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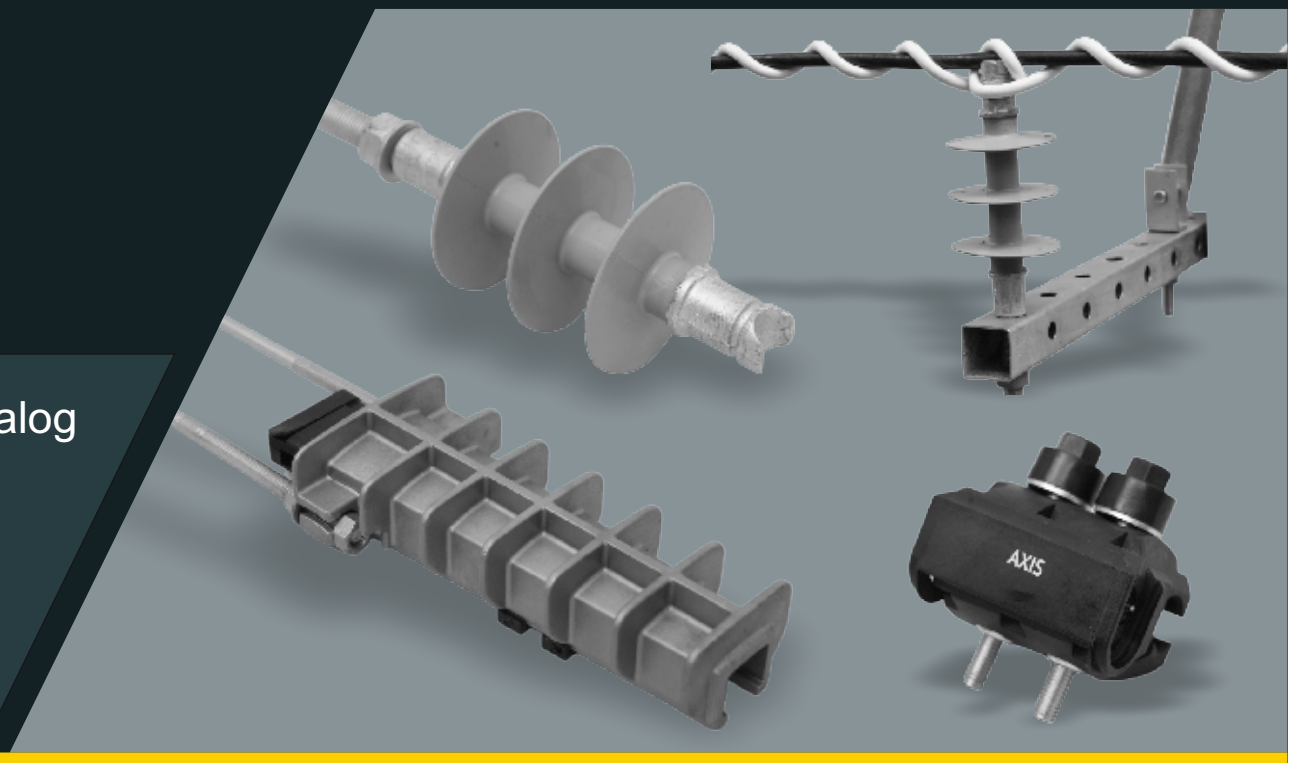
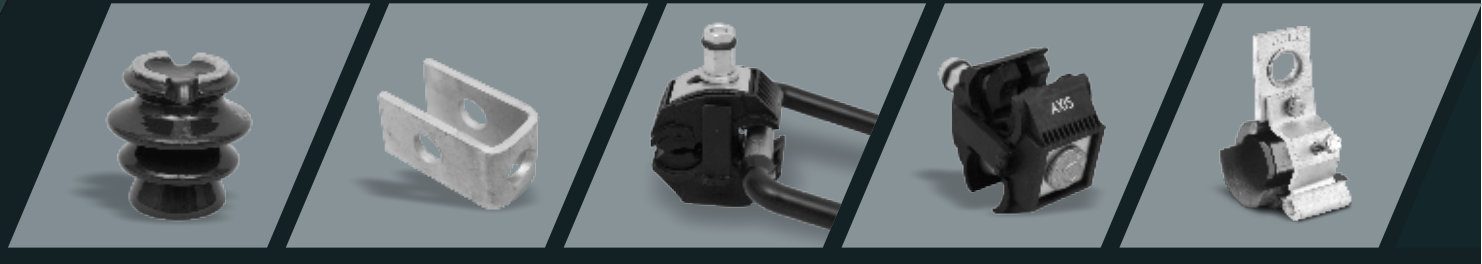
EFFICIENT SERVICE
TRUSTED BRAND

An ISO 9001: 2015 Company



Product Catalog

Medium Voltage Covered Conductor Accessories



AXIS ELECTRICAL COMPONENTS (I) P. LTD.

Our Vision

To be a leading global enterprise providing innovative & value based solutions in the Electrical & Energy Sector.

Our Mission

AXIS is committed to deliver excellence and superior value to our customers, shareholders, employees and society at large.
Our mission is driven through the 4 pillars of:

1. **Customer Centricity:** To become the "Supplier of Choice", delivering products and services and creating value for our customers.

