

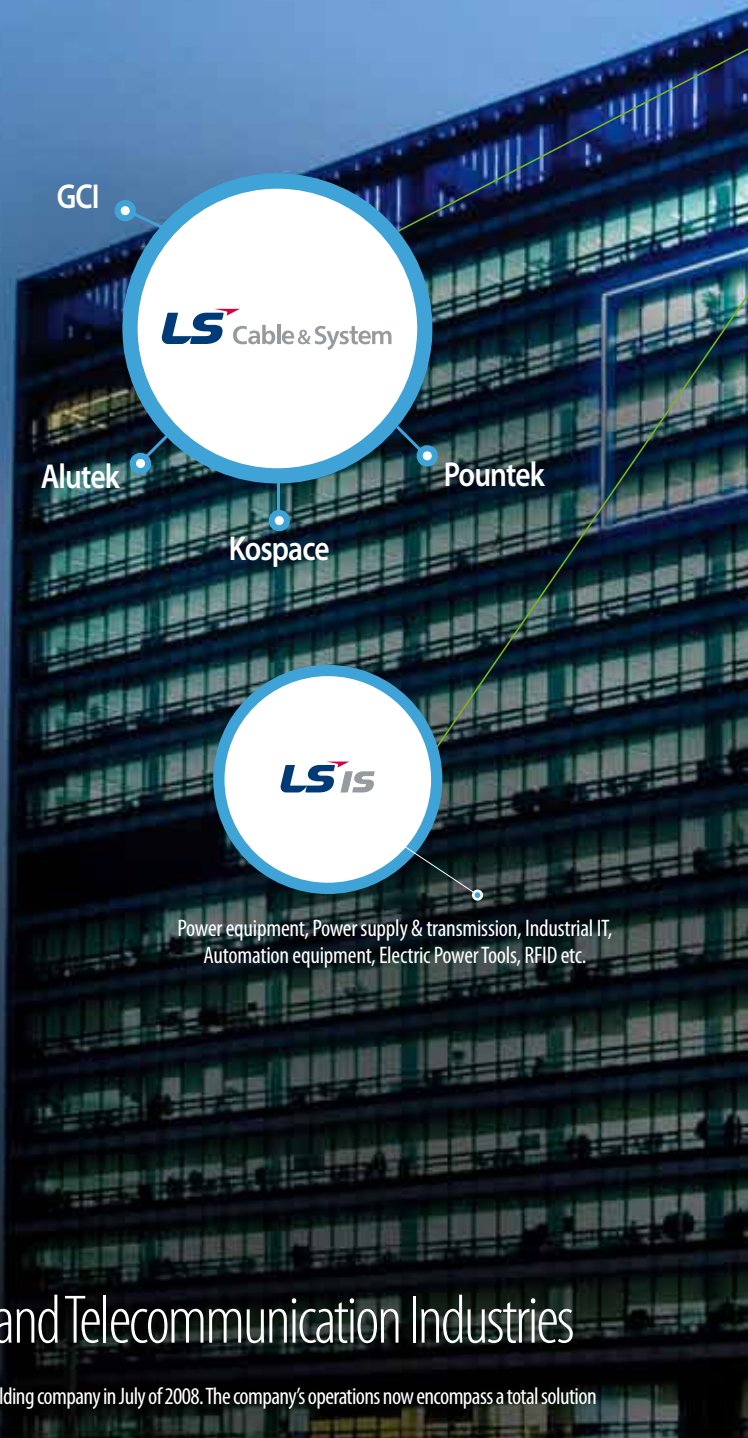
OFC & Copper Alloy

Product Introduction



About LS Cable & System

LS spun off from LG in 2003 as a group specializing in the Electrics, Electronics, Energy, and Material. LS consists of about 40 affiliates including LS Cable & System, LSIS, LS-Nikko Copper, LS Mtron, Gaon Cable, E1 and Yesco. A leading player in the global cable industry, with over half a century of experience as a manufacturer, providing consolidated expertise in the design and production of premium quality cabling technologies.



