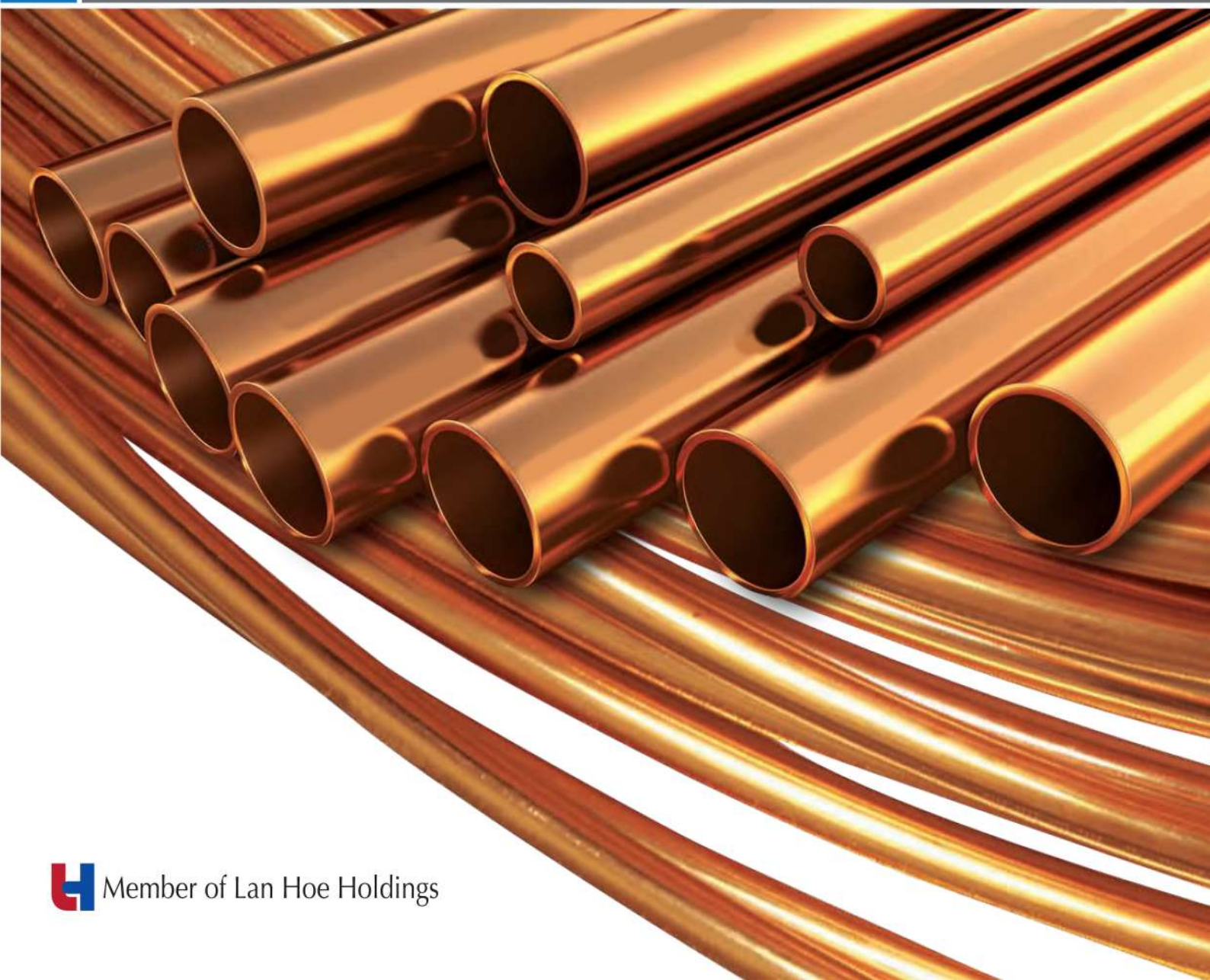




**LH PREMIUM QUALITY COPPER TUBES
SEAMLESS ROUND COPPER PIPING**
AS/NZS 1571:1995 for Air Conditioning & Refrigeration





Message from Mr. C.H. Tan,
Group Managing Director

Lan Hoe Group of Companies believe firmly that "Integrity & Sincerity" hold the key to sustainable growth for our partners and associates. As a pioneer in the HVAC & Refrigeration Industry, we want to lead the industry with good business ethics and to convince our business partners to work together in transforming into the industry's most trustworthy & reputable entities

By "Integrity", we assure our clients that only genuine products are supplied by us. We take extensive measures to ensure all products supplied by us are genuine and this explains the continuous and strong support we had received from the industry's most reputable players.

