

COPPER FITTINGS FOR PLUMBING AND MECHANICAL APPLICATIONS

Job Name	Contractor
Job Location	Wholesaler
Engineer	Streamline[®] Rep

Product Description:

Streamline[®] Wrot Copper Pressure and DWV fittings for use in plumbing or mechanical applications. Available sizes ranging from ¼" to 8" in diameter. Product is designed to join ASTM B88 and ASTM B280 Seamless Copper Tube.

Material:

Streamline[®] Wrot Copper fittings shall be made from material in compliance with UNS C12200 grade of copper.

Key Specifications:

Streamline[®] Wrot Copper, solder joint, pressure fittings shall conform to the NSF/ANSI 61 Annex G requirements. Wrot copper pressure fittings shall be manufactured to meet ASME B16.22 and MSS SPI04. Wrot DWV copper fittings shall be made to meet ASME B16.29. All threaded fittings conform to ASME B1.20.1.

Installation:

Installations shall comply with the latest applicable building codes for the local jurisdiction. For detailed installation instructions, consult the Copper Development Association at copper.org.

References:

NSF/ANSI 61 Annex G	Safe Drinking Water Act (third party certification)
C12200	99.9% pure copper
ASME B16.22	Wrot Copper and Copper Alloy Solder Joint Pressure Fittings
MSS SPI04	Wrot Copper Solder and Joint Pressure Fittings
ASME B16.29	Drain, Waste and Vent (DWV) Fittings
ASME B1.20.1	Threaded Fittings

Other Applicable Standards:

ASTM B88	Seamless Copper Water and Gas Tube (Types K, L, M)
ASTM B280	Seamless Copper Tube for Air Conditioning and Refrigeration

Copper [tube or fitting] UNS C122000 has been evaluated by NSF International to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water.

TEE (CONT.)					
REDUCING					
W 40238	x 3/4 x 3/4	5	50	0.55	
W 40243	x 1/2	5	50	0.47	
W 40244	x 1/2 x 1-1/2	5	50	0.66	
W 40153	2 x 2 x 3	1	10	2.55	
W 40144	x 2-1/2	1	10	1.46	
W 40103	x 1-1/2	5	50	0.99	
W 40104	x 1-1/4	5	50	0.85	
W 40105	x 1	5	50	0.88	
W 40106	x 3/4	5	50	0.83	
W 40107	x 1/2	5	50	0.67	
W 40108	x 3/8	2	20	0.68	
W 40109	x 1-1/2 x 2	2	20	1.31	
W 40110	x 1-1/2	2	20	1.15	
W 40111	x 1-1/4	2	20	0.86	
W 40112	x 1	2	20	1.06	
W 40113	x 3/4	2	20	0.75	
W 40114	x 1/2	5	50	0.77	
W 40115	x 1-1/4 x 2	2	20	1.30	
W 40116	x 1-1/2	2	20	1.14	
W 40117	x 1-1/4	2	20	1.09	
W 40118	x 1	2	20	0.95	
W 40119	x 3/4	5	50	0.76	
W 40120	x 1/2	5	20	0.78	
W 40245	x 1 x 2	5	25	1.64	
W 40247	x 1	5	50	1.06	
W 40248	x 3/4 x 2	5	25	1.71	
W 40249	x 1/2 x 2	5	25	1.66	
W 40124	2-1/2 2-1/2 x 2	2	20	1.59	
W 40125	x 1-1/2	2	20	1.49	
W 40126	x 1-1/4	2	20	1.87	
W 40127	x 1	2	20	1.83	
W 40128	x 3/4	1	10	1.83	
W 40129	x 1/2	1	10	2.05	
W 40130	x 2 x 2-1/2	4	20	2.30	
W 40131	x 2	2	20	1.84	
W 40132	x 1-1/2	4	20	2.09	
W 40133	x 1-1/4	4	20	2.12	
W 40134	x 1	4	20	2.10	
W 40135	x 3/4	4	20	2.06	
W 40136	x 1/2	4	20	2.20	
W 40137	2-1/2x1-1/2x2-1/2	4	20	2.32	
W 40138	x 2	4	20	1.84	
W 40139	x 1-1/2	4	20	2.11	
W 40140	x 1-1/4	4	20	2.17	
W 40141	x 1	4	20	1.83	
W 40142	x 3/4	4	20	2.36	
W 40143	x 1/2	4	20	2.36	
W 40220	x 1-1/4 x 2-1/2	4	20	2.35	
W 40250	x 2	4	20	1.82	
W 40251	x 1-1/2	4	20	2.47	
W 40252	x 1-1/4	4	20	1.96	
W 40253	x 1	4	20	2.47	
W 40254	x 3/4	4	20	2.18	
W 40255	x 1/2	4	20	2.47	
W 40221	x 1 x 2-1/2	4	20	2.39	
W 40256	x 2	4	20	1.97	
W 40257	x 1-1/2	4	20	2.15	
W 40258	x 1-1/4	4	20	2.04	
W 40259	x 1	4	20	2.27	
W 40222	x 3/4 x 2-1/2	4	20	2.41	
W 40151	3 x 3 x 2-1/2	2	10	2.45	
W 40150	x 2	2	20	2.30	
W 40149	x 1-1/2	2	10	2.18	
W 40148	x 1-1/4	2	10	2.38	
W 40147	x 1	2	20	1.96	
W 40146	x 3/4	2	20	1.49	
W 40145	x 1/2	2	20	1.38	
W 40159	3 x 2-1/2 x 3	2	10	2.96	
W 40158	x 2-1/2	2	10	4.52	
W 40157	x 2	2	10	2.68	
W 40156	x 1-1/2	2	10	2.63	
W 40155	x 1-1/4	2	10	2.62	
W 40154	x 1	2	20	2.02	
W 40167	x 2 x 3	2	10	3.07	
W 40165	x 2-1/2	2	10	4.64	
W 40164	x 2	2	10	2.75	
W 40163	x 1-1/2	2	10	2.57	
W 40162	x 1-1/4	2	10	2.61	
W 40161	x 1	2	20	2.04	
W 40174	x 1-1/2 x 3	2	10	2.97	
W 40181	x 1-1/4 x 3	2	10	3.14	
W 40178	x 1 x 3	2	10	3.02	
W 40179	x 3/4 x 3	2	10	3.03	
W 40198	4 x 4 x 3	1	5	4.94	
W 40197	x 2-1/2	1	5	5.16	
W 40196	x 2	1	10	4.52	
W 40195	x 1-1/2	1	10	4.47	

