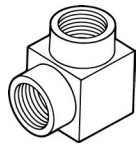
Note: Alaskan also stocks a complete line of MSS and ANSI style stainless steel flanges and can manufacture flanges to special dimensions, specifications and alloys.

Copper-Nickel Fittings

90-10 & 70-30 Copper-Nickel Threaded and Socket Welding Fittings Classes 150, 3000 and 6000



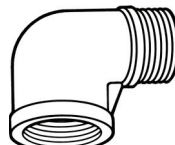
90° Elbow



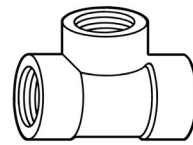
90° Elbow



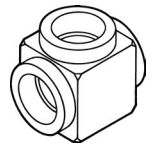
45° Elbow



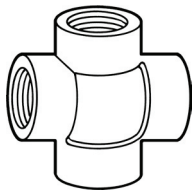
Street Elbow



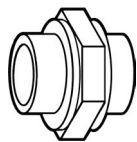
Tee



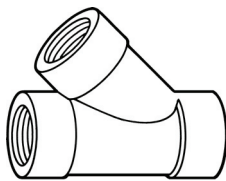
Tee



Cross



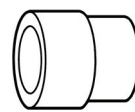
Union



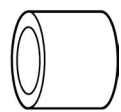
Lateral



Cap



Type 1 Reducer Insert



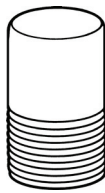
Type 2 Reducer Insert



Hexagon Bushing



Flush Bushing



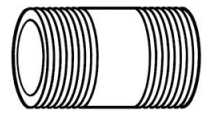
Round Head Plug



Hexagon Head Plug



Square Head Plug



Nipple

- Round fittings such as couplings, caps and plugs may be machined from solid round bar.
- Shape fittings such as elbows, tees, crosses and laterals may be machined from plate.
- Wall thickness, center-to-center and center-to-end dimensions will meet or exceed applicable specifications.
- Mating ends of the fittings can be butt welding, socket welding, grooved or face fed for silver-brazing per MIL-F-1183 or threaded, or can be finished in a combination of ends when required.
- Block pattern fittings are normally available in copper-nickel alloys, in sizes 2" NPS and under.
- Class 150 threaded fittings conform to ANSI B16.3, butt welding fittings in all schedule walls conform to ANSI B16.9, Class 3000 and 6000 socket welding and threaded fittings conform to ANSI B16.11.
- Fittings grooved or face fed for silver-brazing conform to MIL-F-1183.
- Fittings are available in non-standard sizes and most corrosion resistant metals.

Stainless Steel Fittings

Nominal Pipe Size Dimensions by Schedule

Nominal Pipe Size	Outside Diameter	Sch 5s	Sch 10	Sch 10s	Sch 20	Sch 30	Std. Wt.	Sch 40	Sch 40s	Sch 60	Extra Strong	Sch 80	Sch 80s
1/8	.405			.049			.068	.068	.068		.095	.095	.095
1/4	.540			.065			.088	.088	.088		.119	.119	.119
3/8	.675			.065			.091	.091	.091		.126	.126	.126
1/2	.840	.065		.083			.109	.109	.109		.147	.147	.147
3/4	1.050	.065		.083			.113	.113	.113		.154	.154	.154
1	1.310	.065		.109			.133	.133	.133		.179	.179	.179
1 1/4	1.660	.065		.109			.140	.140	.140		.191	.191	.191
1 1/2	1.900	.065		.109			.145	.145	.145		.200	.200	.200
2	2 3/8	.065		.109			.154	.154	.154		.218	.218	.218
2 1/2	2 7/8	.083		.120			.203	.203	.203		.276	.276	.276
3	3 1/2	.083		.120			.216	.216	.216		.300	.300	.300
3 1/2	4	.083		.120			.226	.226	.226		.318	.318	.318
4	4 1/2	.083		.120			.237	.237	.237		.337	.337	.337
5	5 9/16	.109		.134			.258	.258	.258		.375	.375	.375
6	6 5/8	.109		.134			.280	.280	.280		.432	.432	.432
8	8 5/8	.109		.148	.250	.277	.322	.322	.322	.406	.500	.500	.500
10	10 3/4	.134		.165	.250	.307	.365	.365	.365	.500	.500	.594	.500
12	12 3/4	.156	.250	.180	.250	.330	.375	.406	.375	.562	.500	.688	.500
	14	.156	.250	.188	.312	.375	.375	.438	.375	.594	.500	.750	.500
	16	.165	.250	.188	.312	.375	.375	.500	.375	.656	.500	.844	.500
	18	.165	.250	.188	.312	.438	.375	.562	.375	.750	.500	.938	.500
	20	.188	.250	.218	.375	.500	.375	.594	.375	.812	.500	1.031	.500
	22	.188	.250	.218	.375	.500	.375		.375	.875	.500	1.125	.500
	24	.218	.250	.250	.375	.562	.375	.688	.375	.969	.500	1.219	.500
	26		.312		.500		.375		.375		.500		.500
	28		.312		.500	.625	.375		.375		.500		.500
	30	.250	.312	.312	.500	.625	.375		.375		.500		.500
	32		.312		.500	.625	.375	.688	.375		.500		.500
	34		.312		.500	.625	.375	.688	.375		.500		.500
	36		.312		.500	.625		.750	.375		.500		.500
	40						.375		.375		.500		.500
	42						.375		.375		.500		.500
	48						.375		.375		.500		.500

Thicknesses for stainless steel products are specified by ANSI B36.19 and are shown in bold face type.

Thicknesses for carbon steel products are specified by ANSI B36.10 and are in regular type.

Thicknesses shown under Sch 40s for sizes 14" - 24" and 30" are specified by MSS SP-43.

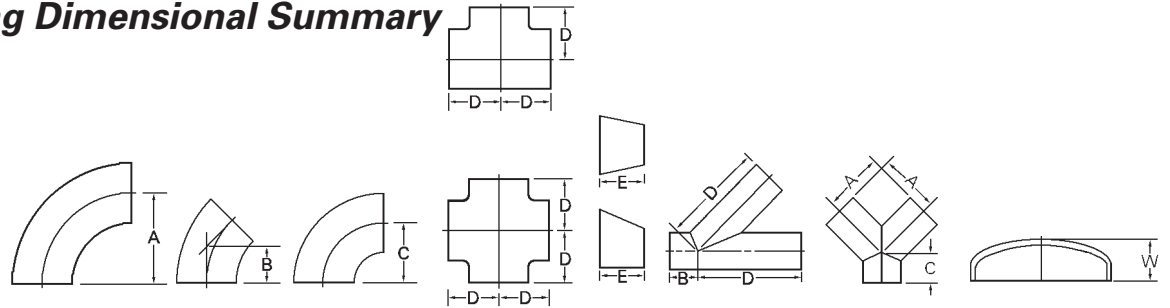
All other thicknesses shown under Sch 40s and Sch 80s for sizes 14" and larger are not specified by any standard.

Alaskan will use schedule thicknesses shown for all sizes not specified by a standard unless otherwise directed.

Dimensions are in inches.

Stainless Steel Fittings

Butt Welding Dimensional Summary



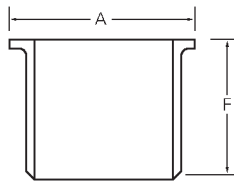
Nominal Pipe Size	Outside Diameter	LR 90°	LR 45°	SR 90°	Tee or Cross	Reducer	45° Lateral		True Wye		ASME Flanged & Dished
		A	B	C	D	E	D	B	A	C	W
1/2	.840	1 1/2	5/8		1						
3/4	1.050	1 1/8	7/16		1 1/8	1 1/2	5	1			
1	1.310	1 1/2	7/8	1	1 1/2	2	5 3/4	1 3/4	3 1/2	1 3/4	
1 1/4	1.660	1 7/8	1	1 1/4	1 7/8	2	6 1/4	1 3/4	3 3/4	1 3/4	
1 1/2	1.900	2 1/4	1 1/8	1 1/2	2 1/4	2 1/2	7	2	4	2	
2	2 3/8	3	1 3/8	2	2 1/2	3	8	2 1/2	4 1/2	2 1/2	1 5/16
2 1/2	2 7/8	3 3/4	1 3/4	2 1/2	3	3 1/2	9 1/2	2 1/2	5	2 1/2	1 3/8
3	3 1/2	4 1/2	2	3	3 3/8	3 1/2	10	3	5 1/2	3	1 7/16
4	4 1/2	6	2 1/2	4	4 1/8	4	12	3	6 1/2	3	1 9/16
5	5 9/16	7 1/2	3 1/8	5	4 7/8	5	13 1/2	3 1/2	7 1/2	3 1/2	1 11/16
6	6 5/8	9	3 3/4	6	5 5/8	5 1/2	14 1/2	3 1/2	8	3 1/2	2 5/16
8	8 5/8	12	5	8	7	6	17 1/2	4 1/2	9	4 1/2	2 9/16
10	10 3/4	15	6 1/4	10	8 1/2	7	20 1/2	5	11	5	2 13/16
12	12 3/4	18	7 1/2	12	10	8	24 1/2	5 1/2	12	5 1/2	3 1/8
14	14	21	8 3/4	14	11	13	27	6	14	6	3 1/4
16	16	24	10	16	12	14	30	6 1/2	15	6 1/2	3 1/2
18	18	27	11 1/4	18	13 1/2	15	32	7	16 1/2	7	3 13/16
20	20	30	12 1/2	20	15	20	35	8	18	8	4 1/8
22	22	33	13 1/2	22	16 1/2	20					4 7/16
24	24	36	15	24	17	20	40 1/2	9	22	9	4 3/4
26	26	39	16	26	19 1/2	24					
28	28	42	17 1/4	28	20 1/2	24					
30	30	45	18 1/2	30	22	24	49	10	25	10	5 13/16
32	32	48	19 3/4	32	23 1/2	24					
34	34	51	21	34	25	24					
36	36	54	22 1/4	36	26 1/2	24					
38	38	57	23 5/8	38	28	24					
40	40	60	24 7/8	40	29 1/2	24					
42	42	63	26 1/8	42		24					
44	44	66	27 3/8	44		24					
46	46	69	28 5/8	46		28					
48	48	72	29 7/8	48		28					

Note: Dimensions for welding fittings with OD or ID tubing size diameters are identical to the fitting dimensions above for the corresponding NPS sizes. Dimensions are in inches.

