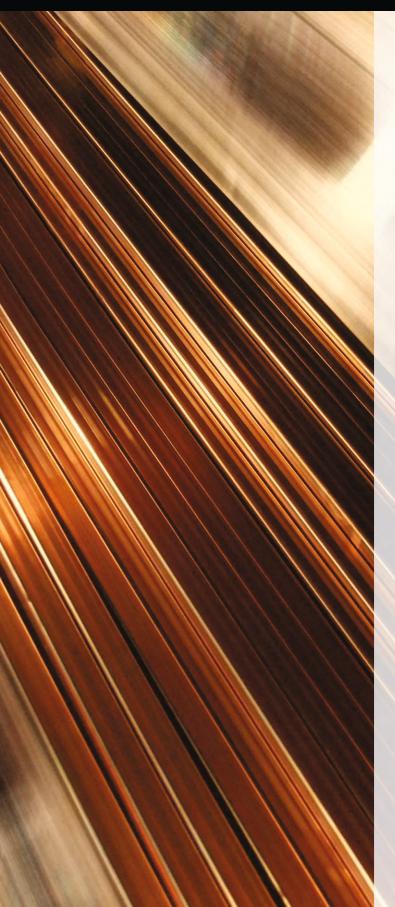




COPPER WITH A DIFFERENCE...
OUTSTANDING EXCELLENCE





Think Copper. Think Eastern Copper. An organization recognized in the Indian industrial scenario as a major producer of critical industrial copper semies.

We have over time, established our identity as a reliable front-ranking manufacturer of quality products, both in the domestic and international industrial marketplace. By identifying new application areas, innovating new processes and upgrading product range, we fulfill the competitive edge required to stay ahead in today's fast paced markets.

Product upgradation and quality control are an integral part of our marketing and manufacturing strategy at Eastern Copper. Constant interaction with the customer to define changing needs and intensive study of market demand, are the critical factors that enable us to identify and focus on need based production planning, to cater to the requirements of an ever expanding consumer base.

Vision

Our company aspires to be a global player in offering inimitable copper products that combine superior performance, value pricing and excellence in quality standards, while focusing on distinctive services to all our customers.



Product Range

- Oxygen free Copper
- Busbars, Flats, Strips, Pipes, Rods, Wires
- Tin-plated Busbars & Wires
- Copper Profiles for Commutators
- Special Profiles
- Anodes
- Forged and Cast Copper Contact Clamps, Shoe, Lugs, Equalizer, Terminal Plates & Pressure Rings
- Forged and machined Copper components as per customer's drawings
- Forged Copper Ring
- Extruded and drawn Copper Bus Tubes
- Flexible Jumper Busbar
- Bunched & Stranded Copper Cable
- Water Cooled Cables
- Cotton covered, Paper covered, Varnish bonded fiberglass covered, Nomex covered round and rectangular Copper Conductor.





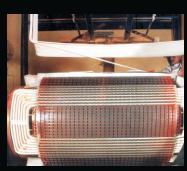








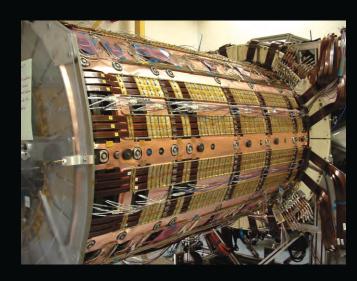




Application Areas

- Railways
- Chlor-Alkali Plants / Ferro Alloys
- Telecommunications
- Distribution Transformers
- Air Circuit Breakers
- Control Panels
- House Wiring
- Electric Motors / Traction Motors
- Power Generators
- Overhead Lines
- Plating

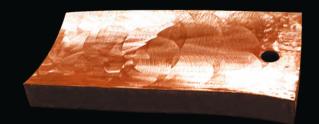


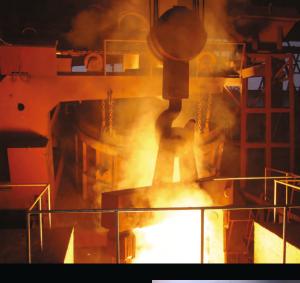


Usage of Copper in Ferro Alloys Industries

Years of experience with various Ferro alloy producers has given us a unique edge in terms of design and production of Contact Clamps. A dedicated vendor base of experienced foundries and forging plants has resulted in us delivering top notch quality Contact Clamps to our customers. A slew of design improvement over the years has resulted in a top quality / world class Clamps.

