



Crane Copper Tube

COPPER TUBING → AS/NZS 1571 → ASTM B280



**Superior Quality,
Reliable Performance**



**AIR-CONDITIONING &
REFRIGERATION COPPER TUBE**

Crane Copper Tube is an international supplier of a wide range of refrigeration and air-conditioning copper tube. Crane Copper Tube is manufactured in accordance with Australian and American Standards.

Specification

AS/NZS 1571	Copper Alloy N°.	C12200 CW024A or CuDHP
ASTM B280	Chemical Requirement	Cu+Ag min. 99.9% P 0.015-0.040%
	Tolerances	As required by the standard
	Cleanness	0.038g/m ²

Tube Integrity

All Crane copper tube is electronically tested by Eddy Current method to ensure tube integrity as part of Crane Copper Tube quality system.

Working Pressures

Safe working pressures for copper tube are calculated on the basis of annealed temper tube with the maximum allowable outside diameter and minimum wall thickness, thus allowing for softening of the tube due to brazing or heating. All safe working pressures are based on the following formula:

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

where:

P_{sw} = safe working pressure (kPa)

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

t_m = minimum wall thickness of tube (mm)

D = outside diameter of tube (mm)

Interpolation of allowable design stress as defined by table D7 of AS4041 for the below temperatures.

Temperature (°C)	50.0	55.0	60.0	65.0	70.0	75.0
S_D (MPa)	41.0	39.6	38.2	36.8	35.4	34.0

Air-conditioning and Refrigeration Grade Tube

Capping

The standard air-conditioning and refrigeration grade copper tube is distinguished by coloured capping (31.8mm OD and below is Yellow and 34.9mm OD and above is Black).

Ink Marking

The tube is also identified with ink marking along its length stating the Brand Logo and Name, Conforming Standard and Size.

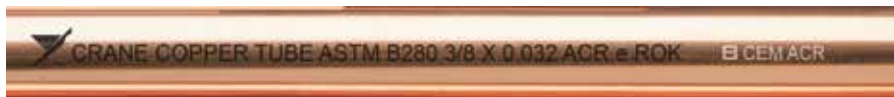
SAMPLE OF INK BRANDING REQUIREMENT FOR AS/NZS 1571



Ink Marking

Incise Marking

SAMPLE OF INK BRANDING REQUIREMENT FOR ASTM B280



Ink Marking

Incise Marking

R410A Rated Tube

Crane Copper Tube compliments its range of refrigeration tube with R410A rated copper tube. The R410A rated copper tube is especially designed to comply with AS4041 Pressure Piping Code. Our R410A rated copper tube is capable of withstanding working pressures of 4131kPa when the refrigerant is operating at a temperature of 65°C, which is the recommended operating temperature as per AS/NZS 1677 Refrigerating systems.

Capping

The R410A rated copper tube is distinguished by pink coloured capping.

Ink Marking

The tube is also identified with ink marking along its length stating the Brand Logo and Brand Name, Conforming Standard, Temper and Size.

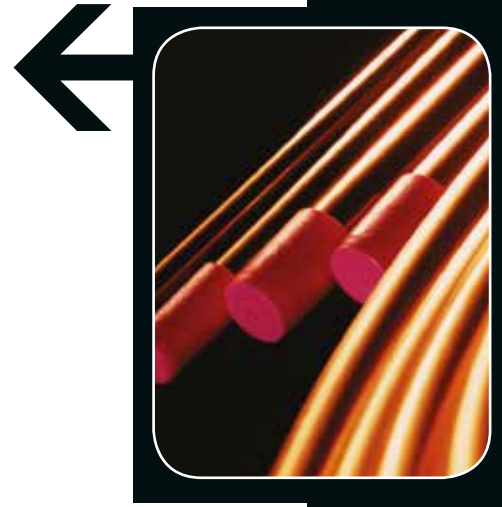
SAMPLE INK BRANDING REQUIREMENT AS/NZS 1571 HALF HARD R410A RATED STRAIGHTS



Ink Marking

Incise Marking

Quality, reliability, and performance



Straight Seamless Tubes for Air-conditioning and Refrigeration

Australian Standard AS/NZS 1571

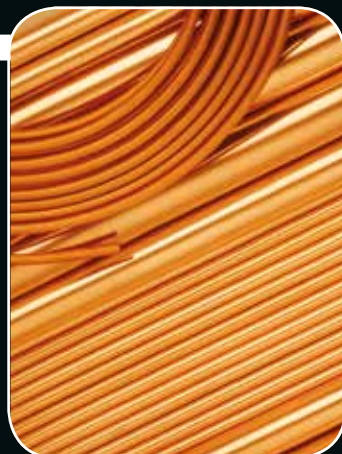
Standard sizes and data for straight copper tubes

