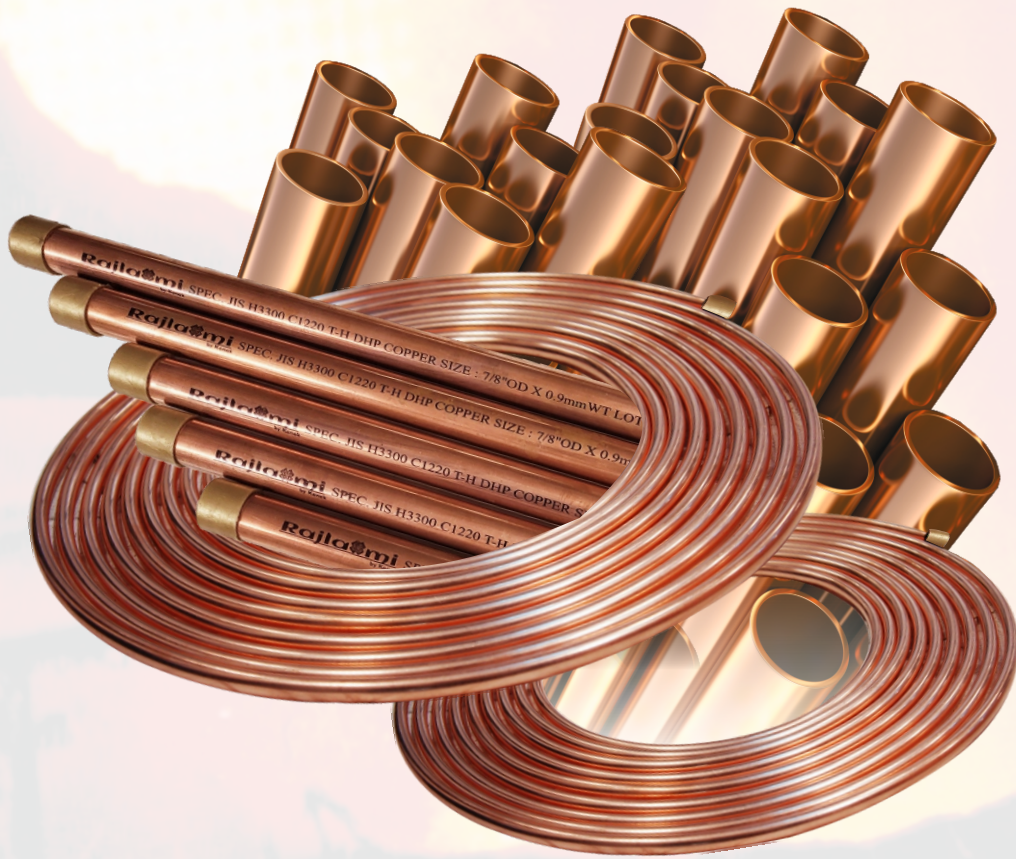




# KANAK

## PIPE INDUSTRIES PVT. LTD.

(AN ISO 9001 CERTIFIED COMPANY)



ONE STOP SHOP FOR ALL YOUR NEEDS, IN COPPER AND COPPER ALLOYS

HVAC & R COPPER TUBE

**Rajlami**  
by Kanak

[www.kanakpipe.com](http://www.kanakpipe.com)



Kanak Pipe Industries Private Limited (KPIPL) was incorporated in 1991. It is today, India's leading manufacturer of Copper & Copper Alloy Semis products. Our manufacturing facility, located at Sanjan in Maharashtra, 150 km north of Mumbai, employs state-of-the-art technology to produce a wide range of copper and copper alloy products. This enables us to be a TIER 1 supplier to customers in exports as well as in the domestic market.

Our major products include Copper tubes for HVAC, Medigas, Brass Tubes for General Engineering applications and Condenser tubes in Copper Nickel, Admiralty and Aluminum brasses. These products, made of copper and its alloys, offer excellent corrosion resistance. We have established as a leader in the industry through years of experience in the field and expertise in technological development.