2. **People Centricity:** To be the "Employer of Choice", nurturing and developing talent, fostering teamwork & capability with a high sense of pace, passion and pride driven by value & culture.

3. **Community Centricity:** To be recognized as a responsible corporate citizen through facilities, being legally compliant and driven by a strong corporate governance.

4. **Business & Technology Centricity:** To drive innovative, efficient & effective systems, processes and delivery backbone backed by technology for a sustainable and scalable business growth and value.

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Company Profile

Leading Manufacturer & Exporter

Axis is the leading Indian Manufacturer & Exporter of a wide range of Electrical Components used in Electrical Installations and in the Equipment Building industry. Our main customer base consist of Distributors/Wholesalers of Electrical Products, Electrical Contractors & Installers, Equipment Manufacturers, Maintenance Companies and Government Authorities.

Exports to more than 80 Countries Worldwide

Over the years, Axis has supplied high quality and tested products to thousands of customers in over 80 countries. As a result, the Axis brand has become synonymous with Quality.

International Certifications

Axis invests heavily in continuous improvements in its products and manufacturing processes. This allows Axis to always be ahead of the curve through certifications and approvals from around the world. Products manufactured by Axis follow widely accepted international such as BS, DIN, UL, NFC, AS/NZ & Indian Standard (IS). CRISIL India, an S&P subsidiary, rated Axis as having the highest performance capabilities and strong financial strength.

Constant Improvement

Axis's dual focus on foreseeing customer requirements and looking at the future of the industry, translates to a continuous desire to evolve and upgrade our product offerings.

Quality Management

Our goal is to provide each customer with products, systems and services that meet the highest standards of quality. To assure quality management, Axis has achieved an ISO 9001 Certification.

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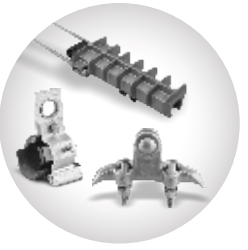

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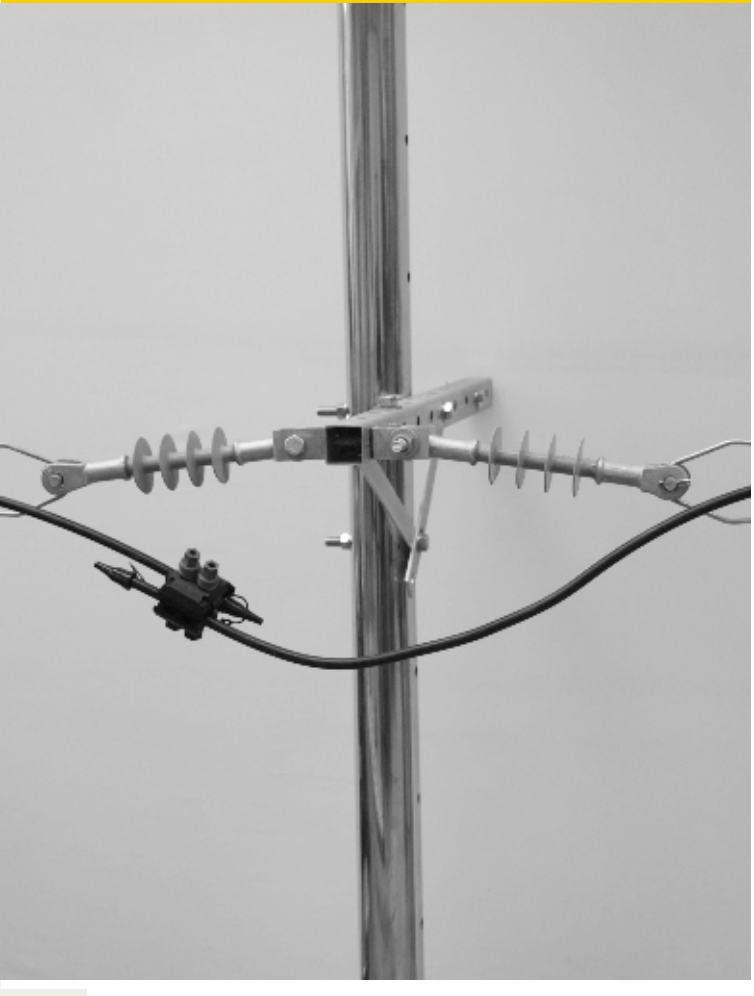
Introduction To Medium Voltage Covered Conductor Accessories

Reliability,

Safety &

Flexibility



Overview

MV Covered Conductor Systems are advanced power distribution solutions designed for overhead power lines operating within the medium voltage range, typically from 11kV to 33kV. Unlike conventional bare conductors, which remain exposed to environmental conditions and external factors, MV covered conductors include a protective insulating layer made of materials like cross-linked polyethylene (XLPE) or high-density polyethylene (HDPE). This insulation reduces electrical faults, enhances operational reliability, and ensures safer power transmission and distribution.

Covered conductor systems mitigate common issues faced by bare conductors, such as short circuits caused by tree contact, accidental animal contact, and environmental interference. These systems are beneficial in areas with dense vegetation, urban environments, and wildlife-sensitive zones, where safety and reliability are crucial. By allowing power lines to be installed with reduced clearances, covered conductors minimize the need for extensive tree trimming or right-of-way clearing.