Total Solution Provider for Electric Power and Telecommunication Industries

LS Cable & System, the longtime de facto holding company of LS Group, officially transformed into a holding company in July of 2008. The company's operations now encompass a total solution for electric power and telecommunication industries.

The latest change in corporate structure comes as the company is accelerating efforts to improve management efficiency in rapidly expanding markets. The move also results from efforts to effect a more responsible and transparent management structure. Management is now prepared to take more aggressive action to enhance our businesses and to identify new growth engines. The holding company will take the lead in fostering new growth engines and in identifying lucrative investment opportunities, while the company's other business units will focus on improving management and on making operations more efficient. With the continued support of the holding company, LS Cable & System will spearhead efforts to strengthen our business expertise, corporate competitiveness and management.



LNG, CNG



Supply of LPG for residential&commercial, transportation, industrial and petrochemical uses in domestic market. Import & Export of LPG etc.



Components, Machinery



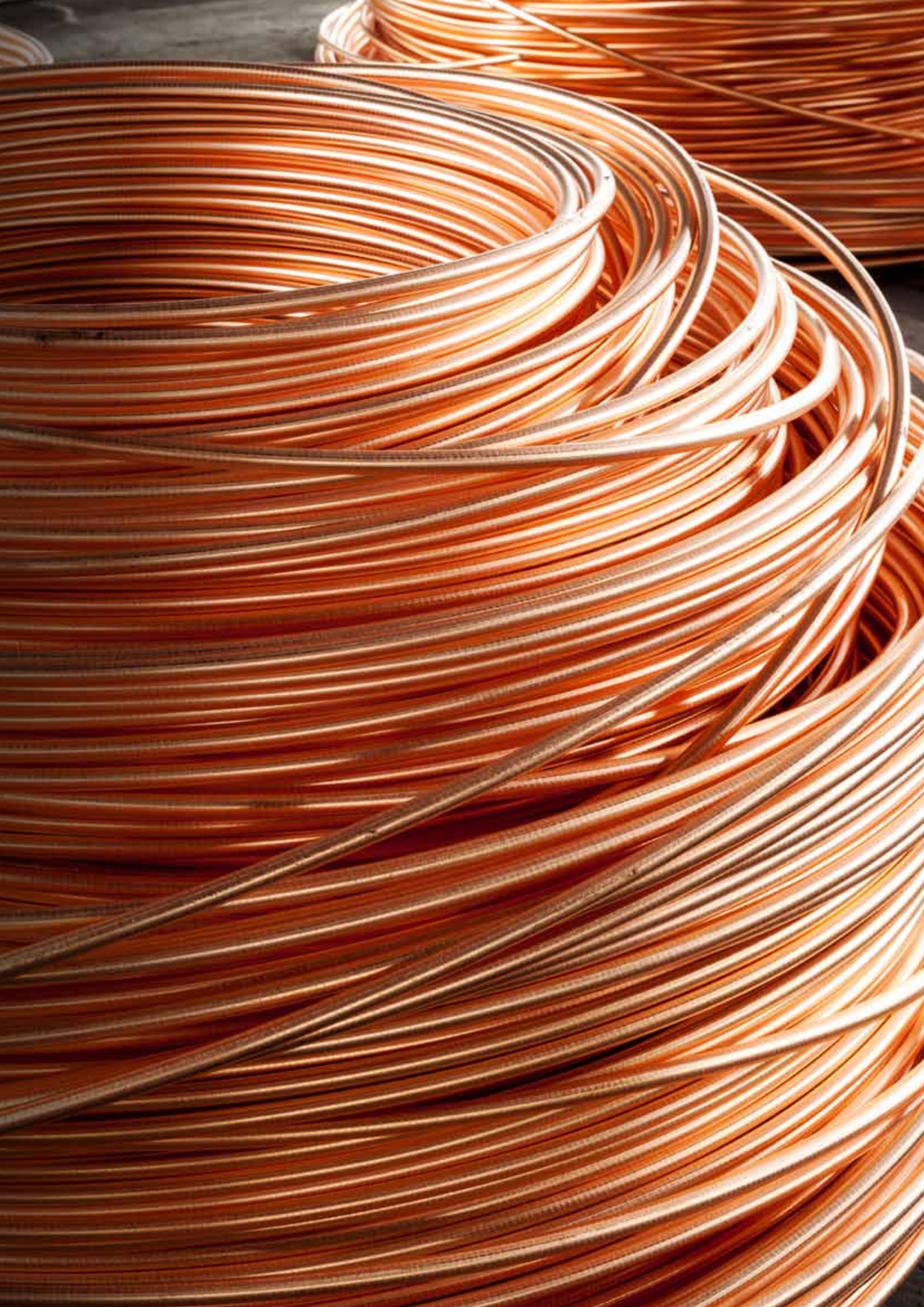
Electrolytic Copper Cathode, Gold, Silver, Chemicals Product etc.