KPIPL is an ISO 9001 certified unit and our manufacturing facilities are spread over 30000sq.feet. We are equipped with state-of-the-art production facilities and have sophisticated Quality control & Quality assurance systems along with ultramodern chemical & physical testing laboratory which includes computerized Spectroscopic Analyzer for precise control of Alloying Elements, a Multi-Range Microscope for Microstructure Examination, Eddy Current Testing, Universal Testing, Hardness Testing and Hydraulic Pressure Testing facilities for final inspection. The commissioning of advanced plant and machinery into our operations, the only manufacturer in INDIA to operate a brand-new Japanese Extrusion Press has enabled us to deliver unparalleled quality. This strategic investment reaffirms our commitment to precision and efficiency, ensuring that every product leaving our facility meets the highest standards. This cutting-edge technology not only enhances our manufacturing capabilities but also solidifies our position as pioneers in the pursuit of excellence. We are excited about the positive impact this upgrade will have on the quality of our output, promising our customers an even more exceptional experience.

Our manufacturing of Copper HVAC & Medigas tubes under the brand name **Rajlaxmi** name, carries the essence of the brand's dedication to craftsmanship and quality.

Our plant at Sanjan and the marketing office at Mumbai are well supported by a team of young engineering professionals. In a short span of time, we have become the preferred supplier for most of our customers, and we have distinguished ourselves as a ONE-STOP SHOP for all your needs, in tubes, rods, sections and profiles, of copper and copper alloys.

## OUR VISION

We continue to be the first in identifying and addressing our customer's requirements and strive to exceed their expectations in terms of quality and deliveries. We also strive to remain the leader in our field, using the latest production technologies and incorporating the newest developments in processes and quality control.

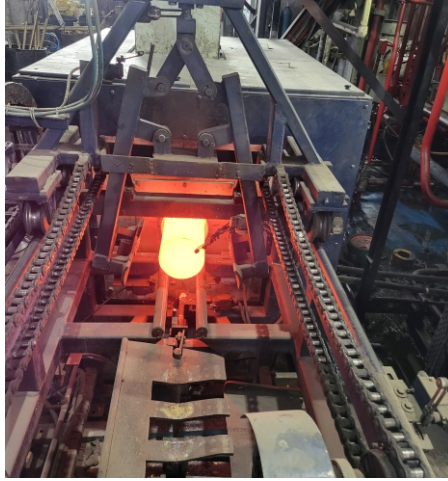
## OUR MISSION

To implement and sustain the best quality system, there is to offer, and to surround our manufacturing operations, with **QUALITY FIRST**, our production mantra. To instill this quality drive in our Company, with a desire to be known and identified as the “**METAL EXPERTS**”, where **QUALITY** and **CUSTOMER EXPECTATIONS**, form the by words of our Corporate Mission.

# PLANT & EQUIPMENTS



1000Kg/450Kw Corless Induction Melting Furnace with Vertical Semi Continuous Caster



350Kw Induction Billet Heater



880 US Ton Oil Hydraulic Extrusion Press, UBE Japan



Cold Drawing Tube Draw Benches



Pilger Mills



Mesh Belt Type Controlled Atmosphere Bright Annealing Furnace

Kanak Pipe Industries Private Limited (KPIPL) has a totally integrated manufacturing facility. From casting to packing, all processes are carried out in-house.

The Melting & Casting process carried out in Coreless Induction Melting Furnace VAP make 1000Kgs/450Kw and PILLAR make 500Kgs/250Kw capacity and Vertical Semi Continuous Caster.

We have 880 US Tons Horizontal Oil Hydraulic Extrusion Press of UBE Japan make. It is a PLC controlled and fully automatic operating cycle to produce quality extruded products of Copper and its alloys as Tubes, Rods & Sections. The Induction Billet Heating Furnace, coupled with extrusion press, has accurate temp. control of the billet with Radiation Pyrometer.

The finishing operation of tubes is carried out with Pilger Mills and a number of Precision Draw Benches of various pull capacities and sizes as per product requirements.

We are also equipped with a Mesh Belt Type Controlled Atmosphere Bright Annealing Furnace suitable for quality bright annealing of Copper and Copper alloys for intermediate & final annealing operation. The bright annealing furnace is coupled with an MVS make Nitrogen + Hydrogen Gas Generator producing gas at very low dew point (-60°C) and oxygen level 1ppm. A Precision control of Nitrogen & Hydrogen ratio is maintained to achieve best result of Bright Annealing.