These conductors provide exceptional mechanical strength and resist environmental stressors like UV radiation, moisture, salt-laden air, and industrial pollutants. This makes them ideal for regions prone to adverse weather conditions, coastal areas, and high-pollution zones. The insulation layer also reduces the risk of line-to-line or line-to-ground faults, which commonly cause power outages in bare conductor systems. By lowering fault occurrences and improving reliability, MV covered conductor systems reduce maintenance costs and minimize downtime.

Need for Covered Conductors

Traditional bare overhead conductors, though widely used, are prone to several challenges:

- **Short Circuits:** Caused by tree branches, birds, and accidental contact.
- **Power Outages:** Frequent interruptions due to environmental and external factors.
- **Safety Risks:** Increased risk of accidents for people, wildlife, and maintenance personnel.

To overcome these limitations, covered conductor systems provide an innovative alternative with enhanced operational efficiency.

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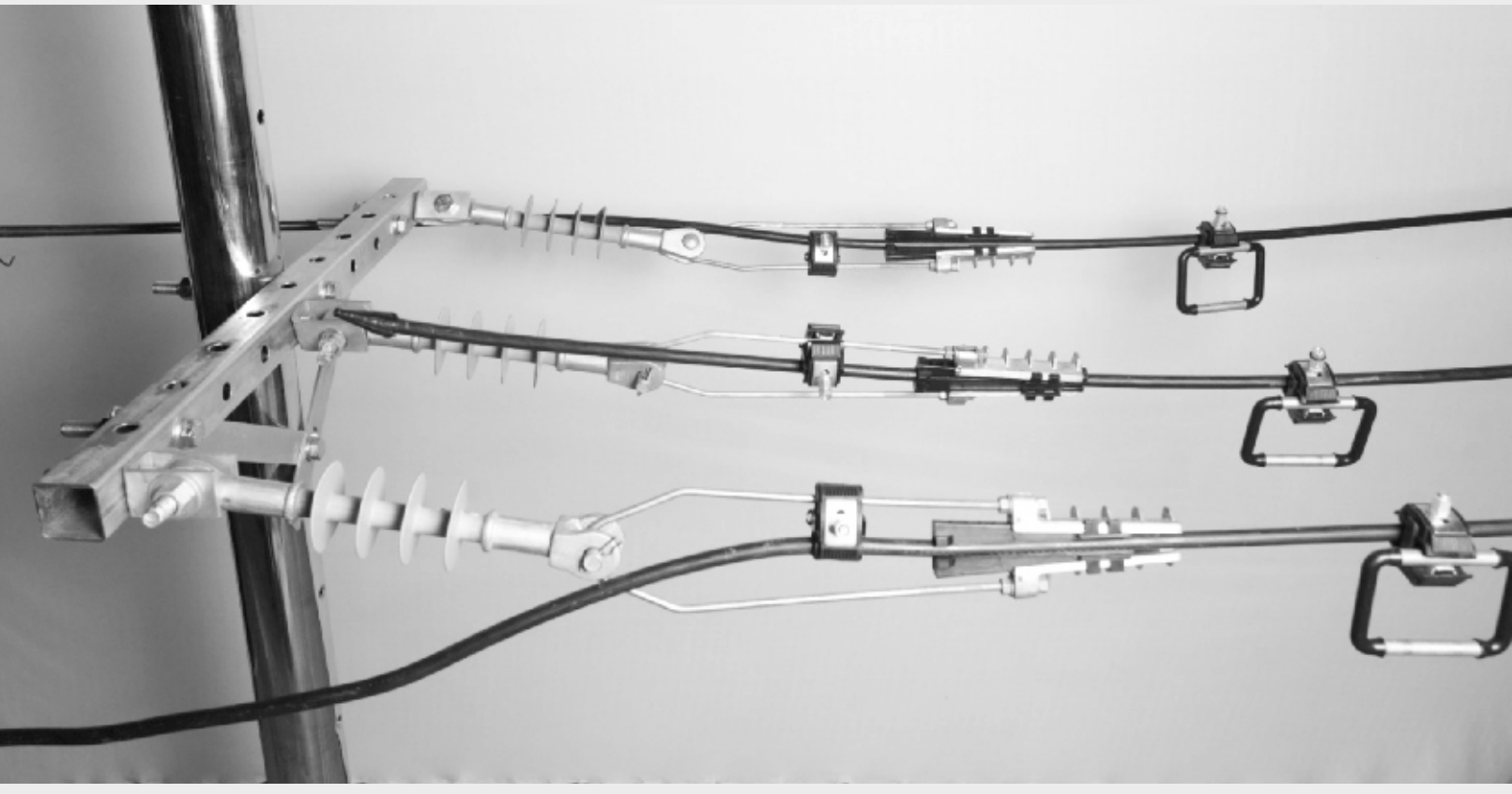
Introduction To Medium Voltage Covered Conductor Accessories



Advantages of Covered Conductor Systems

- **Reliability:** Reduces power outages caused by external faults like trees or animals.
- **Safety:** Prevents direct electrical contact, reducing risks of electrocution.
- **Cost-Effective:** Less maintenance compared to bare conductors due to reduced faults and damages.
- **Environmental Friendliness:** Enables closer installation to trees without frequent pruning.
- **Minimized Line Losses:** Improved insulation enhances efficiency in power transmission.