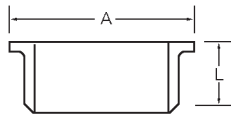
Stainless Steel Stub Ends

Stub Ends

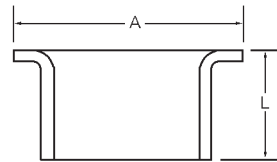
ANSI Type A



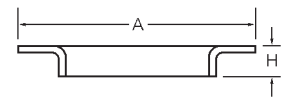
MSS Type A



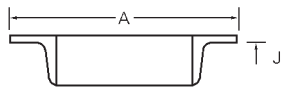
SK-3



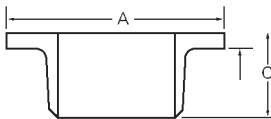
SK-2



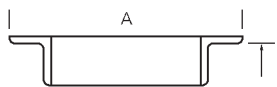
SK-38



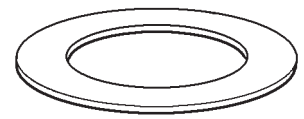
SK-722



SK-36



SK-1 Ring



■ Also available in OD and ID sizes.

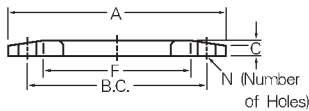
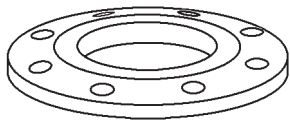
Size	Stub End Lap Diameter A	ANSI F	SK-3 (MSS) L	SK-38 J	SK-2 H	SK-722 C	SK-36 C
1/2	1 3/8	3	2				
3/4	1 11/16	3	2				
1	2	4	2				
1 1/4	2 1/2	4	2				
1 1/2	2 7/8	4	2	1 1/4	5/8		
2	3 5/8	6	2 1/2	1 1/4	5/8	2 1/2	
2 1/2	4 1/8	6	2 1/2	1 1/4	3/4	2 1/2	
3	5	6	2 1/2	1 1/4	3/4	2 5/8	3/4
4	6 3/16	6	3	1 1/4	3/4	3	3/4
5	7 5/16	8	3	1 3/8	3/4	3	
6	8 1/2	8	3 1/2	1 3/8	3/4	3	1
8	10 5/8	8	4	1 1/2	3/4	3 1/2	1
10	12 3/4	10	5	1 5/8	7/8	6	1
12	15	10	6	1 5/8	7/8	6	1 1/2
14	16 1/4	12	6	1 3/4	7/8		1 1/2
16	18 1/2	12	6	1 3/4	7/8		1 1/2
18	21	12	6	2	7/8		1 1/2
20	23	12	6	2	7/8		1 1/2
24	27 1/4	12	6	2	7/8		2
30							2
36							2 1/2
42							2 1/2
48							2 1/2

Dimensions are in inches.
 Sizes not shown may be available upon request.

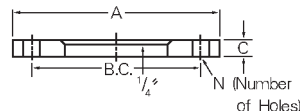
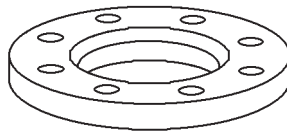
Steel Backing Flanges

Steel Backing Flanges

SK-39



SK-40



- SK-39 flanges are economical light-weight steel backing flanges for use with slip-on type stub ends.
- SK-40 flanges are designed for situations where a standard cast steel backing flange cannot be used.

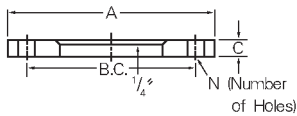
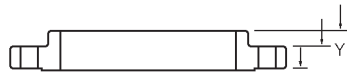
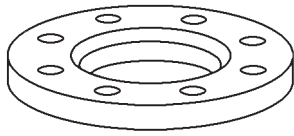
Size	# of Holes	OD A	Hole Size	Bolt Circle	SK-39 C	SK-39 Part Number	SK-39-SO Part Number	SK-40 C	SK-40 Part Number	SK-40-SO Part Number
1/2				2 3/8		106521				
3/4				2 3/4		106547				
1	4	4 1/4	5/8	3 1/8	3/8	106563			472223	
1 1/4	4	4 5/8	5/8	3 1/2	3/8	106589				
1 1/2	4	5	5/8	3 7/8	1/2	106610			109600	
2	4	6	3/4	4 3/4	5/8	106602	106775	1/2	109626	404393
2 1/2	4	7	3/4	5 1/2	5/8	106636	106759	1/2	109642	
3	4	7 1/2	3/4	6	5/8	106652	106814	1/2	109668	404408
4	8	9	3/4	7 1/2	5/8	106678	106791	1/2	109684	404416
5	8	10	7/8	8 1/2	3/4	106686	106830	1/2	257631	
6	8	11	7/8	9 1/2	3/4	106709	106856	5/8	124642	404424
8	8	13 1/2	7/8	11 3/4	3/4	106717	106872	5/8	124587	404432
10	12	16	1	14 1/4	7/8	106725	106898	5/8	124626	404440
12	12	19	1	17	7/8	106741	106911	3/4	124668	404458
14	12	21	1 1/8	18 3/4	1	106204	106937	3/4	109228	402715
16	16	23 1/2	1 1/8	21 1/4	1	106220	106953	3/4	109260	402731
18	16	25	1 1/4	22 3/4	1 1/8	106246	106979	3/4	109244	402749
20	20	27 1/2	1 1/4	25	1 1/8	106262	106995	3/4	109309	402757
24	20	32	1 3/8	29 1/2	1 1/8	106288	107014	3/4	109325	402765
30	28	38 3/4	1 3/8	36		436023	579928	1	109341	
36	32	46	1 5/8	42 3/4		615245	581103	1		
42	36	53	1 5/8	49 1/2			612970	1 1/8		

Dimensions are in inches. All weights are approximate. Sizes not shown may be available upon request.

Steel Backing Flanges (continued)

SK-70

Lap Joint



- SK-70 flanges are medium-weight steel backing flanges for use with butt welding type stub ends when a normal tapered backing flange is not desired.

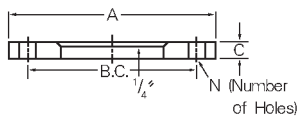
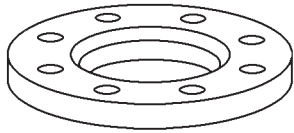
Size	# of Holes	OD A	Hole Size	Bolt Circle	SK-70 C	SK-70 Part Number	SK-70-SO Part Number	Lap Joint Y	Lap Joint Part Number
1/2				2 3/8				5/8	124561
3/4				2 3/4				5/8	124529
1	4	4 1/4	5/8	3 1/8				11/16	124472
1 1/4	4	4 5/8	5/8	3 1/2				13/16	438538
1 1/2	4	5	5/8	3 7/8				7/8	124448
2	4	6	3/4	4 3/4	5/8	107381		1	124406
2 1/2	4	7	3/4	5 1/2	5/8	107404		1 1/8	124367
3	4	7 1/2	3/4	6	3/4	107420	279895	1 3/16	124309
4	8	9	3/4	7 1/2	3/4	107446	279900	1 5/16	124286
5	8	10	7/8	8 1/2				1 7/16	494966
6	8	11	7/8	9 1/2	7/8	107462	279918	1 9/16	124202
8	8	13 1/2	7/8	11 3/4	7/8	107488	595990	1 3/4	124163
10	12	16	1	14 1/4	1	107501	279934	1 5/16	124105
12	12	19	1	17	1	107527	415564	2 3/16	124082
14	12	21	1 1/8	18 3/4	1	107153	462325	3 1/8	124066
16	16	23 1/2	1 1/8	21 1/4	1	107179	462333	3 7/16	124008
18	16	25	1 1/4	22 3/4	1 1/8	107195	560042	3 13/16	
20	20	27 1/2	1 1/4	25	1 1/8	107218	260228	4 1/16	
22									
24	20	32	1 3/8	29 1/2	1 1/8	107234	276651	4 3/8	
28									
30	28	38 3/4	1 3/8	36	1 1/4	107250	107323		
32									
36	32	46	1 5/8	42 3/4	1 1/4	107276	107349		
42	36	53	1 5/8	49 1/2	1 3/8	107292	446094		
48	44	59 1/2	1 5/8	56	1 3/8	107307	460527		

Dimensions are in inches. All weights are approximate. Sizes not shown may be available upon request.

