

WINDING WIRES

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

ELSEWEDY  
CABLES



# Introduction

## Elsewedy Cables

Elsewedy Cables, established in 1980, and considered one of the oldest and most successful industrial and trading business groups across the Middle East region with a growing turn over \$ 1.2 billion in year 2006. Therefore we are delighted to introduce ourselves as a leading group, composed of 15 companies and 15 factories in five different countries (Egypt, Sudan, Syria, Saudi Arabia & Ghana).



## Business Sectors

- Wires & Cables Sector
- Electrical Products Sector
- Turn Key Projects Sector
- International Operations Sector

## Elsewedy Cables Winding Wires Factories

In 1997, Elsewedy Cables established their first winding wires factory, which is considered as one of the largest factories in the Middle East specialized in manufacturing Enamelled and paper flat wire as well as plain & tinned copper with the capacity of 15000 ton/year, produced and quality controlled through a very sophisticated devices both on line and at the laboratory. The laboratory facility is equipped with almost all testing devices to meet the requirements of IEC and European norms.

Our customers in Europe, Africa and in the Middle East are consuming almost 70% of our production capacity in the field of Oil and Dry Transformers, Switch Gears, Motors and Compressors.

## Certifications



BASEC Certification Schedule



BASEC Certificate of Conformity



0.60 mm Tinned Copper Wire



0.5 mm Tinned Copper Wire



0.132 mm Enamelled Wire



0.70 mm Enamelled Wire



3.35 mm Enamelled Wire



# Paper Insulated Flat Wire

## Paper Wrapped Rectangular Copper Wires

### Applications

- Oil filled Transformers & Switch Gears.
- Power & Distribution Transformers.
- Choke Coils.

### Specifications

- According to DIN 46434 - IEC 317 - 27

#### Paper Class

5A - 105°C according to IEC 60554-3

#### Thickness

Up to 3mm (30 paper layers)

#### Raw Material Quality

Electrolytic Tough Pitch Copper - according to ASTM-B49

#### Purity

>99.95% High Conductivity.

#### Thickness of Insulation

From 0.1 to 4.0 mm.



### Product Range

Width		Flat Wire (mm)			Round Wire (mm)	
		Thickness	Cross Section area			
min	max	min	max	max	min	max
6	25	1.2	8	120m <sup>2</sup>	4	5

### Packaging

Flang dia.	Spools Capacity	Type
K355	45	Plastic
500	90	Wooden
710	200	Wooden
750	225	Wooden

\* All dimensions in mm

### Plant Capacity

1200 tons per year



# Plain Copper Wires

## Applications

Electrical Conductors for Cables Industries

## Material

High Conductivity Electrolytic Tough Pitch Copper 99.95%.

## Product

Annealed & Hard.

## Plant Capacity

Round : 12000 Tons per Year.

Flat : 1200 Tons per Year.

## Quality Control (Tests)

Dimensions, Elongation %, Resistivity, Tensile strength & Surface Finish.



Product type	Standard (Design & Testing)	Dimension Range	Mode of Delivery	
			Packing Type	Capacity
Round wire	ASTM B1 & B3 (Cold drawing)	0.3 - 1.6 mm	Plastic spools	Up to ( 20kg) - IEC 264-2
		1.35 - 3mm	Light baskets	Up to ( 1600kg)
Flat & Strip Wires with rounded edges	ASTM B48 & B272 (Cold rolled)	Width (6-25), Thick (1.2-8)	Wooden Spools	Up to ( 250kg)
		C.Sec.Area up to 120mm <sup>2</sup>	& Plastic Spools	Up to ( 45kg) - IEC 264-2

\* Other types as per customer Request.

# Tinned Copper Wires

## Applications

- Electrical Conductors for Cables Industry.
- Electronic Circuits.

## Material

High Conductivity Electrolytic Tough Pitch Copper 99.95%.

## Product

An Electrolytically Tin Coated Annealed Copper Wires.

## Plant Capacity

1800 Tons per year.

## Quality Control (Tests)

Tensile Strength, Resistivity, Dimensions, Coating Thickness, Elongation%, Coating Adherence &Continuity of Coating.

