



times change **copper remains**

KEMBLA[®]
MEDICAL GAS
COPPER TUBE TO
AMERICAN STANDARD
ASTM B819



PUBLICATION E58/11

KEMBLA® MEDICAL GAS TUBE TO AMERICAN STANDARD ASTM B819

MM Kembla is a world-class producer and Australia's leading supplier of copper tube and manufactures under the famous **KEMBLA®** brand name. MM Kembla manufactures a comprehensive range of copper tube products to comply with a variety of applications and International Standards.

Included in the **KEMBLA®** range is Medical Gas tube manufactured to fully conform to ASTM B819 specifications and is available in outside diameters from 9.52mm to 155.58mm (3/8" to 6 1/8"). Only Types K and L are nominated in the Standard and these specifications are shown in the tables overleaf.

The internal cleanliness of medical gas and oxygen tubes is critical in order to prevent gas contamination and potential explosions. Oxygen under pressure may cause spontaneous combustion of residual organic drawing oils if they remain inside tubes after manufacture. Oils or other contaminants may also cause patients serious respiratory problems if not removed prior to installation. MM Kembla has a unique manufacturing process to ensure that the total internal residue does not exceed 0.038g/m² as specified in ASTM B819. After cleaning, all tubes are individually end-capped to maintain their internal cleanliness, then bundled and wrapped in plastic for maximum protection.

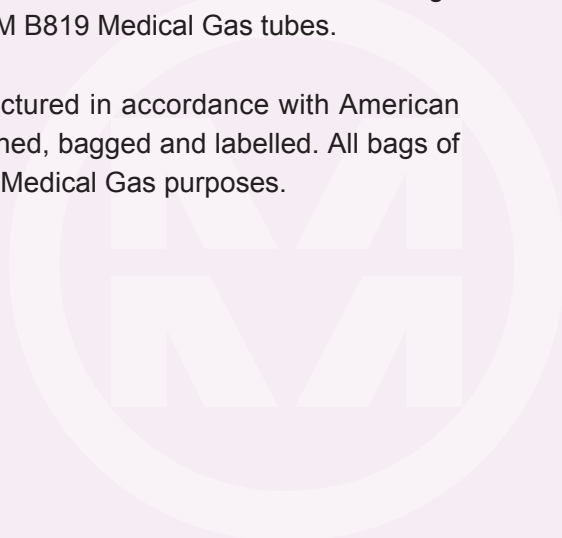
During storage and handling of **KEMBLA®** Medical Gas tube and fittings, particular attention must be given to keeping them clean and dry. When brazing joints, lines should be continuously purged with nitrogen or another appropriate inert gas. Only approved filler metals and fluxes (if required) should be used. After brazing, all joints should be cleaned and inspected visually. Pressure and contaminant testing should be performed on installed tubing before final approval and use of the system.

Test Certificates are supplied with all deliveries for each product. Straight lengths of 5.8m are manufactured for ease of containerisation.

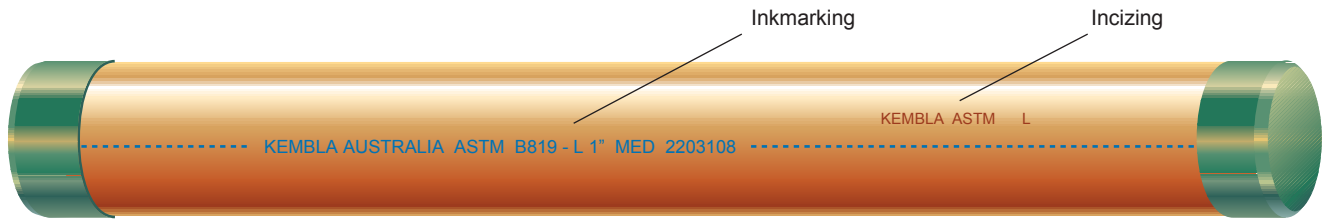
KEMBLA® MEDICAL GAS FITTINGS TO AMERICAN STANDARD ASME B16.22

MM KEMBLA is a leading supplier of a comprehensive range of copper fittings conforming to a variety of applications and International Standards. KEMBLA® fittings are marketed under the famous **KEMBLA®** and **K Tick** brand marks. A full range of fittings is available to suit **KEMBLA®** ASTM B819 Medical Gas tubes.

KEMBLA® Medical Gas fittings are manufactured in accordance with American Standard ASME B16.22 and individually cleaned, bagged and labelled. All bags of fittings are individually marked as suitable for Medical Gas purposes.



MEDICAL GAS TUBE IDENTIFICATION



TYPE 'K'

Nominal Size (inch)	ACTUAL (inch)		ACTUAL (mm)		Mass kg / 5.8m	Safe Working Pressure*(kPa)	Lengths per Bundle
	o.d.	w.t.	o.d.	w.t.			
1/4	3/8	0.035	9.52	0.89	1.25	7,397	100
3/8	1/2	0.049	12.70	1.24	2.31	7,751	100
1/2	5/8	0.049	15.88	1.24	2.96	6,106	100
5/8	3/4	0.049	19.05	1.24	3.60	5,040	100
3/4	7/8	0.065	22.22	1.65	5.53	5,790	100
1	1 1/8	0.065	28.58	1.65	7.24	4,445	100
1-1/4	1 3/8	0.065	34.92	1.65	8.95	3,610	50
1-1/2	1 5/8	0.072	41.28	1.83	11.77	3,380	30
2	2 1/8	0.083	53.98	2.11	17.85	2,968	30
2-1/2	2 5/8	0.095	66.68	2.41	25.25	2,739	30
3	3 1/8	0.109	79.38	2.77	34.60	2,642	20
3-1/2	3 5/8	0.120	92.08	3.05	44.27	2,504	20
4	4 1/8	0.134	104.78	3.40	56.20	2,452	10
5	5 1/8	0.160	130.18	4.06	83.49	2,355	8
6	6 1/8	0.192	155.58	4.88	119.90	2,368	5

TYPE 'L'

Nominal Size (inch)	ACTUAL (inch)		ACTUAL (mm)		Mass kg / 5.8m	Safe Working Pressure*(kPa)	Lengths per Bundle
	o.d.	w.t.	o.d.	w.t.			
1/4	3/8	0.030	9.52	0.76	1.08	6,251	100
3/8	1/2	0.035	12.70	0.89	1.71	5,447	100
1/2	5/8	0.040	15.88	1.02	2.47	4,970	100
5/8	3/4	0.042	19.05	1.07	3.14	4,320	100
3/4	7/8	0.045	22.22	1.14	3.92	3,932	100
1	1 1/8	0.050	28.58	1.27	5.66	3,388	100
1-1/4	1 3/8	0.055	34.92	1.40	7.65	3,047	50
1-1/2	1 5/8	0.060	41.28	1.52	9.85	2,791	30
2	2 1/8	0.070	53.98	1.78	15.15	2,493	30
2-1/2	2 5/8	0.080	66.68	2.03	21.40	2,297	30
3	3 1/8	0.090	79.38	2.29	28.78	2,174	20
3-1/2	3 5/8	0.100	92.08	2.54	37.08	2,077	20
4	4 1/8	0.110	104.78	2.79	46.39	2,003	10
5	5 1/8	0.125	130.18	3.18	65.85	1,835	8
6	6 1/8	0.140	155.58	3.56	88.24	1,717	5

* Safe Working Pressures are based on annealed temper for temperatures up to 50°C
 Type M sizes available on request.

