

WINDING WIRES

ELSEWEDY
CABLES

Subsidiary of ELSEWEDY ELECTRIC

INTRODUCTION

Esewedy Electric

Esewedy Electric has become a significant contributor to the economic growth in Egypt through its development into a well-established group with extensive holdings, both locally and beyond borders in several other Middle Eastern & African countries as well as some European & Asian countries, With the goal of providing our customers a one-stop solution in terms of Designing, Engineering, Procurement and Construction.

Even during lean economic times, Esewedy Electric has been able to maximize its commitment to improve efficiency by ensuring that its management possesses the expertise and talent necessary for the most critical business needs and has thus succeeded in maintaining a solid financial position.

We have more than 12,000 employees working in 25 production facilities located in 14 countries around the world, exporting our wide range of high quality and safe products to more than 40 countries worldwide.

Our turnover is about 2.5 Billion USD; also our Cables production capacity is the highest in the region.

Business Sectors

- Cables and Accessories
- Energy Measurement and Management
- Telecom
- Renewable Energy
- Electrical Products
- Transformers
- Projects and Development



Esewedy Cables Winding Wires Factory

In 1997, Esewedy Cables established their first winding wires factory in Egypt, which is considered one of the largest factories in the Middle East specialized in manufacturing Enamelled round and paper flat wire (Copper&Aluminum) as well as plain & tinned with the capacity of 15000 ton/year, produced and quality controlled through a very sophisticated devices both online 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 Middle East are consuming almost 50% of our production capacity in the field of Oil and Dry Transformers, Switch Gears, Motors and Compressors.

PAPER INSULATED FLAT WIRES

Paper Wrapped Rectangular Copper Wires

Applications

- Oil filled Transformers
- Power & Distribution Transformers
- Choke Coils

Specifications

According to DIN 46434 - IEC:60317-27

Insulation type

- 1-Kraft and epoxy paper class 5A 105°C
- 2-Polyimide film class 180°C
- 3-Nomex T410 class 220°C

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) Thickness		Cross Section Area
min	max	min	max	max
6	25	1.2	8	120mm ²



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

* All dimensions in mm

PAPER INSULATED ROUND WIRES

Applications

Windings for oil transformers or dry transformers

Types of paper or tapes

Kraft - Diamant kraft - Nomex - Mylar - MicaGlass
Special papers or Tapes on request
Copper Proof Stress 0.2 % soft Range 60 to 100 N/mm²

General packing

Plastic reels or on request

General Specification

E-AL UNI EN 9001 Al - CU-EPTP1 UNI EN 1977 Cu - IEC 60554-2 - Customer specification

Conductors range
Copper Diameter
1.50 to 6.00 mm

ENAMELLED ROUND COPPER WIRES

Applications

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

Specifications

Insulation Types

- 1) Solderable Polyurethane
(red ,green and clear color class f155°C)
- 2) Polyesterimide Class (H180°C- 200°C)
and Solderable Polyesterimide Class (H180°C)
- 3) Polyesterimide Over Coated with Polyamideimide
Class (200°C - 220°C UL approved)
- 4) Polyvinyl Acetal or Poly Vinyl Formal Class (E120°C)

Product Range

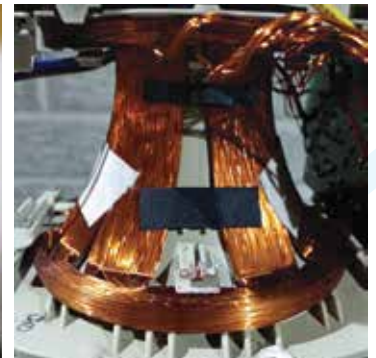
Round Enamelled (From 0.1 up to 5.25 mm)

Grades

I, II, III According to IEC:60317 , 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	K250	200/315	250/400	315/500	400/630
0.10 - 0.25	■	■	■	□		■	■	□	□	
0.25 - 0.50		■	■	■		■	■	■	□	□
0.50 - 1.00		□	■	■	□	□		■	■	■
1.00 - 2.00			■	■	■	□		■	■	■
2.00 - 3.00				■	■			□	■	■
3.00 - 3.55					■				□	■
3.55 - 5.25					■					■

■ Preferable □ Available

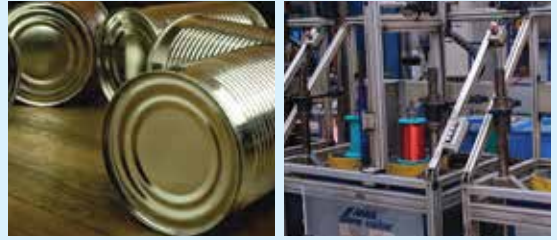
Reels Type	Weight (kg)
K125	2 - 2.5
K160	5 - 6
K200	10 - 12
K250	18 - 21
K355	40 - 45
KK250	17 - 21
200/315	17 - 20
250/400	35 - 45
315/500	90 - 100
400/630	160 - 180

WELDING WIRES

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
Cooper Purity	%	Min 99.95%
Tensile Strenght Max	N/mm ²	200-250%
Density	g/cm ³	8.9
Specific Heat	15-100 C Cal/gc	0.093
Thermal conductivity	Cal cm/cm ³ C	1.22
Electric Conductivity Min.(IACS) at 20°C	%	≥100%
Resistivity at 20°C (at 10% Iacs)	ohm mm ² /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 silica gel bag is enclosed inside the basket to achieve humidity absorption.