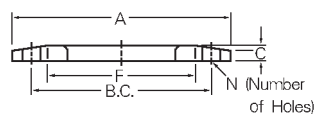
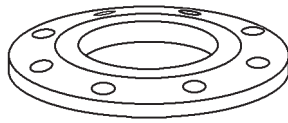
Stainless Steel Flanges

Stainless Steel Backing Flanges

SK-35



SK-39



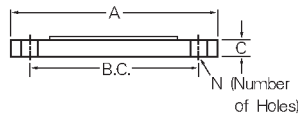
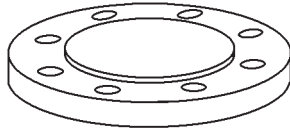
■ SK-35 & SK-39 flanges are medium-weight stainless steel backing flanges for use with butt welding or slip-on type stub ends when a stainless steel backing flange is desired. Available in ACI grade CF-CM (316-L) and CF-8 (304).

Size	# of Holes	OD A	Hole Size	Bolt Circle	SK-35 C	SK-35 Part Number	SK-35-SO Part Number	SK-39 C	SK-39 Part Number	SK-39-SO Part Number
1 1/2	4	5	5/8	3 7/8				7/8	241795	
2	4	6	3/4	4 3/4	5/8	123492		1	241973	263276
2 1/2	4	7	3/4	5 1/2	5/8	499233		1 1/8		500505
3	4	7 1/2	3/4	6	3/4	123434		1 3/16	241965	241981
4	8	9	3/4	7 1/2	3/4	123395	421044	1 5/16	241949	241999
5	8	10	7/8	8 1/2				1 7/16	499623	
6	8	11	7/8	9 1/2	7/8	123379	413279	1 9/16	241850	242000
6	8	11	7/8	9 1/2	7/8			1 9/16		
8	8	13 1/2	7/8	11 3/4	7/8	123353		1 3/4	241834	242018
10	12	16	1	14 1/4	1	123337	411950	1 15/16	241818	242026
12	12	19	1	17	1	123002	409042	2 3/16	241787	242034
14	12	21	1 1/8	18 3/4	1	123476	241753	3 1/8	241753	242042
16	16	23 1/2	1 1/8	21 1/4	1	123044	408787	3 7/16	241745	242050
18	16	25	1 1/4	22 3/4	1 1/8	123060	409050	3 13/16	241737	242068
20	20	27 1/2	1 1/4	25	1 1/8	123086	409068	4 1/16	241711	242076
22							493504			
24	20	32	1 3/8	29 1/2	1 1/8	123109	412045	4 3/8	241703	242084
28							412087			
30	28	38 3/4	1 3/8	36	1 1/4	462668	412061			454330
32										454348
36	32	46	1 5/8	42 3/4	1 1/4		412079			451544
42	36	53	1 5/8	49 1/2	1 3/8					595631
48	44	59 1/2	1 5/8	56	1 3/8					

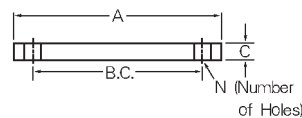
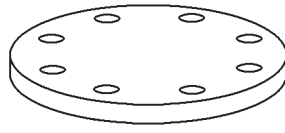
Dimensions are in inches. All weights are approximate. Sizes not shown may be available upon request.

Stainless Steel Blind Flanges

SK-84



SK-85



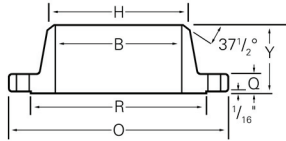
- SK-84 blind flanges are economical light-weight all stainless steel blind flanges for use when a stainless clad steel blind flange is not permitted.
- SK-85 blind flanges are the most economical blind flange configurations with stainless steel wetted surface.

Size	# of Holes N	OD A	Hole Size	Bolt Circle	SK-84 C	SK-84 Part Number	SK-85 C	SK-85 Part Number
1 1/2	4	5	5/8	3 7/8				298548
2	4	6	3/4	4 3/4	1/2	123840	3/8	125169
2 1/2	4	7	3/4	5 1/2	1/2	125305	3/8	
3	4	7 1/2	3/4	6	1/2	125347	1/2	123824
4	8	9	3/4	7 1/2	1/2	125389	1/2	123808
5	8	10	7/8	8 1/2	1/2	410394	1/2	
6	8	11	7/8	9 1/2	5/8	125321	1/2	123785
8	8	13 1/2	7/8	11 3/4	5/8	238962	5/8	123727
10	12	16	1	14 1/4	5/8	125282	5/8	123646
12	12	19	1	17	3/4	125185	5/8	123701
14	12	21	1 1/8	18 3/4	3/4	125208	3/4	123688
16	16	23 1/2	1 1/8	21 1/4	3/4	125224	3/4	123620
18	16	25	1 1/4	22 3/4	3/4	125240	3/4	123866
20	20	27 1/2	1 1/4	25	3/4	125428	3/4	464018
24	20	32	1 3/8	29 1/2	3/4	125444	3/4	403313
30	28	38 3/4	1 3/8	36	1	125402	1	471243
36	32	46	1 5/8	42 3/4	1	281258	1	

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Flanges

ANSI Stainless Steel Flanges, Class 150



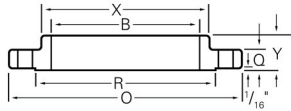
Weld Neck

Nominal Pipe Size	H	O	Q	R	Bolt Holes	Bolt Circle	B	Y	Weight	304L R/F Part Number	304L F/F Part Number	316L R/F Part Number	316LF/F Part Number
1/2	.840	3 1/2	7/16	1 3/8	4 - 5/8	2 3/8	.62	1 7/8	2	172394		174207	
3/4	1.050	3 7/8	1/2	1 11/16	4 - 5/8	2 3/4	.82	2 1/16	2	172417		174223	
1	1.310	4 1/4	9/16	2	4 - 5/8	3 1/8	1.05	2 3/16	3	172433		174249	
1 1/4	1.660	4 5/8	5/8	2 1/2	4 - 5/8	3 1/2	1.38	2 1/4	3	172459		174265	
1 1/2	1.900	5	11/16	2 7/8	4 - 5/8	3 7/8	1.61	2 7/16	4	172475	489830	174281	556467
2	2 3/8	6	3/4	3 5/8	4 - 3/4	4 3/4	2.07	2 1/2	6	172491		174304	486078
2 1/2	2 7/8	7	7/8	4 1/8	4 - 3/4	5 1/2	2.47	2 3/4	10	172514		174320	
3	3 1/2	7 1/2	15/16	5	4 - 3/4	6	3.07	2 3/4	12	172522		174346	489628
3 1/2	4	8 1/2	15/16	5 1/2	8 - 3/4	7	3.55	2 13/16	12		489505	489767	553702
4	4 1/2	9	15/16	6 3/16	8 - 3/4	7 1/2	4.03	3	17	172548	489490	174362	489636
5	5 9/16	10	15/16	7 5/16	8 - 7/8	8 1/2	5.05	3 1/2	21	172572		174388	
6	6 5/8	11	1	8 1/2	8 - 7/8	9 1/2	6.07	3 1/2	26	172603		174401	489644
8	8 5/8	13 1/2	1 1/8	10 5/8	8 - 7/8	11 3/4	7.98	4	42	172629		174427	
10	10 3/4	16	1 3/16	12 3/4	12 - 1	14 1/4	10.02	4	54	172637		174443	
12	12 3/4	19	1 1/4	15	12 - 1	17	12	4 1/2	88	172645		174469	
14	14	21	1 3/8	16 1/4	12 - 1 1/8	18 3/4	*	5	114	494869			
18	18	25	1 9/16	21	16 - 1 1/4	22 3/4	*	5 1/2	165	517099			
20													
24													

*To be specified by purchaser.

