

COPPER FITTINGS FOR HVACR APPLICATIONS

Job Name	Contractor
Job Location	Wholesaler
Engineer	Streamline® Rep

Product Description:

Streamline® Wrot Copper fittings for use in refrigeration applications. Available sizes ranging from 1/4" to 8-1/8" in outside diameter. Product is designed to join ASTM B280 and ASTM B88 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 ASME B16.22 and MSS SP104. Streamline® Wrot Copper, solder-joint, pressure fittings are third party verified in select sizes¹ through Underwriters Laboratories (UL) for operating pressure of 700psi at 250°F.

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:

Product Line	Product Type	Diameter
1 Copper Fittings C UL US 700 PSI R410A	Streamline® Wrot Solder-Joint Pressure	1/8" – 2-5/8"

*700PSI at 250°F in select patterns

C12200	99.9% Pure Copper
ASME B16.22	Wrot Copper and Copper Alloy Solder Joint Pressure Fittings
MSS SP104	Wrot Copper Solder and Joint Pressure 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 FITTINGS – HVACR

SOLDER JOINT PRESSURE WROT & CAST

NOTE: ALL SIZES ARE OD

ADAPTER

FEMALE WC-402 C x F

Part	Size	Box	Ctn	Wt
W 01204	1/4 x 1/2	100	300	0.1
W 01205	x 3/8	100	700	0.05
W 01206	x 1/4	100	900	0.04
W 01207	x 1/8	100	1,500	0.04
W 01214	3/8 x 3/8	50	750	0.06
W 01215	x 1/4	50	750	0.04
W 01216	x 1/8	100	1,500	0.03
W 01223	1/2 x 3/4	50	300	0.16
W 01224	x 1/2	50	500	0.1
W 01225	x 3/8	50	750	0.07
W 01226	x 1/4	50	750	0.06
W 01230	5/8 x 3/4	25	250	0.16
W 01231	x 1/2	50	500	0.1
W 01232	x 3/8	50	500	0.07
W 01233	x 1/4	50	500	0.06
W 01238	3/4 x 3/4	50	500	0.15
W 01239	x 1/2	50	500	0.09
W 01245	7/8 x 1	25	250	0.27
W 01246	x 3/4	25	250	0.14
W 01247	x 1/2	25	250	0.11
W 01261	1-1/8 x 1-1/4	10	100	0.28
W 01263	x 1	25	250	0.25
W 01264	x 3/4	25	250	0.22
W 01265	x 1/2	20	200	0.25
W 01270	1-3/8 x 1-1/2	10	100	0.5
W 01271	x 1-1/4	10	100	0.45
W 01272	x 1	10	100	0.33
W 01278	1-5/8 x 2	–	60	0.74
W 01279	x 1-1/2	10	100	0.53
W 01280	x 1-1/4	5	50	0.39
W 01287	2-1/8 x 2	–	50	0.57
W 01288	x 1-1/2	5	50	0.74
W 01296	2-5/8 x 2-1/2	–	25	1.22
W 01297	3-1/8 x 3	–	15	

ADAPTER

FITTING WC-405 FTG x F

Part	Size	Box	Ctn	Wt
W 01514	3/8 x 3/8	50	750	0.06
W 01524	1/2 x 1/2	50	350	0.1
W 01525	x 3/8	50	750	0.05
W 01526	x 1/4	50	750	0.06
W 01531	5/8 x 1/2	50	450	0.11
W 01532	x 3/8	50	750	0.07
W 01546	7/8 x 3/4	25	250	0.17
W 01547	x 1/2	50	500	0.11
W 01563	1-1/8 x 1	25	250	0.24
W 01564	x 3/4	25	250	0.18
W 01571	1-3/8 x 1-1/4	10	100	0.4
W 01579	1-5/8 x 1-1/2	10	100	0.46
W 01587	2-1/8 x 2	–	50	0.65
W 01596	2-5/8 x 2-1/2	–	25	1.2