Control Cable, Power Cable, Elevator Cable, etc

Toward the Global Leading Cable Company

In August of 2008 LS Cable & System acquired Superior Essex, North America's largest cable company, making LS Cable & System the third-largest player in the global cable industry. Superior Essex's flagship line of magnet wires and telecommunication cables further strengthened LS Cable & System's product lineup, which had focused on power cables, fiber optic cables and industrial materials. Superior Essex's extensive North America and European production and distribution networks will help LS Cable & System cement a presence in the region and bring the company one step closer to becoming a full-fledged global enterprise.





OFC & Copper Alloy

OFC : Oxygen Free Copper

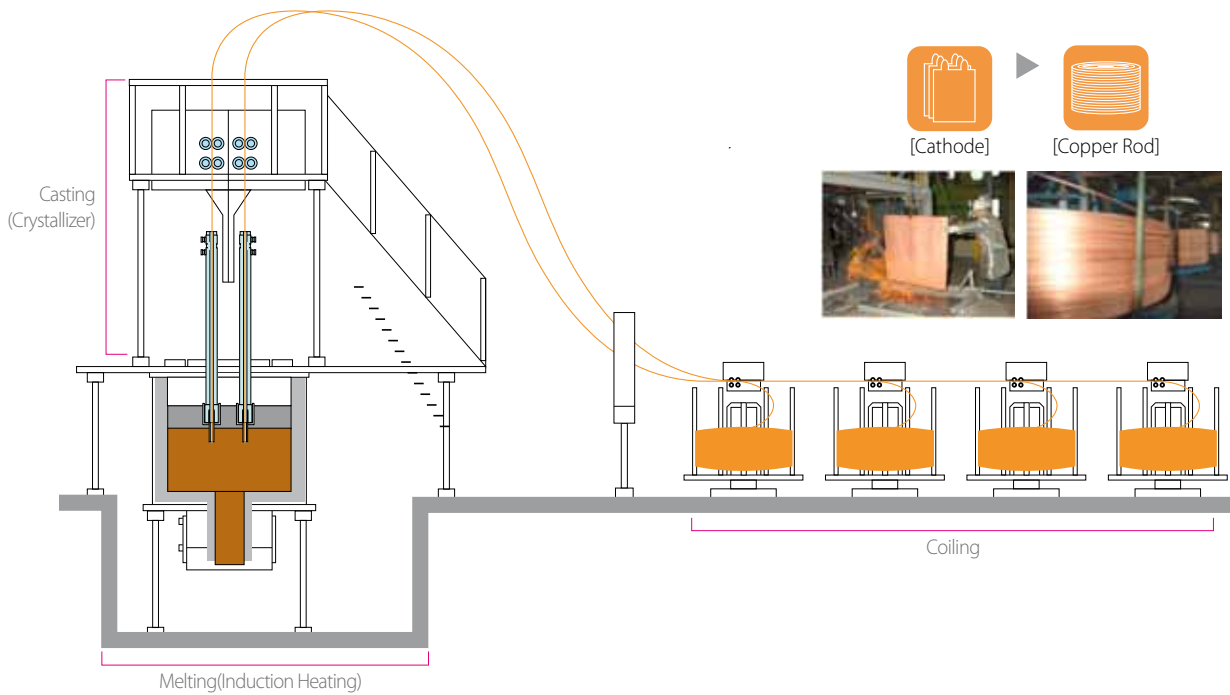
At the heart of the energy conversion system between electrical, electromagnetic, mechanical and other forms of energy, which system corresponds to the nerves and blood vessels of the electrical equipment and their properties, our products show high performance with great reliability. Our ceaseless effort to research, design, develop, and manufacture the products has been keeping our position as a leading company in customer satisfaction level in the industry.

