

Copper-Tin Alloys

Wire

CuSn Alloy - This is pure electrolytic copper-tin alloy in bare condition. Bare wire is used as the outer lead part of Lead-In-Wires of fluorescent tubes, automotive, and other lamps.

NPCuSn Alloy - This is pure electrolytic copper-tin alloy, uniformly coated with nickel by electrolytic plating method. Nickel plated copper-tin alloy wire is used as the inner lead part of Lead-In-Wires for GLS, fluorescent tubes, automotive, sodium vapor lamps, mercury vapor lamps, etc.

Forms of Supply

As plated and annealed wire

Matt Finish or Bright Finish of wires are available as per the requirement.

Nominal Chemical Composition (%)			
Core	Sn	P	Cu
Regular grade	0.5-1.5	Max 0.04	Balance
Nickel layer	High purity Nickel		

Thickness of Nickel layer

Nickel layer thickness is minimum 2% by weight and typically ranges from 2-4% by weight. Higher Nickel plating thickness (like 4%, 8%, 12%) can be manufactured per the customer requirements. The nickel coating has uniform adhesion over the full length of the CuSn core wire.

Diameter of wire mm	Thickness of Nickel plating % by weight	Application
0.40-0.60	2.0-4.0	For Lead-in-Wires
0.70-0.90	2.0-3.0	For Lead-in-Wires
0.80-2.50	1.0-3.0	For Lead-in-Wires

Mechanical Properties			
Wire Type	Tensile strength N/mm ²		Elongation % at L ₀ =100 mm
	Min	Max	
Annealed	250	360	≥ 15

Size in mm	0.4	0.5	0.6	0.7	0.8	0.9	1.0-2.50
Tolerance (+/-)	0.01	0.01	0.01	0.01	0.01	0.01	0.02

The ovality (difference between the largest and smallest diameter in a section) is less than half the tolerance in the diameter.

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Packaging (in standard DIN spools.)		
Diameter of wire <i>mm</i>	Recommended Spool Type	Weight per spool <i>Kg</i>
0.40-0.60	DIN 160	5-7
	DIN 200	6-8
	DIN 250	12-20
0.70-0.90	DIN 200	6-8
	DIN 250	15-22
1.0-2.50	Coils	20-50
	DIN 355	50-70

Thicker size wires are available in coils or on cardboard rings.

Each spool of wire is individually shrink-packaged and put in a cardboard box for maximum protection against oxidation. It is advisable to use the wire within six months from the date of manufacturing for best performance.