Apart from genuine products, we are also committed to genuine relationship and cooperation with our clients. When we make a promise on our service and delivery, we always do our utmost best to deliver. Besides services to our clients, social responsibilities are equally important for industry leaders like Lan Hoe. For this reason, we allocate continuous efforts & resources to source for products that are energy efficient and also that could potentially reduce carbon footprint. We need to be ensure our future generations can enjoy a healthy & sustainable environment. All of these are what "Sincerity" meant for us in Lan Hoe Group.

Air-Conditioning, Heating & Refrigeration

For Air-Conditioning & Refrigeration System, what we need to really take note is about the pressure of the various type of refrigerants (freons) in any applications that our copper tubes or pipes are being used. Below is an extremely useful table for references :



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.

Temperature	°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
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

Sirim Certificate



SIRIM QAS
INTERNATIONAL

No Lesen : PC004932
Licence No :

LESEN PENSIJILAN BARANGAN

Product Certification Licence



MS
SIRIM

SIRIM QAS International Sdn. Bhd. dengan ini menganugerahkan kepada
SIRIM QAS International Sdn. Bhd. hereby grants to

LAN HOE ENTERPRISE (1979) SDN. BHD.
24, JALAN 6/91
TAMAN SHAMELIN PERKASA
56100 CHERAS
KUALA LUMPUR, MALAYSIA

Lesen untuk menggunakan Tanda Pensijilan di atas barangan
a licence to use the Certification Mark on
SEAMLESS COPPER TUBES FOR AIR CONDITIONING AND REFRIGERATION

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with
ASINZS 1571 : 1995

Mohd Azanuddin bin Salleh
Ketika Pegawai Eksekutif
Chief Executive Officer
SIRIM QAS International Sdn. Bhd.

SIRIM QAS International Sdn. Bhd.
(No. Pendaftaran 410204-X)
1, Persiaran Dam Murni
Murni 2, The Sunway 1300
40100 Sunway Dam
Murni, Damansara
150, PJY-3

Tarikh Mula Pensijilan : 31 January 2020
Certified Since
Bath Sabtingga : 31 January 2021
Valid Until

Tarikh Dikeluarkan : 06 February 2020
Issue Date
No Sirim : 052747
Serial No :

Tel : 60-3-55484800
Fax : 60-3-55484868
http://www.sirim.my
http://www.malaysiacertification.com.my

Lesen ini dianugerahkan tertakut kepada syarikat-syarikat Persejiran Pensijilan Barangan SIRIM QAS International Sdn. Bhd.
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SIRIM QAS
INTERNATIONAL

No Lesen : PC004932
Licence No :

SCHEDULE

LAN HOE ENTERPRISE (1979) SDN. BHD.



MS
SIRIM

Trade Mark : COMPANY ID = LAN HOE ENTERPRISE (1979) SDN. BHD.
Model : TEMPER = O
Type : COPPER TUBES IN COIL
Size : OUTSIDE DIAMETER (mm) x THICKNESS (mm) =
6.35 x 0.61,
9.25 x 0.61,
12.70 x 0.61,
15.88 x 0.61,
6.35 x 0.71,
9.25 x 0.71,
12.70 x 0.71,
15.88 x 0.71
NOMINAL LENGTH (mm) = 15000

Factory Name and Location :
SHANGHAI HAILIANG COPPER CO., LTD
SITUAN TOWN
FENGXIAN DISTRICT
201412
SHANGHAI, CHINA

End of page

SIRIM QAS International Sdn. Bhd.
(No. Pendaftaran 410204-X)
1, Persiaran Dam Murni
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Seamless Copper Tubes for AIR CONDITIONING & REFRIGERATION APPLICATIONS

These tubes are supplied in both hard drawn straight pipes and annealed coils, after meticulous cleaning, dehydrating and capping, to ensure that the internal cleanliness standards are fully met. The intended use for this product is in Air-Conditioning & Refrigeration applications.