Crane Item Number	Outside Diameter (mm)	Wall Thickness (mm)	Imperial Equivalent O.D. and swg	Nominal Weight (kg/length)	Form	Temper	Safe working pressure (kPa) at service temperature				
							50 °C	55°C	60°C	65°C	70°C
50200038	6.35	0.91	1/4"	0.81	5.8m Straight	H	12142	11727	11313	10898	10484
50200037	6.35	0.81	1/4"	0.73	5.8m Straight	H	10635	10272	9908	9545	9182
50200036	6.35	0.71	1/4"	0.65	5.8m Straight	H	9175	8862	8548	8235	7922
50200041	9.52	0.91	3/8"	1.28	5.8m Straight	H	7710	7446	7183	6920	6657
50200040	9.52	0.81	3/8"	1.15	5.8m Straight	H	6792	6560	6328	6096	5864
50200039	9.52	0.71	3/8"	1.02	5.8m Straight	H	5893	5692	5491	5290	5088
50200044	12.70	0.91	1/2"	1.76	5.8m Straight	1/2 H	5653	5460	5267	5074	4880
50200316	12.70	0.81	1/2"	1.57	5.8m Straight	H	4994	4823	4653	4482	4312
50200043	12.70	0.81	1/2"	1.57	5.8m Straight	1/2 H	4994	4823	4653	4482	4312
50200042	12.70	0.71	1/2"	1.39	5.8m Straight	H	4344	4196	4048	3899	3751
50200049	15.88	1.22	5/8"	2.91	5.8m Straight	H	6091	5883	5675	5467	5259
50200048	15.88	1.02	5/8"	2.47	5.8m Straight	1/2 H	5031	4859	4688	4516	4344
50200047	15.88	1.02	5/8"	2.47	5.8m Straight	H	5031	4859	4688	4516	4344
50200046	15.88	0.91	5/8"	2.23	5.8m Straight	H	4459	4307	4155	4002	3850
50200045	15.88	0.71	5/8"	1.76	5.8m Straight	H	3438	3321	3203	3086	2968
50200053	19.05	1.22	3/4"	3.54	5.8m Straight	1/2 H	5015	4844	4673	4502	4330
50200052	19.05	1.22	3/4"	3.54	5.8m Straight	H	5015	4844	4673	4502	4330
50200317	19.05	1.14	3/4"	3.33	5.8m Straight	H	4668	4508	4349	4190	4030
50200123	19.05	1.14	3/4"	3.33	5.8m Straight	1/2 H	4668	4508	4349	4190	4030
50200126	19.05	1.02	3/4"	3.00	5.8m Straight	H	4152	4010	3868	3726	3585
50200051	19.05	0.91	3/4"	2.70	5.8m Straight	H	3684	3558	3432	3306	3181
50200050	19.05	0.71	3/4"	2.12	5.8m Straight	H	2846	2749	2652	2554	2457
50200056	22.23	1.63	7/8"	5.47	5.8m Straight	H	5794	5596	5398	5200	5002
50200091	22.23	1.40	7/8"	4.75	5.8m Straight	H	4927	4759	4591	4422	4254
50200331	22.23	1.22	7/8"	4.17	5.8m Straight	H	4261	4115	3970	3824	3679
50200127	22.23	1.22	7/8"	4.17	5.8m Straight	1/2 H	4261	4115	3970	3824	3679
50200088	22.23	1.14	7/8"	3.91	5.8m Straight	H	3968	3832	3697	3561	3426
50200237	22.23	1.02	7/8"	3.52	5.8m Straight	H	3532	3411	3291	3170	3050
50200055	22.23	0.91	7/8"	3.17	5.8m Straight	H	3137	3030	2922	2815	2708
50200054	22.23	0.71	7/8"	2.49	5.8m Straight	H	2427	2344	2261	2178	2095

Items are subject to MOQ's and tooling availability.

