

# COPPER TUBES



## Copper Tubes

### Dimension Specifications

JIS H3300 C1220T – Standard that specifies expanded copper and copper alloy seamless pipes and tubes, having round section.

ASTM B88 – Standard specifications for seamless copper tube that suitable for general plumbing, similar applications for the conveyance of fluids, and commonly used with solder, flared, or compression-type fittings.



### Chemical Composition & Mechanical Properties

		Chemical Composition %		Tensile Strength N/mm <sup>2</sup>
		Cu	P	
<b>C1220T Copper Tube</b>	<b>Min.</b>	99.90	0.015	315
	<b>Max.</b>		0.040	
<b>B88 Copper Tube</b>	<b>Min.</b>	99.90	0.015	250
	<b>Max.</b>		0.040	

### Pressure Ratings and Burst Strength

$$P = \frac{2St_{min}}{D_{max} - 0.8t_{min}}$$

#### WHERE:

P=Allowable pressure, psi

S=Maximum allowable stress in tension, psi

t min=Wall thickness (min.), in.

D max=Outside diameter (max.), in.

C=A constant

**Ordering Information**

TC - T - FH - MM - 6 X 1.5  
 I II III IV V VI

**I Type of Item**  
 TC Copper Tubes

**II Material Type**  
 T Tubes  
 C Coils

**III Item Finish**  
 FH Full Hard  
 HH Half Hard  
 S Soft Annealed

**IV Size Designator**  
 MM Metric Size  
 IN Inches Size  
 NB Nominal Bore Size  
 K Type K Copper Tube  
 L Type L Copper Tube

**V Tube OD Sizes**  
**For Metric OD Sizes**

Size	6MM	12MM	20MM	.....	35MM	38MM	42MM
Code	6	12	20		35	38	42

**V Tube OD Sizes**  
**For Inch OD & Inch NB Sizes**

Size	1/8"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"
Code	02	04	05	06	08	10	12	14
Size	1"	1 1/8"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Code	16	18	20	24	32	40	48	64

**VI Tube Thickness Sizes**  
**For Metric Sizes**

Size	1.0MM	1.5MM	2.0MM	.....	4.0MM	5.0MM	10.0MM
Code	1.0	1.5	2.0		4.0	5.0	10.0

**VI Tube Thickness Sizes**  
**For Inch Sizes**

Size	0.035"	0.049"	0.065"	0.083"	0.095"
Code	035	049	065	083	095
Size	0.109"	0.120"	0.134"	0.156"	0.188"
Code	109	120	134	156	188