WINDING WIRES

TOTAL QUALITY MANAGEMENT

Elsewedy Cables

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

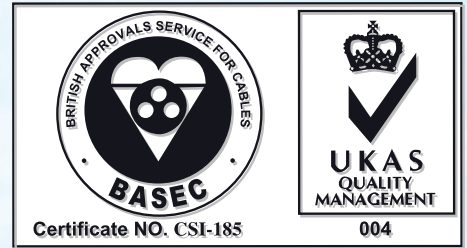
Elsewedy Cables Winding Wires

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

Quality Control for Winding Wires

Testing procedures according to IEC:60815

- (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 Adherance "Flat Wire"
- Thermal Heat Cut Through Test
- Continuity Test
- Abrasion Test



Certifications



ISO 9001-2008 (UIC)



0.6 Tinned Copper Wire Test Report



0.132 Enamelled Wire Test Report



3.35 Enamelled Wire Test Report



ISO 17025 - 2005



UL Certificates Magnit Wire



0.5 Tinned Copper Wire Test Report



0.7 Enamelled Wire Test Report

ENAMELLED ROUND ALUMINUM WIRES

Application

- Lightweight Electric rotated motors
- Transformers
- Generator
- Refrigerating system
- Pumps
- Fans
- Switchgear
- Lighting Fixtures
- Induction heaters
- Others

Specifications

- IEC 60317-0-3
- IEC 60371-15 Class 180
- IEC 60317-25 Class 200

Product Range

- 0.335: 5.00 mm

Grades

- G1
- G2

Packaging

- K250
- 250/400
- 315/500
- 400/630



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

Quality Control (Tests)

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

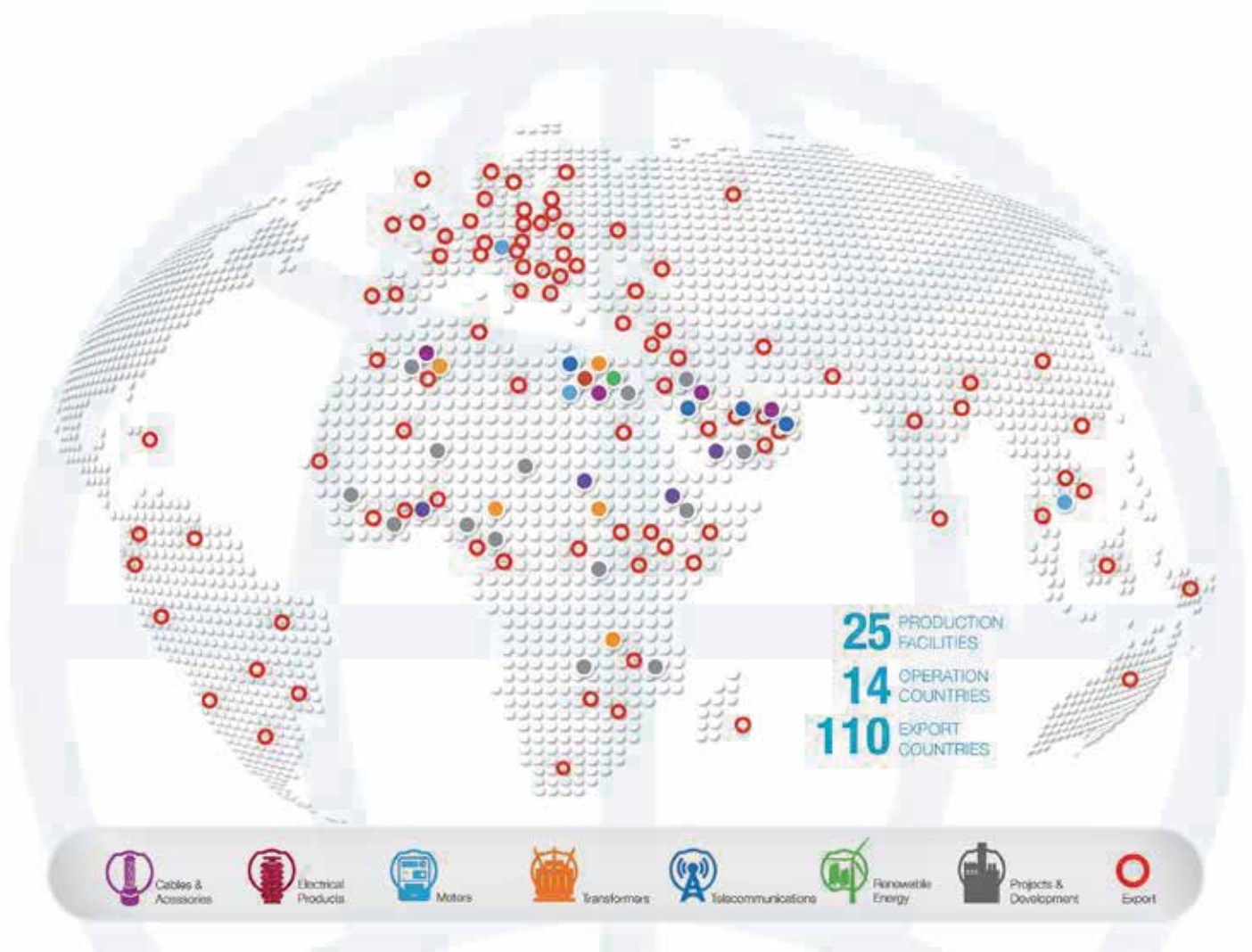
Packaging



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	1.35-3.00 mm	Light baskets	Up to (1000 kg)
				Plastic spools	Up to (45 kg) IEC 264-2

* Other types as per customer request.

Global Presence



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