

ACOPTIC®

Cable characteristics

Cable structures

Products suited to your needs, based on the main structures

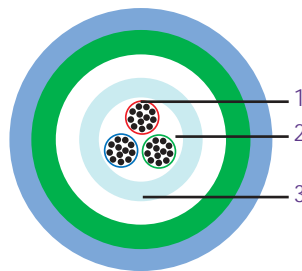
The ACOME range of optical cables is based around three basic structures, which are protected, reinforced and sheathed according to the environment within which they are to be installed and the chosen installation technique (pulling, blowing, carrying, direct burial, etc.).

- ACOME Compact Tube structure

This range of cables is the result of ACOME's unique expertise of high density cable structures. The bare fibres (245 µm) are placed inside a 1 to 1.3 mm diameter tube in modules of 6 to 12 fibres. It is thus possible to build up the structure shown opposite.

The ACOME Compact Tube solution

The best solution on the market for reducing the costs of installation, connection and maintenance of optical networks and the associated passive equipment.



The cable consists of compact tubes (1) containing up to 12 fibres each, which are placed in a "dry" elementary tube (2) in which watertightness is ensured by water-swellaible tape (3). The different outer strength members, armour and outer jacket provide a cable that is sealed at every level of its structure and with the mechanical properties to suit its intended use.

Ultra-dense and lightweight, the ACOME compact tube cable is ideal for forming junction boxes. It allows easy mid-span access and upgrading of optical networks.

- ACOME LTA (Loose Tube Assembly) structure

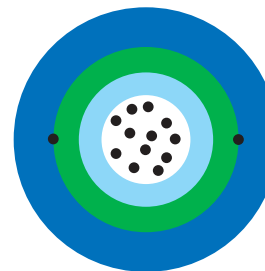
This structure, which has been tried and tested for many years, continues to set the standard for high fibre density optical cables.



Based on elementary tubes containing up to 12 fibres, this traditional structure is perfectly suited to all requirements. For greater efficiency, all of the cables in this range benefit from ACOME's dry cable expertise.

- ACOME CLT (Central Loose Tube) structure

For applications requiring cables of 2 to 12 fibres, with a complete range of armours and external jackets. The Central Loose Tube structure provides an excellent price/functionality ratio.



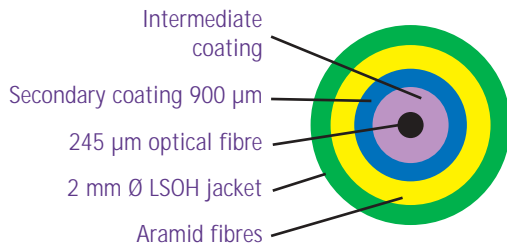
Developed around a single central tube containing up to 12 easily identifiable fibres, the ACOME Central Loose Tube cable is the market reference for low fibre count cables.

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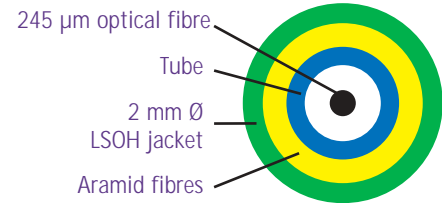
Cable characteristics