- Contact Clamp cast in 85/15 CuZn, Pure cast copper, Forged electrolytic copper
- Copper Bus Tube
- Copper Transformer Flexible
- Copper Busbar
- Cable Lug
- Equaliser/Terminal Plate

















Production Process

Other operations such as Annealing, Pickling, Winding, Straightening or Cutting to length are needed in each process for the manufacture of the semi-finished products.

- Casting
- Drawing
- Forging
- Extrusion
- Hot Rolling Machining
- Cold Rolling



Forging of Copper





Eastern Copper Production Area



Continuous Extrusion

Eastern Copper uses the Continuous Extrusion process, which is a unique process for copper sections. Oxygen Free/ETP Grade Copper Wire Rods are used as feedstock into the Continuous Extrusion machine. The copper rod is passed into the rotating extrusion wheel and fed into the extrusion zone, where pressure and temperature enable the material to plasticize, making it available for extrusion.

At this point the material is introduced into a die chamber and is forced to extrude through a die suitably designed for the section required. The pressure and temperature required for extrusion are principally generated by main drive motor, which turns the extrusion wheel.

The copper rod is extruded to size, as per customer's specification such as copper bars, rod, profiles, or copper tapes. While hot, the copper is quenched directly to water, resulting in grain structure, a process superior to any other, which prevents oxidation of the surface.



Conventional Extrusion

Extrusion is often quite accurately compared with squeezing toothpaste from a tube. During extrusion, the billet, heated to the proper hot-working temperature, is placed in the chamber of an extrusion press. The horizontally mounted chamber contains a die at one end and a hydraulically driven ram at the other. The face of the ram is fitted with a dummy block that is slightly smaller in diameter than the billet. The ram may also be fitted with a piercing mandrel, or, if the billets are hollow, with a rod that matches the diameter of the cast hole in the billet but is slightly smaller than the hole in the die at the opposite end of the chamber. As the ram moves forward, the copper is forced over the mandrel and through the hole in the die, causing a long hollow tube, about 2 3/4 inches (70 mm) in diameter and 87 feet (26 m) long to squirt

out of the extrusion press (the length can vary depending of the capabilities of each mill). Just like toothpaste, only hollow.



Metal near the surface of the billet extrudes backwards over the undersized dummy block, forming a shell. This shell contains copper oxide and is therefore removed and recycled to the refining furnace. As the extruded tube emerges from the die, rollers carry it along on a long run-out table so that it remains straight until it is cool enough to handle. The tube is then cleaned to remove surface oxide scale in preparation for the next stage in the tube-making process.

DC High Current Busbar System

Eastern Copper is involved in the design, manufacture and supply of busbar systems and components for the electrochemical refining industry.

We specialize in manufacture of high current, low voltage, open type Busbar system and fabricated components for heavy industrial electrical application such Chlor-Alkali ,Calcium carbide, Ferro Alloys, Zinc Refineries etc.

Due to large currents involved the system use heavy sections of Copper to conduct the electricity. Easter Copper specialize in manufacture of heavy section of Copper Busbars.



Product Range

Width : 200 mm to 350 mm Thickness: 15 mm to 40 mm : 1 Mtrs to 4 Mtrs

Bare or Tinned

Length

Product Specification

ISS : ETP 191 Pt V **ASTM** : B 187/C 11000 **BS EN** : 13601/CW004A **Chemical Composition** : CU 99.9% Min











Water Cooled Cables

High Current Cables with round or flat connection are offered with cross section between 95 mm² to 6500 mm². Water Cooled Cables are with Carbon free heat resistant asbestos covered hoses and EC grade Copper conductor with both the sides having copper thimble.

