

OUR COMMITMENTS:

END FINISH

One end expanded tubes are supplied with a commercial saw cut with minimum burrs as standard on one end, mechanically straightened, expanded & deburred on the other end, without any extra cost cut to specific lengths as specified by the customers.

PACKING

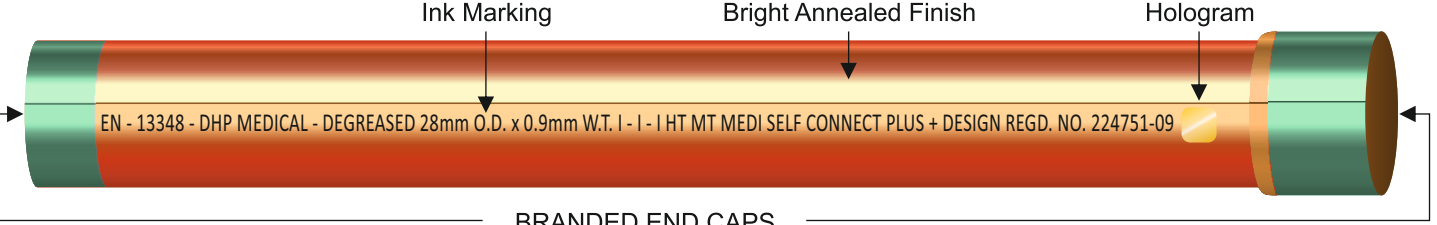
- Polythene Sheet & Resin cloth
- Polythene Sheet, Corrugation sheet & Resin cloth.
- Polythene sheet, Thermocol/Bubble wrap & wooden box.



DELIVERY PERIOD

Ex-Works Umbergaon, 7 Working Days for Ready Stock, After receipt of Technical & Commercial clear Purchase Order & Advance (Subject to our Confirmation).

Ex-Works Umbergaon, Within 30-45 Days (For Special Requirements), After receipt of Technical & Commercial clear Purchase Order & Advance (Subject to our Confirmation).

TRACEABILITY PROVIDED FOR MANDEV'S MT MEDI SELF CONNECT PLUS +



MANDEV MAKE TRACEABILITY FOR MEDICAL GRADE COPPER TUBES		
SR No.	TRACEABILITY FEATURES	MEDICAL GRADE COPPER TUBE (LENGTH 3 MTR / 9.84 FEET)
1	PRODUCT NAME	"MT MEDI SELF CONNECT PLUS" +
2	MANDEV'S STRAIGHT TUBES WITH ONE END EXPANDED WITH REGISTERED DESIGN No. 224751-09	✓
3	MANDEV'S ONE END EXPANDED TUBES CAN REDUCE 82% COST FOR MEDICAL GRADE APPLICATION IN PLACE OF USE COUPLING	82%
4	MANDEV'S ONE END EXPANDED TUBES CAN REDUCE 100% COST IN PLACE OF USING ELBOW FOR MEDICAL GRADE APPLICATION	100%
5	GOLDEN COLOUR HOLOGRAM (FOIL STICKER) FIXED ON THE TUBES 	2 Nos Of Golden Colour hologram fix On Both Of The Tube With 1 Feet Distance
6	INKJET MARKING ON STRAIGHT TUBES	✓
7	END CAP WITH GREEN COLOUR AND MANDEV ENGRAVED LOGO 	✓
8	MANDEV PRINTED POLYTHENE BAGS WITH VARIOUS SECURITY ELEMENTS	✓
9	TRACKING & CONFIRMING AUTHENCITY, TRACEBILITY & 100% RELIABILITY (I) MANDEV PROVIDED TEST CERTIFICATE HARD COPY (ORIGINAL WITH HOLOGRAM) MENTIONING BATCH No., BILL No., DATE AND FULL QUANTITY. (II) MANDEV'S STOCKIST'S WILL PROVIDE MANDEV TUBES TEST CERTIFICATE (ENDORSED) WITH THEIR CO'S SEAL (STAMP) AND DULY SIGNED BY THEIR DIRECTOR / PROPRIETOR.	✓
10	MANDEV 'S BRANDED PACKAGING MATERIAL i.e. (1) CORRUGATE SHEET PACKAGING MATERIAL. (2) CELLO TAPE (3) STRAPPING PLASTIC TAPE	Sheet



Copper tubes to paint your world green



“Life is for one generation, a good name is forever.”
|| Faith is in the name ||

MANDEV TUBES PVT. LTD.

