



**HEADROW<sup>®</sup>**

Heavy Duty Optical  
cable for Right  
of Way Applications

# THE HEADROW® PHILOSOPHY

High cost and difficulties related to the management of right of way are the main obstacles for the creation of new optical fibre networks.

Headrow® Cables (HEAVY DUTY OPTICAL CABLE FOR RIGHT OF WAY APPLICATIONS) designed to overcome these obstacles, can be installed in existing infrastructures or with exclusive right of way.

Headrow® replaces the traditional cable installations, provides new solutions and minimises costs.

Headrow® Cables are designed in four different ranges, each with a specific environment in mind.



## THE HEADROW® TECHNOLOGY

The Headrow® Technology is based on an extruded aluminium tube on an optical core. The extrusion (not to be confused with welding metals) is an advanced process through which solid aluminium tubes are produced. This process provides the cable with features that exceed by far those of the more traditional products:

### > WATER PROTECTION

- The extruded aluminium tube is the best possible barrier against radial water penetration. When comparing the aluminium tube with the standard corrugated steel cables, we find that Headrow® is the only solution which ensures full water protection.
- Longitudinal water penetration is prevented by filling the core with an absorbent compound made of humidity-absorbent tapes.

## Specific Environments

**HEADROW® MICROTRENCH** Microtrench installations in asphalt or concrete.

**HEADROW® SEWER** In sewers networks.

**HEADROW® SUBAQUA** Sub aqua environments.

**HEADROW® DIRECTLY BURIED** Underground—directly buried, and for aggressive environments.



#### > **CRUSH RESISTANCE**

The Headrow® cable is resistant to crushing forces of up to 1.000Kg/10cm, while traditional cables resistance to crushing is only 300Kg/10cm.

#### > **RODENT RESISTANT**

The aluminium extruded tube provide the best protection against rodents.

#### > **REDUCED DIAMETER**

The Headrow® Technology allows smaller diameters of up to 30% compared with coarrugated steel cables.

#### > **FLEXIBILITY**

The Headrow® cable's bending radius and flexibility are equal to those of any other metal-armoured cable.

#### > **EASY ACCESS**

The aluminium tube can be quickly and easily cut without damaging the optical core.

#### > **COST SAVINGS**

The Headrow® cable's performance allows cost reductions in the system:

- Trenches less deep (due to its crush resistance).
- Lower installation cost (being a more resistant cable than can be installed with the simplest methods).
- Fewer breaks mean lower maintenance cost.

#### > **OPTICAL FIBRE**

PRYSMIAN manufactures optical fibres. For this reason, any Headrow® cable may be made with any combination of the optical fibres most commonly used in the market;

- Single mode optical fibres, according to ITU-T G-652
- Single mode dispersion shifted optical fibres according to ITU-T G-655
- Multi mode optical fibres 50/125
- Multi mode optical fibres 62,5/125

## ACCESSORIES

Headrow® cables are fully compatible with the entire connectivity range supplied by the PRYSMIAN Group, and together can be used to design a full network;

#### > **JOINT BOXES**

Various capacity and uses;  
aerials / coffer / buried

#### > **FITTINGS**

There are several types of fittings for various types of installations.

#### > **DISTRIBUTION FRAMES**

Various types of systems.

#### > **FTTH entry kits**

The full range of components to manage cable entry to the final customer.

#### > **SIROCCO® BLOWN FIBRE SYSTEM**

PRYSMIAN's well-known blown system is fully compatible with the Headrow® network design.



# HEADROW<sup>®</sup> MICROTRENCH



The Headrow<sup>®</sup> Cable range for Microtrench (S003) has been designed for installation in asphalt/concrete micro trenches. This is an ideal optical installation for urban and sub-urban areas with no available infrastructure for cables, such as streets, roads, motorways, airports, ports...

## Installation

The installation is in four stages:

- 1 Cutting asphalt/concrete** with a suitable tooth saw.
- 2 Cleaning of micro trench** using hot compressed air.
- 3 Laying the Headrow<sup>®</sup> cable** in the micro trench.
- 4 Closing:** The microtrench is covered with asphalt.

## Advantages

- > Low installation cost (up to 3 times cheaper than traditional works).
- > Low depth works reduce the risks of cutting other services.
- > May be expanded using blown fibres through the Headrow<sup>®</sup> FLEXIBLE.
- > Installation is significantly faster than traditional works.
- > Low impact on traffic flow and few nuisances to neighbours.
- > Coffer location is not given by the installation method. They are created only where necessary.
- > Easy to repair and maintain.



1. Cutting



2. Cleaning



3. Laying



4. Closing

## HEADROW® DIRECTLY BURIED



The Headrow® directly buried cable range (S004) has been designed for open trenches with no external protection. This design is ideal for installations with no available infrastructure or running along or in parallel to water, gas, oil pipes, etc...