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

ANSI Stainless Steel Flanges, Class 150 continued



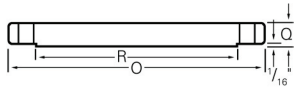
Slip-On

Nominal Pipe Size	O	Q	R	X	Bolt Holes	Bolt Circle	B	Y	Weight	304L R/F Part Number	304L F/F Part Number	316L R/F Part Number	316LF/F Part Number
1/2	3 1/2	7/16	1 3/8	1 3/16	4 - 5/8	2 3/8	.88	5/8	1	171607		173968	
3/4	3 7/8	1/2	1 11/16	1 1/2	4 - 5/8	2 3/4	1.09	5/8	2	171623		173976	
1	4 1/4	9/16	2	1 15/16	4 - 5/8	3 1/8	1.36	11/16	2	171584		173984	
1 1/4	4 5/8	5/8	2 1/2	2 5/16	4 - 5/8	3 1/2	1.70	13/16	3	171657		173992	
1 1/2	5	11/16	2 7/8	2 9/16	4 - 5/8	3 7/8	1.95	7/8	3	171673		174003	
2	6	3/4	3 5/8	3 1/16	4 - 3/4	4 3/4	2.44	1	5	171699	437281	174029	508024
2 1/2	7	7/8	4 1/8	3 9/16	4 - 3/4	5 1/2	2.94	1 1/8	8	171720		174045	
3	7 1/2	15/16	5	4 1/4	4 - 3/4	6	3.57	1 3/16	9	171746		174061	
4	9	15/16	6 3/16	5 5/16	8 - 3/4	7 1/2	4.57	1 5/16	13	171762		174087	591807
5	10	15/16	7 5/16	6 7/16	8 - 7/8	8 1/2	5.66	1 7/16	15	171788	497231	174100	
6	11	1	8 1/2	7 9/16	8 - 7/8	9 1/2	6.72	1 9/16	17	241533		174126	
8	13 1/2	1 1/8	10 5/8	9 11/16	8 - 7/8	11 3/4	8.72	1 3/4	28	171819		174142	561543
10	16	1 3/16	12 3/4	12	12 - 1	14 1/4	10.88	1 15/16	40	171835	565042	174168	
12	19	1 1/4	15	14 3/4	12 - 1	17	12.88	2 3/16	61	171843		174184	
14	21	1 3/8	16 1/4	15 3/4	12 - 1 1/8	18 3/4	14.14	2 1/4	83	491023		417508	
16	23 1/2	1 7/16	18 1/2	18	16 - 1 1/8	21 1/4	16.16	2 1/2	106	491031		421418	
18	25	1 9/16	21	19 7/8	16 - 1 1/4	22 3/4	18.18	2 11/16	109	491049		449775	
20	27 1/2	1 11/16	23	22	20 - 1 1/4	25	20.20	2 7/8	148	491057		452029	
24	32	1 7/8	27 1/4	26 1/8	20 - 1 3/8	29 1/2	24.25	3 1/4	204	491065		453211	

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Flanges

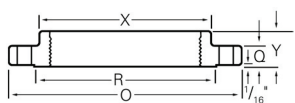
ANSI Stainless Steel Flanges, Class 150 continued



Blind

Nominal Pipe Size	O	Q	R	Bolt Holes	Bolt Circle	Weight	304L R/F Part Number	304L F/F Part Number	316L R/F Part Number
1/2	3 1/2	7/16	1 3/8	4 - 5/8	2 3/8	2	170546		171071
3/4	3 7/8	1/2	1 11/16	4 - 5/8	2 3/4	2	170562		171089
1	4 1/4	9/16	2	4 - 5/8	3 1/8	2	170588		171097
1 1/4	4 5/8	5/8	2 1/2	4 - 5/8	3 1/2	3	170601		171110
1 1/2	5	11/16	2 7/8	4 - 5/8	3 7/8	3	170627		171136
2	6	3/4	3 5/8	4 - 3/4	4 3/4	4	170643		171152
2 1/2	7	7/8	4 1/8	4 - 3/4	5 1/2	7	170685		171194
3	7 1/2	15/16	5	4 - 3/4	6	9	170669		171178
3 1/2	8 1/2	15/16	5 1/2	8 - 3/4	7	13			
4	9	15/16	6 3/16	8 - 3/4	7 1/2	17	170708	559936	171217
5	10	15/16	7 5/16	8 - 7/8	8 1/2	20	170724		
6	11	1	8 1/2	8 - 7/8	9 1/2	27	170740		171259
8	13 1/2	1 1/8	10 5/8	8 - 7/8	11 3/4	47	170766		171275
10	16	1 3/16	12 3/4	12 - 1	14 1/4	67	170782		171283
12	19	1 1/4	15	12 - 1	17	123	170805		171291
14	21	1 3/8	16 1/4	12 - 1 1/8	18 3/4	139	477281		490946
16	23 1/2	1 7/16	18 1/2	16 - 1 1/8	21 1/4	187	490954		473041
18	25	1 9/16	21	16 - 1 1/4	22 3/4	217	490962		490970
20	27 1/2	1 11/16	23	20 - 1 1/4	25	283	490988		490996
24	32	1 7/8	27 1/4	20 - 1 3/8	29 1/2	415	491007		491015

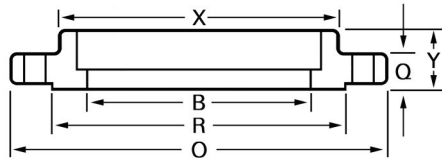
Threaded



Nominal Pipe Size	O	Q	R	X	Bolt Holes	Bolt Circle	Y	Weight	304L R/F Part Number	316L R/F Part Number
1/2	3 1/2	7/16	1 3/8	1 3/16	4 - 5/8	2 3/8	5/8	1	407472	468648
3/4	3 7/8	1/2	1 11/16	1 1/2	4 - 5/8	2 3/4	5/8	2	467016	468656
1	4 1/4	9/16	2	1 15/16	4 - 5/8	3 1/8	11/16	2	467024	468664
1 1/4	4 5/8	5/8	2 1/2	2 5/16	4 - 5/8	3 1/2	13/16	3	438520	468672
1 1/2	5	11/16	2 7/8	2 9/16	4 - 5/8	3 7/8	7/8	3	438368	467040
2	6	3/4	3 5/8	3 1/16	4 - 3/4	4 3/4	1	5	467032	412257
2 1/2	7	7/8	4 1/8	3 9/16	4 - 3/4	5 1/2	1 1/8	8		472809
3	7 1/2	15/16	5	4 1/4	4 - 3/4	6	1 3/16	10		472817
4	9	15/16	6 3/16	5 5/16	8 - 3/4	7 1/2	1 5/16	13		503189

Dimensions are in inches. All weights are approximate. Sizes not shown may be available upon request.

ANSI Stainless Steel Flanges, Class 150 continued



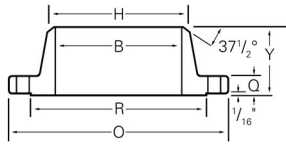
Socket-Weld

Nominal Pipe Size	O	Q	R	X	Bolt Holes	Bolt Circle	B	Y	Weight	304L R/F Part Number	304L F/F Part Number	316L R/F Part Number	316LF/F Part Number
1/2	3 1/2	7/16	1 3/8	1 3/16	4 - 5/8	2 3/8	*	5/8	1	407464		460399	489717
3/4	3 7/8	1/2	1 11/16	1 1/2	4 - 5/8	2 3/4	*	5/8	2	420292	503765	408915	489733
1	4 1/4	9/16	2	1 15/16	4 - 5/8	3 1/8	*	11/16	2	272966	493546	437299	489709
1 1/4	4 5/8	5/8	2 1/2	2 5/16	4 - 5/8	3 1/2	*	13/16	3	489351		460404	489759
1 1/2	5	11/16	2 7/8	2 9/16	4 - 5/8	3 7/8	*	7/8	3	407456		417100	489741
2	6	3/4	3 5/8	3 1/16	4 - 3/4	4 3/4	*	1	5	417663		428876	489725
2 1/2	7	7/8	4 1/8	3 9/16	4 - 3/4	5 1/2	*	1 1/8	7	489369	489848		
3	7 1/2	15/16	5	4 1/4	4 - 3/4	6	*	1 3/16	8	489872	489856	503375	
4	9	15/16	6 3/16	5 5/16	8 - 3/4	7 1/2	*	1 5/16	13	489880			
6	11	1	8 1/2	7 9/16	8 - 7/8	9 1/2	*	1 9/16	19	489995			
8	13 1/2	1 1/8	10 5/8	9 11/16	8 - 7/8	11 3/4	*	1 3/4	30	489987	489864		
10	16	1 1/8	12 3/4	12	12 - 1	14 1/4	*	1 15/16	43				
12	19	1 1/4	15	14 3/8	12 - 1	17	*	2 3/16	64				
14	21	1 3/8	16 1/4	15 3/4	12 - 1 1/8	18 3/4	*	2 1/4	90				
16	23 1/2	1 7/16	18 1/2	18	16 - 1 1/8	21 1/4	*	2 1/2	98				
18	25	1 9/16	21	19 7/8	16 - 1 1/4	22 3/4	*	2 11/16	130				
20	27 1/2	1 11/16	23	22	20 - 1 1/4	25	*	2 7/8	165				
24	32	1 7/8	27 1/4	26 1/8	20 - 1 3/8	29 1/2	*	3 1/4	220				

* To be specified by purchaser
 Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