Product Application Areas:

- Widely used for power supply.
- Furnace.
- Induction and High Frequency Unit.
- Welding Machines.
- * Resistance Heating Furnace etc.

Product Specification:

ISS	ASTM	BS EN	CHEMICAL COMPOSITION
	B 187/C 10200	13601/CW008A	CU 99.95% MIN OXYGEN 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	CU 99.9% MIN





L V Riser for Furnace Transformer

Riser are Brazed Copper Terminals carrying very high current outputs from furnace transformers. Ultrasonic Tested High Conductivity Copper Flats are fabricated and brazed with high end brazing technology.

Brazing with Silver Brazing Rods to ensure no leakages.

Product Specification:

ISS	ASTM	BS EN	CHEMICAL COMPOSITION
	B 187/C 10200	13601/CW008A	CU 99.95% MIN OXYGEN 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	CU 99.9% MIN





Fusion Welded Copper Flexible Connectors

This type of Flexible connector is made of several electrolytic grade copper sheets/foils overlapping each other.

The contact resistivity in between each folio is almost zero, hence millivolt drop across the connector is neglibible.

These connectors are of very high electrical conductive materials due to excellent molecular bonds. They are also ideal for coupling in areas subject to vibration.

The welded connection ends can be drilled, cut, and/or milled as per the drawing.

Product Application Areas:

- * Expansion joints between busbars.
- Expansion joint between collecting bars and transformers, respectively generators and rectifiers.
- * Expansion joints between engines and machine parts.
- Moving expansion joint in welding machines.
- * Expansion joint in switchgears.
- * Expansion joints in robots.

Product Specification:

ISS	ASTM	BS EN	CHEMICAL COMPOSITION
	B 187/C 10200	13601/CW008A	CU 99.95% MIN OXYGEN 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	CU 99.9% MIN

Thickness of Copper Sheets:

0.05 mm - 0.50 mm

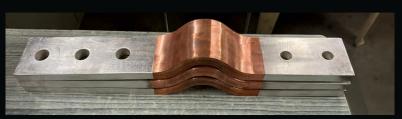
Production Method:

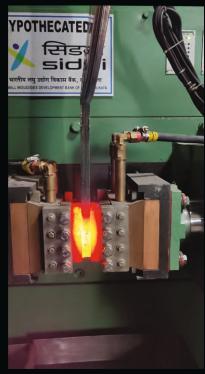
Fusion Welding

Coating of Contact Areas:

Can be silver, tin or nickel plated upon specific thickness request.







Bare Copper Tape

Product application area

Earthing, Lightning protection, General engineering, Electrical conductor, Induction Motors, Switchgears, Generators

Product range

Width : 12.5 mm to 50 mm Thickness : 1.5 mm to 8 mm Standard coil size : 20 to 50 Mtrs : Hard/Half Hard/Soft Temper Shape

: Full Round/Slightly Round Edge/Square



Product Specification

•			
ISS	ASTM	BS EN	Chemical Composition
	B 187/C 10200	13601/CW008A	Cu 99.95% Min Oxygen 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%

Bare / Tinned Copper Round and Flat Braids

Production application Area

Busbar Connection, Earth Connection, Electrical distribution, Switchgears

Product Range

6 mm² to 400 mm²



Product Specification

ISS	ASTM	BS EN	Chemical Composition
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%

Copper Profile/Sections

Product area application

Switchgears, Panels, Traction Motors, General Engineering, Busbar, Power distribution, Control Panels

Product Range

Extruded shape as per requirement.



Product Specification

ISS	ASTM	BS EN	Chemical Composition
	B 187/C 10200	13601/CW008A	Cu 99.95% Min Oxygen 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%

Copper Round & Square/Rectangular Tubes

Product application areas

Defence, Refrigeration, Air conditioning, Plumbing, Medical gas pipelines, Heating application, Engineering application, Electrical Conductors, Busbars etc.