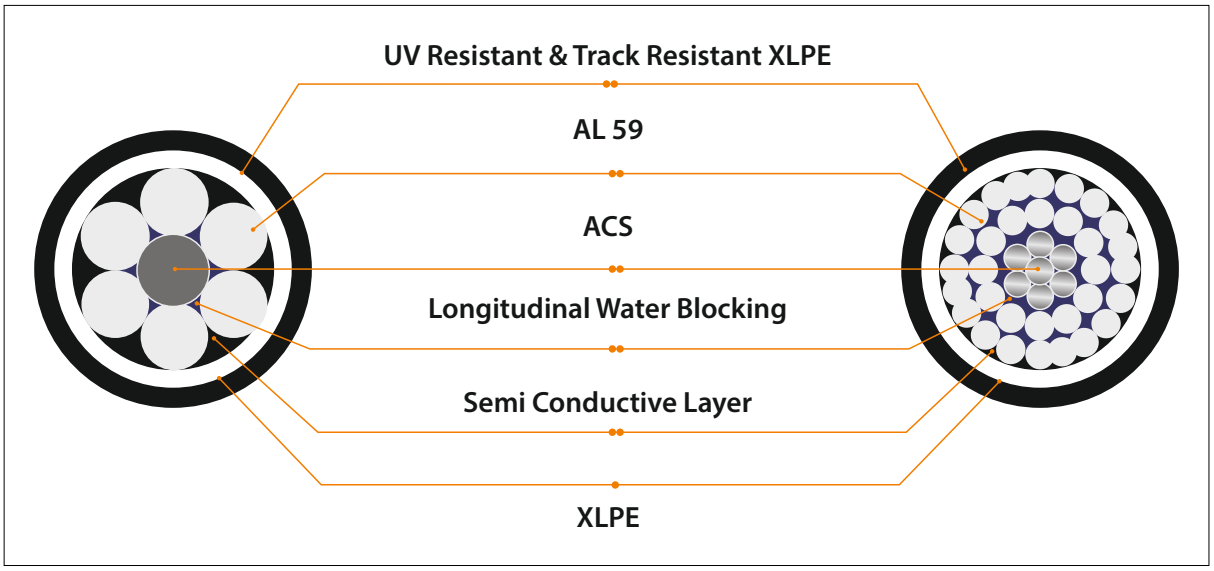
Applications

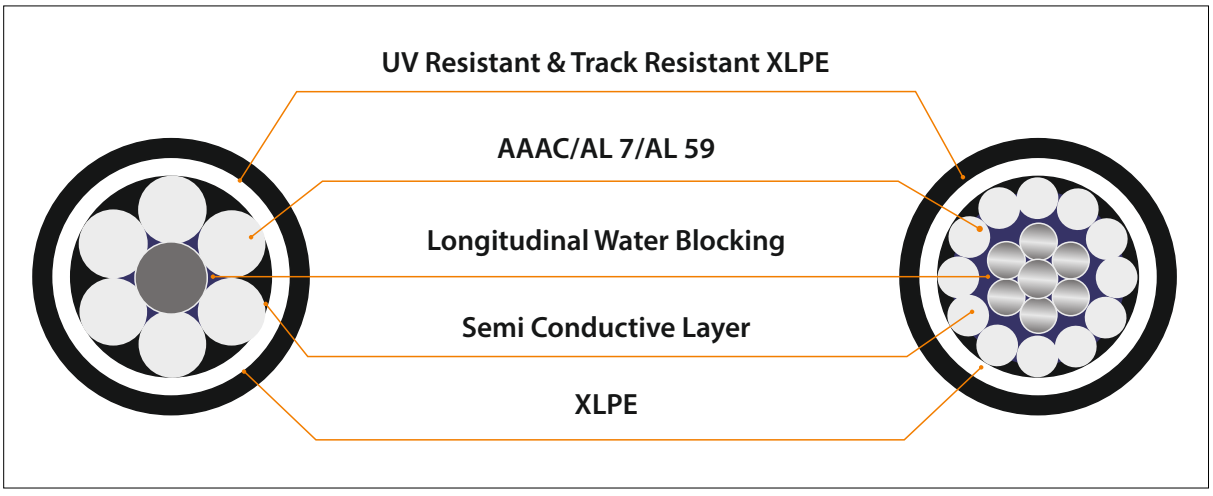
- **Urban and Rural Distribution:** Safe operation in areas with heavy tree cover or limited space.
- **Forest Areas:** Reduces fire hazards caused by electrical arcing.
- **Coastal Regions:** Effective against corrosion from salt-laden air.
- **Wildlife Protection Zones:** Minimizes the risk of electrocution to birds and animals.

Medium Voltage Covered Conductor

Construction of Covered Conductor

These Cables are generally offered as per IS: 398 -2, IEC: 61089, BS EN: 50182/50397





- Conductor: Stranded all-aluminum alloy (AAAC) made longitudinally watertight, using AL-7, AL-59, or AL-59 Aluminum Clad Steel (ACS).
- Shielding: Semi conducting cross-linked polymer.
- Inner Covering: Low-Density track resistance cross-linked polyethylene (without carbon black).
- Outer Covering: High-density UV & track resistance cross-linked Polyethylene.