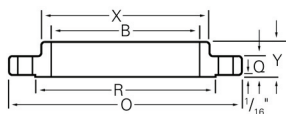
Stainless Steel Flanges

ANSI Stainless Steel Flanges, Class 300



Weld Neck

Nominal Pipe Size	H	O	Q	R	Bolt Holes	Bolt Circle	B	Y	Weight	304L R/F Part Number	316L R/F Part Number
1/2	.840	3 3/4	9/16	1 3/8	4 - 5/8	2 5/8	.620	2 1/16	2	241656	175025
3/4	1.5	4 5/8	5/8	1 11/16	4 - 3/4	3 1/4	.820	2 1/4	3	241664	503163
1	1.31	4 7/8	11/16	2	4 - 3/4	3 1/2	1.05	2 7/16	4	584046	474966
1 1/4	1.66	5 1/4	3/4	2 1/2	4 - 3/4	3 7/8	1.38	2 9/16	5	173219	175083
1 1/2	1.90	6 1/8	13/16	2 7/8	4 - 7/8	4 1/2	1.61	2 11/16	7	173235	
2	2 3/8	6 1/2	7/8	3 5/8	8 - 3/4	5	2.07	2 3/4	8	453538	
2 1/2	2 7/8	7 1/2	1	4 1/8	8 - 7/8	5 7/8	2.47	3	12		175148
3	3 1/2	8 1/4	1 1/8	5	8 - 7/8	6 5/8	3.07	3 1/8	18	453520	418960
4	4 1/2	10	1 1/4	6 3/16	8 - 7/8	7 7/8	4.03	3 3/8	24	584054	418978
5	5 9/16	11	1 3/8	7 5/16	8 - 7/8	9 1/4	5.05	3 7/8	36	173332	175203
6	6 5/8	12 1/2	1 7/16	8 1/2	12 - 7/8	10 5/8	6.07	3 7/8	45		485315
8	8 5/8	15	1 5/8	10 5/8	12 - 1	13	7.98	4 3/8	69	503854	419005
12	12 3/4	20 1/2	2	15	16 - 1 1/4	17 3/4	12.00	5 1/8	142	299845	
14											
16											
18											
20											
22											
24											

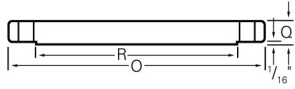


Slip-On

Nominal Pipe Size	O	Q	R	X	Bolt Holes	Bolt Circle	B	Y	Weight	304L R/F Part Number	316L R/F Part Number	316LF/F Part Number
3/4	4 5/8	5/8	1 11/16	1 7/8	4 - 3/4	3 1/4	1.09	1	3	173170		
1	4 7/8	11/16	2	2 1/8	4 - 3/4	3 1/2	1.36	1 1/16	3	584038	503422	
1 1/2	6 1/8	13/16	2 7/8	2 3/4	4 - 7/8	4 1/2	1.95	1 3/16	7		504981	
2	6 1/2	7/8	3 5/8	3 5/16	8 - 3/4	5	2.44	1 5/16	7		504973	
3	8 1/4	1 1/8	5	4 5/8	8 - 7/8	6 5/8	3.57	1 11/16	13		415491	
4	10	1 1/4	6 3/16	5 3/4	8 - 7/8	7 7/8	4.57	1 7/8	24		490328	
5	11	1 3/8	7 5/16	7	8 - 7/8	9 1/4	5.66	2	29	173065	174922	
6	12 1/2	1 7/16	8 1/2	8 1/8	12 - 7/8	10 5/8	6.72	2 1/16	36		454461	
8	15	1 5/8	10 5/8	10 1/4	12 - 1	13	8.72	2 7/16	56		449783	
12	20 1/2	2	15	14 3/4	16 - 1 1/4	17 3/4	12.88	2 7/8	113			560440
18	28	2 3/8	21	21	24 - 1 3/8	24 3/4	18.18	3 1/2	253		456544	
20												
22												
24												

Dimensions are in inches. All weights are approximate. Sizes not shown may be available upon request.

ANSI Stainless Steel Flanges, Class 300 continued



Blind

Nominal Pipe Size	O	Q	R	Bolt Holes	Bolt Circle	Weight	304L R/F Part Number	316L R/F Part Number
3/4	4 5/8	5/8	1 11/16	4 - 3/4	3 1/4	3	172687	174524
1 1/4	5 1/4	3/4	2 1/2	4 - 3/4	3 7/8	6	172718	174566
1 1/2	6 1/8	13/16	2 7/8	4 - 7/8	4 1/2	7		174582
2	6 1/2	7/8	3 5/8	8 - 3/4	5	8		509753
5	11	1 3/8	7 5/16	8 - 7/8	9 1/4	37	172823	174689
6	12 1/2	1 7/16	8 1/2	12 - 7/8	10 5/8	48	172831	174702
10	17 1/2	1 7/8	12 3/4	16 - 1 1/8	15 1/4	120	172873	
12	20 1/2	2	15	16 - 1 1/4	17 3/4	183	172899	241648
14								
16								
18								
20								
24								

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Fittings

Socket Welding Fittings, Classes 150 & 3000

- Fittings are normally used where socket welding is desired for ease of assembly.
- Eliminates the necessity of tack welding or clamping prior to welding.
- Accurate bore provides slip fit alignment of ID fittings to OD of pipe.
- Class 3000 available in Types 304-L, 316-L, 317-L and other corrosion resistant alloys.
- Sizes range from $\frac{1}{8}$ " to 4" NPS with larger sizes upon application.
- Dimensions are in accordance with ANSI B16.11, MSS SP-79 and applicable ASME, ASTM specifications.
- Available in non-standard sizes and dimensions.
- Class 150 available in Type 304 and 316 in accordance with MSS SP-114.

90° Elbow



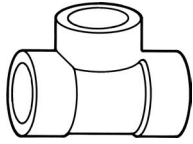
Nominal Pipe Size	Lbs/Ea	150# 304 Part Number	150# 316 Part Number	3000# 304L Part Number	3000# 316L Part Number
$\frac{1}{4}$	.13		434445	243404	180363
$\frac{3}{8}$	.25		434453	177564	180389
$\frac{1}{2}$	.50	466599	434461	177580	180402
$\frac{3}{4}$	.69	437524	434479	177603	180428
1	1.06	437532	434487	177629	180444
1 $\frac{1}{4}$	1.63		434495	177653	180478
1 $\frac{1}{2}$	2.13	437540	434500	177679	180494
2	3.56	437558	434518	177687	180509

45° Elbow



Nominal Pipe Size	Lbs/Ea	150# 304 Part Number	150# 316 Part Number	3000# 304L Part Number	3000# 316L Part Number
$\frac{1}{4}$	.13		434364	177700	180525
$\frac{3}{8}$	.19		434372	177726	180541
$\frac{1}{2}$	.44		434380	177742	180583
$\frac{3}{4}$	.50	437566	434398	177768	180567
1	.88	437574	434403	177784	180606
1 $\frac{1}{4}$	1.31	439453	434411	177815	180630
1 $\frac{1}{2}$	1.75	437613	434429	177831	180656
2	2.88	437582	434437	177849	180664

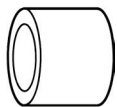
Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Socket Welding Fittings, Classes 150 & 3000 continued**Tee**

Nominal Pipe Size	Lbs/Ea	150# 304 Part Number	150# 316 Part Number	3000# 304L Part Number	3000# 316L Part Number
1/4	.25		434568	177865	180680
3/8	.31		434576	177881	180703
1/2	.69	466604	434584	177904	180745
3/4	.88	437590	434592	177920	180729
1	1.44	437605	434607	177946	180761
1 1/4	2.13		434615	177970	180795
1 1/2	2.44	437621	434623	177996	180818
2	4.44	437639	434631	178007	180826
2 1/2	4.44		503448		
3	4.44				466612

Full Coupling

Nominal Pipe Size	Lbs/Ea	150# 304 Part Number	150# 316 Part Number	3000# 304L Part Number	3000# 316L Part Number
1/4	.13		434526	177506	122161
3/8	.19		434534	177467	180240
1/2	.25	501276	407854	122438	122200
3/4	.38		407846	122357	122234
1	.44		434542	122399	121636
1 1/4	.94		434550	177491	180274
1 1/2	1.19		407838	122315	180290
2	2.00		407820	122276	180305

Half Coupling

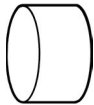
Nominal Pipe Size	Lbs/Ea	150# 304 Part Number	150# 316 Part Number	3000# 304L Part Number	3000# 316L Part Number
1/4	.07			177522	122145
3/8	.10			449416	180321
1/2	.13			122412	122187
3/4	.20			122454	122218
1	.41			122373	122250
1 1/4	.62			230922	121652
1 1/2	.72			122292	121686
2	1.10			122331	180347
3	1.10			502997	

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Fittings

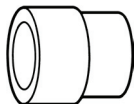
Socket Welding Fittings, Classes 150 & 3000 continued

Cap



Nominal Pipe Size	Lbs/Ea	150# 304L Part Number	150# 316L Part Number	3000# 304L Part Number	3000# 316L Part Number
$\frac{1}{4}$	.13			178201	181000
$\frac{3}{8}$	.19			178227	181026
$\frac{1}{2}$	.25			178243	181068
$\frac{3}{4}$	.38			178269	181042
1	.44			178285	181084
1 $\frac{1}{4}$	.94			178316	181115
1 $\frac{1}{2}$	1.19			178332	181131
2	2.00			178340	181149