Product Range

Outside Dia (in mm) : 10 (min) - 80 (max)
Wall thickness (in mm): 1 (min) - 12 (max)
Length : Up to 8 Mtrs
Temper : Hard / Half

Hard/Soft



Product Specification

ISS ASTM BS Chemical Composition

ETP B 188 C 11000 2871 C101/C102 Cu 99.9% Min

DHP C 12200 C 106 Cu 99.9% Min P 0.015-0.040%

Copper Rod

Product application areas

Earthing, General Engineering

Product Range

Size (in Dia) : 6 mm to 70 mm

Length : 1200 mm to 3000 mm



Product Specification

ISS	ASTM	BS EN	Chemical Composition
	B 187/C 10200	13601/CW008A	Cu 99.95% Min Oxygen 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%

Solid Copper earth Plate

Product Application Area

Earthing, General Engineering

Product Range

Size : 600 mm (L) x 600 mm (W) Size : 900 mm (L) x 900 mm (W)

Thickness : 1.5 mm - 3 mm



Product Specification

ISS	ASIM	BS	Chemical Composition
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%

'C' Crimp Connector



Product application areas

Earthing: in connection of Stranded Copper Cables

Product Range

'C' Crimp are manufactured for Conductor ranging from 10 mm² to 240 mm²

Product Specification

ISS **ASTM BS EN Chemical Composition**

ETP 191 PT V B 187 /C 11000 13601/CW004A Cu 99.9% Min

DHP 191 PT VIII B187 /C 12200 Cu 99.9% Min P 0.015-0.040% 13601/CW020A

Insulated Copper Wires & Strips

Product Area Application

Transformers, Dry type Transformer, Stabilizers, Welding Transformers

Product Range

Paper Covered Conductor

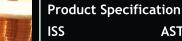
10 mm to 75 mm : Cross section area

: Cross section area

Nomex Covered Conductor

10 mm to 75 mm

Packing : 50 Kgs to 200 Kgs



ASTM

BS EN

Chemical Composition

B 187/C 11000

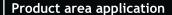
13601/CW004A

Cu 99.9% Min

Indian Standard 13730/ IEC 60317 Part 27: 1996

IS 11174: 1984

Glass Fibre Covered Copper Wire & Strips



Alternators, Traction Motors, Electro Magnets, Alternators

Product Range

Cross Section area : 4 mm² to 70 mm² **Packing** : 50 Kgs to 200 Kgs



Product Specification

ISS **ASTM BS EN Chemical Composition**

ETP 191 PT V B 187/C 11000 13601/CW004A Cu 99.9% Min

Indian Standard 13730/IEC 60317 Part 31/32/33:1997

IS 6181: 1971/IS 4685 Part 1:1968

Round Stranded Copper Flexible

Product application area

Electrical Distribution, Furnace electrical connection, Transformers, Overhead Transmission, Earthing

Product Range

6 mm² to 1200 mm²

Overall Dia - 2.6 mm to 55 mm



Product Specification

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ISS	ASTM	BS EN	Chemical Composition	
	B 187/C 10200	13601/CW008A	Cu 99.95% Min Oxygen 0.0010	
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min	
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%	

Bare & Tinned Copper Wire

Product area application

Cable, Winding wire, Welding, General Engineering, Decoration, Overhead transmission

Product Range

Size (Dia) : 0.5 mm to 6 mm Temper : Hard Drawn/Soft



Product Specification

ISS	ASTM	BS EN	Chemical Composition
	B 187/C 10200	13601/CW008A	Cu 99.95% Min Oxygen 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%



Oxygen Free Copper Anode Nuggets

Product area application Electroplating

Product Range

In forms of Nuggets & Balls

Product Specification		
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ISS	ASTM	BS EN	Chemical Composition
ETP 191 PT V	B 187/C 10200	13601/CW008A	Cu 99.95% Min Oxygen 0.0010