Jumper

Tight buffer

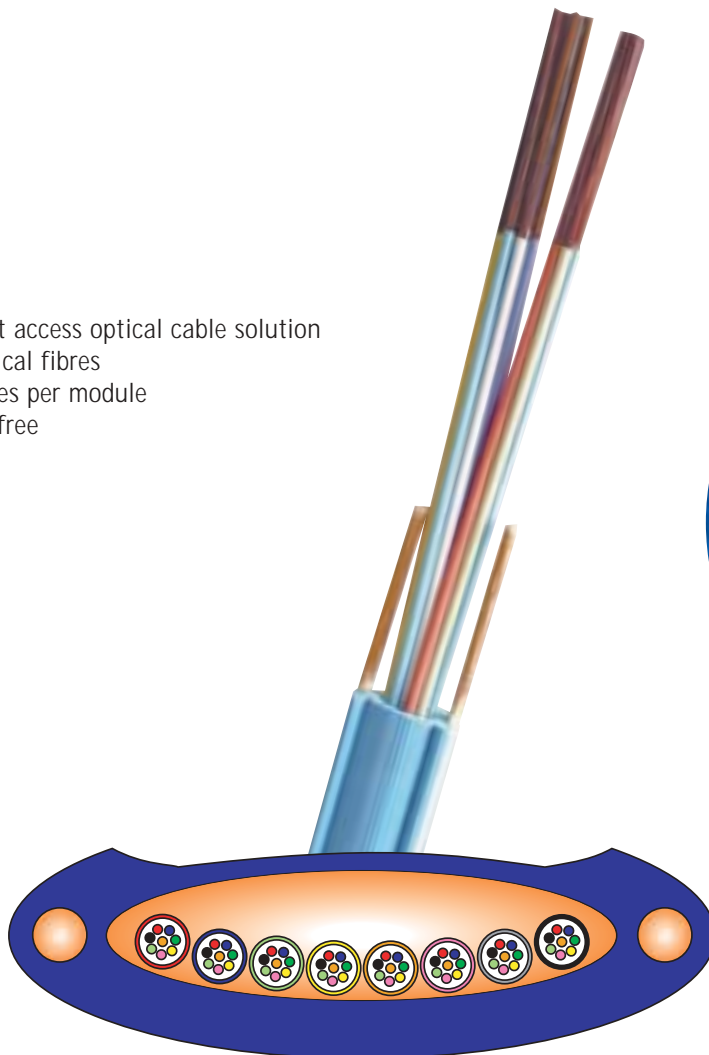


Semi-tight buffer



PACe

The permanent access optical cable solution
16 to 144 optical fibres
4, 8 or 12 fibres per module
Fully halogen free



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Cable characteristics

The ACOME waterproof solution: "dry" cable construction

The functional components of our cables play a waterproofing role, as the materials used are hyper-absorbent and also serve other functions such as strength members, modules, bindings, etc. while at the same time taking account of our customers' technical and cost requirements.

Using these materials allows us to limit the number of components, while at the same time reducing the weight of the cables and avoiding the need for jelly. The preparation time prior to connection is thus reduced. Our cables are also more compact and much easier to install.

The water tightness of our cables is checked in both the transverse and longitudinal directions. Ageing tests conducted for approximately 90 days at 70°C guarantee minimum water penetration into the structure of the cable.

Fire protection

The materials department of our Research and Development division has developed numerous materials serving, in particular, to improve the fire resistance of our products. A large proportion of our cables are guaranteed Zero Halogen (ZH) or Low Smoke Zero Halogen (LSOH) and do not emit toxic substances into the environment. Our fire testing laboratory is COFRAC accredited.

Materials:

- Polyethylene for external and buried cables
- Halogen free flame retarding materials for internal cables
- Halogen free flame retarding materials for internal and external cables

The different strengthening and protection elements

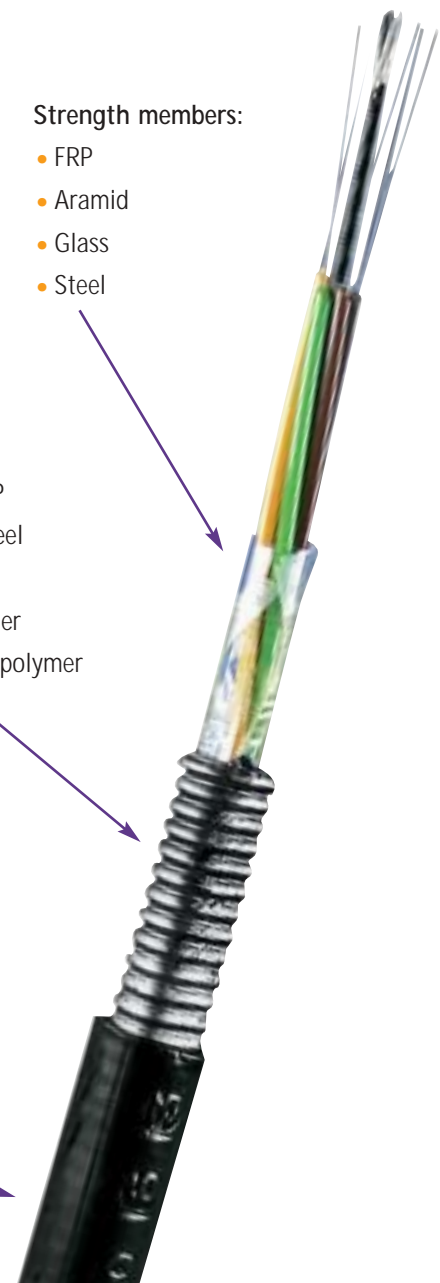
Metal armoured cables are often preferred where increased protection is required against rodent attack, crushing etc. A steel armour remains the best solution, both technically and economically, where exposure to rodent attack is high.

