



POWERING NATION

# PRODUCT CATALOGUE

## ABOUT US



Recognizing the growing need of **Electrical Energy Sector**, a small beginning was made by establishing **ELECON** in the **year 1981** with a small production capacity of 200 MT per year to manufacture paper insulated copper strips under the able and courageous leadership of great visionary **Mr. Satish Chand Jain**.



We continued to grow and diversify adding new products and manufacturing facilities with the state of art infrastructure. Today we have a **total production capacity of more than 1800 MT per annum**. We are on the approved list of **Power Grid corporation of India for copper conductor upto 220 kv class**.



Besides this the Group is also engaged in production of various types of **Insulated/Bare Copper & Aluminium Conductors, Photovoltaic ribbon (PV Ribbon) and ACSR/AAAC Conductors**. We are also an **approved government vendor** in all major electricity departments for all our products.

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**Elecon** is situated at the Industrial hub of Meerut, located just 60 Km from the National Capital, New Delhi, spread over an area of 10,000 Sq mtrs. with built up area of 50,000 Sq ft., having all the required facilities and man power to manufacture and test our products which ensure our ability to meet the tightest of deadlines and offer uncompromising quality, cost efficient product to our valued customers.



Over the years , **Elecon** has surfaced itself as a name to break benchmarks with when it comes to catering to customized customer demands and surpassing expectations through continuous Research and Development by the team of extremely qualified engineers in its diverse field. Hence the continuous R&D took a leap further to form our newest product: the straightest, softest and flattest photovoltaic wire- interconnect ribbon and bus bars for interconnection and module assembly of solar cells. Like all our other existing products we tend to excel and stand at the forefront of solar power movement, connecting the world to benefits of renewable, zero-pollution energy from the sun.



# BARE COPPER / ALUMINIUM WIRE AND STRIPS



## BARE COPPER WIRE / STRIP :

Bare Copper Wires and Strips are used for winding purposes, making different types of cables also used in household wiring and for making bus bars for switchgear industry. Efficiency of all electrical equipments depend upon the quality & purity of Bare conductor used therein. Our Bare Copper Wires & Strips have minimum purity of 99.97% (ETP grade). Since Bare conductors are the core of any covered conductors, we take due care about the finish & quality of the same. We strictly use Vedanta or Hindalco Copper for manufacturing our products.



### Salient Features :

- Dimensional accuracy
- Corrosion resistance
- High strength
- Superior finish



### Applications :

- Alternators
- Motors
- PVC Cables (Household Cables)
- Winding Wires
- Switchgears
- MCB Boxes
- Control Panels
- Transformers
- Power transmission
- Electroplating
- Zari wire

## BARE COPPER STRIP :: Manufacturing Range & Specifications

Particulars	Size Range	Specification
Bare Copper Strips and Profiles (Hard or Annealed)	Cross Sectional Area: 4-100 sqmm <b>Width: 3-25mm</b> <b>Thickness: 2-5mm</b>	IS 1897 IS 6160

## BARE COPPER WIRE :: Manufacturing Range & Specifications

Particulars	Size Range	Specification
Bare Copper Wire (Hard or Annealed)	0.150-20.00mm	IS 4412

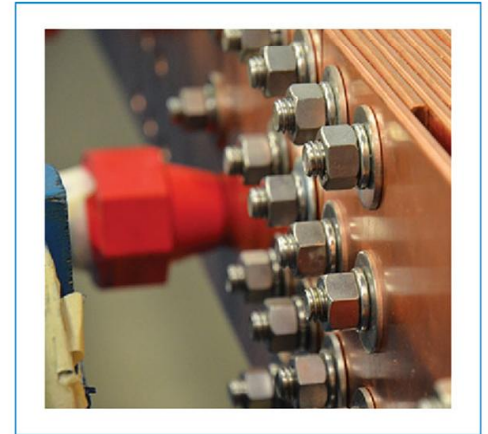


# COPPER & ALUMINIUM BUSH BARS



Bus bars are essential for conducting current in many settings. To benefit from optimal efficiency, ampacity, and life cycle in your bus bar, it's critical to consider the quality of materials, design, and cross-sectional size.

**Elecon's** bus bars are manufactured with exclusive equipment employing cutting-edge technology by way of Extrusion and Drawing Machines. Consult with our experts for the best bus bar to meet your needs.