Straight Pipes	OUTER DIAMETER (inch)	OUTER DIAMETER (mm)	WALL THICKNESS (mm)	NOMINAL WEIGHT (kg/m)	SAFE WORKING PRESSURE (Bar)		
					50° C < 75° C	75° C < 125° C	125° C < 150° C
	3/8"	9.52	0.71	0.176	120	120	110
			0.81	0.198	140	140	130
			0.91	0.220	160	160	150
			1.02	0.244	180	180	170
			1.22	0.285	220	220	210
	1/2"	12.7	0.71	0.239	90	90	80
			0.81	0.271	100	100	100
			0.91	0.301	110	110	110
			1.02	0.335	130	130	120
			1.22	0.394	160	160	150
	5/8"	15.88	0.71	0.303	70	70	70
			0.81	0.343	80	80	80
			0.91	0.383	90	90	90
			1.02	0.426	100	100	100
			1.22	0.503	120	120	120
	3/4"	19.05	0.71	0.366	60	60	50
			0.81	0.415	60	60	60
			0.91	0.464	70	70	70
			1.02	0.517	80	80	80
			1.22	0.611	100	100	100
7/8"	22.22	0.71	0.429	50	50	50	
		0.81	0.485	50	50	50	
		0.91	0.545	60	60	60	
		1.02	0.608	70	70	70	
		1.22	0.720	80	80	80	
1 1/8"	28.58	0.71	0.556	30	30	30	
		0.81	0.632	40	40	40	
		0.91	0.708	50	50	40	
		1.02	0.790	50	50	50	
		1.22	0.938	60	60	60	
1 3/8"	34.92	0.71	0.683	30	30	30	
		0.81	0.776	30	30	30	
		0.91	0.870	40	40	40	
		1.02	0.972	40	40	40	
		1.22	1.155	50	50	50	
1 5/8"	41.28	0.81	0.921	30	30	30	
		0.91	1.032	30	30	30	
		1.02	1.154	30	30	30	
		1.22	1.373	40	40	40	
2 1/8"	53.98	0.91	1.357	20	20	20	
		1.02	1.518	30	30	20	
		1.22	1.809	30	30	30	
		1.63	2.394	40	40	40	
2 5/8"	66.68	1.22	2.244	20	20	20	
		1.63	2.979	30	30	30	
3 1/8"	79.4	1.22	2.680	20	20	20	
		1.63	3.562	30	30	30	
		1.83	3.989	30	30	30	

Annealed Coil	OUTER DIAMETER (inch)	OUTER DIAMETER (mm)	WALL THICKNESS (mm)	NOMINAL WEIGHT (kg/m)	SAFE WORKING PRESSURE (Bar)		
					50°C < 75°C	75°C < 125°C	125°C < 150°C
1/4"	6.35	0.51	0.084	60	50	50	
		0.56	0.091	60	60	60	
		0.61	0.098	70	60	60	
		0.71	0.113	80	80	70	
		0.81	0.126	100	90	90	
		0.91	0.139	110	100	100	
		1.02	0.153	130	120	110	
3/8"	9.52	1.22	0.176	160	150	140	
		0.51	0.129	40	30	30	
		0.56	0.141	40	40	40	
		0.61	0.153	40	40	40	
		0.71	0.176	50	50	50	
		0.81	0.198	60	60	50	
		0.91	0.220	70	60	60	
1/2"	12.7	1.02	0.244	80	70	70	
		1.22	0.285	100	90	90	
		0.51	0.175	20	20	20	
		0.56	0.191	30	30	30	
		0.61	0.207	30	30	30	
		0.71	0.239	40	30	30	
		0.81	0.271	40	40	40	
5/8"	15.88	0.91	0.301	50	50	40	
		1.02	0.335	60	50	50	
		1.22	0.394	70	60	60	
		0.56	0.241	20	20	20	
		0.61	0.262	20	20	20	
		0.71	0.303	30	30	30	
		0.81	0.343	30	30	30	
3/4"	19.05	0.91	0.383	40	40	30	
		1.02	0.426	40	40	40	
		1.22	0.503	50	50	50	
		0.61	0.316	20	20	20	
		0.71	0.366	20	20	20	
		0.81	0.415	30	20	20	
		0.91	0.464	30	30	30	
		1.02	0.517	30	30	30	
		1.22	0.611	40	40	40	