## Packaging

Product type	Standard (Design & Testing)	Dim. Range	Tin Thickness	Mode of Delivery	
				Packing Type	Capacity
Drawn Tinned	ASTM B33	0.27-1.60 mm	Up to (3 micron mt)	Plastic spools	Up to (20 kg) IEC 264-2
Tinned	ASTM B33	1.35-3.00 mm	Up to (20 micron mt)	Light baskets	Up to (1000 kg)
				Plastic spools	Up to (45 kg) IEC 264-2

\* Other types as per customer Request.





# Welding Wire Bare Copper Wires

## Applications

Copper Welding Wires are mainly used for the welding process of all types of Metal Cans.



## Specifications

Electrolytic Copper		
Int. Standard		ASTM B 49
Copper Purity	%	Min 99.95%
Tensile Strenght Max.	N/mm <sup>2</sup>	200-250%
Density	g/cm <sup>3</sup>	8.9
Specific Heat	15-100 C Cal/gc	0.093
Thermal Conductivity	Cal cm/cm <sup>3</sup> C	1.22
Electric Conductivity Min.(IACS) at 20°C	%	≥100%
Resistivity at 20°C (at 10% lacs)	ohm mm <sup>2</sup> /m	0.017241

## Product Range

Size (mm)	Min. diameter (mm)	Max. diameter (mm)	Cross section area (mm)	Weight of 1km (Kg)	Elongation %
1.24	1.2	1.24	1.21	10.7	22-28
1.38	1.34	1.38	1.5	13.3	
1.5	1.46	1.5	1.77	15.7	

## Packaging

Wires are packaged in a cylindrical steel baskets (returnable or non-returnable), covered by a plastic bag for protection against oxidation and shocks. A cilica gel bag is enclosed inside the basket to achieve humidity absorption.

## Basket Capacity

600 Kg - minimum (& per customer request).





# Total Quality Management

## Elsewedy Cables

Manufactures top quality Winding Wires. Quality control starts with the raw material, manufacturing process and packaging process.

## Elsewedy Cables Winding Wires

Are precisely inspected and tested through a series of sophisticated on-line instrumentations, followed by laboratory tests according to the International Standards Specifications.



## Quality Control for Winding Wires



Continuity Test



Oil Resistance Test



Spring Back Test



Tangent Delta Test



Thermal Heat Cut Through Test



Solvent Test



Break Down Voltage Test



Abrasion Test

Testing procedures according to IEC-851:

- (Uni & Bi) Abrasion Test.
- Peel Test.
- Heat Shock Test.
- Spring Back Test.
- Cut Through Test.
- Elongation % Test.
- Electric Resistance Test.
- Break Down Voltage Test.
- On Line Continuity Tester.
- Solderability Test.
- Solvent Test.
- Oil Resistance Test.
- Pin Hole Test.
- Tangent Delta Test.
- Mandrel Test.
- Flexibility and Adherence "Flat Wire"



# Enamelled Copper Wires

## Round Enamelled Copper Wires

### Applications

- Transformers Coils.
- Motor & Generators Coils.
- Compressors Coils.
- Measuring Devices Coils.
- Tv Deflection Yoke Coils.
- Relays, Solenoid Coils And Balast.

### Specifications

- Solderable Polyurethane (F155°C, UL approved).
- Polyesterimide (H180°C - 200°C, UL approved).
- Polyesterimide Overcoated with Polyamideimide (C200°C, UL approved).
- Polyvinyl Acetal or Poly Vinyl Formal (E120°C, UL Approved).

### Product Range

Round Enamelled (From 0.08 up to 5.25 mm).

### Grades

I, II, III According to IEC-317, DIN 46 435

### Packaging

According to IEC 264, DIN 46 383 & DIN 46 399.



