



Copper Tube

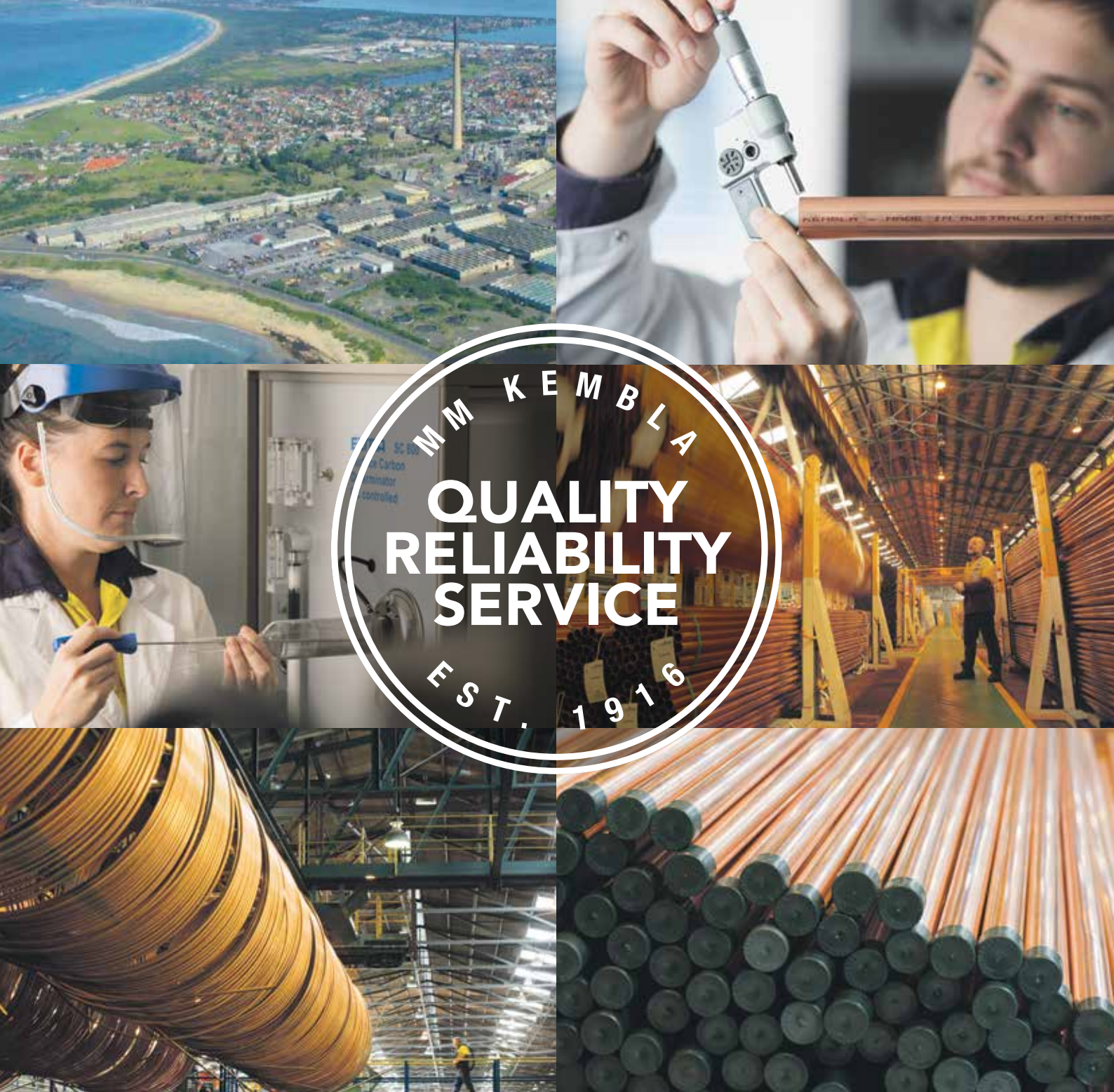
MEDICAL GAS
COPPER TUBE
TO EUROPEAN
STANDARD
BSEN 13348

USAGE

- Medical Gas
- Vacuum Lines

www.kembla.com.au





MM K E M B L A
**QUALITY
RELIABILITY
SERVICE**
EST. 1916

MM Kembla has been providing our customers with the highest quality and most reliable products and services for over 100 years. Established in 1916, MM Kembla is Australia's only copper tube manufacturer. Still operating from its original site at Port Kembla, NSW Australia, MM Kembla remains the most highly regarded supplier of copper products including tube, fittings and accessories. Extensive technical knowledge combined with stringent in-house quality controls and testing with an ISO 9001 certified quality management system, MM Kembla has developed a renowned reputation for quality, reliability and service.

