



Crane Copper Tube

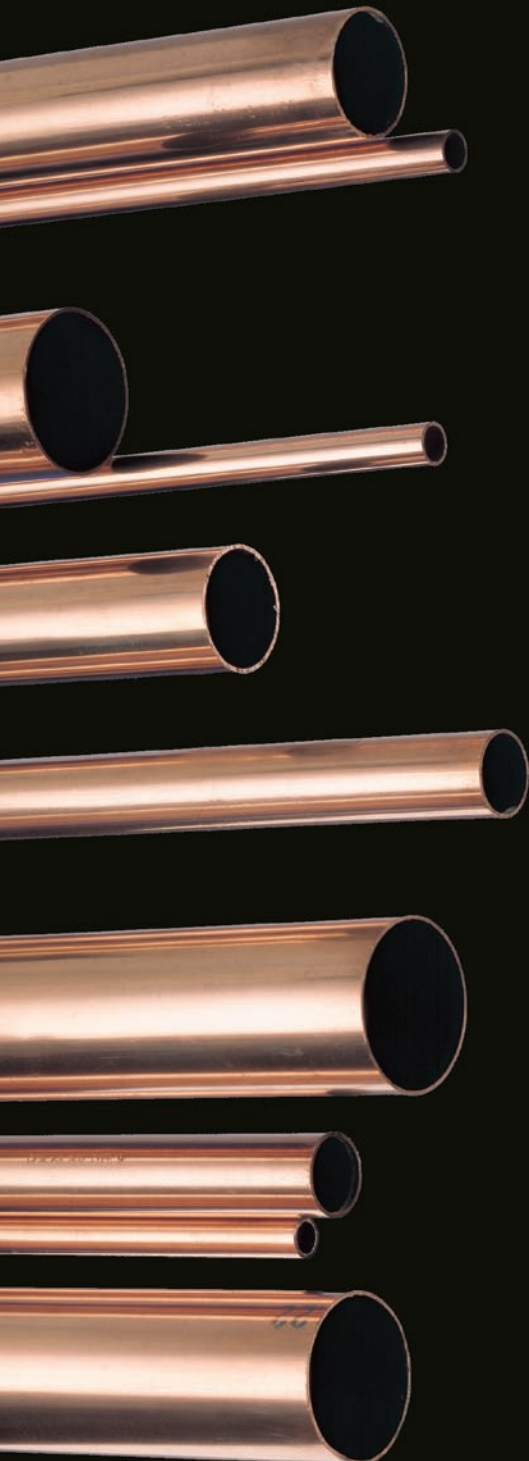


# Copper Tube - AS1432

VERSATILE, TRUSTED QUALITY

COPPER TUBE → PLUMBING → GAS FITTING → DRAINAGE

Crane copper tube is manufactured to AS1432 standards using high grade raw materials and modern extruding and drawing technology to provide superior products for water, gas and waste in domestic, commercial and industrial applications.



## Crane Copper Tube – AS1432

- **Quality Certified:** Crane copper tube is Australian made, and is certified to comply with AS1432 - Copper tube for plumbing, gasfitting and drainage applications.
- **Internal Surface Quality:** Crane Copper Tube uses special manufacturing processes to provide enhanced internal bore characteristics that offer improved corrosion resistance and levels of carbon residue well below the values set by the Standard.
- **Inherent Strength:** Copper tube has inherent strength, providing good resistance to external damage, puncture, abrasion, vibration bumps, and has a wide operating range for pressure and vacuum.
- **Impervious:** Copper tube is impervious to oxygen, insecticide, solvents and toxins.
- **Non-Flammable:** Copper tube is non-flammable and does not emit toxic fumes during fire.
- **Full Flow Joints:** Copper tube jointing does not reduce the bore of the tube.
- **Low Friction Loss:** Copper tube provides high flow rates with minimal external dimensions.
- **U.V. Resistant:** Copper tube does not degrade from direct sunlight or become brittle with age.
- **Resists Rodent Attack:** Copper tube is not prone to damage due to rodent attack.
- **Multi Applications:** Copper tube is made to universal size not a unique brand size.
- **Stability:** Copper tube does not creep with age and has 7 to 15 times less lineal expansion than other materials with heat, and continues to perform at high temperatures.
- **Healthier & Non-tainting:** Copper tube does not adversely affect the taste of water, and \*reduces the number of harmful micro-organisms in water.  
\*Study conducted by INCRA under project N°348 – 1984 using water contaminated with coliforms.
- **Proven Track Record:** Crane copper tube is part of a superior system with a proven track record.
- **Add Value For Life:** Copper tube adds to home's resale value.
- **Recyclable:** Copper tube is a valuable recyclable material.

