



Enameled Copper Wires & Strips |
for electrical industry

Enameled Copper Wires & Strips

Introduction



The group

Founded in 1981 by S. K. Sehgal and N. K. Sehgal, today Kapsons is a multi-product, multi-advantage group with a combined turnover of about INR 370 crore (USD 85 million).

We serve globally various industry segments such as electrical, automobile, consumer durables and lighting by providing products and components of highest quality and reliability.





File No. E-328103



ISO 9001:2008



Copper wire division

In order to meet consistent high quality requirements of copper wire by our own motor division, we set up an ultra-modern copper wires & strips manufacturing plant in Jalandhar in 2008.

The plant is equipped with the latest technology wire drawing machines and fully automatic enameling plant. It also possesses quality testing set up to maintain highest quality standards. The plant is certified by Underwriters Laboratories (UL) and DNV for ISO 9001:2008. The installed manufacturing capacity of the plant is 250MT copper wires and strips every month.





Product offerings

- SE Copper wires 0.2 - 5.0mm thickness
- SE Copper strips 5 - 40mm²
- Paper insulated Copper strips 5 - 150mm²
- Bare strips 5 - 150mm²

Our strengths

- Latest generation, high-speed enameling lines from Italy
- World-class quality and production control systems
- Manufacturing SE Copper wires and strips according to IS, IEC, JIS, NEMA and specific requirements of the customers
- Proud suppliers to OE manufacturers like ABB, Crompton Greaves Ltd., Leroy Somer, Marathon Electric, Vijai Electrical Ltd., Bharat Bijlee, Havells India Ltd. and several others





Enameled Copper Wires & Strips

Specifications

Range	Enameling Machine	Machine Type	Remarks
S.E. Copper Wire 0.3 - 0.9 mm	SICME Italia Impiante, Italy	Vertical	As per I.S 13730 part 3, 8, 13, Testing Method IEC 60317, JIS 3003, Testing Method JIS-C3202, NEMA MW 1000 -2003, Customer Specification
S.E. Copper Wire 0.71 - 2.00 mm	SICME Italia Impiante, Italy	Horizontal	
S.E. Copper Wire 2 - 5 mm	New Tech, Italy	Vertical	
S.E. Copper Strip 5 - 40 m ²	New Tech, Italy	Vertical	

Standards Followed	IEC 60317-3 & IS 13730/3	IEC 60317-8 & IS 13730/8	IEC 60317-13 & IS 13730/13	IEC 60317-13 & IS 13730/13 (NEMA MW 73 C)	IEC 60317- 29 & IS 13730-29
Class of Insulation	Class 155 Degree C	Class 180 Degree C	Class 220 Degree C	Class 220 Degree C	Class 200 Degree C
Type of Enamel	Modified Polyester	Polyesterimide	Polyesterimide + Polyamide-imide	Polyesterimide + Polyamide-imide	Polyesterimide + Polyamide-imide
UL Approval			MW 35 C, MW 36 C (Temperature Rating 200 Degree C. MW 37 C, MW 38 C, (temperature rating 220 Degree C) File No : E328103	MW 73 C (Under Approval)	
Range	0.3 mm to 3.00 mm	0.3 mm to 3.00 mm	0.3 mm to 5.00 mm	0.3 mm to 1.5 mm	5 mm Sq to 40 mm Sq
Grade	Grade I, II, III & IV According to IEC	Grade I, II, III & IV According to IEC	Grade I, II, III & IV According to IEC	Grade I, II, III & IV According to IEC	Fine, Medium and Thick Covering according to IEC
Number of Passes	18 Passes	18 Passes	18 Passes (14 + 4)	18 Passes (14 + 4)	12 Passes (9 + 3)

