



Tirupati Plastomatics Pvt. Ltd.

Quality you can trust...



MVCC

MEDIUM VOLTAGE COVERED CONDUCTOR

www.tirupatiplastomatics.com

Brand Name:
Gemini Cables



ISO 9001
ISO 14001
BS OHSAS 18001



Tirupati Plastomatics Pvt. Ltd.

About

Tirupati Plastomatics Pvt. Ltd. A flagship company of Gemini Group of industries Jaipur India. The founder of the company Mr. R. S. Gemini who is the managing director & a well-known industrialist & a renowned social worker. Tirupati Plastomatics enjoys the status of an ISO-9001:2008, 150 14001:2004, 01-15AS-18001, BIS, SMEC Australia, Scott Wilson-UK & SABS certified company having a group turnover of Rs. 250.00 crores US\$ 53.76 Million The company is one of the leading manufacturer of all kind of LT PVC/XLPE insulated & sheathed cables, concentric service cable & conductors with own technical know-how for the last 11 years being widely used by Indian railways, utility service providers & private turnkey project executors in electricity distribution, transmission & generation. Tirupati has a dedicated & well-experienced team of techno-commercial experts.

In addition to serving Indian railways & electricity boards, Tirupati has also entered into overseas markets and have executed orders of aerial bunched cables, LV underground cables & AAA conductors, ACSR conductors as per IEC/VDE/DIN/SABS/ASTM/NF/BS specification to EDM, Mozambique, Mazare-E- Sharif power projects in Afghanistan and to South African customers.

Mission

Guided by the philosophy 'create the best to be followed by the rest', Tirupati Plastomatics aims at building a zero-defect product, which will give value satisfaction to its huge clientele. Tirupati Plastomatics strongly believes that learning and improving is a continuous process for the total growth of the company.

Vision

Tirupati Plastomatics Pvt. Ltd., the name for dedication, devotion, discipline, discrimination, and determination has made a substantial growth plan with Rupees 1000 Crores turnover projection by 2015.





CONDUCTOR

Medium Voltage Covered Conductors are developed to improve the reliability of the distribution of electricity. The concept of covered conductor has proven to be extremely functional and reliable. It consists of a conductor surrounded by a covering made of insulating material as protection against accidental contacts with other covered conductors and with grounded parts such as tree branches, etc. Medium Voltage Covered Conductors are produced in voltage rating between 6.6KV to 33KV. The applicable standards for MVCC are IEC: 61089/ IS: 398 Part-II/ BS EN: 50182/50397

CHALLENGES FACED BY BARE CONDUCTOR

- Conductor Slashing Due to Corrosion
- Reduced Right of Way (ROW)
- Safety (Road/ Rail/ River crossing/ Slums/ Congested
- Outage due to temporary tree contact.
- Electromagnetic field effect on electronic surveillance.
- Frequent Break downs due to high velocity wind and Forest fire./ bush fire.
- Conductor flashing and limited capacity
- High space required for erection and operations





CROSS SECTIONAL DRAWING OF COVERED CONDUCTOR

Covered Conductors are manufactured with longitudinally water tight construction with AAAC/ACSR conductor. These are XLPE insulated anti tracking with UV-resistant outer sheath

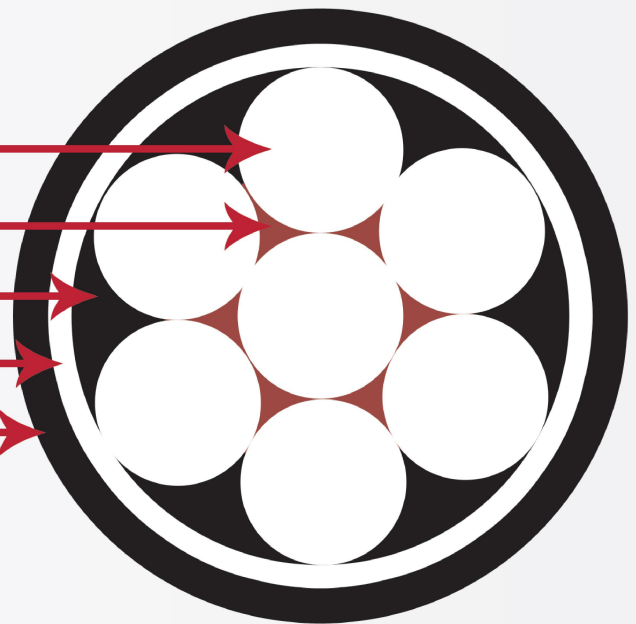
- High space required for erection and operations

- Extruded, longitudinal water blocking layer

- Extruded, inner semi-conducting layer

- Inner insulation of XLPE

- Outer layer of UV-resistant XLPE



APPLICATIONS:

Conductor (MVCC) is becoming as one of the best replacement of Over Head Bare Conductor (ACSR) and Aerial Bunched cable in power transmission and distribution system in some part of the world. The uses of Covered Conductor which is similar like SAC (Space Aerial Bunch Cables) are seen in South Korea, Japan, Iran, Myanmar and some parts of Australia. It has a very successful journey so far.

- Covered Conductor is extensively used in voltage up gradation projects ranging between 6.6KV to 33 KV
- Covered Conductors can function smoothly with conductor temperature up to 80°C and in corrosive and highly polluted area
- The outer jackets of covered conductors being UV resistant, it can be used in high UV radiation areas.
- Covered Conductors fulfill the demands in extreme cold environment with heavy snow and ice load.



BENEFITS OF MVCC

- Reduced Conductor Slashing.
- Reduced right of way.
- Reduce power interruptions and outage.
- No interruptions by contact of tree branches or creepers.
- Reduced operation and maintenance cost.
- No faults due to clashing of phase conductors during wind and stormy conditions.
- Better reliability under bad weather conditions like heavy snow fall, windy or stormy conditions.
- Protect big birds and animals: Peacocks, Flamingos, Elephants etc.
- Phase to Phase conductor distance can be reduced which can reduce the tower related costs.
- Negligible Leakage Current on surface of the Covered Conductors.
- Covered conductor is self- supporting and can have pole spans of 60 to 70 meters.
- Increasing the power distribution network reliability.
- Effectively used in difficult terrain and in densely populated areas.
- Lower total cost of ownership over the life cycle compared to underground cables or Areal Bunched Cables.
- Same corridor of an old bare overhead line can be used for covered conductors.
- The pole man span of ABC cables are short, as the full cable weight has to be carried by a single messenger conductor.
- Ideal for installation in forest areas and bird sanctuaries.
- Cheaper alternative to underground cables and ABC cables.





WHERE THE COVERED CONDUCTORS ARE USED

- **HILLY AND MOUNTAIN AREAS:** Electric network reliability is vulnerable in hilly areas due to flash of conductors. High winds and storms, tree falling, lightning, etc.
- **COASTAL AREAS AND RIVER CROSSING:** High velocity wind, heavy moisture and cyclone prone atmosphere will disrupt the power supply very frequently. Corrosion will bring down the life of bare overhead conductor to a large extent.
- **HIGH DENSITY RESIDENTIAL AREA:** Accident prone, flashing due to human interference. Theft, unsafe livestock.
- **DENSE FOREST, BUSHFIRE DANGER AREAS:** Recent forest fire of Australia, California is best examples. This will avoid total flashing of conductors, protection from lightning, due to hard outer jacket over the insulation and less space birds and wild life will be safe.





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