### Classification

Copper tube is classified into four different specification types based on wall thickness for a specific outside diameter. Products are colour coded as follows:

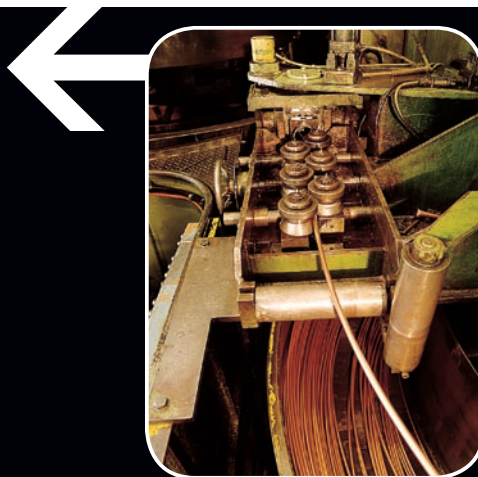
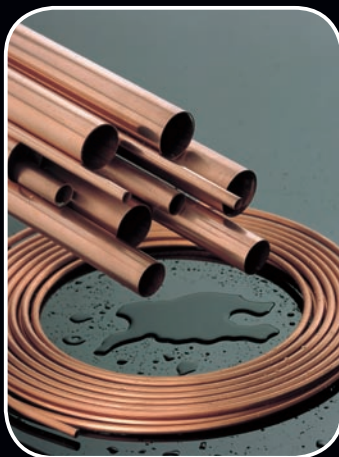
Type A : Green    Type B : Blue    Type C : Red    Type D : Black

## Type A - Copper Tube

Crane Item Number	Nominal Size	Outside Diameter (mm)	Wall Thickness (mm)	Min. Wall Thickness (mm)	Imperial Equivalent O.D. and swg	Nominal Weight (kg/m)	Form	Temper	Safe Working Pressure (kPa) @≤50°C	Safe Working Pressure (kPa) @>50 & ≤75°C
50102975	DN 6	6.35	0.91	0.77	1/4" x 20	0.139	30m coil	Annealed	11320	9380
50102976	DN 6	6.35	0.91	0.77	1/4" x 20	0.139	6m straight	Hard drawn	11320	9380
50102985	DN 8	7.94	0.91	0.77	5/16" x 20	0.180	30m coil	Annealed	8810	7300
50102986	DN 8	7.94	0.91	0.77	5/16" x 20	0.180	6m straight	Hard drawn	8810	7300
*	DN 10	9.53	1.02	0.88	3/8" x 19	0.244	18m coil	Annealed	8350	6920
*	DN 10	9.53	1.02	0.88	3/8" x 19	0.244	6m straight	Hard drawn	8350	6920
50103075	DN 15	12.70	1.02	0.88	1/2" x 19	0.335	18m coil	Annealed	6100	5060
50103076	DN 15	12.70	1.02	0.88	1/2" x 19	0.335	6m straight	Bendable	6100	5060
*	DN 18	15.88	1.22	1.04	5/8" x 18	0.502	18m coil	Annealed	5750	4770
50103139	DN 18	15.88	1.22	1.04	5/8" x 18	0.502	6m straight	Hard drawn	5750	4770
50103177	DN 20	19.05	1.42	1.21	3/4" x 17	0.703	18m coil	Annealed	5560	4610
50103179	DN 20	19.05	1.42	1.21	3/4" x 17	0.703	6m straight	Bendable	5560	4610
50103178	DN 20	19.05	1.42	1.21	3/4" x 17	0.703	6m straight	Hard drawn	5560	4610
50103230	DN 25	25.40	1.63	1.39	1" x 16	1.088	18m coil	Annealed	4750	3940
50103231	DN 25	25.40	1.63	1.39	1" x 16	1.088	6m straight	Hard drawn	4750	3940
*	DN 32	31.75	1.63	1.39	1 1/4" x 16	1.379	18m coil	Annealed	3750	3110
50103271	DN 32	31.75	1.63	1.39	1 1/4" x 16	1.379	6m straight	Hard drawn	3750	3110
*	DN 40	38.10	1.63	1.39	1 1/2" x 16	1.670	18m coil	Annealed	3100	2570
50103293	DN 40	38.10	1.63	1.39	1 1/2" x 16	1.670	6m straight	Hard drawn	3100	2570
50103321	DN 50	50.80	1.63	1.39	2" x 16	2.251	6m straight	Hard drawn	2310	1910
50103348	DN 65	63.50	1.63	1.39	2 1/2" x 16	2.832	6m straight	Hard drawn	1840	1520
50103360	DN 80	76.20	2.03	1.73	3" x 14	4.229	6m straight	Hard drawn	1900	1580
*	DN 90	88.90	2.03	1.73	3 1/2" x 14	4.953	6m straight	Hard drawn	1630	1350
50103372	DN 100	101.60	2.03	1.83	4" x 14	5.677	6m straight	Hard drawn	1500	1250
50103380	DN 125	127.00	2.03	1.83	5" x 14	7.125	6m straight	Hard drawn	1200	990
50103385	DN 150	152.40	2.64	2.38	6" x 12	11.104	6m straight	Hard drawn	1300	1080
50103394	DN 200	203.20	2.64	2.24	8" x 12	14.871	6m straight	Hard drawn	910	760