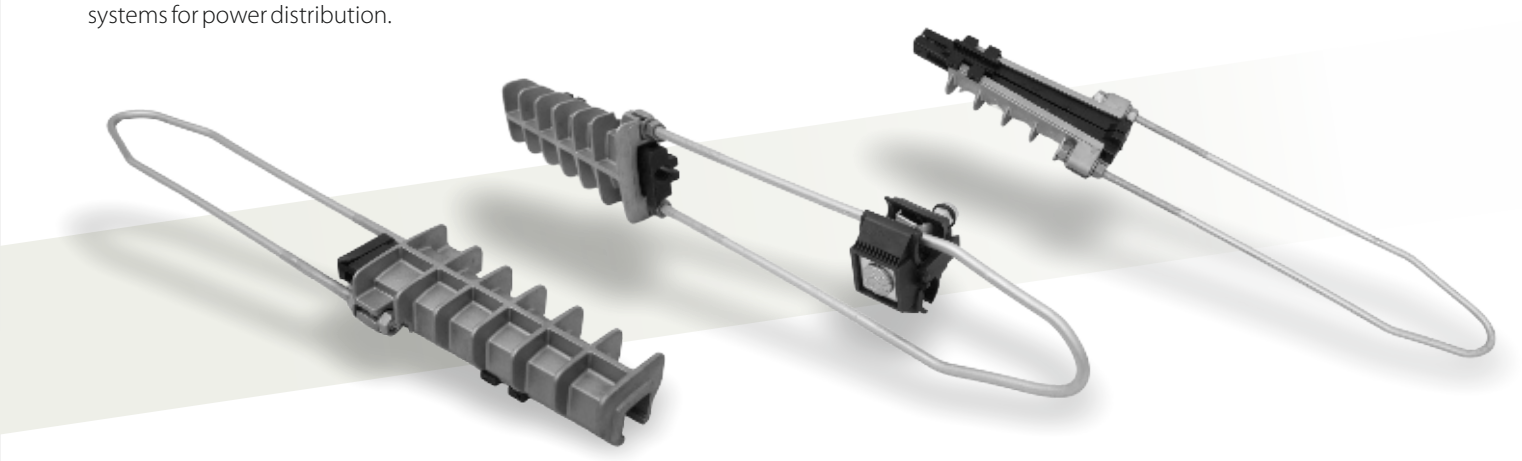
Key Features of Medium Voltage Covered Conductors

- Insulating Layer: A cross-linked polyethylene (XLPE) or polyethylene sheath insulates the conductor effectively.
- Durability: Resists environmental stressors such as UV radiation, moisture, and pollution.
- Mechanical Strength: Provides superior tensile strength to endure wind loads and mechanical stress.
- Safety: Minimizes the risk of short circuits and accidental contact with external objects.
- Installation Flexibility: Enables installation in densely vegetated or populated areas without requiring extensive clearances.

Tension Clamp

A dead-end clamp for a covered conductor system is used to securely anchor and terminate covered conductors at the ends of a line or at points of directional change. It is designed to accommodate the required size of the covered conductor, considering its insulated outer layer, without compromising the insulation or structural integrity.

Dead-end clamps ensure reliable mechanical and electrical performance under varying weather and load conditions. It provides firm grip through its self-adjustable wedges distributing tension evenly while minimizing conductor damage. Additionally, these clamps are easy to install, durable, and complying with standard BS EN 50397-2, making them essential components in modern covered conductor systems for power distribution.



Materials:

- Body : Corrosion Resistant Aluminum Alloy
- Wedges : UV Stabilized Engineering Plastic

Features & Benefits:

- Anchors covered conductors and applies tension to the line.
- Specially designed plastic wedges firmly grip the conductor without damaging the insulation, ensuring long conductor life.
- Delivered ready-to-use, eliminating the need for assembly at the installation site.
- Voltage Range: 11kV to 33kV.
- Temperature Range: -20°C to 90°C.
- Complies with BS EN 50397-2 standard

Conductor Range (mm2)	Conductor dia. (mm)	Load (kN)	Product Code
35 - 80	12.7 - 19.5	15	MVCC91001
100 - 150	17.9 - 24.0	20	MVCC91002

