

FibCo
SOUTH AFRICA








KEEPING PEOPLE CONNECTED



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SKYWRAP FIBRE TECHNOLOGY

Fibre Optic Cable Type Abbreviations

-  OPGW - Overhead **O**ptical **G**round **W**ire
-  ADSS - Overhead **A**ll-**D**ielectric **S**elf-**S**upporting cable
-  SKYWRAP - Overhead Helical Wrap
-  AD-LASH - Overhead Wrapped Cable
-  DUCT - Underground Cable



CABLE SYSTEMS **Solutions**



AFL






LEGEND	
765kV LINES	
400kV LINES	
275kV LINES	
220kV LINES	
132kV LINES	
88kV LINES	
66kV LINES	

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus

Google Earth

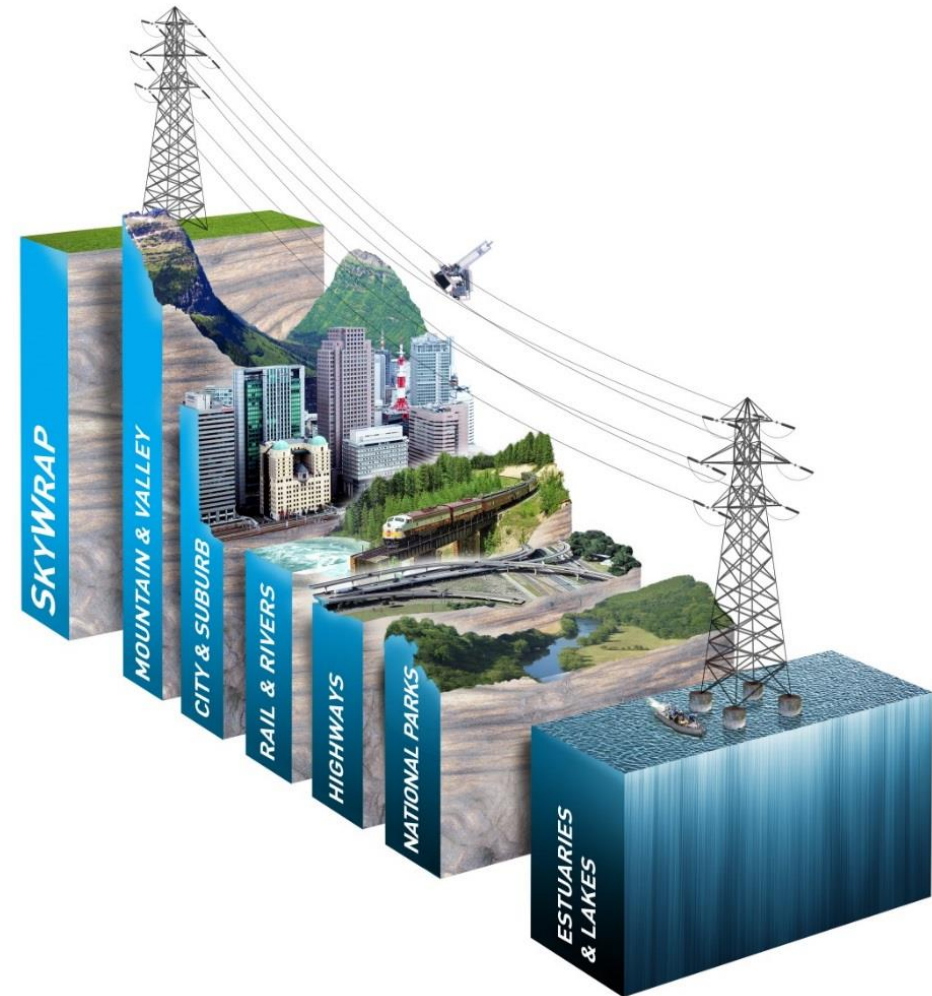
Overhead Fibre Optic Network

-  In South Africa Eskom owns and operates the most extensive Overhead High Voltage power lines based fibre optic network.
-  The network, consisting of OPGW, ADSS, SKYWRAP and AD-Lash, carries the utility's private telecommunications backbone network. Every new Overhead High Voltage power line will have OPGW fitted, hence this network is expanding by the day.
-  Due to the suitability of this fibre network, there is a massive opportunity to commercialise this network.