AN ISO 9001:2015, 14001:2015, 18001:2007 certified company by URS
Towards Leadership Through Commitment & Quality

Factory:
269, G.I.D.C. Ind. Estate,
Opp. Usha Garment,
Umbergaon, Dist. Valsad,
Gujrat - 396 171, India.

Office:
706, Lodha Supremus,
7th Floor, Senapti Bapat Marg,
Railway Colony, Lower Parel, Mumbai - 400013.
Contact: 022 66131818
Email: sales@mandevtubes.com

website : www.mandevtubes.com



ECO-FRIENDLY



RECYCLABLE



LONG LASTING

Copper tubes,
arteries for MEDICAL GAS applications



INTRODUCTION

MANDEV IS AN ISO 9001 – 2008, ISO 14001:2004,ISO 18001:2007 CERTIFIED BY URS, INDIA (UK AGENCY)

MANDEV TUBES PVT.LTD, an Integrated manufacturing unit based in Mumbai (works: Umbergaon/Gujarat), commenced its operations in 1964. Over 50 years of committed service towards the copper tube industry has earned global recognition for Mandev Tubes and trust of its customers by retaining today as one of the reputed brand in Copper Tube.

We are also dedicated towards meeting customized demands of a defect free product.

MANDEV is devoted to document the effectiveness of the company's quality assurance system and backs the effort with stringent SPC (Statistical Process Control) programs. Rather than inspecting quality 'in' at the end of production operation, the SPC program ensures that MANDEV'S Online Monitoring System continually check the tubes during each stage of the manufacturing process.

MEDICAL GAS PIPE LINE SYSTEM (MGPS)

A centralized MGPS is now recognized as a basic life support infrastructural requirement of a hospital, and patient care becomes a possibility without complications. The medical gases used in a hospital are life-supporting element that provides direct influence in maintaining the life of a patient and this complex and extensive system is designed and executed to deliver the right gas at the right pressure and flow rate.

MEDICAL GAS PIPELINE SYSTEMS FOR HOSPITALS

Medical gas pipe line system helps maintains hygiene in high-risk areas such as OTs, ICUs, ICCUs, and Nursery and saves the effort involved in dragging cylinders. MGPS ensures uninterrupted supply to the life saving oxygen and a vacuum facility to help a caregiver save the patient without anxiety. A MGPS is designed to provide a safe and effective method of delivering the required medical gas from the source of supply through a medical pipeline system to the patient via a terminal unit. Each medical gas must be supplied from a separate system and it is essential that all parts of each system are gas specific to ensure that there is no possibility of cross-connection between any systems.

IMPORTANT NOTE FOR MEDICAL GAS PIPE LINE SYSTEM (MGPS)

The supply of gases and vacuum is controlled through central manifold/pump rooms and Phosphorous, deoxidized, non-arsenical, degreased seamless round Copper Tubes (Grade: CW024A /Cu-DHP) conforming to EN 13348:2008 with incorporation of amendment A1:2005 (Previously BS: EN 1057 :1996/BS:2871 Part-1 Table X)The Tube shall be installed in conformance with the requirements of Health Technical Memorandum 02-01 (HTM 02 supersedes all previous versions of HTM 2022)The Tube may also be installed in conformance with NFPA 99,Standard for Health care Facilities 2005 edition (ASTM: Standard Specification for Seamless copper Tubes for Medical Gas System)All Copper Pipe should be manufacturing in-house by a manufacturer equipped with all manufacturing and calibrated testing equipments with qualified manpower required to suit the said specifications (BS:EN: 13348:2008 / ASTM: B 819-00) Each lot should have manufacturer's Test Certificate and Preferably inspected by reputed third party inspection agency.

ONE END EXPANDED COPPER TUBE / MT MEDI SELF CONNECT PLUS +

With the continuous research and development taking place at Mandev Tubes we have been able to innovate and develop the ONE END EXPANDED COPPER TUBE/ MT- MEDI SELF - CONNECT PLUS+ (DESIGN REGISTRATION NO 224751-9). The unique design helps eliminate a COUPLING Cost , while joining two tubes.It reduces installation costs by up to 82% compare to regular tube installation cost, As tube can be installed and inserted in same diameter tube (In One end expanded tube), 1 extra coupling joint gets eliminated ,which results in preventing leakage by 50% and save 50% of brazing cost.

Further as the tubes are of half hard temper, One can eliminate ELBOW Cost, while joining two tubes. It reduces installation cost by upto 100 % compare to regular installation cost, As they can be easily bent with the help of a mechanical bender which would help eliminate 2 elbow joints And preventing leakage by 100% and save 100% of brazing cost.