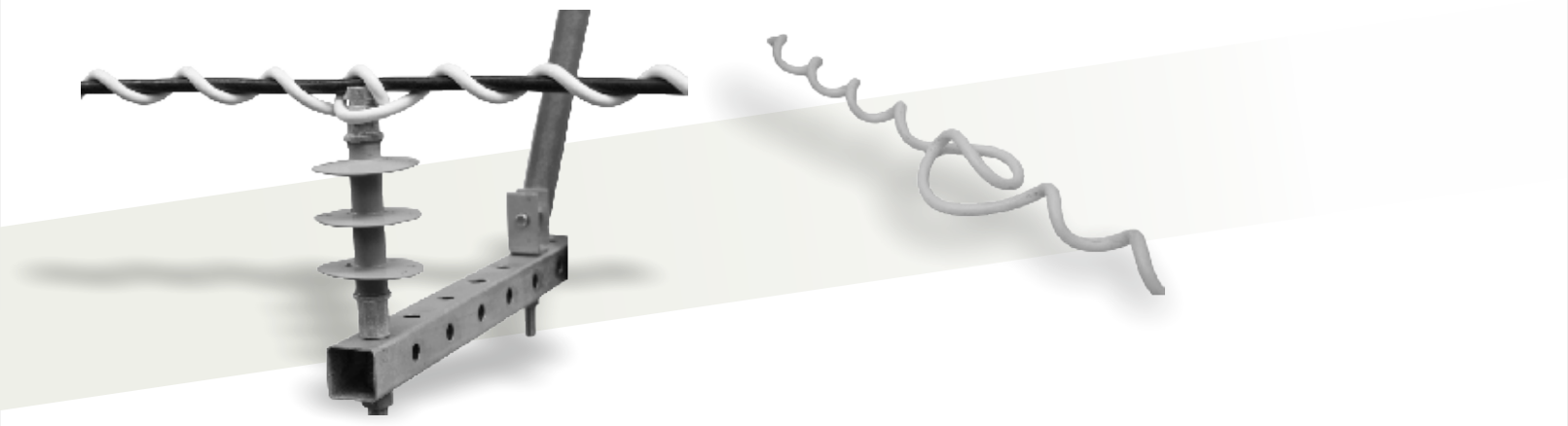
Preformed Alignment Tie – Insulated

A preformed top tie for a covered conductor system is used to secure the covered conductor to the insulator while preserving the integrity of its insulated layer. It is made from high-strength, UV-stabilized, and weather-resistant polymer materials.

Its helically formed structure evenly distributes pressure along the conductor surface, reducing the risk of insulation damage. Plastic preformed ties are non-corrosive, offering a long service life without the risk of rust or deterioration common in metal alternatives. Additionally, they are designed to absorb and dissipate vibrations, minimizing wear and extending the lifespan of the conductor.

Preformed top ties are quick and easy to install, requiring minimal tools and expertise, which enhances efficiency during line maintenance or construction.

These ties are compatible with a wide range of conductor sizes and insulator profiles and types, making them a versatile solution. Its compliance with safety and performance standards BS EN 50397-2 ensures reliable operation in modern power distribution networks.



Materials:

- UV and Weather Resistant Engineering polymer.

Features & Benefits:

- Secures covered conductors onto insulators.
- Ensures easy installation with a firm grip on insulators.
- Voltage Range: 11kV to 33kV.
- Temperature Range: -20°C to 90°C.
- Complies with the BS EN 50397-2 standard.

Conductor Range (mm2)	Conductor dia. (mm)	Pin Type Insulator Material (Neck dia.)	Product Code
25 - 80	11 - 19	Polymer (25mm)	MVCC91003
55 - 150	17.5 - 24	Polymer (25mm)	MVCC91003V1
25 - 80	11 - 19	Porcelain (75mm)	MVCC91004
55 - 150	17.5 - 24	Porcelain (75mm)	MVCC91004V1

Suspension Clamp

The suspension clamp for a covered conductor system is designed to support and suspend conductors in MV distribution lines. These clamps are engineered to accommodate the insulated nature of covered conductors, ensuring the insulation layer remains intact and undamaged during installation and operation.

Typically made from high-strength, corrosion-resistant materials, these clamps offer durability and reliable performance in harsh environmental conditions. Their design allows for easy installation and maintenance, making them an essential component in covered conductor systems.

Features & Benefits:

- Secures and suspends covered conductors.
- Delivered ready-to-use, eliminating assembly time at the installation site.
- Voltage Range: 11kV to 33kV.
- Temperature Range: -20°C to 90°C.
- Complies with BS EN 50397-2 standard.

Conductor Range (mm2)	Conductor dia. (mm)	Load (kN)	Product Code
25 - 100	11.2 - 18.0	9	ABC91043
120 - 150	18.0 - 23.8	15	ASC - 2

Insulated Piercing Connector (Covered to Covered)

Insulation Piercing Connectors (IPCs) are used in Medium Voltage Covered Conductor (MVCC) systems. They enable connections without stripping the conductor's insulation, offering reliable performance and ease of installation. IPCs are commonly used to continue the line over the pole, for tapping, or for network connections to extend the MVCC system.

Materials:

- Body: Black high-strength engineering polymer for mechanical reliability of the connector.
- Contact Plates: Tinned copper or aluminum alloy.
- Fasteners: Galvanized steel.
- Shear Nut: Aluminium / Engineering Polymer / Composite

Features & Benefits:

- Standard Compliance: Complies with national and international testing standards (BS EN 50397-2).
- Quick Installation: Eliminates the need to strip the conductor, reducing installation time.
- Reliable Electrical Connection: Ensures a low-resistance connection through precision-engineered contact points.
- Safety: Minimizes the risk of conductor damage or errors during installation.
- Cost-Effective: Reduces the need for additional tools and operational downtime.

Conductor Range (mm2)		Conductor dia. (mm)		Number of Bolts	Product Code
Main Core	Top Core	Main Core	Top Core		
25 - 100	25 - 100	11.2 - 18.8	11.2 - 18.8	1	MVCC94008
50 - 150	50 - 150	13.9 - 22.4	13.9 - 22.4	2	MVCC94013

Insulated Piercing Connector (Bare to Covered)

IPCs designed for bare-to-covered conductor applications are vital for integrating bare conductors into Medium Voltage Covered Conductor (MVCC) systems. They are especially useful when connecting bare conductors from older installations to modern covered systems for network extensions or upgrades.