PARTICULARS	COPPER	ALUMINIUM
Tensile Strength	250 N/mm <sup>2</sup>	80 N/mm <sup>2</sup>
Resistivity	0,0172 $\Omega$ mm <sup>2</sup> /m	0.0286 $\Omega$ mm <sup>2</sup> /m
Density	8.9 kg/dm <sup>3</sup>	2.7 kg/dm <sup>3</sup> .

## SAIENT FEATURES

- 1) Shining Surface
- 2) 99.99% pure metal
- 3) Non Corrosive
- 4) Higher Conductivity
- 5) Life Long Guarantee

## APPLICATIONS

- Control Panels
- Ditribution Transformers
- Power Transformers
- Connection In Electrical Circuits
- Electrical Changeovers



# KAPTON COVERED/ INSULATED ROUND & RECTANGULAR /FLAT COPPER WIRE

Kapton Enamel Wire/ Strip is the condensation product of an aromatic tetra basic acid and an aromatic diamine. It has no melting point, is infusible and self-extinguishing (does not support combustion).

It provides insulation with high electrical, thermal and mechanical properties over a temperature range of -196°C to +250°C. It provides higher Break Down Voltage (more than 8 KV BDV) as well as Temperature Class (220 °C) as compare with other insulated conductors.

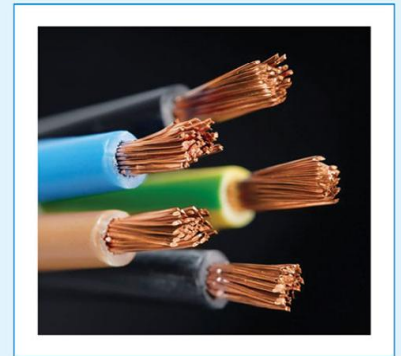
Kapton Enamel Wire also is a multi-layer Kapton & fluoropolymer dispersion-coated film. The fluoro polymer coating functions as a heat-fusible layer for bonding to magnet wire conductors.

## SALIENT FEATURES

- High Mechanical Properties
- Stronger Overload Capacity
- Heat Resistance
- Superior Scrape Abrasion Resistance

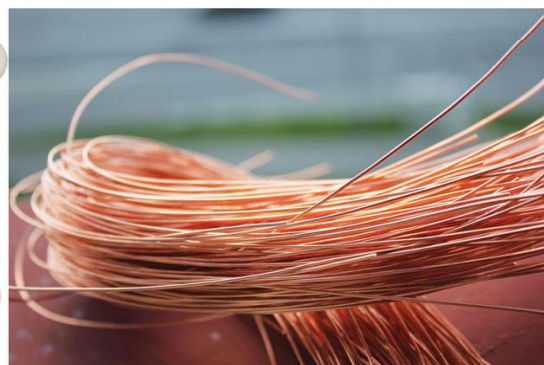
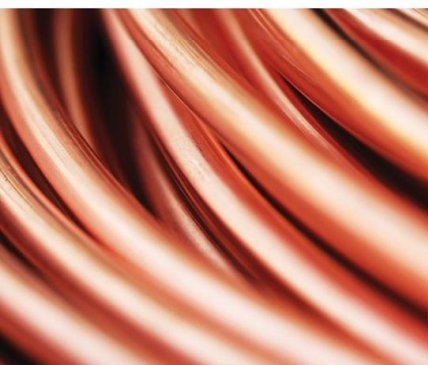
## APPLICATIONS

- Traction motors used in rail, auto and mining
- Magnet Wire
- Industrial motor insulation
- Wind, hydro generators



## Manufacturing Range & Specifications

Temp. Class	Type of Insulation	Size Range
220°C	Kapton / Apical (Polyimide Film) (50%, 66% Overlapping)	Round Wire: 2 to 4 mm Flat Wire: 5 - 50 sq. mm Min. Size: 3.3 x 1.5 mm Max. Size: 12 x 4.2 mm



# COTTON COVERED COPPER/ALUMINIUM WIRE AND STRIPS



**Elecon** provides wide range of **DCC or Double Cotton Covered Copper/Aluminium wire and strips**, the first layer is of Polyester which is of very fine quality and then another two layers of Cotton Yarn over it for better insulation as per the customers requirement. Double Cotton Covered Rope is used in Current Transformers & Potential Transformers.


