TRANSMISSION LINE HARDWARES
We wish to be associated with you for :-

**Insulator Hardware**
- Single Suspension Strings for Single, Twin, Triple & Quad Conductors.
- Double Suspension Strings for Single, Twin, Triple & Quad Conductors.
- V Suspension Strings for Single, Twin & Quad & Multi Bundle Conductors.
- Single Tension Strings for Single & Twin Conductors.
- Double Tension String for Single, Twin, Triple & Quad conductors.
- Triple Tension String for Twin & Triple conductors.
- Quad Tension Strings for Quad & Multi Bundle Conductors.

**Conductor Accessories**
- Mid Span Joints.
- Repair Sleeves.
- T Connectors.
- Preformed Armour Rods.
- Spacers.
- Spacer Dampers.
- Vibration Dampers.
- Parallel Groove Clamps.
- Line & Tap connectors (Bolted/Compression Type).

**Earth Wire Accessories**
- Tension Assembly.
- Suspension Assembly.
- Mid Span Joints.
- Repair Sleeves.
- Vibration Dampers.
- Parallel Groove Clamps.
- Flexible Copper Bonds.

**ABC Fittings**
- Suspension Clamps & Brackets.
- Tension Clamps & Brackets.
- Jointing Sleeves.
- Dead End Tubes.
- Eye Hooks.
- Aluminum Brackets.
- Insulated Piercing Connectors.
Pole Line & Distribution Line Hardware Fittings

✓ Stay Sets.
✓ Spike Earthing.
✓ Coil Earthing.
✓ Pipe Earthing.
✓ Insulator & Pole Top Pins.
✓ Tension Hardware fittings.
✓ Parallel Groove Clamps.
✓ Ground Rod & Ground Rod Clamps (Galvanized or Copper Coated).
✓ Guy Hook, Guy Clamps.
✓ Double Arming Bolts.
✓ Double arming Plates.
✓ Anchor Rods Thimble Eye & Eye Nuts.
✓ Oval Eye Bolt & Oval Eye Nuts.

Helical Fittings

✓ Insulator Ties.
✓ Conductor Dead Ends.
✓ Guy Grips.
✓ Splices.
✓ Line Guards.
✓ Pole Top Make Off.
✓ Dampers.
✓ Spacers.
✓ Tension & Suspension Fittings for OPGW.

Sub Station Clamps & Connectors

✓ T Connector, Terminal Connectors.
✓ Bus Post Clamps.
✓ Straight Connectors.
✓ Pad Clamps.
✓ Stud Clamps.
✓ Bus Support Couplers both Rigid & Flexible.

Structures

✓ V Cross Arm.
✓ Pole Clamps.
✓ Lattice Structure.
✓ Structure for Single, Double and four Pole.
“JAINCO” foundation was laid by Mr Surendra Kumar Surana in 1973. Our group of companies has varied interest in the field of Packing, Garments, Paper & Paper Products, Real Estate, Land Development, and Capital & Commodity Market having Offices in Kolkata & Bengaluru.

On 01.04.2007 JAINCO was incorporated as a Limited Company namely JAINCO TRANSMISSION LIMITED, having its corporate office in Kolkata, India.


From the start in 1973 as JAINCO, till incorporated as Jainco Transmission Limited, The Company manufactured & supplied varied products of Transmission, distribution & Pole Lines. The items manufactured & supplied initially were Fasteners, Security Clips.

Next the additional items manufactured & supplied were Steel Fabricated items like Arching Horns, Sag Plate, Yoke Plates, Extension straps, Mid Span Joints.

"Company's Performance in respect of Quality, Delivery & Service enabled us to win confidence of the major giant Companies in this field like EMI, TAG, EMC, TYCO, STAR IRON, ADITYA BIRLA, MODERN MALLEABLES, IAC ELECTRICALS, ITP, etc as our Regular Customers."

The Company received approval from NTPC & Power Grid for all these products.