**We have recently added following Equipments to enhance the Quality of our Products: -**

### **Vertical Semi Continuous Casting Machine:**

The growing application of Billet Casting techniques, Vertical Semi Continuous Casting process furnishes the high quality of the billet surface, grain structure, long length, straightness and high recovery in casting, meaning production of high quality of billets or logs at competitive cost.

### **Pilger Mills:**

Pilgering process ensures a large area reduction with respect to drawing without initiating surface cracks. It reduces a certain amount of eccentricity, which is not desired in precision tubes. Cold drawing gives only longitudinal stress whereas Pilgering imparts both longitudinal stress and transverse stress, resulting in a compact and globular grain structure.

### **Induction Billet Heater:**

The advantage of Induction heating is less scale formation on the billet surface as well as environmental friendliness. Induction heating system suited for automation capability, quality assurance and high reliability. Our system also has the facility of combination of Gas heating at low temperature and further Induction heating to avoid scale formation on the billet surface, also reducing the temperature difference between the billet surface and the core.



Optical Spark Emission Spectrometer



Hydrogen Embrittlement Test



Metallurgical Multi Range Microscope



Digital Conductivity Meter



Universal Testing Machine



Dual Channel Eddy Current Test



Hydrostatic Pressure Test



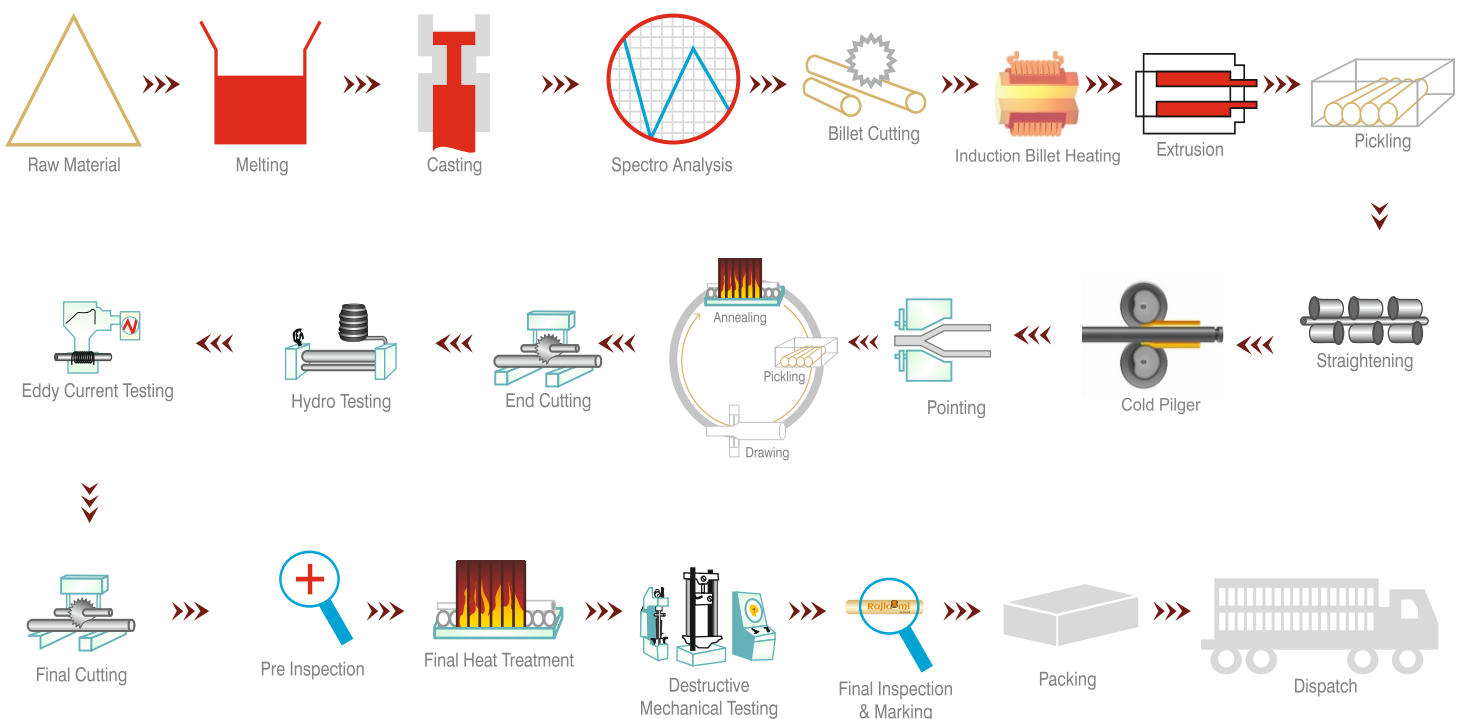
Vickers Hardness Test

The Quality Assurance System at Kanak Pipe Industries Private Limited (KPIPL) covers all stages of production, right from the selection of raw materials, melting and casting, drawing, final annealing till the finished product is ready for dispatch. The elements of quality assurance system correspond to the requirements of national and international standards, as well as the customer's own QA, if any.