TEE (CONT.)					
REDUCING					
W 40194	x 1-1/4	1	10	4.55	
W 40193	x 1	1	10	3.05	
W 40192	x 3/4	1	10	2.89	
W 40191	x 1/2	1	10	2.89	
W 40208	x 3 x 4	1	5	8.66	
W 40206	x 3	1	5	5.12	
W 40205	x 2-1/2	1	5	5.61	
W 40204	x 2	1	5	4.76	
W 40212	x 2-1/2 x 4	1	5	7.79	
W 40216	x 2 x 4	1	5	8.95	
W 40215	x 1-1/2 x 4	1	5	8.51	
W 40214	x 1-1/4 x 4	1	5	8.57	
W 40213	x 1 x 4	1	5	9.33	
W 40401	5 x 5 x 4	-	1	6.95	
W 40402	x 3	-	1	6.25	
W 40404	x 2	-	1	5.05	
W 40520	6 x 4 x 4	-	1	12.52	
W 40502	x 6 x 4	-	1	11.00	
W 40503	x 3	-	1	11.00	
W 40504	x 2-1/2	-	1	11.10	
W 40505	x 2	-	1	9.54	
W 40526	8 x 8 x 4	-	1	22.26	

TEE					
FITTING					
WT-600F					
C x FTG x C					
Part	Size	Box	Ctn	Wt	
W 04106	1/2	50	300	0.10	
W 04131	3/4	25	150	0.19	

UNION					
WC-407					
C x C					
Part	Size	Box	Ctn	Wt	
W 08001	1/4	25	250	0.12	
W 08002	3/8	25	250	0.11	
W 08003	1/2	25	250	0.16	
W 08004	3/4	25	150	0.37	
W 08005	1	10	100	0.52	