The quality control meets the most delicate requirements of international standards and the high level of quality is recognized both by domestic and international customers. Our commitment to develop and deliver solutions to address our customers' needs and challenges keep our technology on the cutting edge and our know-how in the field more valuable, which our clients highly appreciate.

LS Cable & System

Up-Ward Casting Process

for OFC, Cu-Ag, Cu-Sn and Cu-Mg Alloy



Size

ø8.0mm	ø12.5mm	ø14.7mm	ø17mm
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Usage (Wire & Cable)

Magnet Wire	Automobile	Super-fine Wire	Audio Cable
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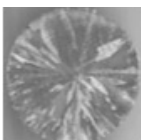
Information (Weight, Production Capacity)

- **Weight** Max. 4.5 metric tons / Pallet 20 metric ton / 20' Container
- **Production Capacity** 5,000 MT / Month
- **Installation** 2008

Product

- **OFC** Oxygen Free Copper (Oxygen Content : Max. 10ppm)
- **Cu-Sn Alloy** : Max 1% Sn, **Cu-Ag** : Max 1% Ag,
Cu-Mg : Max 1% Mg

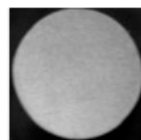
Microstructures of OFC & ETP Copper



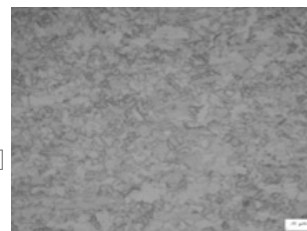
[As-Casting]



[OFC Wire]



[Hot-deformation]

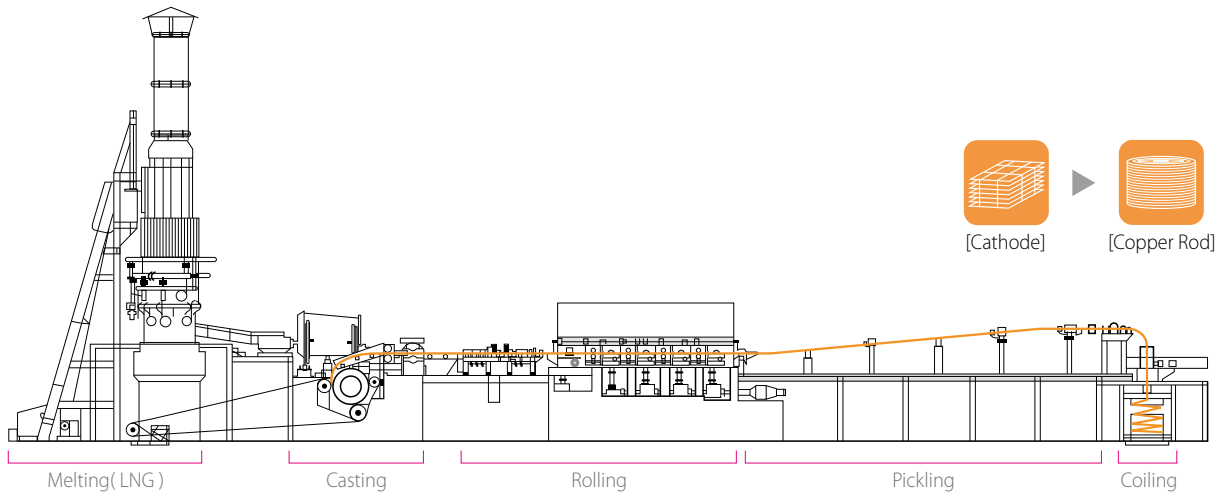


[ETP Copper Wire]