**Seamless Copper Tube JIS H3300 C1220T**

No.	Part No	Description	Weight/ 6 meter (Kg)
1	TC-T-FH-IN-05X0.9	5/16"OD x 0.9MM THK x 6 MTR COPPER TUBE	1.07
2	TC-T-FH-IN-05X1.2	5/16"OD x 1.2MM THK x 6 MTR COPPER TUBE	1.36
3	TC-T-FH-IN-05X1.5	5/16"OD x 1.5MM THK x 6 MTR COPPER TUBE	1.63
4	TC-T-FH-IN-04X0.9	1/4"OD x 0.9MM THK x 6 MTR COPPER TUBE	0.83
5	TC-T-FH-IN-04X1.2	1/4"OD x 1.2MM THK x 6 MTR COPPER TUBE	1.04
6	TC-T-FH-IN-06X1.2	3/8"OD x 1.2MM THK x 6 MTR COPPER TUBE	1.68
7	TC-T-FH-IN-06X1.5	3/8"OD x 1.5MM THK x 6 MTR COPPER TUBE	2.03
8	TC-T-FH-IN-08X1.2	1/2"OD x 1.2MM THK x 6 MTR COPPER TUBE	2.33
9	TC-T-FH-IN-08X1.5	1/2"OD x 1.5MM THK x 6 MTR COPPER TUBE	2.83
10	TC-T-FH-IN-10X0.89	5/8"OD x 0.89MM THK x 6 MTR COPPER TUBE	2.25
11	TC-T-FH-IN-10X1.5	5/8"OD x 1.5MM THK x 6 MTR COPPER TUBE	3.64
12	TC-T-FH-IN-10X3.0	5/8"OD x 3.0MM THK x 6 MTR COPPER TUBE	6.51
13	TC-T-FH-IN-12X1.2	3/4"OD x 1.2MM THK x 6 MTR COPPER TUBE	3.61
14	TC-T-FH-IN-12X1.5	3/4"OD x 1.5MM THK x 6 MTR COPPER TUBE	4.44
15	TC-T-FH-IN-12X3.0	3/4"OD x 3.0MM THK x 6 MTR COPPER TUBE	8.12
16	TC-T-FH-IN-14X1.2	7/8"OD x 1.2MM THK x 6 MTR COPPER TUBE	4.25
17	TC-T-FH-IN-14X1.5	7/8"OD x 1.5MM THK x 6 MTR COPPER TUBE	5.24
18	TC-T-FH-IN-16X1.5	1"OD x 1.5MM THK x 6 MTR COPPER TUBE	6.04
19	TC-T-FH-IN-16X3.0	1"OD x 3.0MM THK x 6 MTR COPPER TUBE	11.33
20	TC-T-FH-IN-18X1.5	1 1/8"OD x 1.5MM THK x 6 MTR COPPER TUBE	6.85
21	TC-T-FH-IN-18X2.0	1 1/8"OD x 2.0MM THK x 6 MTR COPPER TUBE	8.96
22	TC-T-FH-IN-18X3.0	1 1/8"OD x 3.0MM THK x 6 MTR COPPER TUBE	12.94
23	TC-T-FH-IN-20X1.5	1 1/4"OD x 1.5MM THK x 6 MTR COPPER TUBE	7.65
24	TC-T-FH-MM-06X1.0	6MM OD x 1.0MM THK x 6 MTR COPPER TUBE	0.84
25	TC-T-FH-MM-08X1.0	8MM OD x 1.0MM THK x 6 MTR COPPER TUBE	1.18
26	TC-T-FH-MM-08X1.2	8MM OD x 1.2MM THK x 6 MTR COPPER TUBE	1.38
27	TC-T-FH-MM-08X1.5	8MM OD x 1.5MM THK x 6 MTR COPPER TUBE	1.64
28	TC-T-FH-MM-10X1.0	10MM OD x 1.0MM THK x 6 MTR COPPER TUBE	1.52
29	TC-T-FH-MM-10X1.2	10MM OD x 1.2MM THK x 6 MTR COPPER TUBE	1.78
30	TC-T-FH-MM-10X1.5	10MM OD x 1.5MM THK x 6 MTR COPPER TUBE	2.15
31	TC-T-FH-MM-12X1.0	12MM OD x 1.0MM THK x 6 MTR COPPER TUBE	1.85
32	TC-T-FH-MM-12X1.2	12MM OD x 1.2MM THK x 6 MTR COPPER TUBE	2.19
33	TC-T-FH-MM-12X1.5	12MM OD x 1.5MM THK x 6 MTR COPPER TUBE	2.66
34	TC-T-FH-MM-12X2.0	12MM OD x 2.0MM THK x 6 MTR COPPER TUBE	3.37
35	TC-T-FH-MM-14X1.0	14MM OD x 1.0MM THK x 6 MTR COPPER TUBE	2.19
36	TC-T-FH-MM-14X1.5	14MM OD x 1.5MM THK x 6 MTR COPPER TUBE	3.16
37	TC-T-FH-MM-15X1.2	15MM OD x 1.2MM THK x 6 MTR COPPER TUBE	2.79
38	TC-T-FH-MM-15X1.5	15MM OD x 1.5MM THK x 6 MTR COPPER TUBE	3.41
39	TC-T-FH-MM-15X2.0	15MM OD x 2.0MM THK x 6 MTR COPPER TUBE	4.38
40	TC-T-FH-MM-16X1.0	16MM OD x 1.0MM THK x 6 MTR COPPER TUBE	2.53
41	TC-T-FH-MM-16X1.2	16MM OD x 1.2MM THK x 6 MTR COPPER TUBE	2.99
42	TC-T-FH-MM-16X1.5	16MM OD x 1.5MM THK x 6 MTR COPPER TUBE	3.67
43	TC-T-FH-MM-18X1.0	18MM OD x 1.0MM THK x 6 MTR COPPER TUBE	-
44	TC-T-FH-MM-18X1.2	18MM OD x 1.2MM THK x 6 MTR COPPER TUBE	3.4
45	TC-T-FH-MM-18X1.5	18MM OD x 1.5MM THK x 6 MTR COPPER TUBE	4.17