COPPER TUBE STRAP					
2-HOLE					
WS-1100					
Part	Size	Box	Ctn	Wt	
A 01203	1/8	100	4,000	0.01	
A 01278	1/4	100	5,600	0.01	
A 01366	3/8	100	3,400	0.01	
A 02529	1/2	100	1,500	0.01	
A 01467	5/8	100	2,000	0.01	
A 02574	3/4	50	750	0.01	
A 02614	1	50	750	0.02	
A 02650	1-1/4	50	500	0.04	
A 02675	1-1/2	50	500	0.05	
A 02708	2	50	500	0.06	

PERFORATED COPPER STRAP					
WS-1101					
Part	Size	Box	Ctn	Wt	
A 01211	25 Ft. Roll	1	10	1.63	

SOLDER JOINT DWV FITTINGS					
ADAPTER					
TRAP					
DW-724F					
FTG x SJ					
Part	Size	Box	Ctn	Wt	
A 11564	1-1/2x1-1/2 OD	10	100	0.28	
REDUCING					
A 11566	1-1/2x1-1/4 OD	10	100	0.26	

ADAPTER					
TRAP					
DW-724					
C x SJ					
Part	Size	Box	Ctn	Wt	
A 11355	1-1/4x1-1/4 OD	25	250	0.22	
A 11356	1-1/2x1-1/2 OD	10	200	0.33	
REDUCING					
A 11383	1-1/2x1-1/4 OD	10	200	0.40	

ADAPTER					
TRAP					
DW-757					
F x SJ					
Part	Size	Box	Ctn	Wt	
A 11409	1-1/4x1-1/4 OD	10	100	0.34	
A 11410	1-1/2x1-1/2 OD	10	100	0.40	
REDUCING					
A 11411	1-1/2x1-1/4 OD	10	100	0.40	

ADAPTER					
TRAP					
DW-756					
M x SJ					
Part	Size	Box	Ctn	Wt	
A 11405	1-1/4x1-1/4 OD	10	100	0.42	
A 11406	1-1/2x1-1/2 OD	10	100	0.52	
REDUCING					
A 11407	1-1/2x1-1/4 OD	10	100	0.53	

ADAPTER					
SOIL PIPE					
DW-733					
C x SPIGOT					
Part	Size	Box	Ctn	Wt	
W 07122	2	5	100	0.43	
W 07133	3	5	40	1.12	
REDUCING					
W 07112	x 2	5	50	0.61	

ADAPTER					
FEMALE					
DW-753					
C x F					
Part	Size	Box	Ctn	Wt	
W 07221	1-1/2	10	100	0.25	
W 07222	2	10	100	0.41	

ADAPTER					
DW-754					
FTG x F					
Part	Size	Box	Ctn	Wt	
W 07240	1-1/4	10	100	0.19	

ADAPTER					
DW-732					
C x M					
Part	Size	Box	Ctn	Wt	
A 07012	1-1/4	25	250	0.35	
A 07054	1-1/2	10	100	0.44	
A 07094	2	10	100	0.52	
REDUCING					
W 07235	1-1/4 x 1-1/2	10	100	0.37	

BUSHING					
EXTENDED					
DW-742					
FTG x C					
Part	Size	Box	Ctn	Wt	
W 07350	1-1/2 x 1-1/4	25	250	0.11	
W 07358	2 x 1-1/2	-	100	0.22	
W 07359	x 1-1/4	-	100	0.18	
W 07377	3 x 2	-	50	0.47	
W 07378	x 1-1/2	-	50	0.44	
W 07379	x 1-1/4	-	50	0.50	
W 07387	4 x 3	-	25	0.89	
W 07389	x 2	-	25	1.03	

CLOSET FLANGE					
DW-734					
C x CLOSET					
Part	Size	Box	Ctn	Wt	
W 07834	3 x 4	5	50	0.83	
W 07844	4 x 4	5	40	0.67	

COUPLING					
DW-741					
C x C					
Part	Size	Box	Ctn	Wt	
W 07055	1-1/4	25	150	0.09	
W 07063	1-1/2	25	250	0.11	

