

# COPPER FITTINGS FOR PLUMBING AND MECHANICAL APPLICATIONS

<b>Job Name</b>	<b>Contractor</b>
<b>Job Location</b>	<b>Wholesaler</b>
<b>Engineer</b>	<b>Streamline<sup>®</sup> Rep</b>

**Product Description:**

Streamline<sup>®</sup> Wrot Copper Pressure and DWV fittings for use in plumbing or mechanical applications. Available sizes ranging from ¼" to 8" in diameter; all wrot copper solder joint fittings shall be manufactured in the United States. Product is designed to join ASTM B88 and ASTM B280 Seamless Copper Tube.

**Material:**

Streamline<sup>®</sup> Wrot Copper fittings shall be made from material in compliance with ASTM B75 and of UNS C12200 grade of copper.

**Key Specifications:**

Streamline<sup>®</sup> 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 B1.6.22 and MSS SP104. Wrot DWV copper fittings shall be made to meet ASME B1.6.29. 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)         |
| ASTM B75            | Seamless Copper Tube  |
| C12200              | 99.9% pure copper   |
| ASME B1.6.22        | Wrot Copper and Copper Alloy Solder Joint Pressure Fittings |
| MSS SP104           | Wrot Copper Solder and Joint Pressure Fittings              |
| ASME B1.6.29        | 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 |












### COUPLING (CONT.)

W 07072	2	—	100	0.13
W 07092	3	—	50	0.47
W 70107	4	—	25	1.03


#### REDUCING

W 07073	2 x 1-1/2	—	100	0.17
W 07074	x 1-1/4	—	100	0.18
W 07094	3 x 2	—	50	0.52
W 07095	x 1-1/2	—	50	0.52
W 07096	x 1-1/4	—	50	0.70
W 70109	4 x 3	—	25	0.93
W 70106	x 2	—	25	1.38


### REPAIR COUPLING

DW-741NS	C x C 				
Part	Size	Box	Ctn	Wt	
W 07907	1-1/4	25	225	0.07	
W 07908	1-1/2	25	250	0.11	
W 07909	2	—	75	0.19	
W 07911	3	—	50	0.34	


### 45° ELBOW

DW-204	C x C 				
Part	Size	Box	Ctn	Wt	
W 07420	1-1/4	25	250	0.14	
W 07421	1-1/2	25	125	0.20	
W 07422	2	—	50	0.33	
W 07423	3	—	25	0.84	


### 45° ELBOW

(STREET) DW-205	FTG x C 				
Part	Size	Box	Ctn	Wt	
W 07430	1-1/4	25	250	0.17	
W 07431	1-1/2	25	125	0.20	
W 07432	2	—	50	0.32	
W 07433	3	—	25	0.81	


### 90° ELBOW

DW-200	C x C 				
Part	Size	Box	Ctn	Wt	
W 07400	1-1/4	25	125	0.25	
W 07401	1-1/2	20	100	0.24	
W 07403	2	—	50	0.71	
W 07404	3	—	15	1.66	


### 90° ELBOW

LONG TURN D-700LT	C x C 				
Part	Size	Box	Ctn	Wt	
A 07209	1-1/2	5	100	0.41	
A 07202	2	5	40	0.62	


### 90° ELBOW

EXTRA LONG TURN DW-700XLT	C x C 				
Part	Size	Box	Ctn	Wt	
W 07451	1-1/2	10	50	0.55	
W 07452	2	5	25	1.11	
W 07453	3	2	10	2.28	
W 07454	4	—	5	5.10	


### 90° ELBOW

DW-203	FTG x C 				
Part	Size	Box	Ctn	Wt	
W 07410	1-1/4	25	125	0.26	
W 07411	1-1/2	20	100	0.38	
W 07412	2	—	50	0.70	
W 07413	3	—	15	1.70	


### 60° ELBOW

DW-701	C x C 				
Part	Size	Box	Ctn	Wt	
W 07064	1-1/2	25	250	0.35	
W 07066	3	2	20	0.95	

### 22-1/2° ELBOW

DW-703	C x C 				
Part	Size	Box	Ctn	Wt	
W 07060	1-1/2	—	100	0.27	


### TEE

DW-707	C x C x C 				
Part	Size	Box	Ctn	Wt	
W 07500	1-1/4	20	100	0.37	
W 07511	1-1/2	20	100	0.52	
W 07522	2	5	25	0.85	
W 07533	3	—	10	2.10	


#### REDUCING

W 07510	1-1/2x1-1/4	10	100	0.51	
W 07512	x1-1/4x1-1/4	10	100	0.52	
W 07521	2 x 2 x 1-1/2	5	50	0.75	
W 07520	x 1-1/4	5	30	0.68	
W 07524	x1-1/2x1-1/2	5	50	0.87	
W 07532	3 x 3 x 2	5	25	1.69	
W 07531	x 1-1/2	5	25	1.45	
W 07530	x 1-1/4	5	25	0.81	

### TEST CAP

DW-798T	C 				
Part	Size	Box	Ctn	Wt	
W 07634	1/2	500	5,000	—	
W 07635	3/4	200	4,000	—	
W 07636	1	100	2,000	0.01	
W 07637	1-1/4	100	2,000	0.01	
W 07638	1-1/2	100	1,000	0.01	
W 07639	2	50	1,000	0.02	
W 07640	3	25	250	0.04	

### VENT INCREASER

DW-752	C x TUBE 				
Part	Size	Box	Ctn	Wt	
W 70112	3 x 4 x 18	—	6	4.37	
W 70111	3 x 4 x 24	—	5	5.90	

## COPPER FITTING DATA

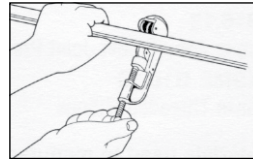
<b>TEMPERATURE - PRESSURE RATINGS OF SOLDER JOINTS</b>					
ALLOYS USED FOR JOINTS	SERVICE TEMPERATURE °F	STANDARD TUBE SIZE, TYPES K, L, AND M			
		WATER AND NON-CORROSIVE LIQUIDS & GASES			
		1/4 to 1	1-1/4 to 2	2-1/2 to 4	5 to 8
50 / 50 Tin Lead Solder Not to be used in potable water systems	100	200	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.

<b>PRESSURE LOSS IN FITTINGS EXPRESSED AS EQUIVALENT LENGTH OF TUBE, FEET</b>						
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

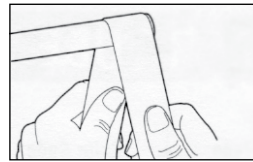
## COPPER TUBE AND SOLDER TYPE FITTINGS

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



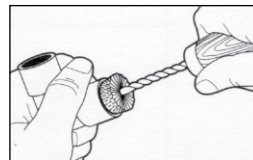
**1.** Cut tube to length & remove burr with file or scraper.

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



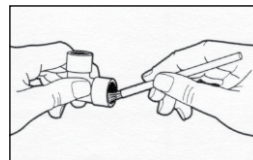
**2.** Clean outside of tube with sandpaper or sand cloth.

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



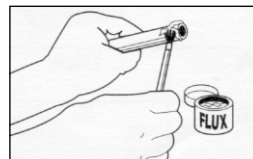
**3.** Clean inside of fitting with wire brush, sand cloth or sandpaper.

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



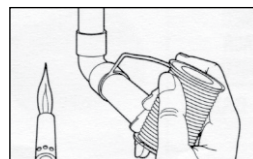
**4.** Apply flux thoroughly to inside of fitting.

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



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

**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.



**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.

**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.**