\* Denotes tube made to order where minimum order quantities required.

Annealed      Bendable



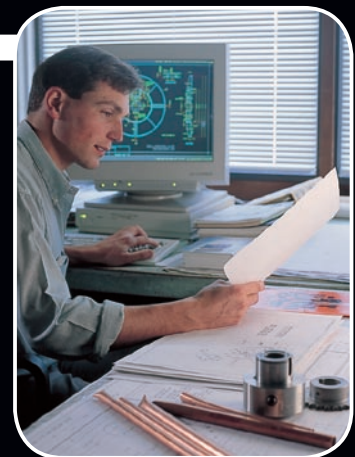
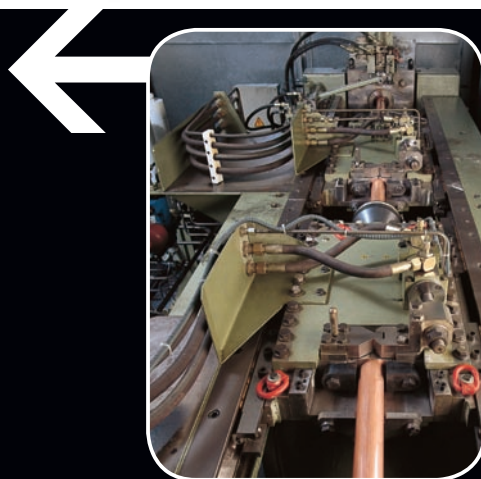
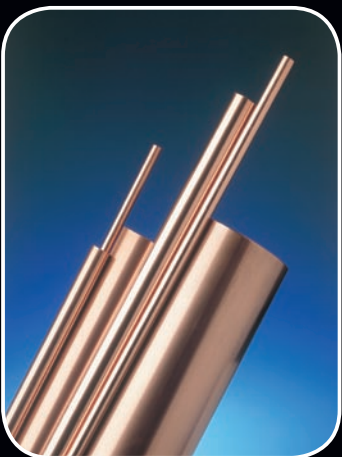
## Type B - Copper Tube