There is a very low voltage difference between turn to turn (approx 2V) hence fewer Insulation properties are required. Cotton, soaked in epoxy resin and cured, gives required insulation and toughness to the winding. It has better performance than Enamelled wires for this application. As during the grinding application, the cotton covering does not chip off. This is mainly used in variac windings above the range of enameled wires windings (thicker wires) .

This product is exclusively used in Dimmer stat windings of 40, 50, 75, 80, 90Amp or even higher capacity. SWG 6, 9, and 11 are commonly used for this application. The wires are wound in form for toroid windings, which is further dipped in Epoxy resins and cured/baked to form a solid, hard, tough insulation.

## APPLICATIONS

- Welding Machine
- Butt Welding
- CT & PT
- Plating Rectifiers
- Spot Welding

## Manufacturing Range & Specifications

PRODUCT RANGE	SIZE RANGE	INSULATION RANGE	SPECIFICATION
ROUND	SWG 0 to 12 (8.23mm to 1.8mm)	0.30 to 0.80 mm	IS: 7391 part 1 for round copper wires
STRIP	10 to 75sq mm copper Width 3mm to 25mm Thickness 1.5mm to 4mm)	0.30 to 0.80 mm	
Copper Rope / Copper Bunched Wire	5 to 300 Sq mm	0.30 to 2.00mm	

## SUPER ENAMELLED COPPER/ALUMINIUM WIRE AND STRIPS :

**Enamelled copper/aluminium wire** is popularly called magnet wire because these wires are coated with an insulation layer. Both aluminium and copper wires may be enamelled when used for machines like transformers and motors. This insulation is provided with a thin varnish layer which is referred to as the enamel.

**Elecon** offers a superior range of enamelled copper as well as aluminium wires and strips aiming to cater the wide variety of applications in the industry ranging from a common motor rewinding to most critical applications like in automobiles.

These enamelled wires are used in electromagnets that use electricity to generate a magnetic field. They are wrapped in a tight coil and when an electric charge is applied, the wires generate the magnetic field.

### SALIENT FEATURES

High Conductivity

Heat resistant

Uniform and even coating

Shiny surface



### Specifications for Super Enamelled Copper/Aluminium Wire & Strip

Temperature	Chemical Base of Enamel	Size Range	Specification
120	Polyvinyl Acetal (PVA/PVF)	0.06 to 5.0 mm	IS 13730-34 IEC 60317-34 IS 13730-9 IEC 60317-9
155	Modified polyester	0.06 to 3.0 mm	IS 13730-3 IEC 60317-3
180	Modified polyester	0.06 to 5.0 mm	IS 13730-8 IEC 60317-8 IS 13730-15 IEC 60317-15
200	Dual Coated Wire	0.06 to 4.0 mm	IS 13730 -13 IEC 60317 - 13 NEMA MW 35A/35C IEC 60317 - 25



## SPECIFICATIONS FOR SUPER ENAMELLED ALUMINIUM WIRE/STRIP:

Temperature	Type	Size Range
130	Modified polyester	0.25 to 5.0 mm
155	Modified polyester	0.25 to 5.0 mm
180	Modified polyester	0.25 to 5.0 mm
200	Dual Coated Wire	0.25 to 5.0 mm

## APPLICATIONS

Super Enamelled Copper wires are mainly used in:

Domestic equipments,pumps,

Motors,

Stabilizers

Transformers

Fans

Auto Electricals

Heavy duty domestic appliances

Motors (small as well as large motors)

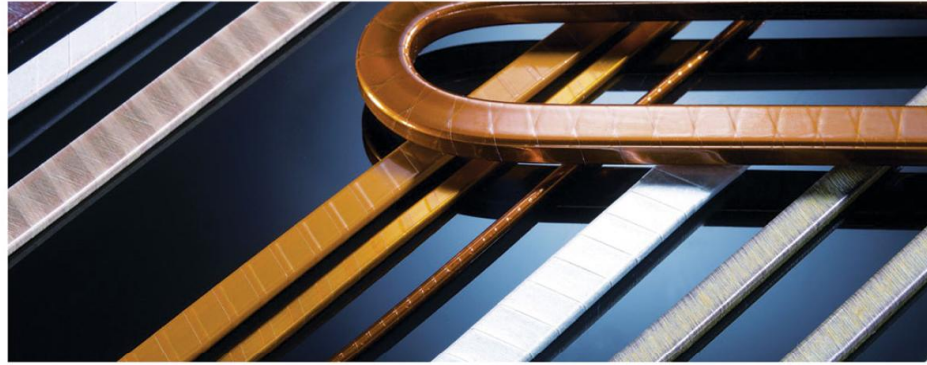
Compressors and

Generatorstors



## MICA COVER COPPER & ALUMINIUM WIRE AND STRIPS

Mica paper in **MICA COVER WIRE AND STRIPS** consists of tiny platelets of mica that are formed into a paper. This paper is extremely fragile and requires a carrier to render it usable, hence the polyester film. With respect to corona & thermal resistance requirements, Mica has shown itself to be the most suitable insulating material