The Company added additional manufacturing area with facilities for manufacture of Al Castings, Al Fabrication & Assembly of Strings & Dampers. All these helped company to manufacture & supply Complete Strings & Accessories as well as components to its customers which now included Electricity Boards & Power Utilities apart from its existing customers.

With the increase in work load, inflow of Orders & our esteemed Customers insistence, Company moved into the present premises in the year 2008 which had covered area of about 40000 Sq feet for manufacturing facilities with provision of expansion of another 75000 Sq ft.

Apart from manufacturing facilities, The Company installed all the required Testing Facilities in the new premises.

In view of Customer Demands & needs, the company entered into manufacturing of materials for Rural Electrification Projects which included ABC fittings also and in short span of 4 years has achieved status of most Dependable quality manufacturer and approved supplier of these materials by customers like Power Grid, NTPC, NHPC, DVC State Electricity Boards, Export Houses, etc
Presently the Company has about 100,000 Sq ft covered area for manufacturing facilities. The Testing facilities installed are complete to meet requirements of Type Tests, Acceptance Tests & Routine Tests for items from Rural Electrification to Ultra High Voltage.

The Company has already developed & Type tested fittings for 400 KV Transmission Lines.

The Company has now taken up development of fittings for 765 KV lines.

**Organization**

The company is being run under able leadership of It’s Chairman Mr Surendra Kumar Surana assisted by Young, Energetic & Dynamic Mr Adarsh Surana & Mr Atul Surana. The management team is ably supported by Qualified & Experienced Engineers.

**Achievements**

The Company is an ISO 9001-2000 Certified Company.

The Company has complete range of Products for Rural Electrification Projects, Pole Line fittings, Distribution Line fittings, Transmission line fittings up to 400 KV.

Company has set up total in house testing Facilities needed for conducting Type, Acceptance, Routine tests on Hardware Fittings & Accessories for Rural Electrification, Pole Line Fittings, Transmission & Distribution Lines.

Company has earned reputation of being most trusted manufacturer supplier in the field.

In a short period of 5 years, company has not only become Quality & reliable manufacturer supplier of Rural Electrification, Transmission, Distribution & Pole line fittings but has achieved a Turnover of US $ 15 Million. This has been possible only due to Company Policy of Total Customer Satisfaction with Quality, Delivery & of course Competitive Prices.

**Future Plan**

Company has added new Sheds of 60,000 Sq ft. to accommodate:

- Additional Galvanizing Plant for longer Structures
- Separate Area for manufacturing 400 KV Fittings
- Separate Area for Extra High Voltage fittings
- Separate Area for Preformed Fittings
- Development of 765 KV Fittings
Testing Facilities

The installed Testing Facilities are sufficient to carry out all TYPE ACCEPTANCE & ROUTINE TESTS on all types of Hardware Fitting & Accessories for Transmission, Distribution & Pole Line Fittings. Only Corona RIV tests wherever needed are conducted at independent laboratory.

**Mechanical Laboratory**

- **100 Ton Universal Testing Machine**
  - Mechanical Test on all Components, sub Assemblies Of strings, Raw Material section etc.

- **10 Ton Universal Testing Machine**
  - Mechanical Test on Components & Raw Material.

- **40 Ton Horizontal Testing Machine**
  - Slip Strength Test on Suspension & Tension Clamps
  - Mechanical Test on Complete strings.

**Metallurgical Laboratory**

- **Rockwell Hardness Tester**
  - Measurement of Hardness of Raw Materials and Components.