These IPCs simplify the installation process by reducing labor and time while maintaining the integrity of the covered conductor. Their design ensures effective electrical performance and minimizes the risk of connection failure, even in harsh environmental conditions. These connectors are widely used for network transitions, tap-offs, and system upgrades, enhancing the efficiency and reliability of MVCC systems.

Materials:

- Body: Black High Strength Engineering Polymer
- Contact Plates: Tinned Copper or Aluminium Alloy
- Fasteners: Galvanised Steel
- Shear Nut: Aluminium / Engineering Polymer / Composite

Features & Benefits:

- Standard Compliance: Complies with national and international testing standards (BS EN 50397-2).
- Quick Installation: Eliminates the need to strip the conductor, reducing installation time.
- Reliable Electrical Connection: Ensures a low-resistance connection through precision-engineered contact points.
- Safety: Minimizes the risk of conductor damage or installation errors.
- Cost-Effective: Reduces the need for additional tools and minimizes operational downtime.

Conductor Range (mm2)		Conductor dia. (mm)		Number of Bolts	Product Code
Bare Side	Covered Side	Bare Side	Covered Side		
50 - 100	25 - 100	9.2 - 12.8	11.2 - 18.8	1	MVCC94008B
50 - 150	50 - 150	9.2 - 16.3	13.9 - 22.4	2	MVCC94013B

Insulated Piercing Connector (For Earthing)

IPCs designed for earthing applications in Medium Voltage Covered Conductor (MVCC) systems offer a reliable solution for establishing secure grounding connections during maintenance.

These connectors pierce the insulation of the covered conductor to create a direct, low-resistance link to the earthing system, eliminating the need to strip the insulation. This ensures effective fault current dissipation, enhancing safety and operational reliability in the network. IPCs for earthing are easy to install and are suitable for grounding the covered conductor and other protective devices within the MVCC infrastructure during maintenance.
Their robust design ensures long-term performance, even under harsh environmental conditions, reducing maintenance requirements. These connectors are essential for maintaining system integrity and meeting stringent safety standards in modern covered conductor networks.

Materials:

- Body: Black high-strength engineering polymer
- Contact Plates: Tinned copper or aluminum alloy.
- Fasteners: Galvanized steel.
- Shear Nut: Aluminum, engineering polymer, or composite.
- Earth Connection Ring: Aluminum.

Features & Benefits:

- Standard Compliance: Complies with national and international testing standards (BS EN 50397-2).
- Quick Installation: Eliminates the need to strip the conductor, reducing installation time.
- Reliable Electrical Connection: Ensures a low-resistance connection through precision-engineered contact points.
- Safety: Minimizes the risk of conductor damage or installation errors.
- Short Circuit Current Withstand Capacity: 10 kA for 1 second.

Conductor Range (mm2)	Conductor dia. (mm)	Number of Bolts	Product Code
25 - 100	11.2 - 18.8	1	MVCC94008E
50 - 150	13.9 - 24.4	2	MVCC94013E

Arc Protection Device

An arc protection device is a vital safety component in covered conductor systems, designed to mitigate electrical arcs that can occur due to faults or conductor damage. These devices prevent fire hazards and minimize the risk of damage to surrounding infrastructure.

By swiftly identifying arcing conditions, the device triggers protective actions, such as isolating the faulted section or suppressing the arc, ensuring system reliability and safety. Engineered to operate under varying environmental conditions, arc protection devices enhance the resilience of power distribution networks.

Their integration into covered conductor systems aligns with modern safety standards, ensuring compliance and safeguarding both equipment and public welfare.

Materials:

- Body: Black high-strength engineering polymer for mechanical reliability of the connector.
- Contact Plates: Tinned copper or aluminum alloy.
- Fasteners: Galvanized steel.
- Shear Nut: Aluminum, engineering polymer, or composite.
- Arcing Stud: Aluminum.

Features & Benefits:

- Complies with national and international testing standards (BS EN 50397-2).
- Ensures low resistance to current flow across the joint.
- Designed to withstand mechanical loads, including tension from the conductor and environmental stresses, while protecting insulator sets and covered conductors from damage caused by power arcs.
- Outer cover exhibits excellent insulation properties, maintaining the integrity of the covered conductor's insulation and protecting against environmental factors like UV radiation and moisture.
- Short Circuit Current Withstand Capacity: 10 kA for 1 second.