Denotes R410A rated tube.

Quality, reliability, and performance



Straight Seamless Tubes for Air-conditioning and Refrigeration

Australian Standard AS/NZS 1571

Standard sizes and data for straight copper tubes – continued

Crane Item Number	Outside Diameter (mm)	Wall Thickness (mm)	Imperial Equivalent O.D. and swg	Nominal Weight (kg/length)	Form	Temper	Safe working pressure (kPa) at service temperature				
							50 °C	55°C	60°C	65°C	70°C
50200089	25.40	1.63	1"	6.31	5.8m Straight	H	5026	4855	4683	4511	4340
50200240	25.40	1.22	1"	4.80	5.8m Straight	H	3705	3578	3452	3325	3199
50200087	25.40	0.91	1"	3.63	5.8m Straight	H	2732	2639	2546	2452	2359
50200061	28.58	1.83	1 1/8"	7.97	5.8m Straight	H	5014	4843	4672	4501	4330
50200242	28.58	1.63	1 1/8"	7.15	5.8m Straight	H	4437	4285	4134	3982	3831
50200241	28.58	1.27	1 1/8"	5.65	5.8m Straight	H	3416	3299	3183	3066	2949
50200060	28.58	1.22	1 1/8"	5.44	5.8m Straight	H	3276	3164	3052	2941	2829
50200059	28.58	1.02	1 1/8"	4.58	5.8m Straight	H	2721	2628	2535	2443	2350
50200058	28.58	0.91	1 1/8"	4.10	5.8m Straight	H	2419	2337	2254	2171	2089
50200057	28.58	0.81	1 1/8"	3.66	5.8m Straight	H	2146	2073	2000	1926	1853
50200251	31.75	2.03	1 1/4"	9.83	5.8m Straight	H	5007	4836	4665	4494	4323
50200243	31.75	1.22	1 1/4"	6.07	5.8m Straight	H	2937	2837	2737	2636	2536
50200090	31.75	0.91	1 1/4"	4.57	5.8m Straight	H	2171	2097	2023	1949	1875
50200079	34.92	2.03	1 3/8"	10.87	5.8m Straight	H	4527	4372	4218	4063	3909
50200252	34.92	1.63	1 3/8"	8.84	5.8m Straight	H	3596	3473	3350	3228	3105
50200092	34.92	1.22	1 3/8"	6.70	5.8m Straight	H	2662	2571	2480	2389	2298
50200078	34.92	0.91	1 3/8"	5.04	5.8m Straight	H	1969	1902	1835	1768	1700
50200253	38.10	2.41	1 1/2"	14.01	5.8m Straight	H	4950	4781	4612	4443	4274
50200093	38.10	1.22	1 1/2"	7.33	5.8m Straight	H	2433	2350	2267	2184	2101
50200081	41.28	2.41	1 5/8"	15.25	5.8m Straight	H	4548	4392	4237	4082	3926
50200096	41.28	1.63	1 5/8"	10.52	5.8m Straight	H	3021	2918	2815	2712	2609
50200254	41.28	1.43	1 5/8"	9.28	5.8m Straight	H	2639	2549	2459	2368	2278
50200095	41.28	1.22	1 5/8"	7.96	5.8m Straight	H	2241	2164	2088	2011	1935
50200094	41.28	1.02	1 5/8"	6.69	5.8m Straight	H	1865	1801	1738	1674	1610
50200080	41.28	0.91	1 5/8"	6.01	5.8m Straight	H	1660	1603	1546	1490	1433
50200255	44.45	1.22	1 3/4"	8.59	5.8m Straight	H	2077	2006	1935	1864	1793
50200256	50.80	1.63	2"	13.05	5.8m Straight	H	2438	2355	2272	2189	2105
50200259	53.98	2.64	2 1/8"	22.07	5.8m Straight	H	3776	3647	3518	3389	3260
50200258	53.98	1.78	2 1/8"	15.13	5.8m Straight	H	2508	2422	2337	2251	2165
50200257	53.98	1.63	2 1/8"	13.90	5.8m Straight	H	2291	2213	2134	2056	1978
50200083	53.98	1.22	2 1/8"	10.48	5.8m Straight	H	1703	1644	1586	1528	1470
50200098	53.98	1.02	2 1/8"	8.80	5.8m Straight	H	1419	1370	1322	1273	1225
50200097	53.98	0.91	2 1/8"	7.87	5.8m Straight	H	1263	1220	1177	1134	1091
50200261	66.68	2.03	2 5/8"	21.37	5.8m Straight	H	2310	2231	2152	2073	1995
50200260	66.68	1.63	2 5/8"	17.27	5.8m Straight	H	1845	1782	1719	1656	1593
50200085	66.68	1.22	2 5/8"	13.01	5.8m Straight	H	1373	1326	1279	1232	1185
50200086	79.38	1.63	3 1/8"	20.64	5.8m Straight	H	1544	1491	1439	1386	1333