The Quality control department is independent of the manufacturing department. All tests are carried out by trained quality personnel, in compliance with the guidelines of the Quality Assurance System. Depending upon the intended application and technical delivery conditions or customer's specifications, a variety of specific tests is carried out to ensure that the highest quality standards are maintained.

The factory has been equipped with reliable testing and measuring equipments for destructive, non-destructive, physical and chemical tests under one roof. The Client's Approved Representative (CAP) or any Third-Party Inspection Agency (TPIA) can witness the testing/inspection of finished products as per various Standard Specifications, such as ASTM, BS, DIN, JIS, IS and other relevant International Standards.

## PROCESS FLOW CHART



**Rajlami** Copper Pipes adhere to the following Specifications:  
ASTM B68, B75, B88& B280/BS:EN 1057/ EN 12735 /JISH 3300/ BS2871/  
BS:EN 13348 or any of National and International Specification.

SPECIFICATION	CHEMICAL %		TEMPER	UTS (MIN) N/mm2	% ELONGATION min.	HARDNESS	GRAIN SIZE at 75 X (mm)	INTERNAL Cleanness(Max)
	COPPER	PHOSPHORUS						
ASTM B 68 C12200	99.90 MIN	0.015 - 0.040	Light Annealed (O50)	210	40	NA	0.015 - 0.040	NA
			Soft Annealed (O60)	210	40	NA	0.040 Min	NA
ASTM B 75 C12200			Half Hard (H55)	250-325	NA	30-60 (HR 30T)	NA	NA
			Hard (H80)	310 Min	NA	55 Min (HR 30T)	NA	NA
ASTM B 280 C12200			Soft Annealed (O60)	205	40	NA	0.040 Min	0.038g/m2
			Hard (H58)	250	NA	NA	NA	
JIS H 3300 C1220			Light Annealed (OL)	205	40	65 Max (HR 15T)	0.040 Max	NA
			Soft Annealed (O)	205	40	60 Max (HR 15T)	0.025-0.060	NA
			Half Hard	245-325	NA	30-60 (HR 30T)	NA	NA
			Hard	315 Min	NA	55 Min (HR 30T)	NA	NA
EN 12735 CU-DHP/ CW024A	Annealed (R220)	220 Min	40	40 - 70 VPN	NA	*0.38mg/dm2		
	Half Hard (R250)	250 Min	30	75-100 VPN	NA	*0.38mg/dm2		
	Hard (R290)	290 Min	3	100 VPN Min	NA	*0.38mg/dm2		

\*CARBON RESIDUE



## **Rajlami PANCAKE COIL**

Size - OD : 4.76mm TO 22.22mm, WT : 0.35mm TO 1.65mm, Length : 15Mtrs & 30Mtrs  
Application : Refrigeration , Air Conditioning, Plumbing, Heat Exchangers & Medigas.  
Chemical Composition : Cu 99.9 (Min.), P 0.015-0.040  
Temper Soft Annealed  
Packaging : End Capped, Single, Shrink Wrapped,