### Installation

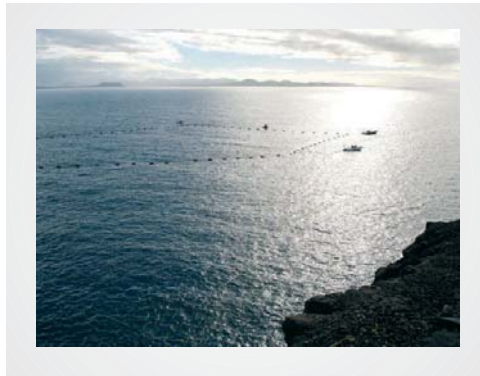
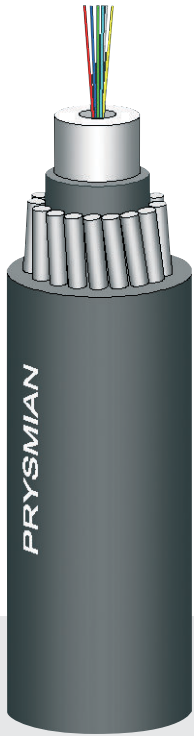
Due to its crush resistance, the Headrow® cable is laid at the bottom of open trenches without the need of having to pass the cable through a protection tube.

### Advantages

- > Low installation cost.
- > Use existing service installations to enable the optical fibre.
- > Can be extended running a cable through Headrow® FLEXIBLE.
- > Fast deployment of a optical fibre network.



# HEADROW® SUBAQUA



The Headrow® Subaqua cable range (S005) has been designed to provide the highest water-proof protection and strength for installation under-water.

## Installation

The cable is laid on the sea or river bed by support ships. Large cable coils allow the installation of long cable sections, thus minimising the number of under-water joints.



## Advantages

- > Link of several cities with a simple, easy and fast connection through river, channels or the coast.
- > Sea-to-ground connections, for instance, for offshore platforms or underwater study stations.
- > An alternative to expensive aerial systems used for crossing lakes, rivers, swamps, etc...
- > Optical installation in commercial and sport seaports.
- > May be expanded using blown fibres through the Headrow® FLEXIBLE.



# HEADROW® SEWER



The Headrow® Sewer cable range has been designed for installation in sewer networks.

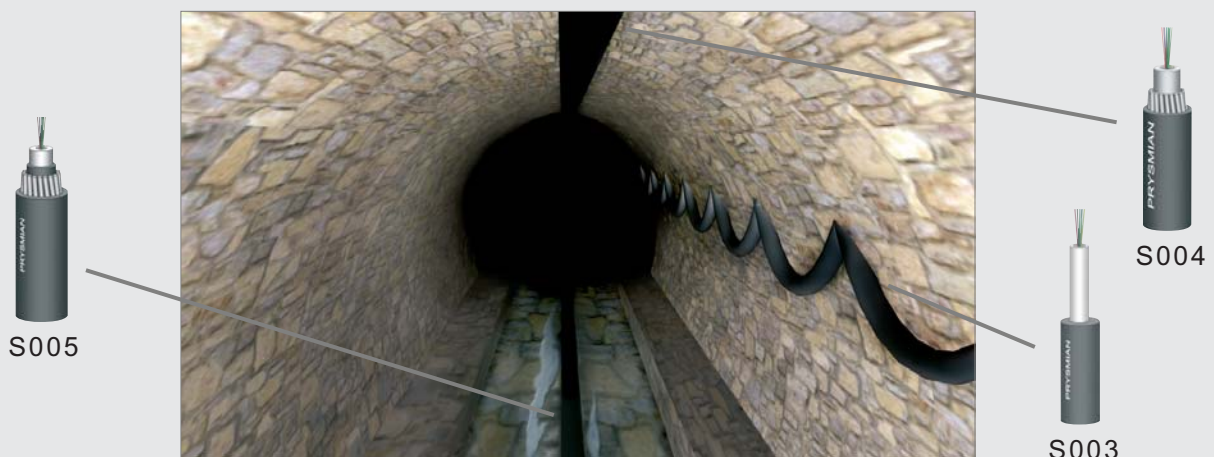
## Installation

The Headrow® Cable design may vary depending on the type of channels:

- 1 In the case of a suitable gallery or channels, the cable may be stapled to the sides.
- 2 In the case of non-suitable channels, the cable may be stretched from and to the sewer's access, being the cable located in the upper part of the gallery.
- 3 In frequently maintained and accessible channels, a much heavier version of HEADROW® can be laid in the bottom of the sewer.

## Advantages

- > No civil works required; an optical network can be set up using the existing water structures.
- > The most suitable installation methods are used for each sewer type.
- > PRYSMIAN provides all of components for a complete network installation.
- > The cable does not interfere with the maintenance works carried out in the sewer network.
- > May be expanded using blown fibres through the Headrow® FLEXIBLE.



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