Items are subject to MOQ's and tooling availability.

■ Denotes R410A rated tube.

Annealed Seamless Tubes for Air-conditioning and Refrigeration

Australian Standard AS/NZS 1571

Standard sizes and data for annealed copper tubes

Crane Item Number	Outside Diameter (mm)	Wall Thickness (mm)	Imperial Equivalent O.D. and swg	Nominal Weight (kg/length)	Form	Temper	Safe working pressure (kPa) at service temperature				
							50 °C	55°C	60°C	65°C	70°C
50200003	4.76	0.91	3/16"	1.48	15m Coil	0	17041	16459	15877	15295	14713
50200002	4.76	0.71	3/16"	1.21	15m Coil	0	12715	12281	11847	11412	10978
50200001	4.76	0.56	3/16"	0.99	15m Coil	0	9711	9379	9047	8716	8384
50200008	6.35	0.91	1/4"	2.09	15m Coil	0	12142	11727	11313	10898	10484
50200007	6.35	0.81	1/4"	1.90	15m Coil	0	10635	10272	9908	9545	9182
50200006	6.35	0.71	1/4"	1.69	15m Coil	0	9175	8862	8548	8235	7922
50200005	6.35	0.61	1/4"	1.47	15m Coil	0	7760	7495	7230	6965	6700
50200004	6.35	0.56	1/4"	1.36	15m Coil	0	7069	6828	6587	6345	6104
50200011	7.94	0.91	5/16"	2.71	15m Coil	0	9431	9109	8787	8465	8143
50200010	7.94	0.71	5/16"	2.17	15m Coil	0	7177	6932	6687	6442	6197
50200009	7.94	0.56	5/16"	1.74	15m Coil	0	5558	5368	5178	4988	4799
50200016	9.52	0.91	3/8"	3.31	15m Coil	0	7718	7455	7191	6928	6664
50200015	9.52	0.81	3/8"	2.98	15m Coil	0	6800	6568	6336	6103	5871
50200014	9.52	0.71	3/8"	2.64	15m Coil	0	5900	5699	5497	5296	5094
50200013	9.52	0.61	3/8"	2.29	15m Coil	0	5018	4847	4675	4504	4333
50200012	9.52	0.56	3/8"	2.11	15m Coil	0	4584	4427	4271	4114	3958
50200021	12.70	0.91	1/2"	4.54	15m Coil	0	5653	5460	5267	5074	4880
50200020	12.70	0.81	1/2"	4.07	15m Coil	0	4994	4823	4653	4482	4312
50200019	12.70	0.71	1/2"	3.59	15m Coil	0	4344	4196	4048	3899	3751
50200018	12.70	0.61	1/2"	3.10	15m Coil	0	3705	3578	3452	3325	3199
50200017	12.70	0.56	1/2"	2.86	15m Coil	0	3389	3273	3157	3042	2926
50200235	15.88	1.14	5/8"	7.08	15m Coil	0	5664	5471	5277	5084	4890
50200028	15.88	1.02	5/8"	6.38	15m Coil	0	5031	4859	4688	4516	4344
50200027	15.88	0.91	5/8"	5.76	15m Coil	0	4459	4307	4155	4002	3850
50200026	15.88	0.81	5/8"	5.16	15m Coil	0	3945	3811	3676	3541	3407
50200025	15.88	0.71	5/8"	4.54	15m Coil	0	3438	3321	3203	3086	2968
50200024	15.88	0.66	5/8"	4.23	15m Coil	0	3186	3078	2969	2860	2751
50200023	15.88	0.61	5/8"	3.92	15m Coil	0	2936	2836	2736	2636	2535
50200022	15.88	0.56	5/8"	3.61	15m Coil	0	2688	2596	2504	2412	2321
50200034	19.05	1.22	3/4"	9.16	15m Coil	0	5015	4844	4673	4502	4330
50200124	19.05	1.14	3/4"	8.60	15m Coil	0	4668	4508	4349	4190	4030
50200033	19.05	0.91	3/4"	6.99	15m Coil	0	3684	3558	3432	3306	3181
50200032	19.05	0.89	3/4"	6.80	15m Coil	0	3599	3476	3353	3231	3108
50200031	19.05	0.71	3/4"	5.49	15m Coil	0	2846	2749	2652	2554	2457
50200030	19.05	0.61	3/4"	4.74	15m Coil	0	2433	2350	2267	2184	2101
50200029	19.05	0.56	3/4"	4.35	15m Coil	0	2228	2152	2076	2000	1924
50200056	22.22	1.63	7/8"	14.14	15m Coil	0	5796	5599	5401	5203	5005
50200320	22.22	1.14	7/8"	10.15	15m Coil	0	3970	3834	3699	3563	3427
50200035	22.22	0.91	7/8"	8.21	15m Coil	0	3138	3031	2924	2817	2709