Reducing Insert

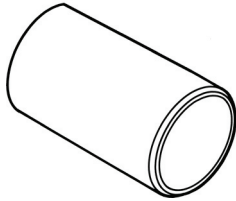


Nominal Pipe Size	Lbs/Ea	150# 304 Part Number	150# 316 Part Number	3000# 304L Part Number	3000# 316L Part Number
$\frac{3}{8} \times \frac{1}{4}$	.42			408509	
$\frac{1}{2} \times \frac{1}{4}$	.40			490297	410718
$\frac{1}{2} \times \frac{3}{8}$	.40			475352	503278
$\frac{3}{4} \times \frac{1}{4}$	.42			473782	503228
$\frac{3}{4} \times \frac{1}{2}$	.42			243420	242369
1 x $\frac{1}{4}$	.40				415441
1 x $\frac{1}{2}$	.85			243438	242377
1 x $\frac{3}{4}$	.85			243446	242385
1 $\frac{1}{4}$ x $\frac{1}{2}$	1.50			243454	242393
1 $\frac{1}{4}$ x $\frac{3}{4}$	1.50			243462	242408
1 $\frac{1}{4}$ x 1	1.50			243470	242416
1 $\frac{1}{2}$ x $\frac{3}{8}$	1.31			467804	473180
1 $\frac{1}{2}$ x $\frac{1}{2}$	2.19			260016	242424
1 $\frac{1}{2}$ x $\frac{3}{4}$	2.19			243496	242440
1 $\frac{1}{2}$ x 1	2.19			243501	242466
1 $\frac{1}{2}$ x 1 $\frac{1}{4}$	2.19			243519	243763
2 x $\frac{1}{4}$	3.02			243527	
2 x $\frac{1}{2}$	3.02			473774	265503
2 x $\frac{3}{4}$	1.65			565644	551792
2 x 1	3.02			243593	243771
2 x 1 $\frac{1}{4}$	3.02			243608	243789
2 x 1 $\frac{1}{2}$	3.02			243616	243797

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Socket Welding Fittings, Classes 150 & 3000 continued

Reducing Coupling



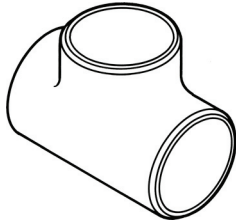
Nominal Pipe Size	Lbs/Ea	150# 304 Part Number	150# 316 Part Number	3000# 304L Part Number	3000# 316L Part Number
$\frac{3}{8} \times \frac{1}{4}$	3.02			503032	
$\frac{1}{2} \times \frac{1}{4}$	3.02				464440
$\frac{3}{4} \times \frac{1}{2}$	3.02	437697	434819	503024	462757
$1 \times \frac{1}{4}$	3.02		434827	605282	
$1 \times \frac{1}{2}$	3.02		434843	490289	503040
$1 \times \frac{3}{4}$	3.02		434851	437396	437427
$1 \frac{1}{4} \times \frac{1}{2}$	1.50		434885		
$1 \frac{1}{4} \times \frac{3}{4}$	1.31		434893	503016	
$1 \frac{1}{4} \times 1$	1.31		434908	439063	
$1 \frac{1}{2} \times \frac{3}{8}$	1.31			408486	
$1 \frac{1}{2} \times \frac{1}{2}$	1.31		434924	605290	
$1 \frac{1}{2} \times \frac{3}{4}$	1.31		434932	485412	
$1 \frac{1}{2} \times 1$	.78	437702	434940	437401	437435
$1 \frac{1}{2} \times 1 \frac{1}{4}$	.78	464204	434958	467896	
$2 \times \frac{1}{2}$	3.02		434982	408494	
$2 \times \frac{3}{4}$	3.02				551807
2×1	1.38	437728		437419	437451
$2 \times 1 \frac{1}{4}$	3.02		435019	494348	
$2 \times 1 \frac{1}{2}$	1.38	437710	435027	413041	437443

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Fittings

Socket Welding Fittings, Classes 150 & 3000 continued

Reducing Tee

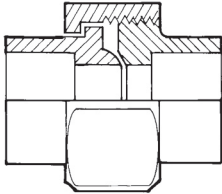


Nominal Pipe Size	Lbs/Ea	150# 304 Part Number	150# 316 Part Number	3000# 304L Part Number	3000# 316L Part Number
$\frac{3}{8} \times \frac{1}{4} \times \frac{3}{8}$	2.44			509915	509973
$\frac{1}{2} \times \frac{1}{4} \times \frac{1}{2}$	2.44				509965
$\frac{1}{2} \times \frac{3}{8} \times \frac{1}{2}$	2.44				509981
$\frac{3}{4} \times \frac{3}{8} \times \frac{3}{4}$	2.44			509923	
$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{4}$	2.44				509999
$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{2}$	2.44			512502	
$1 \times \frac{1}{4} \times 1$	2.44			509800	
$1 \times \frac{1}{2} \times 1$	2.44			509931	
$1 \frac{1}{4} \times 1 \frac{1}{4} \times \frac{1}{2}$	2.44			512510	
$1 \frac{1}{4} \times \frac{3}{4} \times 1 \frac{1}{4}$	2.44			509892	
$1 \frac{1}{2} \times \frac{1}{2} \times 1 \frac{1}{2}$	2.44			509957	
$1 \frac{1}{2} \times \frac{3}{4} \times 1 \frac{1}{2}$	2.44			509907	
$1 \frac{1}{2} \times 1 \frac{1}{2} \times \frac{1}{2}$	2.44			512528	
$1 \frac{1}{2} \times 1 \times 1 \frac{1}{2}$	2.44			487032	
$2 \times \frac{1}{4} \times 2$	2.44			509795	
$2 \times \frac{1}{2} \times 2$	2.44			509949	

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

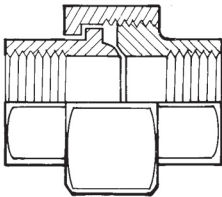
Stainless Steel Unions, Socket Welding, Classes 150 & 3000

- Class 150 available in Type 316 in accordance with MSS SP-114.
- Forged 3000 Lb. available in Types T-304, 304ELC, 316, and 316ELC.
- Available sizes 1/2" thru 3".
- Dimensional data upon request.



Nominal Pipe Size	Weight	304L 3000# Part Number	316L 3000# Part Number
1/4	.40	178049	180842
3/8	.50	178065	180868
1/2	.80	178081	180907
3/4	1.30	178104	180884
1	1.80	178120	180923
1 1/4	2.50	178154	180957
1 1/2	3.30	178170	180973
2	4.80	178188	180981

Stainless Steel Unions, Threaded, Classes 150 & 3000



Nominal Pipe Size	Weight	304L 3000# Part Number	316L 3000# Part Number
1/8	.25		
1/4	.22	447472	447480
3/8	.31	449636	180046
1/2	.63	242505	410564
3/4	.80	410522	180101
1	1.19	448999	410572
1 1/4	1.63	260391	257974
1 1/2	2.13	260406	415409
2	3.22	260414	179362
2 1/2	6.30		423591
3	9.47		
4	16.41		

Dimensions are in inches. All weights are approximate. Sizes not shown may be available upon request.

Stainless Steel Fittings

90° Elbows, Threaded, Class 150

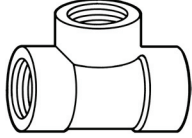


Nominal Pipe Size	Center-to-end	Length of Thread Min.	Width of Band Min.	Metal Thickness Min.	Outside Diameter of Band	304 Part Number	316 Part Number
1/8	.81	.25	.20	.09	.75	159809	158439
1/4	.81	.32	.20	.09	.84	159655	158447
3/8	.93	.36	.21	.10	1.01	159786	158463
1/2	1.12	.43	.25	.10	1.20	159663	158413
3/4	1.31	.50	.27	.12	1.46	159639	158421
1	1.50	.58	.30	.13	1.77	159647	158390
1 1/4	1.75	.67	.34	.14	2.15	159825	158405
1 1/2	1.93	.70	.37	.15	2.43	159760	158374
2	2.25	.75	.42	.17	2.96	159778	158358
2 1/2	2.68	.92	.48	.21	3.31	165428	158366
3	3.06	.98	.55	.23	4.00	159752	158332
4	3.81	1.08	.66	.26	5.06		

90° Elbows, Threaded, Class 3000

Nominal Pipe Size	Center-to-end	Length of Thread Min.	Metal Thickness Min.	Outside Diameter of Band	304 Part Number	316 Part Number
1/8	.81	.25	.125	.88		
1/4	.97	.32	.130	1.00	449505	410530
3/8	1.12	.36	.138	1.31	449513	449521
1/2	1.31	.43	.161	1.50	240561	410548
3/4	1.50	.50	.170	1.81	410475	414461
1	1.75	.58	.196	2.19	248268	413758
1 1/4	2.00	.67	.208	2.44	410483	178837
1 1/2	2.38	.70	.219	2.97	242432	418643
2	2.50	.75	.281	3.31	176801	415394
2 1/2	3.25	.93	.301	4.00		
3	3.75	1.02	.348	4.75	242458	
4	4.50	1.09	.440	6.00		

