DATASHEET

Fiber Optic Cable flat 2J single-mode OS2 FTTH - 9/125 LSOH colour: black, reinforcement: steel strength member 1000m

Part no.:	FOK-W2J-SM-A-C-1	Version:	**20261022**
Manufacture:	A-LAN Technologie / ALANTEC	Lang.:	**EN**
EAN code:	5901738557734		



Description

Universal (outdoor/indoor) flat cables are cables for use in FTTx systems. Lightweight design with small diameter, high flexibility and drag resistance, dry medium, UV-resistant LSOH jacket, reinforcement with two steel bars.

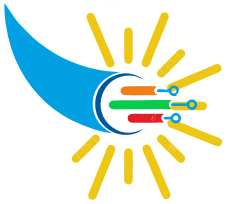
Specially designed construction provides very good fiber shielding and in addition, allowing easy routing and fixing the cable directly to the walls. The G.657.A1 fibers used additionally allow small bending radii.

ADVANTAGES/DISADVANTAGES - The design based on two steel rods makes the cable easy to shape, and does not revert to its original form, as in the case of FRP fiber reinforcement.

APPLICATION

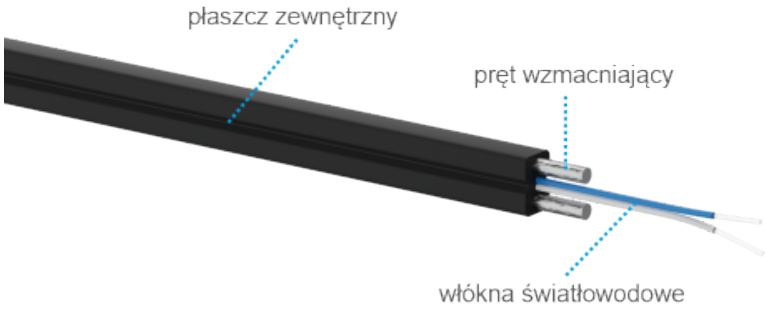
- subscriber cable
- FTTx networks and subscriber lines
- in-building connections
- residential cables
- the cable meets the requirements of the Ministerial Decree on the installation in multi-family buildings

Product type » Fiber optic cable



Fiber-optic cable, otherwise known as optical cable, is built from a series of glass or plastic fibers that act as a transmission medium dedicated to the transmission of data, by means of light pulses. As a rule, fiber-optic cable is used to transmit optical signals over long distances, providing fast and reliable communication, so its main applications are telecommunications networks, data transmission systems and long-distance interconnection (WAN). However, due to its reliability, which consists of dielectricity, ease of laying, small diameter, electricity savings, user safety, which is particularly applicable in critical infrastructure due to the virtual impossibility of interference and eavesdropping, this medium has also begun to be widely used in local area networks (LAN), residential FTTH and office/industrial FTTx.

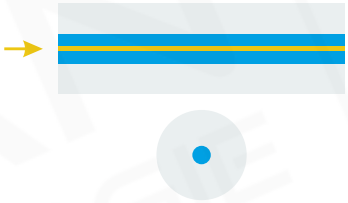
Type of application » FTTH cable (flat)





FTTH FO indoor cable is designed specifically for indoor installations, allowing fiber optic signals to be delivered directly to homes (FTTH). It is flexible, easy to install and ideal for applications where fast and reliable indoor data transmission is required, plus the cable is reinforced with two FRP rods.

Type of optical fiber » Single-mode (SM - SingleMode)



The SM (Single-Mode, single-mode) standard refers to optical fibers designed to transmit a focused beam of laser light. These fibers have a typical core diameter of 9 µm, and transmission takes place in the second, third and fourth transmission windows **at wavelengths of 1310 nm, 1550 nm and 1625 nm, respectively**. Singlemodes are used in passive optical networks, where a high-power and focused, low-loss laser light beam can be sent over long distances to form wide-area, inter-city and international telecommunications networks. The second major application is in carrier, subscriber networks, where the high power and low-loss transmission of single-mode fiber is easily divided into subscriber groups using optical splitters (splitters). Single-mode fibers are also used in high channel density networks such as CWDM and DWDM. To sum up, the main advantage of SM fibers is efficiency over long distances, low modal dispersion allowing high transmission quality, providing reliable connections on a large scale.

Category » OS2



The OS2 standard is the designation for single-mode optical fibers, which are used to transmit signals in telecommunications. These optical fibers are designed to efficiently transmit laser light over long distances. Unlike some other types of fiber optics, these focus on the transmission mode of single powerful light sources, which allows for fast and uninterrupted communication over long distances. The OS2 standard is widely used in the telecommunications industry, providing reliable connections and efficient data transmission.

Cables that are based on this category are suitable for speeds: 10G up to 40 km, 100G up to 10 km

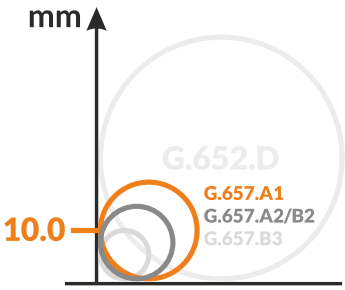
Number of fibers » 2



The number of fibers in an optical fiber is a key parameter that determines the number of transmission units available in a single cable. Fiber optic cables with different numbers of fibers exist for different applications, allowing flexibility to meet different transmission needs. Standard two-fiber fiber is commonly used for simple point-to-point connections, such as those between two devices, such as in subscriber networks and passive optical networks (PONs).