Skywrap Installation Flexibility






SkyWrap is the preferred solution for difficult installation conditions:

- 🌀 Motorway, Railway & River Crossings
- 🌀 Urban Areas
- 🌀 Mountains & Forests
- 🌀 Sensitive Environments
- 🌀 Landowner Problems



Skywrap – Application Environments

Skywrap is suited for difficult terrain and extreme environments:

-  Long Spans
-  Rivers & Wetlands
-  National Parks
-  Protected Lands
-  Outage Restrictions



Skywrap – Benefits

- 🌀 Increase network capacity
- 🌀 Installation on any metallic overhead line conductor, earthwire or existing fibre
- 🌀 Suitable for extreme temperatures
- 🌀 Minimal installation impact on surrounding environment
- 🌀 No modifications to existing infrastructure required
- 🌀 Live-line installation on earth wire



Skywrap – Advantages



- 🌀 Complete aerial solution
- 🌀 Speed and maneuverability
- 🌀 Fewer people and much less equipment needed for installation of the cable
 - 6-8 people can install up to 5 km per day
 - No heavy equipment required
- 🌀 Visible installation, easy fault finding, repair and maintenance
- 🌀 Minimized theft possibility
- 🌀 Less losses with minimal joins, longer sections
- 🌀 No Wayleaves required
- 🌀 Installed using familiar technology used world wide
- 🌀 Separates telecommunications from electricity on overhead line



Skywrap – Capabilities



- Any overhead line from 6 kV to 765 kV
- Any design of pole or tower
- Phase conductor up to 350 kV
- ACSR, AAC, galvanised or copper conductors
- Earth wire (shield wire) application up to 765 kV
- Up to 96 fibres per cable - double wrap provides 192 fibres

Skywrap – Designed for Power Utilities



- ⚡ Not affected by sunlight or pollution
- ⚡ Not damaged by lightning strikes or fault currents
- ⚡ Not damaged by tracking, arcing or corona
- ⚡ Doesn't cause excess ice build up (*Where applicable*)
- ⚡ Doesn't cause high wind loads, galloping or aeolian vibration
- ⚡ Doesn't require towers or poles to be modified or strengthened



Skywrap – Weight of Equipment



Transmission lines (>60kV)
All-Up-Weight = 260kg



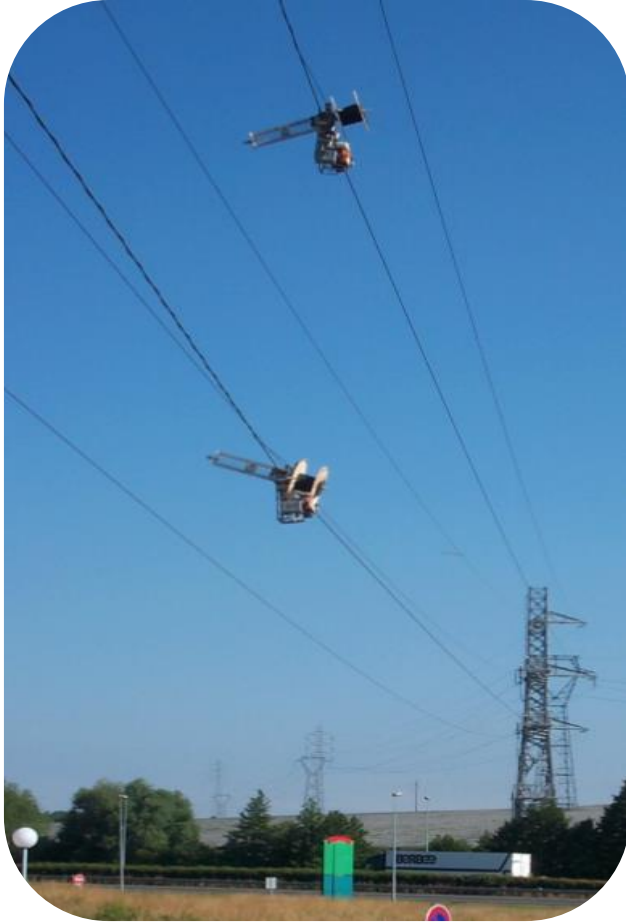
Sub-transmission lines (25-60kV)
All-Up-Weight = 150kg



Local distribution lines (6-25kV)
All-Up-Weight = 43kg

- 3x Different Machine Sizes
- 3x Different Cable Drum Sizes
- 4x Counterbalance Arm Lengths
- Double Wrap Option
- Remote-Controlled Tug or Hand-pull Options