Items are subject to MOQ's and tooling availability.

Denotes R410A rated tube.

Straight Seamless Tubes for Air-conditioning and Refrigeration

American Standard ASTM B280

Standard sizes and data for straight copper tubes

Crane Item Number	Product Imperial	Outside Diameter (mm)	Wall Thickness (mm)	Nominal Weight (kg/length)	Form	Temper	Safe working pressure at service temperature									
							120°F 48.9°C		130°F 54.4°C		140°F 60°C		150°F 65.5°C		160°F 71.1°C	
							PSI	kPa	PSI	kPa	PSI	kPa	PSI	kPa	PSI	kPa
50200071	3/8" X 0.030	9.52	0.76	1.08	5.8m Straight	H	792	5464	770	5313	756	5216	747	5149	739	5099
50200072	1/2" X 0.035	12.7	0.89	1.71	5.8m Straight	H	705	4859	685	4725	673	4638	664	4579	658	4535
50200073	5/8" X 0.040	15.88	1.02	2.47	5.8m Straight	H	653	4500	635	4376	623	4295	615	4241	609	4200
50200074	3/4" X 0.042	19.05	1.07	3.13	5.8m Straight	H	571	3936	555	3828	545	3757	538	3710	533	3674
50200075	7/8" X 0.045	22.22	1.14	3.91	5.8m Straight	H	526	3630	512	3530	502	3465	496	3421	491	3387
50200076	1 1/8" X 0.050	28.58	1.27	5.65	5.8m Straight	H	447	3080	434	2995	426	2940	421	2903	417	2875
50200077	1 3/8" X 0.055	34.92	1.4	7.64	5.8m Straight	H	397	2735	386	2660	379	2611	374	2578	370	2553
50200082	1 5/8" X 0.060	41.28	1.52	9.84	5.8m Straight	H	369	2545	359	2475	352	2429	348	2398	344	2375
50200084	2 1/8" X 0.070	53.98	1.78	15.13	5.8m Straight	H	328	2265	319	2202	313	2162	309	2134	307	2114
50200262	2 5/8" X 0.080	66.68	2.03	21.37	5.8m Straight	H	303	2092	295	2034	290	1997	286	1971	283	1952
50200263	3 1/8" X 0.090	79.38	2.29	28.75	5.8m Straight	H	286	1975	278	1920	273	1885	270	1861	267	1843
50200264	3 5/8" X 0.100	92.08	2.54	37.04	5.8m Straight	H	274	1890	267	1838	262	1804	258	1781	256	1764
50200265	4 1/8" X 0.110	104.78	2.79	46.34	5.8m Straight	H	265	1826	257	1775	253	1743	250	1721	247	1704