### VRV/VRF INSTALLATIONS - SOFT / ANNEALED

## **Rajlami VRV/VRF INSTALLATIONS - SOFT/ANNEALED (SPECIFICATIONS)**

### STANDARD COIL LENGTH: 50FT (SINGLE LAYERED)

JIS H 3300:19				ASTM B 280-03		
OD		No of Coils	THK	WT / COIL	THK	WT / COIL
Inch	mm	Carton	MM	KG	MM	KG
1/4"	6.35	15.00	0.80	1.92	0.762	1.84
3/8"	9.53	10.00	0.80	2.98	0.813	3.02
1/2"	12.70	7.00	0.80	4.08	0.813	4.14
5/8"	15.88	5.00	0.80 / 1.00	5.18 / 6.40	0.889	5.71
3/4"	19.05	4.00	1.00	7.73	0.889 / 1.07	6.91 / 8.24
7/8"	22.22	3.00	0.88	8.00	1.14	10.29

Sizes out of this range can be considered

## **Rajlami ECONOMY SOFT / ANNEALED / MEDIUM AND LIGHT WEIGHT NON-VRV/VRF INSTALLATION**

### STANDARD COIL LENGTH: 50FT (SINGLE LAYERED)

ASTM B 68						
OD		No. of Coils	THK	WT/COIL	THK	WT/COIL
Inch	mm	Carton	MM	KG	MM	KG
1/4"	6.35	15.00	0.61	1.50	0.48	1.20
3/8"	9.53	10.00	0.66	2.50	0.57	2.20
1/2"	12.70	7.00	0.68	3.50	0.61	3.20
5/8"	15.88	5.00	0.69	4.50	0.64	4.20
3/4"	19.05	4.00	0.80	6.30	0.71	5.60

Sizes out of this range can be considered





# TECHNICAL SPECIFICATIONS FOR HVAC & R COPPER TUBE



## Rajlami STRAIGHT TUBES

Size - OD : 4.76mm TO 159mm, WT: 0.35mm TO 5.0mm,

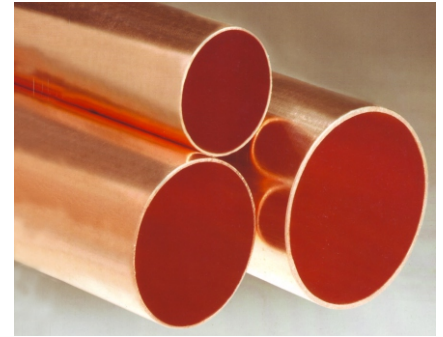
Length : 3.05mtrs, 5.80mtrs, 6.0mtrs

Application : Refrigeration , Air Conditioning, Plumbing, Heat Exchangers & Medigas.

Chemical Composition: Cu 99.9 (Min.), P 0.015-0.040

Temper Half Hard/ Hard

Packaging: End Capped/ Plugged.



## Rajlami SPECIFIC REQUIREMENT FOR VRV/VRF INSTALLATIONS HARD & HALF HARD

		ASTM B 280-03		JIS H 3300-2018	
OD		THK	WT/MTR	THK	WT/MTR
Inch	MM	MM	KG	MM	KG
1/4"	6.35	-	-	0.80	0.125
3/8"	9.53	0.76	0.19	0.80	0.196
1/2"	12.70	0.98	0.30	0.80	0.268
5/8"	15.90	1.02	0.43	0.80/1.00	0.339/0.418
3/4"	19.10	1.07	0.54	0.80/1.00	0.410/0.507
7/8"	22.30	1.14	0.68	0.80/1.00	0.482/0.597
1"	25.40	-	-	0.88/1.00	0.606/0.686
1 1/8"	28.60	1.27	0.98	1.00	0.776
1 1/4"	31.75	-	-	1/10	0.947
1 3/8"	34.90	1.40	1.32	1.21	1.145
1 1/2"	38.10	-	-	1.32	1.364
1 5/8"	41.30	1.52	1.70	1.43	1.602
2 1/8"	54.00	2.03	2.96	-	-
2 5/8"	66.70	2.03	3.69	-	-
3 1/8"	79.40	2.29	4.96	-	-
3 5/8"	92.10	2.54	6.39	-	-
4 1/8"	104.78	2.79	8.00	-	-



Sizes out of this range can be considered

## A MUST FOR YOUR EVERY NEED

Our Progressive Partners :



# KANAK PIPE INDUSTRIES PVT. LTD.



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