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Tees, Threaded, Class 150

Nominal Pipe Size	Center-to-end	Length of Thread Min.	Width of Band Min.	Metal Thickness Min.	Outside Diameter of Band	304 Part Number	316 Part Number
1/8	.81	.25	.20	.09	.75	159613	162373
1/4	.81	.32	.20	.09	.84	159621	162399
3/8	.93	.36	.21	.10	1.01	159590	162331
1/2	1.12	.43	.25	.10	1.20	159605	162357
3/4	1.31	.50	.27	.12	1.46	159582	162323
1	1.50	.58	.30	.13	1.77	159922	162307
1 1/4	1.75	.67	.34	.14	2.15	159566	162292
1 1/2	1.93	.70	.37	.15	2.43	159574	162268
2	2.25	.75	.42	.17	2.96	159540	162226
2 1/2	2.68	.92	.48	.21	3.59	159558	162242
3	3.06	.98	.55	.23	4.28	240799	165232
4	3.81	1.08	.66	.26	5.40	165931	162200

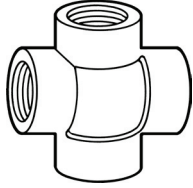
Tees, Threaded, Class 3000

Nominal Pipe Size	Center-to-end	Length of Thread Min.	Metal Thickness Min.	Outside Diameter of Band	304L Part Number	316L Part Number
1/8	.81	.25	.125	.88		
1/4	.97	.32	.130	1.00	447456	410849
3/8	1.12	.36	.138	1.31	449610	449628
1/2	1.31	.43	.161	1.50	242474	259683
3/4	1.50	.50	.170	1.81	410514	271716
1	1.75	.58	.196	2.19	242482	4144779
1 1/4	2.00	.67	.208	2.44	242490	447464
1 1/2	2.38	.70	.219	2.97	177116	180151
2	2.50	.75	.281	3.31	177124	
2 1/2	3.25	.93	.301	4.00		
3	3.75	1.02	.348	4.75		
4	4.50	1.09	.440	6.00		

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Fittings

Crosses, Threaded, Class 150



Nominal Pipe Size	Center-to-end	Length of Thread Min.	Width of Band Min.	Metal Thickness Min.	Outside Diameter of Band	304 150# Part Number	316 150# Part Number
$\frac{1}{8}$	.81	.25	.20	.09	.75	468274	468355
$\frac{1}{4}$	.81	.32	.20	.09	.84	468282	468363
$\frac{3}{8}$	.93	.36	.21	.10	1.01	468290	468371
$\frac{1}{2}$	1.12	.43	.25	.10	1.20	417003	468389
$\frac{3}{4}$	1.31	.50	.27	.12	1.46	468305	468397
1	1.50	.58	.30	.13	1.77	468313	468402
$1\frac{1}{4}$	1.75	.67	.34	.14	2.15	468321	468410
$1\frac{1}{2}$	1.93	.70	.37	.15	2.43	468339	234065
2	2.25	.75	.42	.17	2.96	468347	439356
$2\frac{1}{2}$	2.68	.92	.48	.21	3.59		
3	3.06	.98	.55	.23	4.28		

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

45° Elbows, Threaded, Class 150

Nominal Pipe Size	Center-to-end	Length of Thread Min.	Width of Band Min.	Metal Thickness Min.	Outside Diameter of Band	304 150# Part Number	316 150# Part Number
1/8	.69	.25	.20	.09	.75	165698	158316
1/4	.69	.32	.20	.09	.84	165672	158324
3/8	.81	.36	.21	.10	1.01	165630	158293
1/2	.87	.43	.25	.10	1.20	165656	158308
3/4	1.00	.50	.27	.12	1.46	159697	158277
1	1.12	.58	.30	.13	1.77	165711	158285
1 1/4	1.31	.67	.34	.14	2.15	165363	158251
1 1/2	1.43	.70	.37	.15	2.43	159671	158269
2	1.68	.75	.42	.17	2.96	159689	158243
2 1/2	1.93	.92	.48	.21	3.59	165402	165305
3	2.18	.98	.55	.23	4.28	165371	165339
4	2.62	1.08	.66	.26	5.40		165258

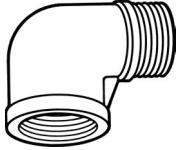
45° Elbows, Threaded, Class 3000

Nominal Pipe Size	Center-to-end	Length of Thread Min.	Metal Thickness Min.	Outside Diameter of Band	304L 3000# Part Number	316L 3000# Part Number
1/8	.69	.25	.125	.88		
1/4	.75	.32	.130	1.00	176827	449424
3/8	.88	.36	.138	1.31	449432	449440
1/2	1.00	.43	.161	1.50	449458	415386
3/4	1.12	.50	.170	1.81	449466	449474
1	1.31	.58	.196	2.19	449482	414380
1 1/4	1.38	.67	.208	2.44	450792	450807
1 1/2	1.69	.70	.219	2.97	449490	418669
2	1.72	.75	.281	3.31	447391	418651
2 1/2	2.06	.93	.301	4.00		
3	2.50	1.02	.348	4.75		
4	3.12	1.09	.440	6.00		

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Fittings

90° Street Elbows, Threaded, Class 150



Nominal Pipe Size	Center-to-end	Length of Thread Min.	Width of Band Min.	Metal Thickness Min.	Outside Diameter	Center-to-end	Length of External Thread	Port Diameter Male End	304 150# Part Number	316 150# Part Number
1/8	.81	.25	.20	.09	.75	1.06	.26	.18	165436	162577
1/4	.81	.32	.20	.09	.84	1.18	.40	.25	165494	162593
3/8	.93	.36	.21	.10	1.01	1.43	.41	.37	165478	162535
1/2	1.12	.43	.25	.10	1.20	1.62	.53	.50	165533	162496
3/4	1.31	.50	.27	.12	1.46	1.87	.55	.62	165517	162519
1	1.50	.58	.30	.13	1.77	2.12	.68	.81	165575	162454
1 1/4	1.75	.67	.34	.14	2.15	2.50	.71	1.12	165567	162488
1 1/2	1.93	.70	.37	.15	2.43	2.75	.72	1.30	165622	162420
2	2.25	.75	.42	.17	2.96	3.25	.76	1.75	165591	162438
2 1/2	2.68	.92	.48	.21	3.59	3.87	1.14	2.20		248551
3	3.06	.98	.55	.23	4.28	4.50	1.20	2.75		
4	3.81	1.08	.66	.26	5.40	5.68	1.30	3.75		

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Couplings, Threaded, Class 150

Nominal Pipe Size	Length of Thread Min.	Width of Band Min.	Metal Thickness	Outside Diameter	Length Min.	304 Part Number	316 Part Number	*OD Bar Stock
1/8	.25	.20	.09	.75	1.00	287173*	287262*	0.55
1/4	.32	.20	.09	.84	1.00	287181*	287270*	0.74
3/8	.36	.21	.10	1.01	1.12	287199*	287288*	0.86
1/2	.43	.25	.10	1.20	1.38	287204*	287296*	1.05
3/4	.50	.27	.12	1.46	1.50	287212*	287301*	1.30
1	.58	.30	.13	1.77	1.62	287220*	287319*	1.61
1 1/4	.67	.34	.14	2.15	2.00	287238*	287327*	1.86
1 1/2	.70	.37	.15	2.43	2.12	405365*	287335*	2.17
2	.75	.42	.17	2.96	2.50	287254*	287343*	2.74
2 1/2	.92	.48	.21	3.37	2.87	166107	158497	
3	.98	.55	.23	4.12	3.18	166115	120583	
4	1.08	.66	.26	5.12	3.68	166131	158471	

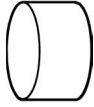
Couplings, Threaded, Class 3000

Nominal Pipe Size	Length of Thread Min.	Metal Thickness	Outside Diameter	Length Min.	304L 3000# Part Number	316L 3000# Part Number
1/8	.25	.19	.62	1.25	591213	180062
1/4	.32	.19	.75	1.38	410491	281046
3/8	.36	.19	.88	1.50	176380	260197
1/2	.43	.25	1.12	1.88	117629	121937
3/4	.50	.25	1.38	2.00	121979	410823
1	.58	.38	1.75	2.38	123159	123117
1 1/4	.67	.38	2.25	2.62	410831	239780
1 1/2	.70	.44	2.50	3.12	122894	239803
2	.75	.50	3.00	3.38	122852	122705
2 1/2	.93	.62	3.62	3.62		
3	1.02	.75	4.25	4.25		
4	1.09	.88	5.50	4.75		

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Fittings

Caps, Threaded, Class 150



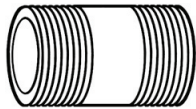
Nominal Pipe Size	Length of Thread Min.	Width of Band Min.	Metal Thickness Min.	Outside Diameter	Height Min.	Thickness of Flat Top Caps Min.	304 Part Number	316 Part Number
1/8	.25	.20	.09	.75	.68	.09	164252	161987
1/4	.32	.20	.09	.84	.68	.09	164236	161995
3/8	.36	.21	.10	1.01	.81	.10	164210	161961
1/2	.43	.25	.10	1.20	.93	.12	164197	452427
3/4	.50	.27	.12	1.46	1.06	.13	164333	452435
1	.58	.30	.13	1.77	1.31	.15	164317	452443
1 1/4	.67	.34	.14	2.15	1.62	.17	164309	452451
1 1/2	.70	.37	.15	2.43	1.62	.19	164286	452469
2	.75	.42	.17	2.96	1.75	.22	240731	452477
2 1/2	.92	.48	.21	3.31	2.00	.25	164367	161880
3	.98	.55	.23	4.00	2.25	.29	164375	161898
4	1.08	.66	.26	5.06	2.50	.36	164383	293271