Oxygen Free Copper Wire Rod



Product Application Area

Raw material for manufacturing Copper semies viz wires/cable/Busbar/strips/ profile etc

Product range

Size (in Dia) - 8 mm to 20 mm

Product Specification

ASTM BS EN Chemical Composition B 187/C 10200 13601/CW008A Cu 99.95% Min Oxygen 0.0010

Copper Bars/Flats

Product application areas

Earthing, Lightning protection, General engineering, Electrical application, Busbar

Product range

Width : 20 mm to 250 mm Thickness : 3 mm to 30 mm Length : 4 Mtrs to 8 Mtrs

: Full Round/Slightly Round Shape Edge/Square/Hard/

Half-Hard/Annealed



Product Specification

ISS	ASTM	BS EN	Chemical Composition
	B 187/C 10200	13601/CW008A	Cu 99.95% Min Oxygen 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%

Tinned Copper Bar

Product application area

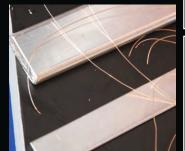
Earthing, Lightning protection, General engineering, Electrical conductor, Induction Motors, Switchgears, Generators

Product Range

Width : 20 mm to 150 mm Thickness : 3 mm to 12 mm : 4 Mtrs

Length

: Full Round/Slightly Shape Round Edge/Square



Product Specification

ISS	ASTM	BS EN	Chemical Composition
	B 187/C 10200	13601/CW008A	Cu 99.95% Min Oxygen 0.0010
ETP 191 PT V	B 187/C 11000	13601/CW004A	Cu 99.9% Min
DHP191 PT VIII	B 187/C 12200	13601/CW020A	Cu 99.9% Min P 0.015-0.040%

Plant & Machinery

Copper Tube Plant

Induction Melting Furnace (1 Mt capacity)

Induction Melting Furnace (300 kg capacity)

Water Cooled Moulds of various size

1250 M.T capacity, Horizontal four-column pre-tensioned tie rod Design Copper Extrusion Press for manufacturing Copper / Brass Bus tube/Pipe, Sections, Busbar, Round etc.

Draw bench (400 KN capacity)

Draw bench (200 KN capacity)

Preheating Furnace

Circular Saw

Pillar Drill

Copper Sheet Plant

Hot Rolling Mill

2- High Cold Rolling Mill

4- High Cold Rolling Mill

Finishing Cold Rolling Mill

Sheet straightening machine

Slitting Machine

Atmosphere Controlled Bright Annealing Furnace

Copper Busbar/Flat/Strip/Rod Plant

Upward Continuous Casting line for Oxygen Free Copper Rod (12 lines)

Continuous Extrusion Production line TBJ 400

Continuous Extrusion Production line TLJ 350

Continuous Extrusion Production line MFCC 300

Hydraulic drawing bench (8 Mts long)

Arco Whitney Brand Multi Station Press for punching, bending & shearing of Copper Busbar

Insulated Copper/Aluminium Conductor Plant

Continuous Extrusion Production line MFCC 300

Vertical 12 head Paper/Nomex/Cotton insulating Machine

Vertical 4 head Paper/Nomex/Cotton insulating Machine

Vertical 2 head Paper/Nomex/Cotton insulating Machine

Vertical Paper/Nomex/Mica insulating Machine

Horizontal 24 Paper, Insulating machine for Paper/Nomex/Mica

Horizontal 12 Paper, Insulating machine for Paper/Nomex/Mica

Horizontal 6 Paper, Insulating machine for Paper/Nomex/Mica

Horizontal Fibre Glass Insulating machine

Cheese winding machine

Wire Drawing Section

Straight line multiple block wire drawing line from 8mm to 1.6mm

13 Die wet type Intermediate wire drawing machine

21 Die wet type Fine wire drawing Machine

14 DT Intermediate Wire drawing machine with online annealer

Annealing Section

Pre-Heating Furnace

Bright Annealing Furnace (1 ton capacity)