Annealed Seamless Tubes for Air-conditioning and Refrigeration

American Standard ASTM B280

Standard sizes and data for annealed copper tubes

Crane Item Number	Product Imperial	Outside Diameter (mm)	Wall Thickness (mm)	Nominal Weight (kg/length)	Form	Temper	Safe working pressure at service temperature									
							120°F 48.9°C		130°F 54.4°C		140°F 60°C		150°F 65.5°C		160°F 71.1°C	
							PSI	kPa	PSI	kPa	PSI	kPa	PSI	kPa	PSI	kPa
50200062	3/16" X 0.030	4.76	0.76	1.28	15m Coil	O (O60)	1746	12039	1698	11708	1666	11492	1645	11346	1629	11236
50200063	1/4" X 0.030	6.35	0.76	1.79	15m Coil	O (O60)	1268	8747	1233	8506	1211	8350	1195	8244	1184	8164
50200064	5/16" X 0.032	7.94	0.81	2.43	15m Coil	O (O60)	1079	7444	1050	7239	1030	7106	1017	7015	1007	6947
50200065	3/8" X 0.032	9.52	0.81	2.97	15m Coil	O (O60)	887	6118	863	5950	847	5840	836	5766	828	5710
50200066	1/2" X 0.032	12.7	0.81	4.06	15m Coil	O (O60)	656	4521	638	4396	626	4316	618	4261	612	4220
50200067	5/8" X 0.035	15.88	0.89	5.62	15m Coil	O (O60)	557	3843	542	3737	532	3668	525	3621	520	3586
50200068	3/4" X 0.035	19.05	0.89	6.81	15m Coil	O (O60)	461	3180	448	3092	440	3035	435	2997	430	2968
50200069	3/4" X 0.042	19.05	1.07	8.10	15m Coil	O (O60)	570	3928	554	3820	544	3750	537	3702	532	3666
50200070	7/8" X 0.045	22.22	1.14	10.12	15m Coil	O (O60)	525	3621	511	3521	501	3456	495	3412	490	3379

Pressure-Temperature Conversion Chart

The table below gives values of saturated vapour pressures of some of the most common refrigerants. This table is supplied for guidance purposes only. Operating pressures for specific refrigerants should be obtained from your refrigerant supplier.

Temp	°C	45.0	50.0	55.0	60.0	65.0	70.0
	°F	113.0	122.0	131.0	140.0	149.0	158.0
R11	kPa	105.0	140.0	176.0	212.0	252.0	307.0
	psig	15.2	20.3	25.5	30.7	36.5	44.5
R12	kPa	981.0	1120.0	1268.0	1428.0	1586.0	1784.0
	psig	142.2	162.4	183.9	207.1	230.0	258.7
R123	kPa	78.0	114.0	147.0	182.0	228.0	276.0
	psig	11.3	16.5	21.3	26.4	33.1	40.0
R134a	kPa	1054.0	1234.0	1383.0	1571.0	1789.0	2016.0
	psig	152.8	178.9	200.5	227.8	259.4	292.3
R22	kPa	1649.0	1855.0	2095.0	2345.0	2592.0	2895.0
	psig	239.1	269.0	303.8	340.0	375.8	419.8
R404A	kPa	1967.0	2224.0	2503.0	2805.0	3093.0	3292.0
	psig	285.2	322.5	362.9	406.7	448.5	477.3
R407C	kPa	1735.0	1970.0	2235.0	2520.0	2933.0	3262.0
	psig	251.6	285.7	324.1	365.4	425.3	473.0
R408A	kPa	1822.0	2060.0	2319.0	2600.0	2842.0	3160.0
	psig	264.2	298.7	336.3	377.0	412.1	458.2
R409A	kPa	1037.0	1191.0	1363.0	1550.0	1990.0	2217.0
	psig	150.4	172.7	197.6	224.8	288.6	321.5
R410A	kPa	2609.0	2945.0	3308.0	3702.0	4131.0	4599.0
	psig	378.3	427.0	479.7	536.8	599.0	666.9
R502	kPa	1766.0	1977.0	2215.0	2475.0	2865.0	3090.0
	psig	256.1	286.7	321.2	358.9	415.4	448.1
R507	kPa	2021.0	2281.0	2572.0	2890.0	3236.0	3566.0
	psig	293.0	330.7	372.9	419.1	469.2	517.1



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