One end expanded tubes are provided in the following outside diameter and size range :
MIN. DIAMETER - 10 mm MAX. DIAMETER - 108 mm, MIN. LENGTH - 3mtr

MARKING INFORMATION

Tubes From 10mm & up to 108mm diameter will be permanently marked along their length at repeated distances of not greater than 600mm, with at least the following: Number of this standard (EN 13348) nominal cross-sectional outside diameter X wall thickness, identification For R250 (half hard) temper by the following symbol I-I-I, manufacturer's identification mark, date of production: year and quarter (I to IV) or year and month (1 to 12).

TEMPER	COMMON TERM	TENSILE STRENGTH (Mpa) Min	ELONGATION (%) Min	HARDNESS (HV5)
DESIGNATION IN ACCORDANCE WITH EN 1173				
R220	Annealed	220	40	40 TO 70
R250	Half hard	250	30	75 TO 100
R290	Hard	290	3	Min 100

NOMINAL OUT SIDE DIAMETER & WALL THICKNESS FOR MGPS

OUT SIDE DIAMETER (mm) (d)	WALL THICKNESS						
	0.7	0.8	0.9	1	1.2	1.5	2
8	-	R	-	R	-	-	-
10	-	R	-	R	-	-	-
12	-	x	-	R	-	-	-
14	-	-	-	X	-	-	-
15	R	-	-	R	X	-	-
16	-	-	-	X	-	-	-
18	-	-	-	R	X	-	-
22	-	-	R	R	X	R	-
28	-	-	R	R	X	R	-
35	-	-	-	-	R	R	X
42	-	-	-	-	R	R	X
54	-	-	-	-	R	R	R
76	-	-	-	-	-	R	X
104	-	-	-	-	-	R	R
108	-	-	-	-	-	R	R

NOTE 1: Hardness figures in parentheses are not requirements of this European Standard but are given for guidance purposes only.

NOTE 2: 1 MPa is equivalent to 1 N/mm2.

COPPER PIPE AND FITTING SPECIFICATIONS

As per European standard 13348:2008 specification specifies copper pipes and fittings are suitable for distributing the following medical gases intended to be used at operating pressure up to 2000 Kpa.

- Oxygen, Nitrous oxide, Nitrogen, Helium, Carbon Dioxide, Xenon
- Air for breathing
- Specific mixture of these above mentioned gases,
- Air for driving surgical tools
- Anesthetic gases and vaporous
- Vacuum.

COMPULSORY INSPECTION REQUIREMENT FOR MGPS

CHEMICAL COMPOSITION

Chemical Composition of copper pipe shall conform to the following requirements. The analytical methods shall be carried out by Direct Emission Spectrometer.

- Copper + silver: min.99.90%
- Phosphorous min.0.015%, max.0.040%

CARBON CONTENT TEST

The determination of carbon content shall be carried out on the sample obtained in accordance with the reference method described in EN 723.



FREEDOM FROM DEFECTS TEST (EDDY CURRENT TEST)

Each Tube shall be subjected to an Eddy Current Test for detection of local defects, in accordance with EN 1971.

CLEANLINESS AND RESIDUE

All Pipes should be internally and externally cleaned and should be free of particulate matter and toxic residues which shall then be capped individually at both ends to unale contamination.

"Stress relieved" one end expanded tubes meet the permissible cleanliness level of 0.20 mg /dm², for residue, conforming to EN-13348.

TENSILE TEST

The tensile test shall be carried out in accordance with the method given in EN 10002-1 on the test pieces prepared form the test samples obtained as per EN 13348:2008 specifications.

HARDNESS TEST

When required the Vickers hardness test shall be carried out in accordance with EN ISO 6507-1.

CLIMATIC TEST

Specimens of ink-marked tube, 200mm long shall be placed vertically in a climatic drying cabinet.

After exposure to a temperature of (80+/-3)Deg C and 100% atmospheric humidity for 2h and after having been rubbed five times in one direction, longitudinally, with a cotton cloth under strong manual pressure the marking shall remain legible.

ABRASION TEST

A specimen of market tube having a length of more than 600mm shall be rubbed five times in one direction longitudinally with a cotton cloth under strong manual pressure Afterwards the making shall remain legible

FITTINGS

Our copper pipes are also available with our self manufactured copper fittings for the complete medical gas pipeline installations. (Size range from 6mm to 108mm)