ADAPTER

MALE WC-401 C x M

Part	Size	Box	Ctn	Wt
W 01105 †	1/4 x 3/8	50	750	0.06
W 01106 †	x 1/4	50	1,200	0.03
W 01107 †	x 1/8	50	2,400	0.02
W 01109 †	5/16 x 3/8	50	800	0.07
W 01110 †	x 1/4	50	1,200	0.03
W 01113 †	3/8 x 1/2	50	500	0.08
W 01114 †	x 3/8	50	750	0.06
W 01115 †	x 1/4	50	1,200	0.03
W 01116 †	x 1/8	50	2,000	0.02
W 01123 †	1/2 x 3/4	25	250	0.17
W 01124 †	x 1/2	50	500	0.09
W 01125 †	x 3/8	50	500	0.06

ADAPTER CONT.

W 01126 †	x 1/4	50	750	0.05
W 01129 †	5/8 x 1	15	150	0.3
W 01130 †	x 3/4	25	250	0.17
W 01131 †	x 1/2	50	500	0.06
W 01132 †	x 3/8	50	500	0.07
W 01133 †	x 1/4	25	600	0.06
W 01138 †	3/4 x 3/4	25	250	0.14
W 01139 †	x 1/2	25	250	0.12
W 01145 †	7/8 x 1	10	100	0.29
W 01146 †	x 3/4	25	250	0.13
W 01147 †	x 1/2	25	250	0.12
W 01161 †	1-1/8 x 1-1/2	10	100	0.48
W 01162 †	x 11/4	10	100	0.39
W 01163 †	x 1	10	100	0.24
W 01164 †	x 3/4	10	100	0.17
W 01165 †	x 1/2	10	100	0.18
W 01170 †	1-3/8 x 1-1/2	10	100	0.48
W 01171 †	x 1-1/4	10	100	0.41
W 01172 †	x 1	10	100	0.24
W 01173 †	x 3/4	10	100	0.21
W 01178 †	1-5/8 x 2	–	50	0.78
W 01179 †	x 1-1/2	10	100	0.51
W 01180 †	x 1-1/4	10	100	0.37
W 01181 †	x 1	10	100	0.38
W 01187 †	2-1/8 x 2	5	50	0.57
W 01188 †	x 1-1/2	–	50	0.64
W 01189 †	x 1-1/4	–	50	0.57
W 01196 †	2-5/8 x 2-1/2	–	20	1.26
W 01197 †	x 2	–	20	0.98
W 01198 †	x 1-1/2	–	22	0.98
W 01199	3-1/8 x 3	–	20	1.7
W 01150	4-1/8 x 4	–	16	3.71

ADAPTER

FITTING WC-404 FTG x M

Part	Size	Box	Ctn	Wt
W 01425 †	1/2 x 3/8	50	750	0.05
W 01431 †	5/8 x 1/2	50	500	0.09
W 01432 †	x 3/8	50	750	0.06
W 01446 †	7/8 x 3/4	50	500	0.15
W 01447 †	x 1/2	50	500	0.13
W 01463 †	1-1/8 x 1	25	250	0.23
W 01464 †	x 3/4	25	250	0.19
W 01471 †	1-3/8 x 1-1/4	10	100	0.41
W 01479 †	1-5/8 x 1-1/2	10	100	0.49
W 01487 †	21/8 x 2	–	50	0.76
W 01496 †	2-5/8 x 2-1/2	–	20	1.95

