



Recycle



Friendly



Save Energy



Green Building / Healthy



Copper Tubes, Pipes & Fittings
For
HVAC & R / VRV / VRF / MEDICAL /
PLUMBING

ISO 9001 : 2015



Certificate Registration
No. 20006553 QM15

tc **KWALITY**
TUBES & CAPILLARIES
JAIPUR

Kwality Tubes since 1978 is one of the leading manufacturers and exporters of all range of high quality copper tubes & pipes.

Kwality Tubes Copper Pipes are compatible with all Ecofriendly / Green Refrigerants and gases and used in VRV, VRF, Splits AC, Window AC, Visi cooler, Refrigerators, Plumbing, Medical Application and other ACR and HVAC application.

OUR POLICY AND MISSION

Kwality Tubes & Capillaries is committed to produce & timely deliver Copper Tubes & Pipes and its components of International & Indian Standards to meet the customer's specifications to their total satisfaction.

This will be achieved by adopting quality management system, training, prevention of defects, developing positive creative approach, team work, continual up-gradation of technology, better working environment, excellent customers service and mutually beneficial relationship.

FEATURES

• High work ability

The tubes are made with varied degree of temper hard, half hard, quarter hard, O (soft annealed), light annealed.

Therefore one having a desired temper fit for a specific application can be selected.

• Excellent Brazing

The tubes can be brazed with no fear of hydrogen brittleness.

• Fine Appearance:

The bright tube surface inside and outside, presents a fine appearance with metallic luster maintaining all specification with respect to residual test.

AVAILABLE IN MANY FORMS

The Tube are supplied in many forms-straight length, pancake coil, multilayer bunched coil, connecting tube coil sets for split ACs.

- Compatible With Refrigerant R-134a, R-32, R-410a, R-404a, R-407C, R-600, Hydrocarbons, CO₂.
- All Size from 4 mm to 105 mm (Outside diameter), wall thickness 0.40 mm to 2.50 mm & length 2 feet to 16 feet
- Eddy current tested to ensure that a defect free leak proof and flaw less tube is supplied.
- RoHS complying parts.

STANDARDS / SPECIFICATIONS

KTC Copper Pipe confirm to various following international specification:-

ASTM B68, B75, B88, B280, B743, DIN 12735-2, JIS H 3300, B819 (MEDICAL TUBE), B88 (PLUMBING) , BS-EN / DIN / IS and other similar standards.

TESTING FACILITIES AVAILABLE

- Chemical Composition Testing • Eddy Current Testing • Tensile / Elongation Testing • Hydrostatic Testing • Pneumatic Leak Testing • Carbon Content test as per BS: 723 • Residue Testing • Grain Size Testing

CHEMICAL COMPOSITION

Air Conditioning & Refrigeration Copper Tubes are produced from phosphorous Deoxidized copper (DHP Grade)

TYPE	COPPER	PHOSPHOROUS
C 12200	99.90 % MIN	0.015-0.040%



SPECIFIC REQUIREMENT FOR VRV / VRF INSTALLATIONS – SOFT COIL FORM

Sr. NO.	Size (mm) OD	Size (Inches) OD	Tolerance in OD	Thick (mm)	Tolerance in wall thickness	Temper	Length (Feet)	Weight per coil Kg (Approx)	Max working pressure in Mpa	Bursting pressure in Mpa
1.	6.4	1/4"	+/-0.08 MM	0.80	+/-0.10 MM	O(coil)	50	1.92	13.8	68.3
2.	9.5	3/8"	+/-0.08 MM	0.80	+/-0.10 MM	O(coil)	50	2.98	8.4	41.5
3.	12.7	1/2"	+/-0.08 MM	0.80	+/-0.10 MM	O(coil)	50	4.08	6.0	29.5
4.	15.9	5/8"	+/-0.09 MM	1.00	+/-0.15 MM	O(coil)	50	6.38	5.9	29.5
5.	19.1	3/4"	+/-0.09 MM	1.00	+/-0.15 MM	O(coil)	50	7.75	4.8	24.0