Copper Tube

KEMBLA MEDICAL GAS TUBE

MANUFACTURED TO EUROPEAN STANDARD EN 13348

- Available in sizes 8mm - 219mm.
- Straight 5.8m lengths individually cleaned and capped.

MM Kembla Medical Gas tube manufactured to EN 13348 is available from 8mm to 219mm diameter in the equivalent wall thicknesses of 'Table X'. EN 13348 copper tube is specified throughout Europe, the Middle East and Asia and is the only copper tube specified in the Health Technical Memorandum 02-01 and ISO 7396-1.

The internal cleanliness of medical gas and oxygen tubes is critical to prevent gas contamination and to preserve the safety of the installation all the way to the patient.

MM Kembla has a unique manufacturing process to ensure the carbon cleanliness does not exceed 0.02g/m² total carbon, as specified in the Standard for sizes up to 133mm. Sizes above 133mm are supplied with an internal cleanliness of 0.038g/m² per EN 13348.

Tests are conducted by a certified laboratory using the combustion method as stipulated in EN 737. After cleaning, all tubes are individually end-capped to maintain their internal cleanliness, then bundled and wrapped in plastic for maximum protection.

All tubes are manufactured in accordance with MM Kembla's ISO 9001 Quality Management System & ISO 13485 Medical Device Quality Management System and certified by our Standards Mark Licence. Test Certificates are provided for each product with all deliveries.

KEMBLA MEDICAL GAS FITTINGS

MANUFACTURED TO EUROPEAN STANDARD EN 1254-1

- Full range of Medical Gas Copper Fittings individually cleaned and bagged.
- Complies with cleanliness requirements of EN 13348 & HTM 02-01 Medical Gas pipeline systems

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® EN 13348 Medical Gas tube from 8mm to 219mm.

KEMBLA® Medical Gas fittings are manufactured in accordance with European Standard EN 1254-1 and individually cleaned, bagged and labeled to fully comply with the cleanliness requirements of EN 13348 and HTM 02-01.

All bags of fittings are marked as suitable for Medical Gas purposes.



KEMBLA® MEDICAL GAS TUBE TO EN 13348

PRODUCT CODE	OUTSIDE DIAMETER (mm)	WALL THICKNESS (mm)	WEIGHT/LENGTH (kg/5.8m)	SAFE WORKING PRESSURE*		LENGTHS PER BUNDLE
				ANNEALED (kPa)	AS SUPPLIED (kPa)	
T11850	8.0	0.8	0.94	8,110	13,850	100
T11860	10.0	0.8	1.20	6,360	10,860	100
T11905	12.0	0.8	1.46	5,230	8,940	100
T20944	15.0 [#]	0.7	1.63	3,590	5,440 [#]	100
T14276	22.0 [#]	0.9	3.09	3,130	4,740 [#]	100
T14313	28.0 [#]	0.9	3.98	2,440	3,690 [#]	50
T14216	35.0	1.2	6.61	2,460	4,200	50
T63596	42.0	1.2	7.98	2,040	3,480	50
T21976	54.0	1.2	10.33	1,580	2,700	30
T74049	66.7	1.2	12.81	1,270	2,170	25
T78600	76.1	1.5	18.24	1,400	2,390	20
T64437	108.0	1.5	26.04	980	1,670	10
T84303	133.0	1.5	32.15	790	1,360	10
T13457	159.0	2.0	51.18	890	1,510	5
T20107	219.0	3.0	105.61	960	1,650	1

* Based on annealed temper after brazing for temperatures of 50 °C.

Manufactured in half-hard temper, all other sizes are hard drawn.