**Seamless Copper Tube JIS H3300 C1220T**

No.	Part No	Description	Weight/ 6 meter (Kg)
46	TC-T-FH-MM-20X1.2	20MM OD x 1.2MM THK x 6 MTR COPPER TUBE	3.8
47	TC-T-FH-MM-20X1.5	20MM OD x 1.5MM THK x 6 MTR COPPER TUBE	4.68
48	TC-T-FH-MM-20X2.0	20MM OD x 2.0MM THK x 6 MTR COPPER TUBE	6.07
49	TC-T-FH-MM-22X1.2	22MM OD x 1.2MM THK x 6 MTR COPPER TUBE	4.21
50	TC-T-FH-MM-22X1.5	22MM OD x 1.5MM THK x 6 MTR COPPER TUBE	5.18
51	TC-T-FH-MM-25X1.5	25MM OD x 1.5MM THK x 6 MTR COPPER TUBE	5.94
52	TC-T-FH-MM-25X2.0	25MM OD x 2.0MM THK x 6 MTR COPPER TUBE	7.76
53	TC-T-FH-MM-28X1.5	28MM OD x 1.5MM THK x 6 MTR COPPER TUBE	6.7
54	TC-T-FH-MM-28X2.0	28MM OD x 2.0MM THK x 6 MTR COPPER TUBE	8.77
55	TC-T-FH-MM-30X1.5	30MM OD x 1.5MM THK x 6 MTR COPPER TUBE	7.21
56	TC-T-FH-MM-35X1.5	35MM OD x 1.5MM THK x 6 MTR COPPER TUBE	8.47
57	TC-T-FH-MM-38X1.5	38MM OD x 1.5MM THK x 6 MTR COPPER TUBE	9.23
58	TC-T-FH-MM-44X2.0	44MM OD x 2.0MM THK x 6 MTR COPPER TUBE	14.16
59	TC-T-FH-MM-54X2.0	54MM OD x 2.0MM THK x 6 MTR COPPER TUBE	17.53

**Seamless Copper Tube ASTM B-88 ALLOY C122 (DHP)**
**Dimension Properties of the Tubes (Type K)**

Nominal Tube Size in Inches Type K	Outer Diameter in Inches Type K	Tolerance O.D. in Inches Type K		Nominal Wall Thickness in Inches Type K	Weight per Foot in LBS Type K	Hard Drawn	
		Min.	Max.			W.P (PSI) ↑ •	B.P (PSI) *
1/4"NB	0.375"	0.374"	0.376"	0.035"	0.145	1595	-
3/8"NB	0.500"	0.499"	0.501"	0.049"	0.269	1745	-
1/2"NB	0.625"	0.624"	0.626"	0.049"	0.344	1375	9840
5/8"NB	0.750"	0.749"	0.751"	0.049"	0.418	1135	-
3/4"NB	0.875"	0.874"	0.876"	0.065"	0.641	1315	9300
1"NB	1.125"	1.1235"	1.1265"	0.065"	0.839	1010	7200
1 1/4"NB	1.375"	1.3735"	1.3765"	0.065"	1.04	820	5525
1 1/2"NB	1.625"	1.623"	1.627"	0.072"	1.36	765	5000
2"NB	2.125"	2.123"	2.127"	0.083"	2.06	665	3915
2 1/2"NB	2.625"	2.623"	2.627"	0.095"	2.92	520	3575
3"NB	3.125"	3.123"	3.127"	0.109"	4.00	605	3450
3 1/2"NB	3.625"	3.623"	3.627"	0.120"	5.12	570	-
4"NB	4.125"	4.123"	4.127"	0.134"	6.51	555	3415
5"NB	5.125"	5.123"	5.127"	0.160"	9.67	540	3585
6"NB	6.125"	6.123"	6.127"	0.192"	13.87	540	3425
8"NB	8.125"	8.121"	8.127"	0.271"	25.90	580	3635
10"NB	10.125"	10.119"	10.127"	0.338"	40.30	585	-
12"NB	12.125"	12.119"	12.127"	0.405"	57.80	585	-