SPECIFIC REQUIREMENT FOR VRF/ VRV INSTALLATIONS – HALF HARD

Sr. NO.	Size (mm) OD	Size (Inches) OD	Tolerance in OD	Thick (mm)	Tolerance in wall thickness	Temper	Length (Feet)	Weight Meter Kg (Approx)	Max working pressure in Mpa	Bursting pressure in Mpa
1.	6.4	1/4"	+/-0.08 MM	0.80	+/-0.10 MM	½ H	10	0.126	45.6	83.3
2.	9.5	3/8"	+/-0.08 MM	0.80	+/-0.10 MM	½ H	10	0.196	27.7	50.6
3.	12.7	1/2"	+/-0.08 MM	0.80	+/-0.10 MM	½ H	10	0.268	19.7	36.0
4.	15.9	5/8"	+/-0.09 MM	0.80	+/-0.10 MM	½ H	10	0.339	15.3	28.0
5.	15.9	5/8"	+/-0.09 MM	1.00	+/-0.15 MM	½ H	10	0.419	19.7	36.0
6.	19.1	3/4"	+/-0.09 MM	0.80	+/-0.15 MM	½ H	10	0.411	12.5	22.9
7.	22.2	7/8"	+/-0.09 MM	0.80	+/-0.15 MM	½ H	10	0.481	10.6	19.4
8.	25.4	1"	+/-0.12 MM	0.88	+/-0.15 MM	½ H	10	0.606	10.2	18.6
9.	28.6	1.1/8"	+/-0.12 MM	1.00	+/-0.15 MM	½ H	10	0.776	10.3	18.8
10.	31.8	1.1/4"	+/-0.12 MM	1.10	+/-0.15 MM	½ H	10	0.949	10.2	18.6
11.	34.9	1.3/8"	+/-0.12 MM	1.21	+/-0.15 MM	½ H	10	1.145	10.2	18.6
12.	38.1	1.1/2"	+/-0.12 MM	1.32	+/-0.15 MM	½ H	10	1.364	10.2	18.6
13.	41.3	1.5/8"	+/-0.12 MM	1.43	+/-0.15 MM	½ H	10	1.602	10.2	18.6

LIGHT WEIGHT NON-VRV/VRF INSTALLATIONS – SOFT COIL FORM

Sr.NO.	Size (mm) OD	Size (Inches) OD	SWG	Temper	Thick (mm)	Length (Feet)	Approx Weight per coil Kg (Approx)
1.	6.4	1/4"	23 G	O(coil)	0.60	50	1.500
2.	9.5	3/8"	23 G	O(coil)	0.60	50	2.500
3.	12.7	1/2"	22 G	O(coil)	0.70	50	3.500
4.	15.9	5/8"	22 G	O(coil)	0.70	50	4.500
5.	19.1	3/4"	22 G	O(coil)	0.70	50	5.600
6.	19.1	3/4"	21 G	O(coil)	0.80	50	6.400
7.	22.2	7/8"	19 G	O(coil)	1.00	50	9.100



MECHANICAL /METALLURGICAL PROPERTIES : ROCKWELL & VICKERS HARDNESS

	Soft (O)	½ Hard (H/H)
Tensile Strength in N/mm ²	205 min	245-325
Elongation in %	40 %	-
Rockwell Hardness in 15 T Scale	60 Max	30-60 (HR 30T)
Flattening Test	No crack on surface	-
Grain Size test in mm	0.025-0.060 mm	-
Eddy Current Test (Method : ASTM : E 243)	No Detrimental Flaw	No Detrimental Flaw
Carbon Content Test *	0.20mg/dm ² Max	0.20mg/dm ² Max
* This test is in accordance with BS:EN 1057/EN 723		

QUALITY PARAMETERS FOR VRF / VRV APPLICATION

- ❖ Our AC & R tubes are bright annealed in an inert & non – oxidizing atmosphere to avoid oxidation.
- ❖ Tubes can be readily bent, manipulated, soldered or brazed.
- ❖ Accurate copper phosphorus levels to ensure a de-oxidizing atmosphere to enable correct soldering & brazing.
- ❖ Physical Properties – Parameters like Tensile Strength, elongation, hardness & grain structure are very important for achieving appropriate quality of copper tubes for VRF/VRV application.
- ❖ Strict dimensional tolerances are kept .
- ❖ Eddy Current Test to ensure totally leak proof tubes and any surface defects .
- ❖ Correct wall thickness as specified for high pressures used in VRF / VRV systems.
- ❖ Carbon content in bore/ID to be within limits specified in ASTM / JIS.

APPLICATIONS

Air-conditioning and Refrigeration Systems, VRV, VRF, Deep Freezers, Bottle Coolers, Instrumentation, Dryers, Heat Exchangers, Automobile, Marine Engineering, Defense, Medical Equipments, Plumbing, Electrical Equipment, Chillers, Solar Industries, Oil & Gas, Petrochemicals etc.



KWALITY TUBES & CAPILLARIES

(AN ISO 9001:2015, Certificate Company by UL.)

G-478, Road No. 9-A, V.K.I. Area, Jaipur -302013. INDIA

Phone: +91-141-2330476, 2331659

Email : papriwal@vaishalimetal.com, papriwal@bsnl.in

Website: www.vaishalimetal.com