Machine Shop

Vertical Milling Centre Make, VMC (BFW Make)

Vertical Milling machine (Make Tosh)

Lathe Machine (6 ft)

Lathe Machine (8 ft)

Shapping Machine (24 stroke)

Radial Drill (2.5")

Radial Drill (1.5")

Band Saw Machine semi automatic (ITL make)

Welding generator

Electric Installation

Oil Immersed Electric Transformer 1000 & 500 KVA

125 KVA Diesel Generator (Kirloskar make)

250 KVA Diesel Generator (Jackson make)

365 KVA Diesel Generator (TIL make)

500 KVA Stablizer (Jindal make)

Welding Section

Fusion welding machine

Argon welding machine



Testing Equipment

Optical Emission Spectrometer, Bruker Elemental, Germany LECO Oxygen Analyzer, Leco Corporation, USA Digital Ultra Sonic Testing Machine, Modsonic Instruments Vickers Hardness Tester, Micro Control System Digital Conductivity Meter, Technaofore Digital Conductivity Meter, Shivananda Tensile Testing Machine, Krystal Elongation Tester, Multiplex Hot Air Oven (digital temp Counter), Scientific Supplies 12 KV 50mA A.C high voltage tester, Technotrade Metravi Brand, Micro-Ohm Meter Digital Thermo Hygrometer, Paragon













Quality Assurance

Excellence is the hallmark of Eastern Copper products. Reputed in industry circles for their uncompromising quality standards and trusted reliability. A reputation garnered through an emphasis on stringent and demanding manufacturing standards and total commitment to quality, at every stage throughout our organization.

The assurance of Quality Control, continuous R & D and precise testing procedure through the entire production process, guarantees the final product complies with ISO:9001 certification norms.

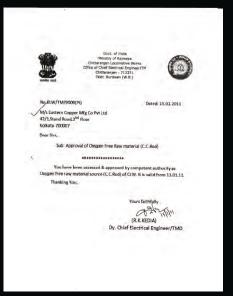
Each Eastern Copper product symbolizes unmatched perfection and matchless performance.



Certificate of Registration QUALITY MANAGEMENT SYSTEM - ISO 9001:2015 The is to certify that: Eastern Copper Manufacturing Cop PALIA Go PALIA Balan Complex, Navigabore Dompin Howards 711 411 By Copper Shape Co

Certificate of Participation





Award Certificate for Export Excellence













Customer Quotes

Eastern Copper has been assessed and approved by competent authority as Oxygen free raw material source (C. C. Rod) of CLW.

Dy. Chief Electrical Engineer/TMD, Ministry of Railways, Govt. of India

This is to certify that the performance of the forged contact pads supplied by M/s Eastern Copper Manufacturing Co Pvt Ltd for our submerged arc furnace projects has been quite satisfactory.

Managing Director, Ghalsasi Engineering Systems Pvt Ltd

This is to certify that M/s Eastern Copper Manufacturing Co Pvt Ltd have successfully carried out necessary designing, engineering for IEM Cell Project of M/s Durgapur Chemicals Ltd. The D.C. Busbar supplied by them met all fine specifications as per IS:613: Grade C11000, oxygen content below 330 PPM.

Partner, Calcutta Power Construction Co.

We are extremely satisfied with the quality standards of the products of Eastern Copper Manufacturing Co Pvt Ltd and their business commitments.

Sr Vice President, Meghmani Finechem Ltd

Packing

All our products are meticulously packed in accordance with the requirements of our customers. The choice of packing is determined by the dimensions and the presentation of the product.

Straight length products. Flat bars, square, round, hexagonal	 Can be delivered: On wooden battens and steel bands On planks, with wooden battens and steel bands In an open box with plastic & gunny wrapping With plastic & gunny wrapping
Products in pancake coils or coiled products	 Can be delivered: On a pallet, with or without plastic wrapping In a wooden box In plastic and gunny wrapping
Insulated conductors	Can be delivered:In wooden drums/reels with plastic and gunny wrappingOn pallets



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