Caps, Threaded, Class 3000

Nominal Pipe Size	Length of Thread Min.	Metal Thickness	Outside Diameter	Length Min.	304L Part Number	316L Part Number
1/8	.25	.19	.62	1.25		
1/4	.32	.19	.75	1.38	449539	449547
3/8	.36	.19	.88	1.50	257966	449555
1/2	.43	.25	1.12	1.88	449563	449571
3/4	.50	.25	1.38	2.00	466955	471887
1	.58	.38	1.75	2.38	449589	418685
1 1/4	.67	.38	2.25	2.62	449597	448965
1 1/2	.70	.44	2.50	3.12	449602	410556
2	.75	.50	3.00	3.38	447406	418677
2 1/2	.93	.62	3.62	3.62		
3	1.02	.75	4.25	4.25		
4	1.09	.88	5.50	4.75		

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Threaded Pipe Nipples



T304, Sch 40s

Pipe Size	Part Number		Standard Lengths Part Number										
	Close	Short	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"		
1/8	3/4	158845	1 1/2	158853	158861	168484	158879	168507	158887		168442		168468
1/4	7/8	158895	1 1/2	158900	158918	158926	158934	158942	158950	168400	158968	168426	158976
3/8	1	158984	1 1/2	158992	159003	168523	159011	168549	159029	168361	168387		159037
1/2	1 1/8	159045	1 1/2	159053	159061	159079	159087	168329	159095	168345	159118	168303	159126
3/4	1 3/8	159142	2	159150		168280	168248	168264	159176	168167	159207	168183	159184
1	1 1/2	159192	2	159215		159223	159231	168206	159249	168222	168002	168028	159257
1 1/4	1 5/8	159265	2	168044		159273	159281	168060	159299	168086	159304	168109	159312
1 1/2	1 3/4	159320	2	241274		159338	159346	168125	158780	168141	167682	167705	158837
2	2	158764	2 1/2	158772				158748	167721	158756	167747	158722	167763
2 1/2	2 1/2	167789	3	167802					248234	167828	248242	167844	167860
3	2 5/8	167886	3	269662					415124	167909		167925	158714
4	2 7/8	167941	4	167967									167983

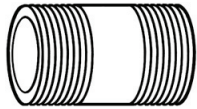
T316, Sch 40s

Pipe Size	Part Number		Standard Lengths Part Number										
	Close	Short	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"		
1/8	3/4	161115	1 1/2	161123	161107	161092	161076	161084	161050	161042	161034	161018	161026
1/4	7/8	161000	1 1/2	160999	160981	160965	160973	160957	160949	160923	160931	160915	160737
3/8	1	160884	1 1/2	160892	160876	160850	160842	160826	160834	160818	160800	160787	160795
1/2	1 1/8	160779	1 1/2	160761	160753	160729	160745	160711	160703	160680	160698	160672	160664
3/4	1 3/8	160648	1 1/2	269620	160656	160630	160622	160606	160614	160591	160583	160567	160575
1	1 1/2	160541	2	160559		160533	160525	160509	160517	160494	160486	160460	160452
1 1/4	1 5/8	160436	2	160444		160410	160428	160397	160402	160371	160389	166961	160363
1 1/2	1 3/4	160347	2	160355		160321	160339	160305	160313	160282	160290	160274	120614
2	2	160258	2 1/2	160266				160232	160240	160216	160224	160193	160177
2 1/2	2 1/2	166987	3	241266					167006			167022	167048
3	2 5/8	167064	3	160185				269654	167129				167103
4	2 7/8	167153	4	167161							283771		167187

Dimensions are in inches. All weights are approximate. Sizes not shown may be available upon request.

Stainless Steel Fittings

Stainless Steel Threaded Pipe Nipples continued



T304, Sch 80s

Pipe Size	Part Number		Standard Lengths Part Number									
	Close	Short	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"	
3/8	1	1 1/2	258386									
1/2	1 1/8	1 1/2			258645							
3/4	1 3/8	2			258776				258823			
1	1 1/2	2	258865		258881	258899		258912				258938
1 1/4	1 5/8	2	258946		258962	258970	258988	258996	259007			
1 1/2	1 3/4	2		259049	259057	259065	259073	259081	259099			259104
2	2	2 1/2				259146	259154	259162	259170			259188

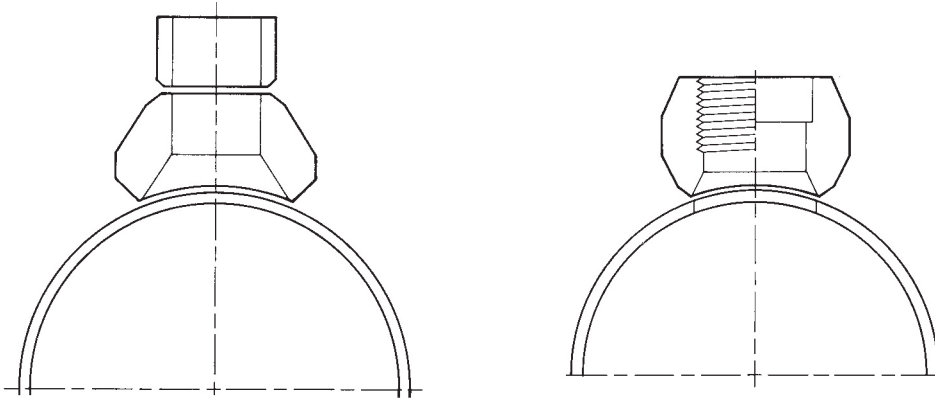
T316, Sch 80s

Pipe Size	Part Number		Standard Lengths Part Number										
	Close	Short	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"		
1/8	3/4	1 1/2	415572	415580	415598		167268		167284			167307	
1/4	7/8	1 1/2	415637	415645	415653	415661	415679	415687	415695	415700	415718	415726	
3/8	1	1 1/2	415734	415742	415750	167365	415776	415784	415792	415807	167404	415823	
1/2	1 1/8	1 1/2	415831	415849	415857	415865	415873	415881	415899	415904	415912	167488	415938
3/4	1 3/8	1 1/2	415946		415954	415970	415988	415996	416015	416023	416049		416057
1	1 1/2	2	416073	416081		416099	416104	416112	416120	416138	416146		416154
1 1/4	1 5/8	2	416162	416170			416188	416196	416201	416219	416227		284531
1 1/2	1 3/4	2	416243	416251		416269	416277	416285	416293	416308	416316		416324
2	2	2 1/2	416332	416340			416358	416366	416374	416382	416390		416405

Dimensions are in inches. All weights are approximate.
 Sizes not shown may be available upon request.

Stainless Steel Weld-On Outlets

- Straight Style, Elbow Style, Lateral Style.
- Ends can be Socket Welding, Butt Welding or Threaded.
- Standard, XH, Schedule 160 and XXH.
- Types 304, 304 ELC, 316 and 316ELC.
- Stocked in Sizes $\frac{1}{2}$ " thru 2".



Notes

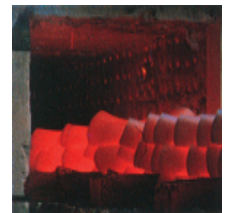
Alaskan Quality is achieved through a rigorous program designed to get the right instructions to the right people, so that a product is fabricated correctly the first time.

Since our beginning in 1913, the **Alaskan Quality Program** has been continually analyzed, revised and improved to meet the increasing challenges and complexity of specifications for piping, fittings, and custom fabrication. Our current **Quality Program** allows us to create an assignment of responsibility for engineering, drafting, layout, purchasing, scheduling, fabrication, examination, documentation and packaging. Thus our goal...conformance to specification...is consistently shared with you, the Purchaser.

Alaskan's facilities for radiography, liquid penetrant examination, ultrasonic gaging, hydrotesting and dimensional checking further confirm the quality that the program creates. Our program of proven procedures also enables the certification of parts and pressure vessels with the symbols of UM, U and U2 in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code. Your purchase of **Alaskan** quality-crafted products will enable us to share with you our experience, knowledge and dependability.



Hydrotesting verifies pressure capabilities of pipe and tubing.



Heat-treatment stress relieves fittings after forming.



Geometric accuracy is checked on all Alaskan fittings.



Specialized film reader and digital densitometer are used in interpreting radiographic film.



Radiographic inspection checks the integrity of welds.

Did You Know?

ALASKAN COPPER

Alaskan Copper & Brass Company and Alaskan Copper Works are the nation's largest combination full service center and manufacturer of corrosion resistant alloy products.

The following publications from Alaskan Copper & Brass Company and Alaskan Copper Works are available upon request.

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