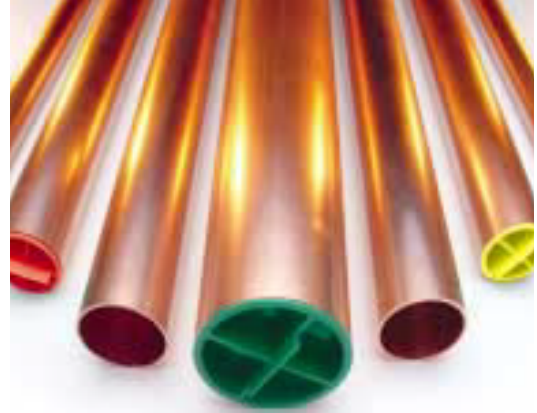


# Standard Copper Tube & Fittings

Type M, Type L, Type K, Type DWV - ASTM B306

## TYPICAL USES INCLUDE:

- **Type M:** above ground residential and light commercial uses. (Sizes range from 3/8" to 1 1/2" diameter)
- **Type L:** residential and commercial uses. Sizes range from 1/4" to 1 1/2" diameter)
- **Type K:** underground residential, commercial and industrial uses. (Sizes range from 1/4" to 1 1/2" diameter)
- **Type DWV - ASTM B306:** used for drainage waste and vents



## COPPER UNS NO. C12200

Types K, L, and M

ASTM B88

Color marking is not applicable to tube furnished in annealed straight lengths or coils.

## DESCRIPTION

- **WROT-COPPER and CAST-COPPER** Alloy fittings are for use in plumbing and other mechanical applications.
- **WROT-COPPER** fittings are designed to join ASTM B88 and ASTM B280 seamless copper tube.

		Product	Temper	Lengths	Code	Uses	Specifications
WALL	Heavy	Copper Waste Tube, Type K	Hard	10 ft. straight 20 ft. straight	Green	Domestic water service and distribution, fire protection, solar, fuel/fuel oil, HVAC, snow melting, compressed air, natural gas, liquefied petroleum (LP) gas, vacuum	ASTM B88
			Soft	20 ft. straight 40 ft. coils 60 ft. coils 100 ft. coils			
	Medium	Copper Waste Tube, Type L	Hard	10 ft. straight 20 ft. straight	Blue	Domestic water service and distribution, fire protection, solar, fuel/fuel oil, HVAC, snow melting, compressed air, natural gas, liquefied petroleum (LP) gas, vacuum	ASTM B88
			Soft	20 ft. straight 30 ft. coils 40 ft. coils 60 ft. coils 100 ft. coils			
	Light	Copper Waste Tube, Type M	Hard	10 ft. straight 20 ft. straight	Red	General plumbing and heating purposes; drainage waste, vent and other light pressure uses.	ASTM B88
		Copper Drainage Tube, Type DWV	Hard	10 ft. straight 20 ft. straight	Yellow	Drainage waste, vents, soil and other non-pressure applications	ASTM B306

## SPECIFICATIONS

NSF/ANSI 61	Drinking Water System Components -Health Effects
MSS SP73	Brazing Joints for Copper and Copper Alloy Pressure Fittings
MSS SP104	Wrought Copper Solder Joint Pressure Fittings
MSS SP106	Cast Copper Alloy Flanges and Flange Fittings; Class 125, 150 and 300
MSS SP123	Non-Ferrous Threaded and Solder-Joint Unions for Use with Copper Water Tube
MSS SP109	Welded Fabricated Copper Solder Joint Pressure Fittings
ASME/ANSI B16.29	Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings- DWV
ASME/ANSI B16.18	Cast Copper Alloy Solder Joint Pressure Fittings
ASME/ANSI B16.15	Cast Bronze Threaded Fittings
ASME/ANSI B16.26	Cast Copper Alloy Fittings for Flared Copper Tube
ASME/ANSI B16.23	Cast Copper Alloy Solder Joint Drainage
ASME/ANSI B16.24	Bronze Pipe Flanges and Flanged Fittings
ASME/ANSI B16.22	Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings
ASME/ANSI B16.50	Wrought Copper and Copper Alloy Braze Joint Pressure Fittings
RoHS 2011/65/EC	European Union's Restrictions of Hazardous Substances

# Standard Copper Tube & Fittings

## MATERIAL

<b>ASTM B75/B75M Alloy C12200</b>	Seamless Copper Tube (0% Lead)
<b>ASTM B152 Alloy C11000</b>	Copper Sheet, Strip, Plate and Rolled Bar (0% Lead)
<b>ASTM B584 Alloy C84400</b>	Copper Alloy Sand Casting for General Applications (>0.25% Lead)
<b>ASTM B584 Alloy C89833</b>	Copper Alloy Sand Casting (<0.25% Lead)
<b>ASTM B584 Alloy C87700</b>	Copper Alloy Sand Casting (<0.25% Lead)
<b>ASTM B62 Alloy C83600</b>	Bronze Casting 85-5-5-5 (<0.25% Lead)

### LEED COMPLIANCE:

The copper tubing and rod used to produce all E.P.C. copper fittings is manufactured from copper cathode which in turn is made up from twenty-five (25) percent post-consumer scrap as described above. Another fifty (50) percent is postindustrial scrap (turnings, shavings and chips).

### LEAD FREE

ALL WROT-COPPER fittings are manufactured in compliance with compliance with federal and state lead content requirements of 0.25% lead or less. Products are identified with "LF", "LL" or NSF 61-G or NSF 372.

## INTERNAL PRESSURE-TEMPERATURE RATING FOR COPPER FITTINGS, P.S.I.

Standard Water Tube Size	-20°F to 100F	150°F	200°F	250°F	300°F	350°F	400°F
1/4	910	770	740	725	710	605	455
3/8	775	660	635	620	610	515	385
1/2	720	610	585	575	565	480	360
5/8	630	535	515	505	490	420	315
3/4	580	515	475	465	455	385	290
1	490	475	400	395	385	325	245
1-1/4	435	400	355	350	340	290	215
1-1/2	405	355	330	325	315	270	200
2	360	330	295	290	280	240	180
2-1/2	335	295	270	265	260	220	165
3	315	270	255	250	245	210	155
3-1/2	300	255	245	240	235	200	150
4	290	245	235	230	225	195	145
5	265	225	215	215	210	175	130
6	250	210	200	200	195	165	125

## PRESSURE LOSS IN FITTINGS EXPRESSED AS EQUIVALENT LENGTH OF TUBE, FEET

Normal Standard in Inches	Wrot Copper Fittings					
	90° Ell	40° Ell	Tee Straight Run	Tee Side Branch	Coupling	180° 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