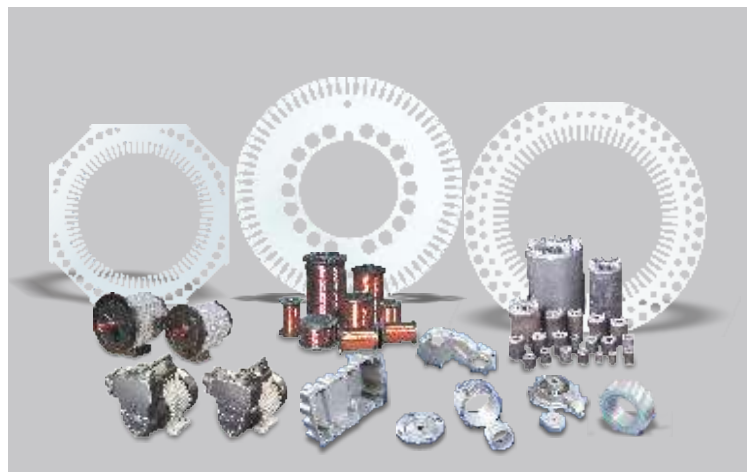
Electrical Properties

Heat Shock (no Cracks)	180 Degrees C	200 Degrees C	220 Degrees C	220 Degrees C	200 Degrees C
Cut Through (To Pass at...)	240 Degrees C	300 Degree C	320 Degree C	320 Degree C	NA
Tan Delta (Minimum)	150 Degree C	175 Degree C	175 Degree C	175 Degree C	NA
Break Down Voltage (1.00 mm Wire, Grade II)	Normally 8 kV and Above	Normally 8 kV and Above	Normally 8 kV and Above	Normally 8 kV and Above	Normally 5 kV and Above
Break Down Voltage (3.00 mm Wire, Grade II)	Normally 5 kV and Above	Normally 5 kV and Above	Normally 5 kV and Above	Normally 5 kV and Above	Normally 5 kV and Above
Resistance (for 1 mm Wire)	0.02116 - 0.02240 @20 Degree C Ohms	0.02116 - 0.02240 @20 Degree C Ohms	0.02116 - 0.02240 @20 Degree C Ohms	0.02116 - 0.02240 @20 Degree C Ohms	
Continuity of Insulation (From 0.3 mm to 1.6 mm)	Max 2 Pin holes	Max 2 Pin holes	Max 2 Pin holes	Max 2 Pin holes	NA

Mechanical Properties

Elongation (for 1.00 mm Wire)	40%	40%	40%	40%	
Elongation for Strips	-	-			42%
Springback (for 1.00 mm Wire)	36 Degrees	36 Degrees	36 Degrees	36 Degrees	
Springback for Strips	-	-			3.5 Degrees
Abrasion (Avg value for 1.00 mm Wire)	13.0 and Above	13.0 and Above	13.0 and Above	13.0 and Above	
Flexibility	Good	V. Good	Excellent	Excellent	Excellent
Colour	Brown	Brown	Reddish to Dark Brown	Reddish to Dark Brown	

Type of Spool	Tapper Barrel Bobbins from 20 kg to 180 kg	Tapper Barrel Bobbins from 20 kg to 180 kg	Tapper Barrel Bobbins from 20 kg to 180 kg	Tapper Barrel Bobbins from 20 kg to 180 kg	HeavyDuty Plastic bobbins from 50 kg to 120 kg
Compatibility for High Speed Auto Winding	Very Good	Excellent	Excellent	Excellent	
Application Industry	Home appliances, FHP motors, fans, etc	LT motors, hermetic motors, auto components and transformers	HT Motors, Alternators, armatures, Power tools & Dry Type transformers	Hermetic motors (air conditioner and refrigerator compressors)	Large Electrical machines, generators alternators, HV Machines & dry type transformers
Special Features	Good Thermal Properties	Good Thermal and mechanical properties	Excellent Thermal and mechanical properties	Excellent Thermal and mechanical properties and very good resistance for refrigerants and chemicals	Excellent Thermal and mechanical properties



**Kapsons Group
Product offerings**

- Electrical laminations/stampings
- Aluminum pressure die-cast components
- Enameled copper wires & strips
- Electrical motors, pumps, alternators & fans
- Rotor & stator assemblies (for HT/traction motors)
- Light fittings (industrial and domestic)



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