



# BHAGYANAGAR INDIA LIMITED

## COPPER PRODUCTS

Since its inception in 1985, **Bhagyanagar India Ltd. (BIL)** has established itself as a leading company in the manufacture of copper products. The company product range includes copper busbars/flats, paper insulated copper conductors (PICC), auto components, commutators, copper nuggets, etc.

Bhagyanagar's clientele is composed of illustrious companies like General Electric (GE), Toshiba TTDI, Pete Hammond, Mico bosch, HBL, Racold, V-Guard, Amara Raja among other prized customers. As such, Bhagyanagar supplies its product to Original Equipment Manufacturers (OEMs) in the auto, switchgear, transformer and other customers in the electrical industry.



## Copper Flats / Copper Bus Bars

Cross section	Width	Thickness	Standards
upto 3000 mm <sup>2</sup>	upto 200 mm	up to 50 mm	IS, BS, DIN, EN, ASTM, etc..

<b>Material</b>	: OFC/ETP
<b>Cu Content</b>	: Min 99.97%
<b>Standard</b>	: As per customer requirements
<b>Conductivity</b>	: Min 100% (in soft condition), Min 97% (in hard condition)
<b>Type</b>	: Rectangular, square and any corner radius
<b>Temper</b>	: As per customer requirements
<b>Packing</b>	: As per customer requirements

**Applications:** Switchgear, transformers, circuit breakers, terminals and connectors.

## Paper Insulated Copper Conductor (PICC)

<b>Insulation</b>		
<b>Paper Types</b>	Standard type Thermokraft IEC 554-2 VDE 0311 Standard tip Nomex T-410, as per customer requirement.	
<b>Dimensions</b>	<b>Copper Strips</b>	<b>Copper Wires</b>
	Width: 3mm - 16mm Thickness: 1.2mm - 6mm	Diameter: 1.2mm - 2.5mm
<b>Standards</b>	DIN EN 13601(DIN 46433-DIN 40500/3), DIN 46434, DIN 46452,IS-8572:1993, as per customer requirement.	



## Copper Foils

Width : 11mm – 130mm  
Thickness: .05mm – 3mm

**Application:** Used in switchgear, cable industry

## Copper Tubes

O.D.		Wall Thickness					
N	mm	MIN		MAX		STRAIGHT	
		(in)	(mm)	(in)	(mm)	(ft)	(m)
3/8"	9.52	0.012	0.30	0.039	1.00	6.0 - 20.0	2.0 - 6.0
0.394	10.00	0.016	0.40	0.039	1.00	6.0 - 20.0	2.0 - 6.0
1/2"	12.70	0.014	0.40	0.039	1.00	6.0 - 20.0	2.0 - 6.0
0.787	20.00	0.039	1.00	0.059	1.50	6.0 - 20.0	2.0 - 6.0
0.866	22.00	0.039	1.00	0.059	1.50	6.0 - 20.0	2.0 - 6.0
7/8"	22.22	0.039	1.00	0.059	1.50	6.0 - 20.0	2.0 - 6.0
0.984	25.00	0.039	1.00	0.059	1.50	6.0 - 20.0	2.0 - 6.0
1"	25.40	0.039	1.00	0.059	1.50	6.0 - 20.0	2.0 - 6.0
1.102	28.00	0.039	1.00	0.059	1.50	6.0 - 20.0	2.0 - 6.0



**Applications for tubes:** Solar fins, solar flat plate collectors, refrigeration and heat exchangers, electrical industry, heating element.

## Copper Nugget

### OXYGEN FREE COPPER ANODE (OFC nuggets)

Ideal anode material for copper electroplating processes, cylindrical types of nuggets are produced from upcast process. OFC nuggets have very high copper purity. Sphere and ball nuggets are in initial stages.



Oxygen Free (OFC)	Diameter (mm)		Impurities
	(mm)	(inch)	
% Cu 99.995 min	8.0	0.315	Bi, Mn < 1 ppm
Oxygen % < 10ppm	10.0	0.393	Al, As, Ni, Si < 5 ppm
	12.5	0.492	S < 10 ppm
			Sb, Sn, Te < 5 ppm
			Zn < 10 ppm
			Ag < 15 ppm
			Fe, Pb < 10 ppm

## Solar Flat Plate Collectors

### SPECIFICATION: IS-12933 -2003 PART(3)

#### Bhagyanagar India Ltd Flat Plate Collector 100/200 Litre Solar Heater Specs

Usage:	Domestic
Solar Water Heater Type	Flat Plate Collector
Capacity (LPD)	100 LPD /125 LPD
No of Fins	9 Nos
Box Material	Aluminium
Solar Absorber Material	Copper fins / Al fins
Colour	Black / Al / Signal white
Insulation	Rockwool
Tube Material	Header tube of Copper and solar Absorber with Nalsun coated fins (Cu &Al)
Glazing	Toughened glass 4 mm thick-free From bubbles and scratches
Dimension	2030x1030x95
Warranty	1 yr
Temperature	85°C





## Commutators

**SPECIFICATION:** IS-14569-1999

**Raw Material:** Copper wire of Ø8mm and Ø10mm

Model	No of segs	I.D	B.O.D	Overall length	Slot size
LCV	23/25	16	42	35	-
Starter Motor	29	11	30	21	1.55-1.65

Model	TIR	Max Spin speed
LCV (Barrel type)	120µ	20,000 rpm
Starter Motor (Riser type)	120µ	42,000 rpm

## Copper Wires & Rods

**Diameter:** 1.1mm – 100mm

**Applications:** Automobiles



## Heating Element / Thermostat / Immersion Heaters

**Rating:** 1.5KW/2.0KW/3KW

Heating Element	Thermostat	Immersion Water Heater
IS - 4159	IS - 3017	IS - 368

**Raw Material Inputs:**

- Copper tubes
- Nicrome wire
- Insulation powder (mgo)
- Brass flanges, screws and nuts

# OUR VALUES

## Quality

We have established our brand as a quality manufacturer over the last 30 years. Total Quality Management (TQM) is integral to our operations and helps optimize our end to end process in response to feedback from customers, suppliers and other stakeholders.

## Cost

We take pride in being one of the most cost efficient manufacturers of copper products in the global market. Our streamlined processes and engineering ensure cost efficiency and enable us to price our products at very competitive rates.

## Delivery

Our state of the art manufacturing facility and experienced personnel ensure the lead time for orders is short and our customers receive orders on time.

## Service

Customer satisfaction is paramount at our company. Our design, development and engineering are eager to meet the diverse needs of the electrical and auto industry.

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### Our Customers

