

Introducing SkyWrap

SkyWrap provides a solution for installing a fibre optic cable on an existing overhead power line. The cable is small and imposes little additional load on the overhead line conductors, poles and towers. The installation technique is low impact on the surrounding environment and causes minimal disruption to electricity supply services, with live line installations possible.

SkyWrap's advantage over other technologies lies in its speed, manoeuvrability and low impact on the environment. Fewer people and much less equipment are needed to install the cable. In some circumstances, SkyWrap offers a viable solution when other cable installation options are not feasible or practical.

SkyWrap is especially suited to difficult terrain and extreme environments.

The solution

SkyWrap is a fast and cost-effective solution which, due to its unique cable design, can be wrapped directly on the ground wire or phase conductors of up to 170 kV (or 300kV using High Voltage SkyWrap).

The specially designed cable and lightweight installation equipment allows the rapid deployment of fibre optic networks on spans of up to 1600 m without requiring any infrastructure modifications or creating line maintenance issues.

The SkyWrap system uses specially designed hardware fittings to hold the SkyWrap cable in position and allow it to be spliced and passed around or down towers maintaining electrical isolation and mechanical support.

SkyWrap is designed to withstand the aggressive environmental conditions encountered on powerlines including lightning strikes and fault currents while creating minimal extra loading on the conductor after installation, even under ice and wind conditions. Dual layer jacket designs (Birdshot) is available for areas prone to shotgun activity.



36-89
kg / km



7.3-9.6mm
OD



288
Fibers using
double wrap



6-8 people
to install



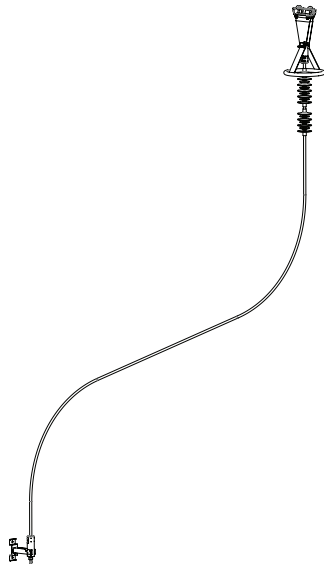
4
km / day



No
modifications
needed

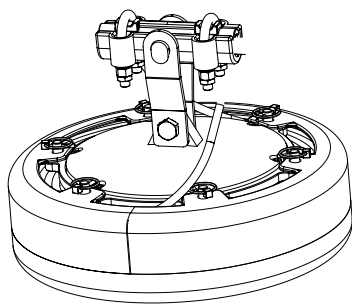


3.8km
between joints



Phase-to-Ground insulators

Specially designed insulators are used to protect the cable in the regions of very high electric field where the cable transfers from phase potential on the conductor to ground potential on the pylon or pole. These insulators are known as Phase-to-Ground transitions and are a key element in the design of SkyWrap.



Conductor mounted splice boxes

AFL provides metal splice boxes that attach directly to the conductor, keeping the splice off the pole and in the region protected from attack by the live overhead conductors.

The splice box contains enough spare cable to allow initial splicing and any subsequent access or re-configuring to be carried out at ground level, before winding the extra cable into the box and fixing the complete unit to the conductor.



Installation equipment

SkyWrap cable is installed onto conductors of overhead power lines using a radio controlled device. The cable is wrapped under contact and controlled tension ensuring that optical fibres are never exposed to mechanical strain under the complete operating window of the line.

The specialty installation equipment ensures that factors such as line gradient and ambient temperature do not affect the efficient installation of the cable and existing line structure remains unaffected. Once installed, SkyWrap adds approximately 15 kg additional load per 300 m.