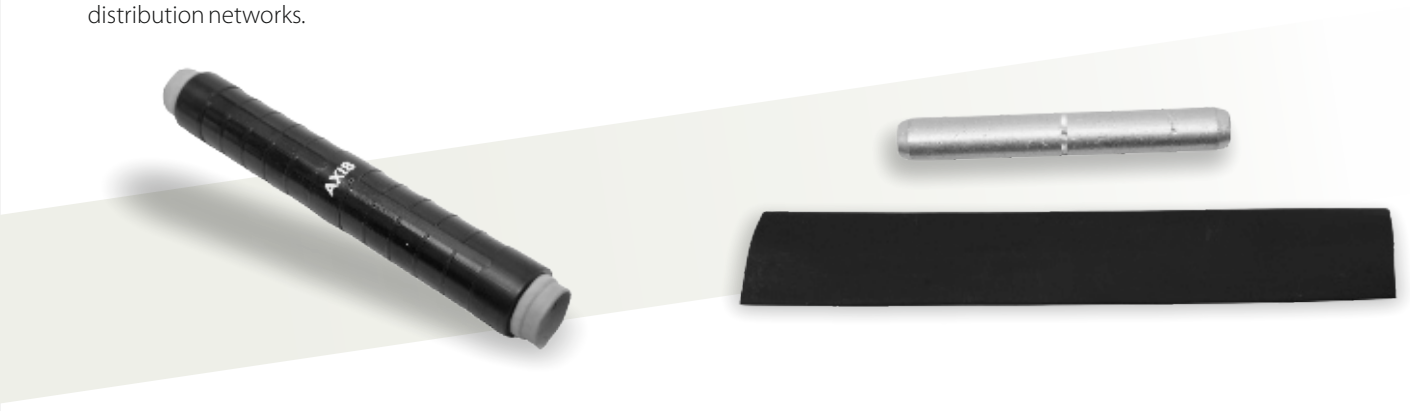
Conductor Range (mm2)	Conductor dia. (mm)	Number of Bolts	Product Code
25 - 100	11.2 - 18.8	1	MVCC94008F
50 - 150	13.9 - 22.4	2	MVCC94013F

Midspan Joint

A midspan joint connects two conductor sections while maintaining electrical continuity, mechanical strength, and insulation integrity.

These joints are engineered to withstand the mechanical tension of suspended spans and ensure reliable performance under various environmental conditions. Available in various designs—such as compression, heat-shrink, and cold-shrink types—midspan joints cater to diverse installation needs.

They are weather-resistant, UV-stable, and capable of withstanding temperature extremes, ensuring long-term durability. Compliance with international standards guarantees safety and performance, making midspan joints an essential solution for modern power distribution networks.



Materials:

- Inner sleeve: Aluminum
- Outer Tube: Engineering polymer or heat shrinkable elastomer

Features & Benefits:

- Complies with national and international testing standards (BS EN 50397-2).
- Ensures low-resistance current flow across the joint.
- Designed to withstand mechanical loads, including conductor tension and environmental stresses.
- Outer cover exhibits excellent insulation properties, maintaining the integrity of the covered conductor's insulation and protecting against electrical faults, UV radiation, and moisture.

Preinsulated Midspan Joint

Conductor Size (mm2)	Core dia. (mm)	Type of Joint	Product Code
50 - 55	9.45	Preinsulated	MSJC054
70	10.71	Preinsulated	MSJC070
99 - 100	12.78	Preinsulated	MSJC100
120	14.01	Preinsulated	MSJC120
150	15.75	Preinsulated	MSJC150

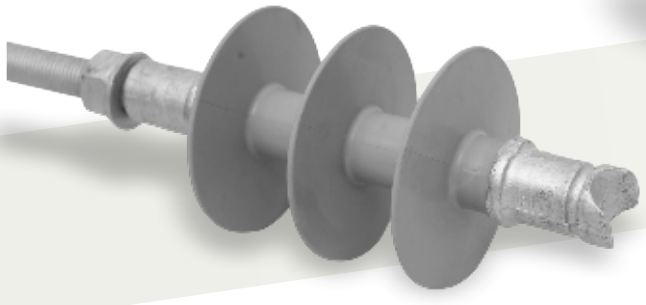
Midspan Joint (Heat Shrinkable)

Conductor Size (mm2)	Core dia. (mm)	Type of Joint	Product Code
50 - 55	9.45	Heat Shrinkable	MSJC0545
70	10.71	Heat Shrinkable	MSJC0705
99 - 100	12.78	Heat Shrinkable	MSJC1005
120	14.01	Heat Shrinkable	MSJC1205
150	15.75	Heat Shrinkable	MSJC1505

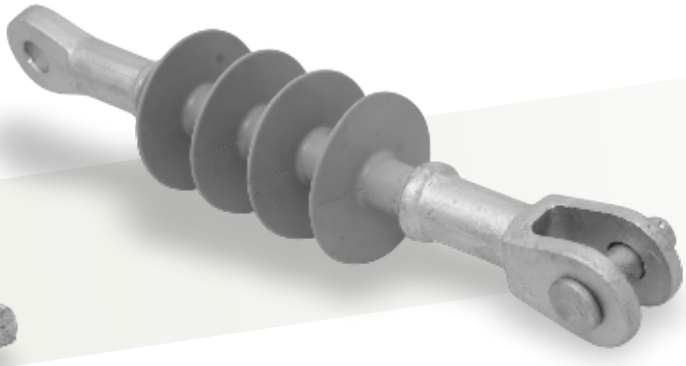
Fixing Hardware (Insulator, D-Iron Bracket, Crossarm)

D Iron Bracket

Porcelain Insulator for Preformed Tie



Polymer Insulator for Preformed Tie



Polymer Insulator for Dead End Clamp

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2025 Edition

Talk to Us

AXIS ELECTRICAL COMPONENTS (I) P. LTD.

Registered Office: AXIS House, Plot No. 149 BCD
Kandivali Co-op Industrial Estate Ltd., Kandivali (W),
Mumbai – 400067, Maharashtra, India. Tel: +91-22-67756000
email: sales@axis-india.com
Website: www.axis-india.com