SCR Process

for ETP Copper , Cu-Sn and Cu-Ag Alloy

“SCR” is the acronym of Southwire Continuous Rod system. Equipped with the Southwire Continuous Rod System, LS Copper Wire Rod are characterized **Low manufacturing cost and stable high-quality**



Size

- ø8.0mm Rod
- ø9.5, 12.7mm
- ø18, 23mm

Usage (Wire & Cable)

- Wire & Cable (Power, Communication, Magnet, Automobile)
- Flat Wire
- Trolley Wire

Information (Weight, Production Capacity)

- **Weight** Max. 4.5 metric tons / Pallet 20 metric ton / 20' Container
- **Production Capacity** 40 MT / Hour, 900 MT / Day, 22,500 MT / Month
- **Installation** 1980

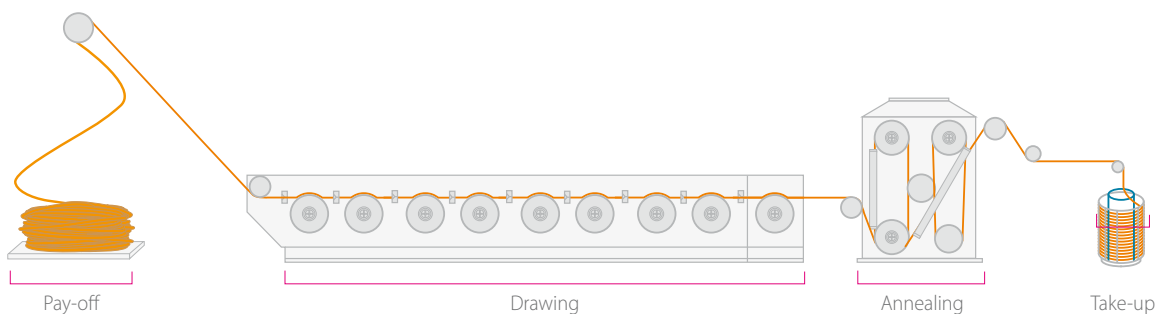
Product

- **ETP Copper** Oxygen Content from 200 to 400 ppm
- **Cu-Sn Alloy : Sn Max 1% , Cu-Ag : Ag Max 1%**

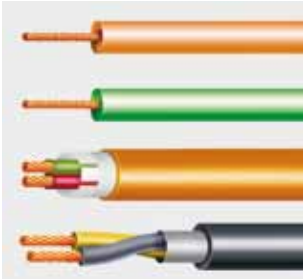
Drawing Process

- **Introduction** : Making small diameter of wire from 6.8 & 8mm
- **Characteristics** : Low manufacturing cost and stable high-quality

- **Products** : Ø1.0mm ~ Ø2.6mm
- **Production capacity** : 12,000 MT / Month



LSC OFC & Copper Alloy Applied Products



[Automobile ABS Cable]



[Interconnect Ribbon Wire]



[Trolley & Messenger wire]



[Seat Heating Wire]



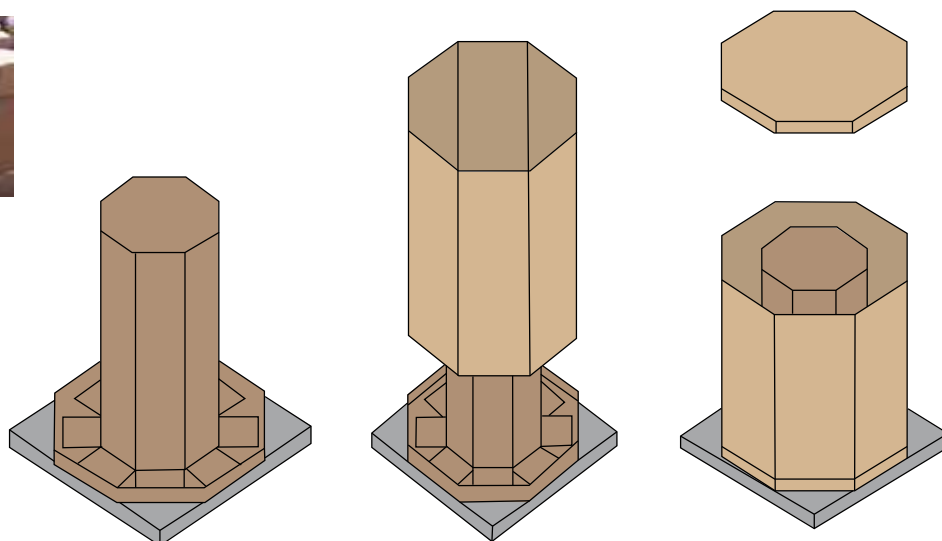
[LEAD Wire]