Crane Item Number	Nominal Size	Outside Diameter (mm)	Wall Thickness (mm)	Min. Wall Thickness (mm)	Imperial Equivalent O.D. and swg	Nominal Weight (kg/m)	Form	Temper	Safe Working Pressure (kPa) @ ≤50°C	Safe Working Pressure (kPa) @ >50 & ≤75°C
*	DN 6	6.35	0.71	0.60	1/4" x 22	0.112	30m coil	Annealed	8560	7100
*	DN 6	6.35	0.71	0.60	1/4" x 22	0.112	6m straight	Hard drawn	8560	7100
*	DN 8	7.94	0.71	0.60	5/16" x 22	0.144	30m coil	Annealed	6700	5560
50102981	DN 8	7.94	0.71	0.60	5/16" x 22	0.144	6m straight	Hard drawn	6700	5560
50103008	DN 10	9.53	0.91	0.77	3/8" x 20	0.220	18m coil	Annealed	7220	5980
50103014	DN 10	9.53	0.91	0.77	3/8" x 20	0.220	6m straight	Hard drawn	7220	5980
50103045	DN 15	12.70	0.91	0.77	1/2" x 20	0.301	18m coil	Annealed	5290	4390
50103047	DN 15	12.70	0.91	0.77	1/2" x 20	0.301	6m coil	Annealed	5290	4390
50103061	DN 15	12.70	0.91	0.77	1/2" x 20	0.301	6m straight	Bendable	5290	4390
50103133	DN 18	15.88	1.02	0.88	5/8" x 19	0.426	18m coil	Annealed	4810	3990
50103135	DN 18	15.88	1.02	0.88	5/8" x 19	0.426	6m straight	Bendable	4810	3990
50103164	DN 20	19.05	1.02	0.88	3/4" x 19	0.517	18m coil	Annealed	3970	3290
50103165	DN 20	19.05	1.02	0.88	3/4" x 19	0.517	6m straight	Bendable	3970	3290
50103222	DN 25	25.40	1.22	1.04	1" x 18	0.829	18m coil	Annealed	3500	2900
50103225	DN 25	25.40	1.22	1.04	1" x 18	0.829	6m straight	Hard drawn	3500	2900
*	DN 32	31.75	1.22	1.04	1 1/4" x 18	1.046	18m coil	Annealed	2780	2300
50103268	DN 32	31.75	1.22	1.04	1 1/4" x 18	1.046	6m straight	Hard drawn	2780	2300
*	DN 40	38.10	1.22	1.04	1 1/2" x 18	1.264	18m coil	Annealed	2300	1910
50103291	DN 40	38.10	1.22	1.04	1 1/2" x 18	1.264	6m straight	Hard drawn	2300	1910
50103319	DN 50	50.80	1.22	1.04	2" x 18	1.699	6m straight	Hard drawn	1710	1420
50103339	DN 65	63.50	1.22	1.04	2 1/2" x 18	2.134	6m straight	Hard drawn	1370	1130
50103358	DN 80	76.20	1.63	1.39	3" x 16	3.414	6m straight	Hard drawn	1520	1260
50103367	DN 90	88.90	1.63	1.39	3 1/2" x 16	3.995	6m straight	Hard drawn	1300	1080
50103369	DN 100	101.60	1.63	1.47	4" x 16	4.577	6m straight	Hard drawn	1200	1000
50103379	DN 125	127.00	1.63	1.47	5" x 16	5.739	6m straight	Hard drawn	960	800
50103383	DN 150	152.40	2.03	1.83	6" x 14	8.573	6m straight	Hard drawn	1000	830
50103393	DN 200	203.20	2.03	1.78	8" x 14	11.470	6m straight	Hard drawn	720	600

\* Denotes tube made to order where minimum order quantities required.

Annealed     Bendable

## Quality, reliability, and performance



## Type C - Copper Tube

Crane Item Number	Nominal Size	Outside Diameter (mm)	Wall Thickness (mm)	Min. Wall Thickness (mm)	Imperial Equivalent O.D. and swg	Nominal Weight (kg/m)	Form	Temper	Safe Working Pressure (kPa) @≤50°C	Safe Working Pressure (kPa) @>50 & ≤75°C
*	DN 10	9.53	0.71	0.60	3/8" x 22	0.176	18m coil	Annealed	5520	4570
50103001	DN 10	9.53	0.71	0.60	3/8" x 22	0.176	6m straight	Hard drawn	5520	4570
*	DN 15	12.70	0.71	0.60	1/2" x 22	0.239	18m coil	Annealed	4070	3370
50103033	DN 15	12.70	0.71	0.60	1/2" x 22	0.239	6m straight	Bendable	4070	3370
50103125	DN 18	15.88	0.91	0.77	5/8" x 20	0.383	18m coil	Annealed	4180	3470
50103127	DN 18	15.88	0.91	0.77	5/8" x 20	0.383	6m straight	Bendable	4180	3470
50103153	DN 20	19.05	0.91	0.77	3/4" x 20	0.464	18m coil	Annealed	3450	2860
50103157	DN 20	19.05	0.91	0.77	3/4" x 20	0.464	6m straight	Bendable	3450	2860
*	DN 25	25.40	0.91	0.77	1" x 20	0.626	18m coil	Annealed	2560	2130
50103219	DN 25	25.40	0.91	0.77	1" x 20	0.626	6m straight	Hard drawn	2560	2130

