AERIAL APPLICATION of Optical Fibre



ADSS ON POWER LINES



Banaging Baeband Viaerial pticel fibre

Major Services

Survey & Designing Aerial Network

Laying ADSS on Power Lines

Laying Aerial OFC on lighting or telecom poles

Supply of fixtures and accessories for specialized ADSS/Aerial OFC installation

Broadband Networking on Statewide Power line networks

Turnkey Solutions

In house Training Center

All- Dielectric Self-Supporting Cable (ADSS)





Plastic tapes PE inner sheath Aramid strength member PE outer sheath

Waterblocking compound Filling compound Optical fibre Strength member of FRP Secondary coating

OVERVIEW OF THE ADSS POTENTIAL

ADSS is a self-supporting optical cable. It has no metal component, and can be installed on live lines with no outages. Hundreds of thousands of miles of ADSS have been installed all over the world, on power lines rated up to 500KV.

CABLE SELECTION

These cables can be designed for almost any combination of environmental and sag/tension requirements. Based on our detailed survey of site conditions, we supply an optimal choice of ADSS cable with other accessories.



- Zero project starting time with ready corridors
- Low cost networks
- Flexible, reliable and long-lasting
- Can be installed without shut down of power
- Free from electro-magnetic interference
- Specially strung over large road or river crossings
- Easy to commission, maintain, and expand
- Ideal for reinforcing existing networks
- Weather-proof and environment-friendly
- Are ready solutions for utility SCADA needs



Typical ADSS location on EHV Towers

Installation Parameters

ADSS cables have to be located very carefully. The lifetime of ADSS on power lines will depend on the electrical space potential, climatic and environmental conditions, cable design, and sheath characteristics. **Our role is crucial in maximizing the quality and long-term performance of the network.**

MECHANICAL FACTORS

- Span lengths and sag
- Tension on cable
- Installation practices

Field Potential Effects:

ELECTRICAL FACTORS

Field Potential Effects Dry Band Arcing Corona effects

ENVIRONMENTAL FACTORS

- Wind velocity and Aeolian Vibrations
- Sheath composition for UV resistance
- Temperature and pollution levels



We will engineer the best location to install ADSS on live lines of different voltages



Aeolian vibration is caused by low velocity wind blowing across a cylindrical conductor under tension. Vibration dampers help controlling Aeolian vibrations and ice induced galloping effects.

Corona Effects:



High electric field generates corona discharge, which can cause puncture and failure of cable jackets in the long run. We provide Corona Rings or Corona Coils for protection.

Dry-band Arcing:

It occurs when the cable is polluted and wet, and when the longitudinal electric field is sufficiently large to flashover the dry-band. We ensure that the cable sheath will withstand any damage due to this event. We also use specially designed track arrestors to break the arc current paths.



ON STREET LIGHTING POLES by ERITECH

Our ADSS projects have provided ready and rapid solutions for telecom operators, the government and armed forces. Electric power utilities that are aware of this technology, also prefer using ADSS as it saves cost and gives them added benefits.



CABLES USED ON POWER LINES

OPGW - Composite ground wire with fibre contained inside. Suited mainly for application on new power lines under construction, and otherwise very costly and difficult to use.

WRAP - Applied on conductor or ground wire. Requires specialized erection techniques. It is again a costly option.

ADSS - Installed at the center of pylons. Cost much less than OPGW or WRAP type cables, and are quick to install.

APPLICATION AREAS

- On power lines
- On street lighting poles
- From building to building



PIONEERS IN INSTALLATION PRACTICES

Each installation needs different considerations for attachment location, span length, temperatures, stringing tension, sag and ground clearance requirements. With our expert installation procedures, we ensure that the ADSS networks are as reliable and long-lasting as projected.



SS Installation



PROBLEM SOLVERS

Whether we work at 13,400 ft. altitude for Defense Forces, or in the congestion of Delhi's Chawri Bazar for Reliance, we have developed a reputation for completing the most difficult projects with unequivocal ease.



LAYING & STRINGING OF ADSS BY ERITECH :

- Sag and tension management corresponding to temperatures
- Use of specially configured rubber grooved pulleys
- World-class erection procedures
- Placement of vibration dampers in wind velocity zones
- Reinforcement of weak structures where necessary



INSTALLATION TOOLS



Turnkey Services

OUR SERVICES INCLUDE:

- Route survey and selection
- Selection of suitable ADSS
- Supply of installation structures
- Supply of helical fittings, dampers
- Supply of all optical accessories,
- Erection of ADSS with all options
- Splicing and link testing
- Turnkey execution of whole project
- System maintenance as AMC



FEW PEOPLE IN FIBRE OPTICS OR POWER UNDERSTAND BOTH WORLDS, BUT WE DO

This is why we can offer the unique advantages of a quick, reliable, and cost effective solution. Working with fiber optics utility in power environments requires overlapping understanding of not just fiber optic technology but also electrical power transmission and distribution since the fiber cables are so closely integrated physically and operationally with the power utility's own operations.

Power lines provide Fibre-to-the-premise solutions for all users



Alternative Applications

OPGW

OPGW serves dual purposes (1) as ground lightning wire for protection to transmission lines (2) and as а communication with fibre medium contained within its configuration.



Lashed Optical Systems

Aerial OFC or ADSS are also lashed to load bearing messenger strands with the help of lashing rods, wherever the OFC has to be relieved of excess stress. In this event, the messenger wire carries the requisite tensions.



Such lashings provide a neat, tidy, and flexible system and prevent any sagging or disengagements. It is also a very flexible system for reinstallations.



In Figure 8 type cables all tension is taken by the steel messenger cable. The fibre configuration remains stress-free. Such cables require a lot of care on grounding procedures when installed on power lines.

FIGURE '8' Type



It is specially suited for locations that involve:

- Extremely long spans
- Tough, uncontrolled handling of aerial OFC
- Large river crossings or mountain slopes



OUR RANGE OF FITTINGS FOR ADSS/ OPGW / Figure 8