Strength members:

- FRP
- Aramid
- Glass
- Steel

Cable armours:

- Preformed FRP
- Corrugated steel
- Greased steel
- Steel-copolymer
- Aluminium-copolymer



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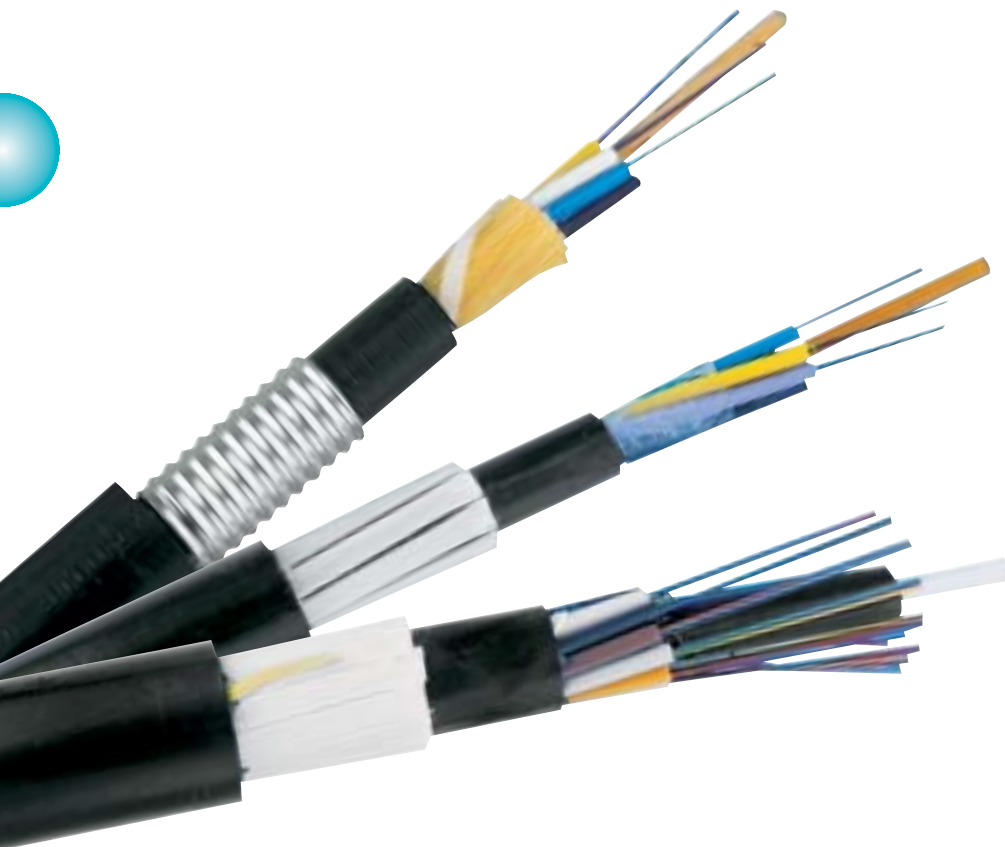
Resistance of cables to rodent attack

In the absence of international standards guidance concerning rodent attack, ACOME appointed an independent laboratory to undertake an extensive range of tests.

- Where the risk of rodent attack is very high, flat FRP (rigid glass fibre elements) have been defined to provide the best protection for dielectric cables, no fibre having been destroyed in any of the tests.
- Where an intermediate risk exists, tests have shown that dielectric cables with a steel or "hot melt" glass fibre armour provide an adequate level of protection at an optimum price.
- Where the risk of attack is low, a glass fibre-based solution provides satisfactory results. The use of aramid yarns alone is insufficient.

Selection of rodent protection

Protection	Resistance to rodents	Cost
Aramid fibres	None	Low
Glass yarns	Average	Low
Hot melt glass fibre armour	Good	Optimised
Metal armour	Excellent	Optimised
Flat FRP	Maximum guaranteed effectiveness	High



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Applications of ACOME optical cables