Skywrap – Installation Equipment Load Impact

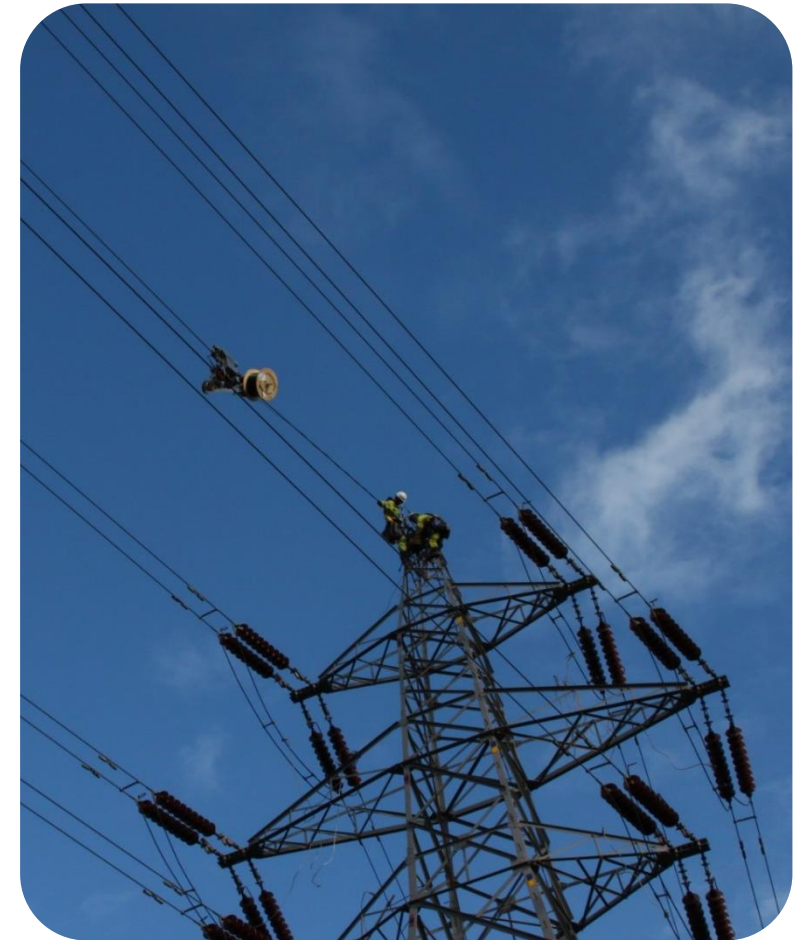


Additional load after installation:

- 30 kg to a 300 m transmission span
- 10 kg to a 100 m span on a wood pole distribution line

Skywrap - A Proven Solution

- Minimal disruption to electricity supply services
- Wrapped under constant and controlled tension
- Ensures that optical fibres are never exposed to mechanical strain under the complete operating window of the line



Skywrap - A Proven Solution to Replace AD-Lash

- 🌀 More than 31,000 km installed since 1982
 - 🌀 In service in 48 countries world-wide
-

SkyWrap is not just for today!

30-year design life
In service >30 years
Maintenance free



SkyWrap provides a fibre optic link on existing infrastructure with minimum disruption in service

SkyWrap is a fully-proven, robust and reliable long term solution

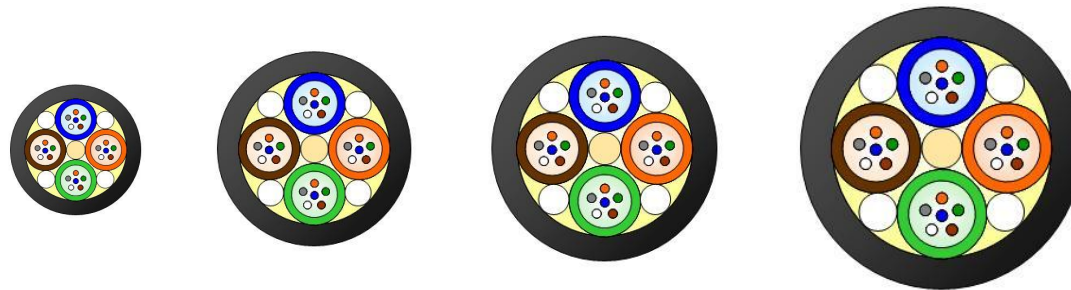
Skywrap – Cable Design

SkyWrap cable design achieves a balance of size vs fibre strain margin.

The aim is always to have the smallest available size to reduce loading impact on overhead line and to provide the longest distance between joints.

4 sizes available for maximum flexibility:

🌀 12-, 24-, 48- and 96-fibre versions



Who are we:

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