[Submarine Cable]

1.8mm/2.0mm Packing

- **Box Size** 900 x 900 x 980mm(H)
- **Type** Carton Box / Octagon
- **Net Weight** Max. 1,000 kg / BOX



Standard Specifications

Types of copper alloy wires

Alloy	UNS No.	Composition	Feature	Application
Cu-0.2%Sn	C14410	0.10 ~ 0.20%Sn	- High Tension/Bending Fatigue - Electrical Conductivity	- Conductor wire - Harness wire - ABS sensor cable - Robot cable - Medical equipment cable
	C14415	0.10 ~ 0.15%Sn		
Cu-0.3%Sn	C18835	0.15 ~ 0.55%Sn		
Cu-0.01%Ag	-	-	- Heat Resistance - High Electrical Conductivity	- Commutator - Condenser terminal - Heat Proof cable
Cu-0.03%Ag	-	-		
Cu-0.1%Ag	C12100	Min. 0.014%Ag		
Cu-0.2%Mg	C18661	0.1~0.7%Mg	- Excellent mechanical properties - Electrical conductivity - Green material(Cadmium-free)	- Conductor wire - Harness wire - Telecommunication cable - Terminal connector - Trolley/messenger wire
Cu-0.4%Mg	C18665	0.4~0.9%Mg		

Standard specifications of major product types(After Drawing)

Alloy	Size Range(Ømm)	Specifications			Tempers
		Tensile Strength (MPa)	Elongation (%)	Electrical Conductivity (%IACS)	
Cu-0.2%Sn	1.0 ~ 2.6mm	Min. 490	Min. 0.2	Min. 78	Hard Drawn
Cu-0.3%Sn		Min. 510	Min. 0.2	Min. 74	
Cu-0.01%Ag		Min. 390	Min. 0.2	Min. 95	
Cu-0.03%Ag		Min. 400	Min. 0.2	Min. 95	
Cu-0.1%Ag		Min. 412	Min. 0.2	Min. 95	
Cu-0.2%Mg		Min. 520	Min. 0.2	Min. 77	
Cu-0.4%Mg		Min. 610	Min. 0.2	Min. 62	