- Safe working pressures calculated for annealed copper.
- The average outside diameter of the tube is the average of the maximum and minimum outside diameters as determined at any one cross section of the tube.
- The tolerances listed represent the maximum deviation at any point denotes tube made to order where maximum order quantities required.

Specified outside diameter	Tolerance*	
	Straight Pipes	Annealed Coils
> 3.18 ≤ 12.70	+0, -0.08	+0, -0.13
> 12.70 ≤ 19.05	+0, -0.08	+0, -0.20
> 19.05 ≤ 25.40	+0, -0.08	+0, -0.31
> 25.40 ≤ 31.75	+0, -0.08	+0, -0.38
> 31.75 ≤ 50.80	+0, -0.08	+0, -0.46
> 50.80 ≤ 101.60	+0, -0.15	-
> 101.60 ≤ 155.58	+0, -0.30	-

Hardness Requirements		
Temper	Vickness hardness, HV	
	Minimum	Maximum
H	100	-
1/2H	75	100
O	-	75

Physical Properties

Composition	Alloy C 12200 Copper = 99,90% min Phosphorus = 0.015–0.040%
Melting Point	981°F (1083°C)
Density	558 lb/ft ³ (8.94 x 10 ³ kg/m ³)
Thermal Expansion	0.00118 in/10°F.ft (0.177mm/10°C.m)
Modulus of Elasticity	2.46 10 ⁶ psi (17000 MPa)

Cleaness

Tubes are manufactured to meet the internal residue requirement of 0.038g/M² maximum as specified in AS 1571 and unless otherwise requested, are supplied with ends sealed to prevent ingress of dirt and moisture.

*AS1571 seamless copper tube for air-conditioning & refrigeration

Straight type	Actual Size	Outside Diameter			Wall Thickness			Theoretical Weight	
		Inch	mm	Tolerance (inch)	Inch	mm	Tolerance (inch)	lb/ft	kg/m
	3/8"	0.375	9.52	0.001	0.03	0.762	0.003	0.126	0.187
	1/2"	0.5	12.7	0.001	0.035	0.889	0.004	0.198	0.295
	5/8"	0.625	15.9	0.001	0.04	1.02	0.004	0.285	0.424
	3/4"	0.75	19.1	0.001	0.042	1.07	0.004	0.362	0.539
	7/8"	0.875	22.2	0.001	0.045	1.14	0.004	0.455	0.677
	1 1/8"	1.125	28.6	0.0015	0.05	1.27	0.005	0.655	0.975
	1 3/8"	1.375	34.9	0.0015	0.055	1.4	0.006	0.884	1.32
	1 5/8"	1.625	41.3	0.002	0.06	1.52	0.006	1.14	1.7
	2 1/8"	2.125	54	0.002	0.07	1.78	0.007	1.75	2.6
	2 5/8"	2.625	66.7	0.002	0.08	2.03	0.008	2.48	3.69
	3 1/8"	3.125	79.4	0.002	0.09	2.29	0.009	3.33	4.96
	3 5/8"	3.625	92.1	0.002	0.1	2.54	0.01	4.29	6.38
	4 1/8"	4.125	105	0.002	0.11	2.79	0.011	5.38	8.01

- A. The average outside diameter of a tube is the average of the maximum and minimum outside diameters as determined at any one cross section of the tube.
- B. The tolerances listed represent the maximum deviation at any point denotes tube made to order where minimum order quantities required.