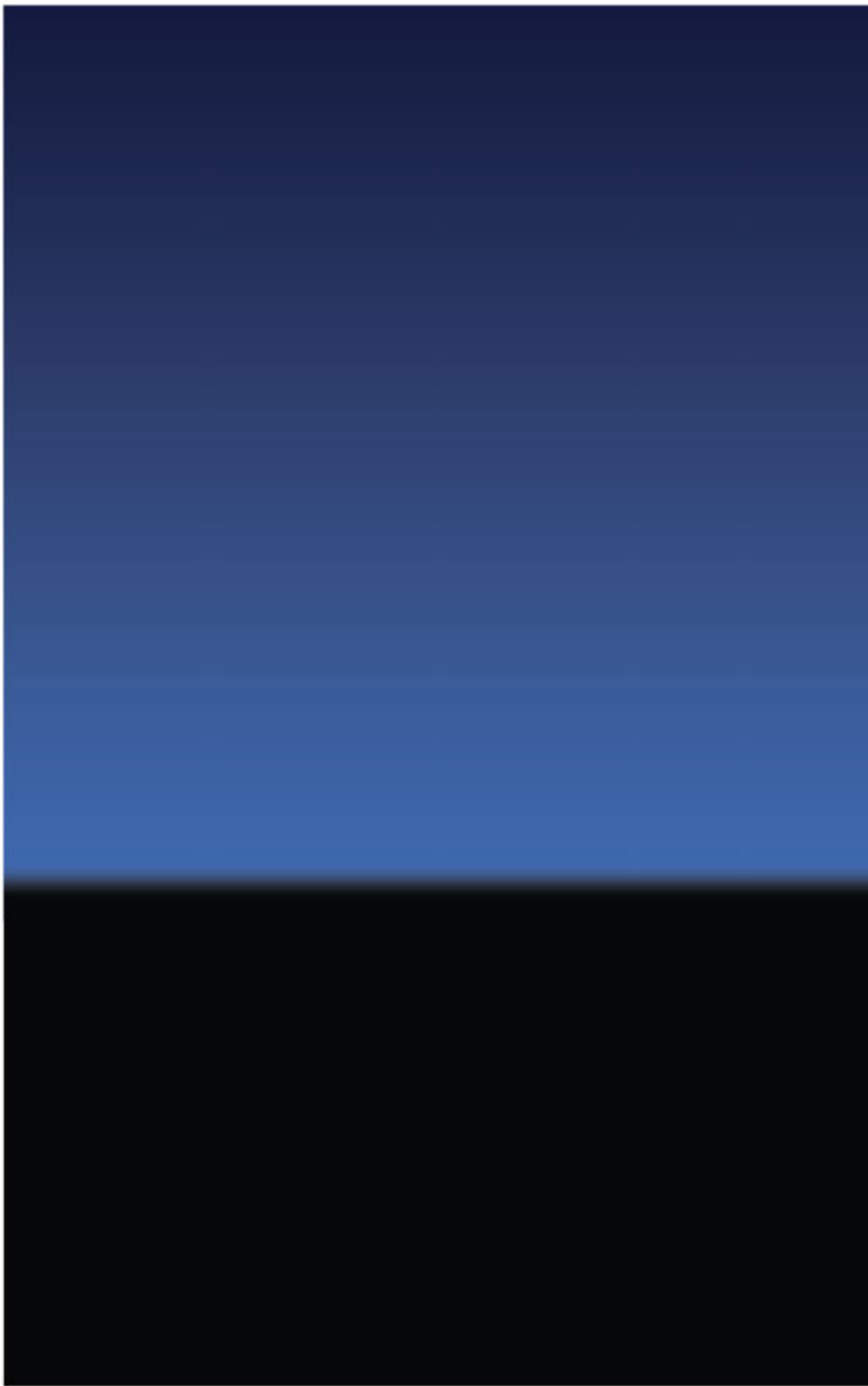
Diameter Range mm	Cylindrical Reels						Conical Reels			
	K125	K160	K200	K250	K355	KK250	200/315	250/400	315/500	400/630
0.08 - 0.25	■	■	■	□		■	■	□	□	
0.25 - 0.5		■	■	■		■	■	■	□	□
0.5 - 1.00		□	■	■	□	□		■	■	■
1.00 - 2.00			■	■	■	□		■	■	■
2.00 - 3.00				■	■			□	■	■
3.00 - 3.55					■				■	■
3.55 - 5.25					■				□	■

■ Preferable    □ Available

Reels Type	Weight (kg)
K125	2 - 2.5
K160	5 - 6
K200	10 - 12
K250	18 - 21
K355	40 - 45
KK250	17 - 21
200/315	17 - 20
250/400	35 - 45
315/500	90 - 100
400/630	160 - 180

### Plant Capacity

8000 Tons per year



#### ELSEWEDY CABLES

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