Copper Tube

SPECIFIED FOR OVER 60 YEARS

The MM Kembla brand is renowned for producing the highest quality Kembla Copper Medical Gas Tube for medical gas supply, medical suction and gas supply to surgical tools across Australia, New Zealand, Asia & The Middle East.

All Kembla Copper Medical Gas Tube is manufactured with the highest quality copper and unique manufacturing and cleaning processes for optimal internal cleanliness to ensure the safe and hygienic transmission of critical medical gas supply in hospitals, healthcare and aged care centres and surgical facilities.

Extensive technical knowledge combined with stringent in-house quality controls and testing, MM Kembla has developed a renowned reputation Globally for quality, reliability and service.

Kembla® copper tube is manufactured to a variety of international standards, and included in the Kembla® range is Medical Gas tube manufactured to fully conform to EN 13348: specifications.

THE KEMBLA DIFFERENCE

Quality from the start - All Kembla® Copper Tube manufactured in Australia uses LME A Grade Copper Cathode sourced from BHP'S Olympic Dam site in South Australia. Copper Tube is made from 99.90% copper – high quality copper tube starts with the highest quality Australian copper cathode.

25 YEAR WARRANTY

MM Kembla Medical Tube and fittings are backed by a 25 year warranty and a 50 year design life. KEMBLA® copper tube has been installed on many of the world's most prestigious projects for over 60 years, and as such carries a 25 year warranty against manufacturing defects as identified in our terms and conditions located on our website.

Please see our website warranty page for further information:
<https://www.kembla.com/product-range/medical-gas/kembla-medical-gas-tube/>



INTERNATIONAL CERTIFICATION

MM Kembla manufacturing processes and quality systems are built upon 105 years of experience in manufacturing copper tube. An intensive ISO 9001 certified quality control system is applied to all MM Kembla products. MM Kembla also has a variety of third party accreditations to Australian, New Zealand, British/ European and American standards.

ISO 13485:2016 CERTIFIED

Medical Devices Quality Management System - MM Kembla is proud to be the only copper tube manufacturer to hold the prestigious, internationally recognised medical device quality management certification for Kembla® Medical Gas tube attaining the certification. MM Kembla has been accredited by SAI Global Limited, of Australia, as a Quality Endorsed Company to ISO 13485:2016 (License No. MED40040) ISO 13485 specifies the requirements for organizations in any aspect of a medical device lifecycle, including both product and related services. By implementing a structured framework organisations can increase patient safety.

ISO 9001:2015 CERTIFIED

MM Kembla operates an independently certified ISO 9001 quality management system. MM Kembla has been accredited by SAI Global Limited, of Australia, as a Quality Endorsed Company to ISO 9001:2015 (License No. QEC 0002/01) and as such, has a quality management system in place that ensures all products comply with their relevant specifications.

TECHNICAL SUPPORT

MM Kembla is renowned as one of the world's leading experts for technical support regarding copper tube and fittings.

Our internal quality controls exceed the testing requirements of many international manufacturing standards for product supplied by MM Kembla.

Our world's best practice and unwavering commitment to process control ensures the highest product quality. We invite hydraulic consultants, engineers, distributors and installation contractors to visit our website where we provide a comprehensive range of technical information.

Copper Tube

GENERATIONAL EXPERTISE

Knowledge of materials, process controls, manufacturing experience, practices and requirements that only a manufacturer with over 100 years of Copper Tube Manufacturing can have.

This expertise is a key contributor to continuous improvement in manufacturing technology. KemCore Technology is one example and ensures that the Kembla® copper tube you are using is concentric, meaning the tube wall thickness has less variation around the tube eliminating any weak points.

INSTALLATION RECOMMENDATIONS

Pipeline Jointing

Refer to the Health Technical Memorandum 02-01 for Pipeline installation guidelines. HTM 02-01 Medical gas pipeline systems – Part A: design, installation, validation, and verification section 13.

Cutting Tube

If tube must be cut only use a wheel tube cutter to prevent the ingress of any copper particles. Ensure that there are no burrs on the ends of the tube.

Brazing

When brazing copper to copper fittings the brazed joints should be made using a silver-copper-phosphorous brazing alloy CP104 to BS EN 1044:1999. No flux should be used.