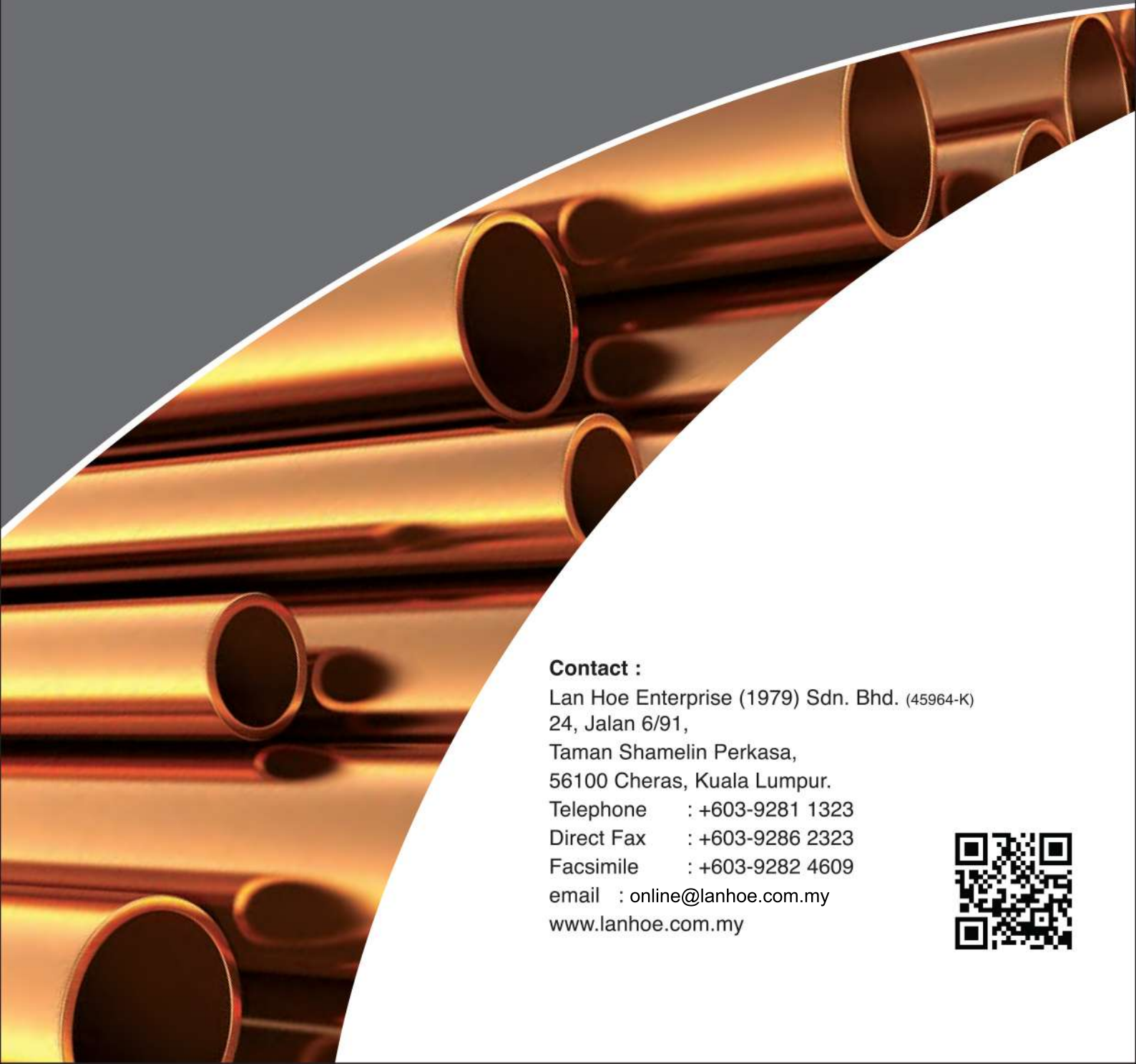
Physical Properties of Copper Tube

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Modulus of Elasticity	2.46 10 ⁶ psi (17,000MPa)

Cleanness

Tubes are manufactured to meet the internal residue requirement of 0.038g/M² maximum as specified in ASTM B 280 and unless otherwise requested, are supplied with ends sealed to prevent ingress of dirt and moisture.





Contact :

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