- **Microscopic Examination**
  - Inclusion Rating, Grain-size of Steel Forgings.
Vibration Laboratory

Electro Dynamic Shaker
Dynamic Characteristic of Vibration Damper, Spacer Damper

35 Meter Test Bed
Inclusion Rating, Grain Size of Vibration Test on Insulator Strings, Spacers, Spacer damper Fatigue Test on Vibration Damper

Mechanical Test on Spacer
Spacer under Mechanical Test

Electrical Laboratory

Electrical Resistance Measurement
Measurement of Electrical Resistance Of Compression Fittings, measurement of conductivity of Armour Rod

Heat Cycle Test Equipments
Heat cycle Test on compression Fittings Temperature Rise Test on Connector

Power Loss Test Equipment
Magnetic Power Loss Test on clamps & conductor Accessories, Slip strength test on Suspension & Tension Clamp Strings

Chemical Laboratory

Chemical Analysis of metal
(Steel & Aluminium Alloy)

Others

Magnetic Crack Detection
Check of Crack on Steel Components
Manufacturing Facilities

In Eastern India the Company has one of the Biggest Manufacturing unit with Manufacturing area of more than 1,00,000 Sq.ft. & Factory area of Total 1,50,000 Sq.ft. The Company’s Manufacturing Plant is equipped with Modern Machines & Latest Facilities to support our Manufacturing Line.

STEEL FABRICATION

MIG WELDING OF 'V' CROSS ARM

MIG WELDING OF ANCHOR ROD

YOKE PLATE GRINDING

ALUMINIUM FABRICATION

ARGON WELDING

ALUMINIUM CASTING

ARMOUR ROD
The range of Products manufactured by JAINCO, need components made of different materials & process. The Materials & Process visa-vis components / items are explained below:

**STEEL FORGINGS**

Components made of steel forgings are Ball Hook, Ball Eye, Ball Link, Ball Clevis, Socket Eye, Socket Clevis, Clevis Eye, Clevis Clevis, Eye Hook, Anchor Shackle, Chain Link, Eye Link etc. All these components are made of Class IV / EN8 steel and are generally used in normalized condition. The components are suitably designed to achieve required mechanical properties in forged and Normalized condition only. All forged components are Fettled Ground, Shot Blasted, Checked for Cracks (MPI), Machined, Galvanized & Tested for proof load to provide 100% mechanical safety.

Steel part of compression type tension clamp for Conductor & Earthwire are made of Class II steel to provide required ductility for compression.

The components required for Pole Line Fittings like Oval Eye Nut, Oval Eye Bolt, Thimble Eye Nut, Eye Hook, Ground Rod Clamps are made of Mild Steel and are Galvanized after all processing and Machining.
ARMOUR RODS

The item included are Armour Rods for Conductors, Spacer Retaining Rods, Line Guards AGS Rods. All these items are made of Aluminum Alloy Rod having a minimum UTS of 35 Kg/mm² & conductivity of minimum 40% IACS. While the ends are Ball Ended for use on Voltages upto 220KV, the Ends are Parrot Bill ended for use on voltages 400 KV & Above to provide satisfactory corona performance.

Armour Rods for Galvanized Steel Earth wire are made from High Tensile Galvanized Steel wire of minimum 135 Kg/mm². The Ends are deburred to avoid any damage / scratch mark on earth wire, while installing.

HELICAL FITTINGS

Insulator Ties, Conductor Dead Ends, Splices, Generally these are made from Aluminum Alloy wire with minimum 35 Kg/mm² UTS to provide compatibility with conductor materials.

Items like Guy Grips, Pole Top make off are made from High Strength Galvanized Steel wire of minimum 135 Kg/mm² UTS to provide required mechanical properties.
Steel fabricated components are Arcing Horns, Yoke & Sag Plates, U clevises, Extension Straps, Steel Compression Joints for Conductor/Earth Wire, Ground Rod, Turn Buckle for Stay Sets, Pole Top Pins, Guy Clamp, Pipe Earthing, Spike Earthing, Double Arming Plates, V Cross Arm, Pole Clamps, Lattice Structure, etc.

All components are made from Mild steel Rods, Tubes, Flat Sections, Plates, etc. The Ball used for Arcing horns are also of forged Mild Steel.