**Seamless Copper Tube ASTM B-88 ALLOY C122 (DHP)**
**Dimension Properties of the Tubes (Type L)**

Nominal Tube Size in Inches Type L	Outer Diameter in Inches Type L	Tolerance O.D. in Inches Type L		Nominal Wall Thickness in Inches Type L	Weight per Foot in LBS Type L	Hard Drawn	
		Min.	Max.			W.P (PSI) ↑ •	B.P (PSI) *
1/4"NB	0.375"	0.374"	0.376"	0.030"	0.126	1350	-
3/8"NB	0.500"	0.499"	0.501"	0.035"	0.198	1195	-
1/2"NB	0.625"	0.624"	0.626"	0.040"	0.285	1105	7765
5/8"NB	0.750"	0.749"	0.751"	0.042"	0.362	965	-
3/4"NB	0.875"	0.874"	0.876"	0.045"	0.455	875	5900
1"NB	1.125"	1.1235"	1.1265"	0.050"	0.655	770	5115
1 1/4"NB	1.375"	1.3735"	1.3765"	0.055"	0.884	680	4550
1 1/2"NB	1.625"	1.623"	1.627"	0.060"	1.14	630	4100
2"NB	2.125"	2.123"	2.127"	0.070"	1.75	555	3365
2 1/2"NB	2.625"	2.623"	2.627"	0.080"	2.48	520	3215
3"NB	3.125"	3.123"	3.127"	0.090"	3.33	490	2865
3 1/2"NB	3.625"	3.623"	3.627"	0.100"	4.29	470	-
4"NB	4.125"	4.123"	4.127"	0.110"	5.38	450	2865
5"NB	5.125"	5.123"	5.127"	0.125"	7.61	410	2985
6"NB	6.125"	6.123"	6.127"	0.140"	10.2	385	2690
8"NB	8.125"	8.121"	8.127"	0.200"	19.29	420	2650
10"NB	10.125"	10.119"	10.127"	0.250"	30.1	425	-
12"NB	12.125"	12.119"	12.127"	0.280"	40.4	395	-

Note: Information and data contained in these charts as taken from ASTM Specification No. B-88, Federal Specification WW-T-799, and various Copper Tube Mill chart standards.

(↑) Based upon 150°F. with an allowable stress of 9000 p.s.i.

(\*) Based on actual laboratory test data provided by Copper Development Association Inc.

(•) Rated internal pressure for copper water tube based on the strength of the tube alone and applicable to systems using mechanical joints.

**Seamless Copper Tube ASTM B-88 ALLOY C122 (DHP)**

No.	Part No	Description	Weight/6meter (Kg)
1	TC-T-FH-K-04	1/4"NB x 6 MTR TYPE K COPPER TUBE	1.3
2	TC-T-FH-K-06	3/8"NB x 6 MTR TYPE K COPPER TUBE	2.4
3	TC-T-FH-K-08	1/2"NB x 6 MTR TYPE K COPPER TUBE	3.07
4	TC-T-FH-K-10	5/8"NB x 6 MTR TYPE K COPPER TUBE	3.74
5	TC-T-FH-K-12	3/4"NB x 6 MTR TYPE K COPPER TUBE	5.73
6	TC-T-FH-K-16	1"NB x 6 MTR TYPE K COPPER TUBE	7.5
7	TC-T-FH-K-20	1 1/4"NB x 6 MTR TYPE K COPPER TUBE	9.26
8	TC-T-FH-K-24	1 1/2"NB x 6 MTR TYPE K COPPER TUBE	12.16
9	TC-T-FH-K-32	2"NB x 6 MTR TYPE K COPPER TUBE	18.44
10	TC-T-FH-K-40	2 1/2"NB x 6 MTR TYPE K COPPER TUBE	26.14
11	TC-T-FH-K-48	3"NB x 6 MTR TYPE K COPPER TUBE	35.76
12	TC-T-FH-K-64	4"NB x 6 MTR TYPE K COPPER TUBE	58.17
13	TC-T-FH-L-04	1/4"NB x 6 MTR TYPE L COPPER TUBE	1.13
14	TC-T-FH-L-06	3/8"NB x 6 MTR TYPE L COPPER TUBE	1.77
15	TC-T-FH-L-08	1/2"NB x 6 MTR TYPE L COPPER TUBE	2.55
16	TC-T-FH-L-12	3/4"NB x 6 MTR TYPE L COPPER TUBE	4.06
17	TC-T-FH-L-16	1"NB x 6 MTR TYPE L COPPER TUBE	5.85
18	TC-T-FH-L-20	1 1/4"NB x 6 MTR TYPE L COPPER TUBE	7.9
19	TC-T-FH-L-24	1 1/2"NB x 6 MTR TYPE L COPPER TUBE	10.22
20	TC-T-FH-L-32	2"NB x 6 MTR TYPE L COPPER TUBE	15.65
21	TC-T-FH-L-40	2 1/2"NB 6 MTR TYPE L COPPER TUBE	22.15
22	TC-T-FH-L-48	3"NB x 6 MTR TYPE L COPPER TUBE	29.71
23	TC-T-FH-L-64	4"NB x 6 MTR TYPE L COPPER TUBE	48.04



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