BUSHING

FLUSH WC-106 FTG x C

Part	Size	Box	Ctn	Wt
W 01706 †	3/8 x 1/4	100	4,000	0.01
W 01712 †	1/2 x 3/8	100	4,000	0.01
W 01714 †	x 1/4	100	2,400	0.02
W 01715 †	5/8 x 1/2	100	1,500	0.02
W 01717 †	x 3/8	100	1,500	0.04
W 01720 †	3/4 x 5/8	50	750	0.03
W 01721 †	x 1/2	50	750	0.06
W 01722 †	x 3/8	50	750	0.08
W 01725 †	7/8x 3/4	50	500	0.04
W 01726 †	x 5/8	50	500	0.07
W 01727 †	x 1/2	50	500	0.11
W 01737 †	1-1/8 x 7/8	50	500	0.12
W 01738 †	x 3/4	50	500	0.18
W 01739 †	x 5/8	25	250	0.22
W 01743 †	1-3/8 x 1-1/8	10	200	0.16
W 01745 †	x 7/8	10	200	0.3
W 01750 †	1-5/8 x 1-3/8	10	100	0.22
W 01751 †	x 1-1/8	10	100	0.41
W 01758 †	2-1/8 x 1-5/8	10	100	0.68
W 01759 †	x 1-3/8	5	50	0.94
W 01767 †	2-5/8 x 2-1/8	–	50	0.92

BUSHING

FLUSH WC-417 FTG x F

Part	Size	Box	Ctn	Wt
A 07812	5/8 x 1/8	100	1,600	0.04
A 07813	x 1/4	50	1,200	0.02
A 07814	7/8 x 3/8	50	450	0.08
A 07815	1-1/8 x 1/2	50	300	0.17
A 07816	1-3/8 x 3/4	10	160	0.25
A 07817	1-5/8 x 1	10	90	0.34
A 07819	2-1/8 x 1-1/2	10	90	0.48

CAP

FLUSH WC-415 C

Part	Size	Box	Ctn	Wt
W 07002	1/4	50	2,000	0
W 07004	3/8	50	2,000	0.01
W 07006	1/2	50	1,000	0.01
W 07007	5/8	100	1,000	0.02
W 07008	3/4	50	2,000	0.03
W 07009	7/8	50	500	0.04
W 07011	1-1/8	50	500	0.08
W 07012	1-3/8	25	250	0.11
W 07013	1-5/8	25	250	0.18
W 07014	2-1/8	–	100	0.3
W 07015	2-5/8	–	50	0.48
W 07016	3-1/8	–	50	0.73
W 07017	3-5/8	–	25	1.15
W 07018	4-1/8	–	20	1.5

COUPLING

NO STOP WC-400NS C x C

Part	Size	Box	Ctn	Wt
W 01900 †	1/4	100	4,000	0
W 01901 †	3/8	50	2,000	0.01
W 01902 †	1/2	50	1,700	0.01
W 01903 †	5/8	100	1,000	0.03
W 01904 †	3/4	25	375	0.04
W 01905 †	7/8	50	500	0.06
W 01906 †	1-1/8	25	250	0.11
W 01907 †	1-3/8	25	250	0.15
W 01908 †	1-5/8	10	100	0.25
W 01909 †	2-1/8	–	75	0.4
W 01910 †	2-5/8	–	50	0.66
W 01911	3-1/8	–	25	1.03
W 01913	4-1/8	–	15	2.15

COUPLING

ROLLED STOP WC-400 C x C

Part	Size	Box	Ctn	Wt
W 01000 †	1/8	100	4,000	0
W 01001 †	3/16	100	4,000	0
W 01003 †	1/4	100	4,000	0
W 01009 †	3/8	50	2,000	0.01
W 01017 †	1/2	50	1,700	0.01
W 01022 †	5/8	100	1,000	0.03
W 01028 †	3/4	50	500	0.05
W 01034 †	7/8	50	500	0.06
W 01040 †	1	25	250	0.09
W 01047 †	1-1/8	25	250	0.11
W 01055 †	1-3/8	25	250	0.15
W 01062 †	1-1/2	–	150	0.22
W 01063 †	1-5/8	10	100	0.21
W 01072 †	2-1/8	–	75	0.4
W 01082 †	2-5/8	–	50	0.66
W 01092	3-1/8	–	25	1.03
W 01000	3-5/8	–	20	1.18
W 01017	4-1/8	–	15	2.11

† UL Recognized to 700 PSI (select sizes)

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