Fiber standard » G.657.A

The G.657.A standard is a modern single-mode fiber optic cable standard designed to minimize mechanical interference and increase installation flexibility. The technical parameters are defined by the International Telecommunication Union (ITU) in the ITU-G.657 standard. The G.657.A versions (G.657.A1 and G.657.A2) feature low losses, allowing efficient transmission of signals over long distances, primarily at wavelengths of 1310 nm and 1550 nm. Thanks to the reduced minimum bending radius compared to G.652.D-compliant fiber, the fiber has a much wider range of applications, especially in space-constrained areas. G.657.A-compliant fibers are used where there is a risk of bending and pressure on the fiber, such as in FTTH (Fiber To The Home) systems and in places where installation is particularly demanding in terms of physical conditions, with the need to weld fibers in small enclosures and subscriber boxes. In addition, at the signal transmission level, they are compatible with the older G.652.D fiber standard, ensuring full transmission compatibility and weldability, without additional weld losses.



Sheath » LSOH

LSOH or **LSZH** *(Low Smoke Zero Halogen)* / **FRNC** *(Fire Retardant, Non Corrosive)* - is a type of plastic, halogen-free, used in the production of insulating coatings commonly used in cables, which are used inside the building. It is a material, durable and resistant, with a low smoke release rate on combustion, does not contain halogens, which means that it is safer in case of fire than traditional PVC coatings. Abbreviation translated: **(LS)** - low smoke release on combustion, **(OH, ZH)** - no halogens, **(FR)** - no flame spread, **(NC**) - no corrosive gas release on combustion.



Euroclass » Eca



Flammable insulated cable that meets the criteria of Euroclass **Eca** in accordance with **EN 50575:2014 + A1:2016** and Regulation (EU) No. **305/2011** of the European Parliament and of the Council of March 9, 2011. (Construction Products Regulation or CPR).

The cables are tested in accordance with **EN 60332-1-2**.

Eca-class cables find their application in single-family dwellings, outbuildings, garages and structures without specific safety requirements.

Packaging » Cardboard 1000m

The cable is sold in a 1,000-meter section in a convenient cardboard box for easy transport, storage and pulling of the cable. We use environmentally friendly packaging. The cardboard box is an environmentally friendly and 100% biodegradable product.



Color » Black



The product in black, dirt-resistant color for easy identification, characteristic of outdoor cabling. Identification print located on the outer sheath, located every 1 meter, in white.

Warranty » System 25 years

The product is eligible for the 25-year system warranty program. To obtain a warranty certificate, the installation must be performed by a trained installer and tested with a certified LAN meter with current calibration. The warranty covers the entire transmission paths, once the network is made in accordance with international industry standards, A-LAN Technologie provides a 25-year warranty free of charge. The long warranty gives the investor security and confidence that quality and durable products are being installed.

Brand » ALANTEC

ALANTEC is a brand owned by A-LAN Technologie, a Polish manufacturer of structured cabling systems. A-LAN, operating since 2001, has established itself as a leader by launching products of the highest quality, verified by independent laboratories, thus providing a guarantee of durability and reliability. The company annually introduces into the European market tens of thousands of kilometers of data communication cables, several hundred thousand subscriber outlets and tens of thousands of associated components, giving these products long-term system guarantees.

Certificate » Compliant with MTBiGM Regulation FO

Technical Specifications

TECHNICAL DATA	
Outer sheath	LSOH UV-resistant
Euroclass	Eca
Supporting element	metal rods
Tension	80 N
Temperature	duringin stallation: -20 + 60 °C
After installation	-30 + 70 °C
Number of fibres	2
Outer diameter (mm)	3 x 2
Weight (kg / km)	9
Attenuation (dB/km) 1310 nm	< 0.36
Attenuation (dB/km) 1550 nm	< 0.22
Fiber type	G.657.A1
Fiber coating	250 µm
Resistance to static stretching	40
Resistance to dynamic stretching	80
Bending radius (static)	30

TECHNICAL DATA	
Bending radius (dynamic)	60
Colour	black

Fiber Parameters	
Mode Field Diameter	9.0±0.4 μm
Mode Field Diameter	10.1±0.5 μm
Cladding Diameter	124.8±0.7 μm
Cladding Non-Circularity	≤0.7 %
Core-Cladding Concentricity Error	≤0.5 μm
Coating Diameter	245±5 μm
Coating Non-Circularity	≤6.0 %
Cladding-Coating Concentricity Error	≤12.0 μm
Cable Cutoff Wavelength	λcc≤1260 nm
Attenuation(max.)	≤0.4 dB/km
Attenuation(max.)	≤0.3 dB/km
Macro-Bending Loss	≤0.75 dB
Macro-Bending Loss	≤1.5 dB

Cable Parameters	
Fiber Count	
Colored Coating Fiber Dimension	250±15μm
Colored Coating Fiber Color	Blue,Orange
Strength Member Dimension	0.45
Strength Member Material	steel
Jacket Dimension	3.0±0.1mm×2.0±0.1mm
Jacket Material	LSZH
Jacket Color	Black

Mechanical and Environmental Characteristics	
Tension（Long Term）	40 N
Tension（Short Term）	80 N
Crush（Long Term）	500 N/10cm
Crush（Short Term）	1000 N/10cm
Min. Bend Radius（Dynamic）	20H mm
Min. Bend Radius（Static）	10H mm
Installation Temperature	-20～+60 ℃
Operating Temperature	-40～+70 ℃
Storage Temperature	-40～+70 ℃

Gallery / Certificates











Standards

- PN-EN 50173
- ISO/IEC 11801