During brazing of the pipeline joint, the interior of the tube shall be purged with an inert gas shield (Oxygen-free nitrogen) to prevent the formation of oxides on the inside of the pipe and fittings.

Medical Gas Identification

Tube will be marked according to the EN 13348:2016 Standard as follows:

- KEMBLA AUSTRALIA EN13348
- Outside diameter and wall thickness
- Temper – either HH (R250 - half hard) or HD (R290 - hard drawn)
- Production Date Code (noting time and date of manufacture)



Kembla® Medical Gas Copper Tube has been installed on some of the largest projects in the world over the last 60 years. (Hong Kong Children's Hospital pictured).

KEMBLA EN 13348 MEDICAL TUBE PROJECT REFERENCES

HONG KONG

Queen Mary Hospital
Kwong Wah Hospital
Hong Kong Science Park
Hong Kong University Laboratory
Tuen Mun Hospital
Hong Kong Adventist Hospital
Open University of Hong Kong Laboratory
Hospital at Expo
CUKH Medical Centre
Haven of Hope Hospital
Hong Kong Children's Hospital
Gleneagles Hong Kong Hospital
Union Hospital
Centre of Excellence of Pediatrics
Precious Blood Hospital
Queen Elizabeth Hospital
North Lantau Island Hospital
Pamela Youde Nethersole Hosp
Yan Chai Hospital
St. Teresa's Hospital
Matilda International Hospital
Harbour Building Dental Clinic
Centro Hospital
Tai Po Maxim's Food Factory
Uni. of Science and Technology
Hong Kong Baptist Hospital
St. Paul Hospital

Hong Kong Sanatorium & Hospital
Tin Shui Wai Hospital
Caritas Medical Centre

MACAU

Hospital Conde S. Januário
Kiang Wu Hospital, Macau

CHINA

Nanjing Ming Ji Hospital, Nanjing
Ningbo Hangzhouwan Hospital

SINGAPORE

Alexandra Khoo Teck Puat Hospital
Tan Tock Seng Hospital
Novena Hospital
National University Hospital
Farrer Park Hospital
National Heart Hospital
Assisi Hospital
Yishun Community Hospital
Singapore General Hospital
Changi General Hospital
St. Luke Hospital
Life Science Centre

INDONESIA

Gambiran Hospital, Surabaya
Nganjuk RSUD Hospital, Surabaya
SOA RSUD Hospital, Surabaya
A.W. Sjahranie RSUD Hospital, Samarinda

MALAYSIA

Hospital Dungan & Hospital Kajang
Hospital Bachok & Umum Sarawak
Hospital Cyberjaya & Bukit Rimau
Hospital Tanah Merah & Muhaya Eye Centre
Petronas Hospital, KL & Penang General Hospital
Ipoh Specialist Hospital & Kek Lok Si Medical Centre
Tung Shin Hospital & Taiping Hospital
Hospital Cancer & Papar Hospital Sabah
Hospital Army & Bandar Sunway Medical Centre
Hospital Terangganu Wad I.C.U., Kuala Terangganu
Columbia Asia Medical Centres in many locations
Hospital Jantung & Hospital Balik Pulau
Hospital Hemodialysis, Seremban
Hospital Sultan Aminah
Seremban Specialist Hospital, Seremban
Hospital Tropicana, KL
Likas Medical Centre, Sabah
Shah Alam Hospital

CAMBODIA

Maternal Hospital
Calmette Hospital
Sunrise Hospital
Russian Hospital

VIETNAM

Nam Dinh General Hospital
Dong Da General Hospital
Hanoi Obstetrics Hospital
National Pediatric Hospital
Bac Ninh General Hospital
221 Army Hospital
Lang Son General Hospital
Hoa Binh General Provincial Hospital
Phuong Chau International Hospital
Binh Dinh General Hospital
Cua Dong Hospital, Vinh City
Ha Giang General Hospital
Bia Chay General Hospital

JORDAN

Jabal Al Zaitoon Hospital, Zarqa
Princess Basma Hospital,
Irbid Italian Hospital, Amman

RWANDA

Rwanda Military Hospital



CHOOSE THE KEMBLA DIFFERENCE – KEMBLA MEDICAL GAS COPPER TUBE AND FITTINGS TO EUROPEAN STANDARD BSEN 13348.



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