COPPER FITTING DATA

TEMPERATURE - PRESSURE RATINGS OF SOLDER JOINTS					
ALLOYS USED FOR JOINTS	SERVICE TEMPERATURE °F	STANDARD TUBE SIZE, TYPES K, L, AND M			
		WATER AND NON-CORROSIVE LIQUIDS & GASES			
		1/4 to 1	1-1/4 to 2	2-1/2 to 4	5 to 8
50 / 50 Tin Lead Solder Not to be used in potable water systems	100	200	175	150	135
	150	150	125	100	90
	200	100	90	75	70
	250	85	75	50	45
95 / 5 Tin-Antimony Solder	100	1090	850	705	660
	150	625	485	405	375
	200	505	395	325	305
	250	270	210	175	165
Alloy E Solder	100	710	555	460	430
	150	475	370	305	285
	200	375	290	240	225
	250	320	250	205	195
Alloy HB Solder	100	1035	805	670	625
	150	710	555	460	430
	200	440	345	285	265
	250	430	335	275	260
Brazing Alloys (melting at or above 1000°F)	Pressure-temperature ratings is that of the tubing being used				

Note: Ratings are those given in ASME B 16.22 "Wrought Copper and Copper Alloy Solder Joint Pressure Fittings." (a) Solder alloys are covered by ASTM Standard Specification B32. The Safe Drinking Water Act Amendment of 1986 prohibits the use of any solder having a lead content in excess of 02% for potable water systems.

PRESSURE LOSS IN FITTINGS EXPRESSED AS EQUIVALENT LENGTH OF TUBE, FEET						
Normal or Standard in Inches	Wrot Copper Fittings					
	90 Degree Ell	45 Degree Ell	Tee Straight Run	Tee Side Branch	Coupling	180 Degree Bend
3/8	0.5	0.5	0.5	1	-	0.5
1/2	0.5	0.5	0.5	1	-	1
5/8	0.5	0.5	0.5	2	-	1
3/4	1	0.5	0.5	2	-	2
1	1	1	0.5	3	-	2
1-1/4	2	1	0.5	4	0.5	3
1-1/2	2	2	1	5	0.5	4
2	2	2	1	7	0.5	8
2-1/2	2	3	2	9	0.5	16
3	3	4	-	-	1	20

COPPER TUBE AND SOLDER TYPE FITTINGS

1. Cut tube square with the cutter or fine hack saw (32 tooth blade is recommended). Remove Burr.

2. Clean outside end of copper tube thoroughly with sand cloth or sandpaper equal depth of fitting. Leave no dark spots.

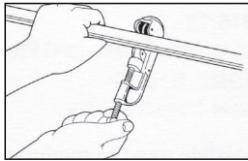
3. Clean inside of fitting carefully to tube stop with wire brush. Note: Sand cloth or sandpaper may also be used.

4. Using a brush, apply light uniform coat of soldering flux to the outside of the tube and inside of the fitting.

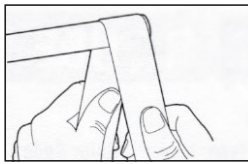
5. Slip tube into fitting to tube stop. Turn tube back and forth once or twice to distribute flux evenly.

6. Apply heat uniformly around the fitting with torch. When solder melts upon contact with heated fitting, the proper soldering temperature has been reached. Remove flame and feed solder slightly off center at the bottom of the joint. Proceed across the bottom of the fitting and up to the top center position. Return to the starting point, and then proceed up the incomplete side to the top, again, overlapping the solder metal. Wipe off surplus solder with a piece of cloth.

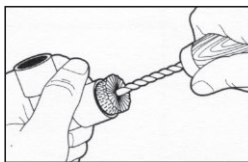
CAUTION: No not overheat the joint or direct the flame into the face of the fitting cup. Overheating could burn the flux, which will destroy its effectiveness and the solder will not enter the joint properly.



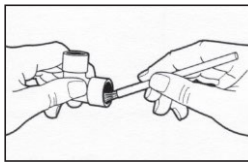
1. Cut tube to length & remove burr with file or scraper.



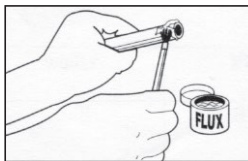
2. Clean outside of tube with sandpaper or sand cloth.



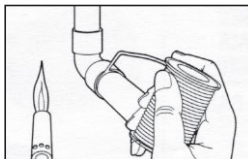
3. Clean inside of fitting with wire brush, sand cloth or sandpaper.



4. Apply flux thoroughly to inside of fitting.



5. Apply flux thoroughly to outside of tube - assemble tube and fitting.



6. Apply heat with torch. When solder melts upon contact with heated fitting, the proper temp for soldering has been reached. Remove flame & feed solder to the joint at one or two points until a ring of solder appears at the end of the fitting.