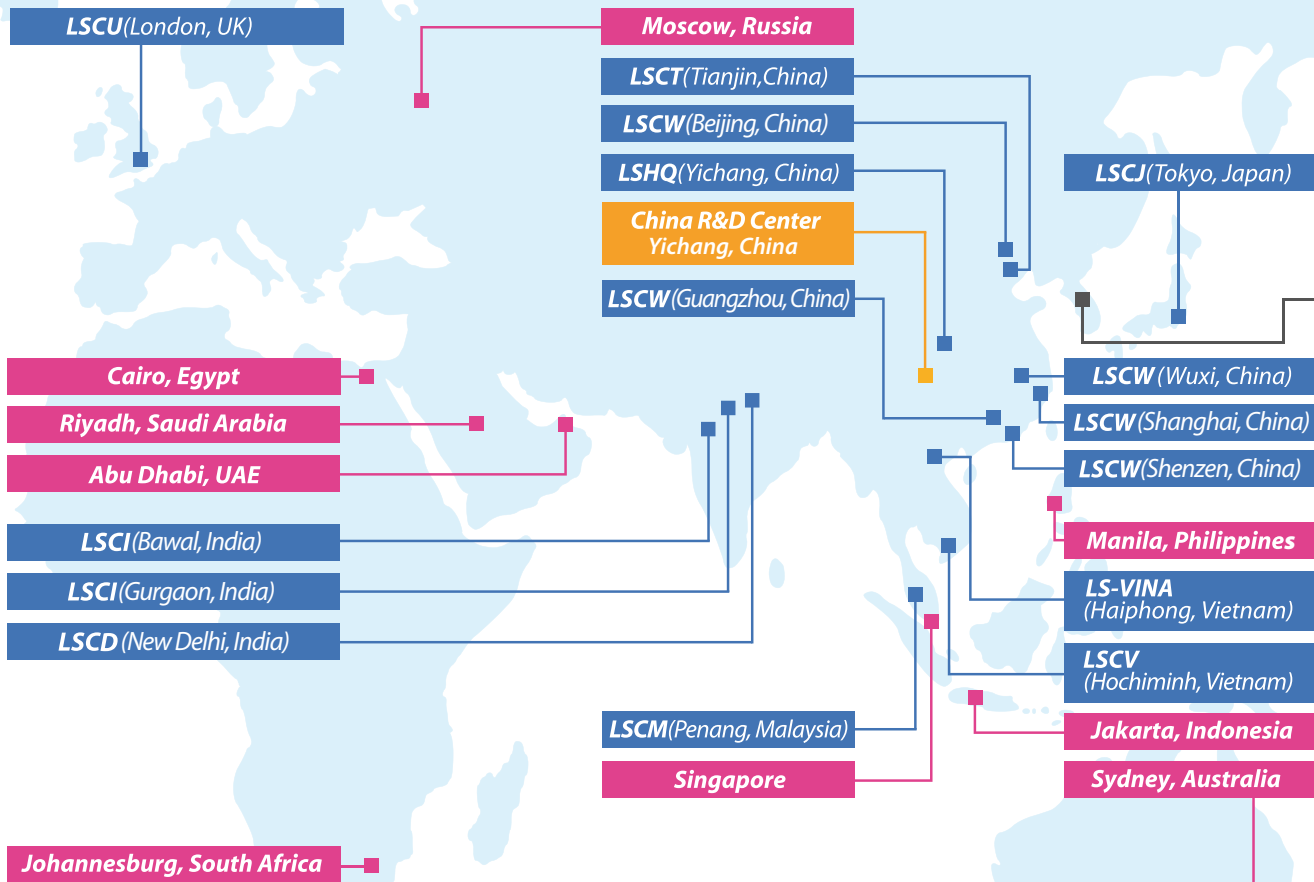
- Other alloy contents, sizes and tempers are available through consultation

Copper Alloy for Trolley wire(for Ø 18, Ø23 mm Rod)

LS Copper Alloy is designed to meet the specification of trolley wire as below

Alloy	Composition(%)	Nominal Cross Section (mm ²)	Specifications			Remark
			Tensile Strength (MPa)	Elongation (%)	Electrical Conductivity (%IACS)	
Cu-0.2%Sn	0.15~0.55%Sn	80	Min. 460	2.0 ~ 8.0	Min.72	BS EN 50149
		100	Min. 450			
		107	Min. 430			
		120	Min. 420			
		150	Min. 420			
Cu-0.1%Ag	0.08 ~ 0.12%Ag	80	Min. 365	3.0 ~ 10.0	Min.97	
		100	Min. 360			
		107	Min. 350			
		120	Min. 350			
		150	Min. 350			

Global Network



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LSCJ(Japan) : Marketing and Sales

Tel : +81-3-6205-7188 Fax : +81-3-6205-7187

LSCD(India) : Marketing and Sales

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LSCT(China)

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Production : Magnet Wire

LSCW(China)

Tel : +86-510-8811-9000 Fax : +86-510-8534-5341

Production : Automotive Wire & Cable, Bus Duct, Electronic Wire & Cable, Tube, ACF, Accessories for EHV Cable System

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Lima, Peru

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- **LS Cable & System Subsidiaries**
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LSCV(Vietnam)

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Production : Low Voltage Cable, UTP

LSCM(Malaysia)

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Production : Magent Wire

LSCI(India)

Gurgaon: Marketing & Sales

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Bawal

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Anyang Plant

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Greater Value Together
LS Cable & System

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