### MANUFACTURING RANGE AND SPECIFICATIONS

Temperature	Type of Insulation	Size Range
200°C	Epoxy /Glass Mica	Round Wire: 2 to 4 mm Flat Wire: 6 - 50 sq. mm Min. Size: 3 x 2 mm Max. Size: 12.54 x 4 mm

### APPLICATIONS

Its application is mainly in high voltage rotating machines due to its superior resistance to corona and it is therefore obvious to use it also as conductor insulation in inverter driven motors.



# FIBREGLASS COVERED ROUND & FLAT COPPER/ALUMINIUM STRIP



The Glass in **FIBRE GLASS /INSULATED ROUND & RECTANGULAR /FLAT COPPER STRIP** may be applied in woven tape form or as a continuous fibre. It has proved to be an efficient insulation providing coil winders with higher thermal stability, adequate electrical properties and good resistance to abrasion after varnishing. The glass is bonded with a varnish for dielectric strength to improve mechanical properties.

**Fibre Glass** lapped conductors (bare or enamelled) are very suitable for windings of electric motor stators, generators, special transformers and high voltage motors. In general this insulation can be applied where high mechanical strength and high insulation properties are required. It exhibits a very high degree of mechanical and thermal stability.



## Manufacturing Range & Specification for Fibre glass Copper Strip

Temperature	Specification	Type of Insulation	Size Range
155°C='F'	IEC-60317-32 IS-13730-32	Single /Double Layer of Glass Fibre Yarn & Impregnated with Class 'F' / 'H' / 'C' Varnish	For Wire: 3mm-12mm
180°C='H'	IEC-60317-31 IS-13730-31		For Flat Wire/Strip: Width: 3mm-20mm Thickness: 1mm-6mm
200°C='C'	IEC-60317-33 IS-13730-33 NEMA MW 41 & 43,50		

## Manufacturing Range & Specification for Fibre glass Aluminium Strip

Temperature	Specification	Type of Insulation	Size Range
155°C='F'	IEC-60317-32 IS-13730-32	Single /Double Layer of Glass Fibre Yarn & Impregnated with Class 'F' / 'H' Varnish	For Wire: 2mm - 8mm Width: 3mm-20mm Thickness: 1mm-7mm
180°C='H'	IEC-60317-31 IS-13730-31		

## KAPTON COVERED / INSULATED ROUND & RECTANGULAR / FLAT COPPER WIRE

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It provides insulation with high electrical, thermal and mechanical properties over a temperature range of -196°C to +250°C. It provides higher Break Down Voltage (more than 8 KV BDV) as well as Temperature Class (220 °C) as compare with other insulated conductors. Special processing technology makes the product have high mechanical properties, stronger overload capacity, heat-resistant properties and suitable for large and medium-sized motor coils and winding of electrical appliances. Kapton Enamel Wire is ideal for demanding magnet wire applications and for difficult-to-wind motors. Kapton Enamel Wire also is a multi-layer Kapton & fluoropolymer dispersion-coated film. The fluoro polymer coating functions as a heat-fusible layer for bonding to magnet wire conductors.

It has superior scrape abrasion resistance and exhibits lower frictional properties than wire insulated with other commonly used Kapton materials.

### MANUFACTURING RANGE AND SPECIFICATIONS



Temperature	Type of Insulation	Size Range
220°C	Kapton / Apical (Polyimide Film) (50%, 66% Overlapping)	Round Wire: 2 to 4 mm Flat Wire: 5 - 50 sq. mm Min. Size: 3.3 x 1.5 mm Max. Size: 12 x 4.2 mm

### APPLICATIONS

Traction motors used in rail, auto and mining

Magnet Wire

Industrial motor insulation

Wind, hydro generators





# ELECON