\* Denotes tube made to order where minimum order quantities required.

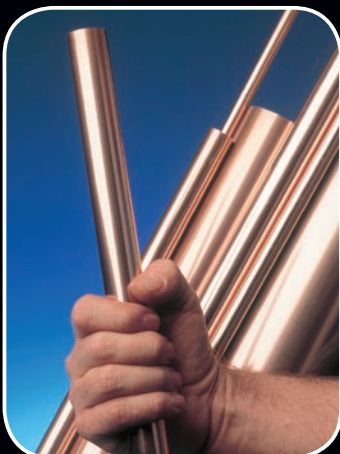
Annealed     Bendable

## Type D - Copper Tube

Crane Item Number	Nominal Size	Outside Diameter (mm)	Wall Thickness (mm)	Min. Wall Thickness (mm)	Imperial Equivalent O.D. and swg	Nominal Weight (kg/m)	Form	Temper	Safe Working Pressure (kPa) @≤50°C	Safe Working Pressure (kPa) @>50 & ≤75°C
50103265	DN 32	31.75	0.91	0.77	1 1/4" x 20	0.788	6m straight	Hard drawn	2040	1690
50103288	DN 40	38.10	0.91	0.77	1 1/2" x 20	0.951	6m straight	Hard drawn	1690	1400
50103316	DN 50	50.80	0.91	0.77	2" x 20	1.275	6m straight	Hard drawn	1260	1050
50103336	DN 65	63.50	0.91	0.77	2 1/2" x 20	1.600	6m straight	Hard drawn	1010	830
50103357	DN 80	76.20	1.22	1.04	3" x 18	2.569	6m straight	Hard drawn	1130	940
*	DN 90	88.90	1.22	1.04	3 1/2" x 18	3.004	6m straight	Hard drawn	970	800
50103368	DN 100	101.60	1.22	1.09	4" x 18	3.440	6m straight	Hard drawn	890	740
*	DN 125	127.00	1.42	1.27	5" x 17	5.008	6m straight	Hard drawn	830	690
50103382	DN 150	152.40	1.63	1.47	6" x 16	6.902	6m straight	Hard drawn	800	660

\* Denotes tube made to order where minimum order quantities required.

## Quality, reliability, and performance





## Safe Working Pressures

The safe working pressures for varying temperatures may be calculated from the following formula;

$$P_{sw} = \frac{2000 \times S_D \times t_m}{D - t_m}$$

Where

$S_D$  = maximum allowable design tensile stress for annealed copper (MPa)

$t_m$  = minimum wall thickness (mm)

$D$  = Outside diameter of tube (mm)

## Values for $S_D$

Temperature range °C	Maximum allowable design tensile stress MPa
≤50	41
>50, ≤75	34
>75, ≤125	33
>125, ≤150	32
>150, ≤175	28
>175, ≤200	21

## Testing Pressure

The test pressure is the recommended maximum pressure that can be applied to copper tube for short periods of time.

$$P_t = 1.5 \times P_{sw}$$

Where:  $P_{sw}$  = Safe working pressure of the copper tube

## Physical Properties of Copper Tube

Composition	Alloy C12200 Copper= 99.90%min; Phosphorus=0.015-0.040%
Melting point	1083°C
Density	$8.94 \times 10^3 \text{kg/m}^3$
Thermal Expansion	0.177mm/10°C.m
Modulus of Elasticity	17,000 MPa

Tube Temper	Annealed	Bendable	Hard Drawn
Hardness	70 max.	80-100	100 min.
Yield (0.2% proof), (MPa)	70	220	350
Ultimate (MPa)	220	280	380

### Crane Copper Tube

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