While making yoke plates special care is taken for it’s hardness & grain flow to achieve required mechanical properties.

Where required the Ground Rods are Copper Coated.

All machining is done before galvanizing.
ALUMINUM CASTINGS

Aluminum Cast Components are: Suspension & Tension Clamps (Bolted Type) of different designs, size & type, Body for Armour Grip Suspension, Parallel Groove Clamps, Piercing Connectors, Bolted Type Bus Bar connectors & Clamps for Sub-station, Clamps for Jumper Spacers, Components for Wedge Type Tension Clamps, components of Vibration Dampers.

All the cast components are generally made by Gravity Dies Casting, using Aluminum Alloy LM 6. Some of the components, where design & quantity permits are also made in Pressure Die Casting.

Strict control is exercised for temperature, Chemical & finishing of castings. Proper foundry fluxes are used for maintaining microstructure of Castings so that the Mechanical properties & ductility is properly maintained.

Components needing higher mechanical strength are designed so that Mechanical properties are achieved by using LM6 alloy only & no heat treated alloy is needed for these components.

ALUMINUM EXTRUDED ITEMS

Components are: Mid Span Joint, Repair Sleeve, T Connector, Tension Clamps with Jumper (Compression Type), Straps for AGS Clamps, Corona & Grading Rings, Jointing Sleeves for smaller conductors, Line & Tap Connectors (Comp Type).

All Compression Type fittings for ACSR & AAC are made of Pure Aluminum extruded sections from Grade 1050, For AAAC made from Aluminum Alloy compatible with conductor Alloy.

AGS Straps, Tubes for Spacer Body, Line & Tap Connectors (Bolted Type) are made from Alloy 6061. Grading Rings, CC Rings are made from 1100 grade or 6063 Alloy.

Welding Process used for welding of Dead End Clamps, T Connectors, Grading & CC Rings is Argon welded to avoid any oxidation during welding.
VIBRATION DAMPERS

Vibration Dampers produced are 4R type. The messenger wire used is multi strand High tensile Galvanized Steel wire with minimum 135 Kg/mm² UTS. The Clamps are made of Aluminum Alloy LM6 and are cast on wire to avoid any movement of clamp on messenger wire during use. The two dissimilar Weights used are of Galvanized cast Iron. The weights are fixed at two ends using tapered fittings to provide proper fixing without harming the property of Messenger wire there by not adversely affecting the Resonance frequencies of Damper. The clamps are designed in such a way that without removing the Keeper portion the Damper can be installed or un-installed.

RURAL ELECTRIFICATION

It includes equipments for distribution line for carrying power from substation to rural consumers namely Tension Sets, Wedge Type Dead End Clamp, Stay Sets, Pipe Earthing, Coil Earthing, Spike Earthing, Service Pipe, Distribution Kit, Guy Grip, LT Connector, P.G. Clamp, G.I. Pin, Preform Insulator Binding, Earth Knob, Jointing Sleeve, Shackle Strap, Danger Board, Jointing Sleeve, etc.
ABC FITTINGS

Ariel Bunch Cable now used in domestic distribution Line due to its definite advantages over bare conductor. The fittings needed for this have to be specially coated with PVC to avoid damage to insulation of the Cable.

CLAMPS & CONNECTORS FOR SUBSTATION

The Clamps & connectors for use on substations are designed and manufactured to have proper contact with conductor & Bus Bar. The Contact area is kept smooth to avoid any sparking or damage in conductor/ bus bar. The clamp & connectors are designed with heavy sectional area to avoid rise of temperature in the fitting due to overloading.

The Fasteners used are made of Steel and are hot dip galvanized

STEEL STRUCTURES

The Steel structures are manufactured in general from Steel grade 410 as per IS:2062 / Equivalent and are hot dip galvanised. The Galvanizing is done after fabrication. The individual members are marked suitably to facilitate erection at site & avoid any mixing up.
QUALITY IS A JOURNEY NOT A DESTINATION

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