

KERPEN

Cspecial
advanced communication cables & systems



FLine

Optical Fibre Cabling System

Forwards with Fibres

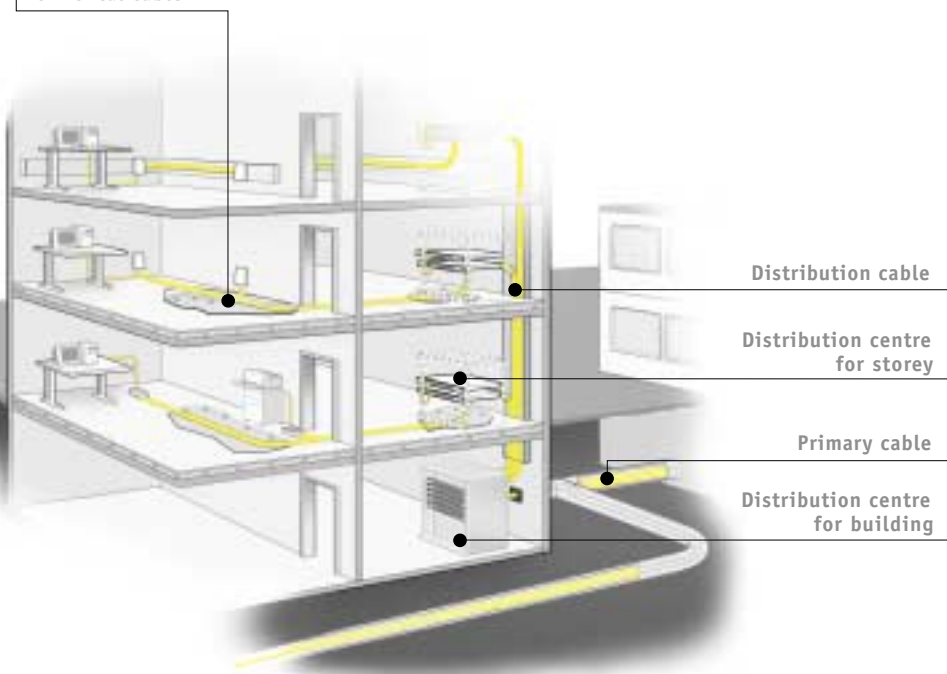
KERPEN

Who are we?

Kerpen special is a division of Kerpenwerk GmbH & Co. with its headquarters at As an innovative, independent company in the cable industry, we develop, produce and market cables according to German and international standards, factory specifications and the wishes of the customer. In the field of cables and systems for information technology, we are one of the market leaders in Europe with the MegaLine™ product family. Besides copper data cables of the MegaLine™ brand, our product portfolio in the IT field also includes the copper system technology ELine™. Since January 2000, we have been producing GigaLine™ optical fibre cables to the highest possible standards at our factory in Stolberg. The FLine™ cabling system for optical fibres rounds off the IT product portfolio. Data cables and systems from Kerpen are used mainly for Local Area Networks in structured in-door cabling and in Metropolitan Area Networks for the operating of city networks. For cables for measurement and control technology and for plant engineering, Kerpen has an important position internationally. It manufactures and markets high-quality power cables, telecommunications cables and special cables for mining, industry and energy providers.

All our activities aim at quality and customer satisfaction – these are the standards by which we are judged. Committed and creative employees contribute their abilities to the realisation of this goal. The quality management system certified according to DIN ISO 9001 in 1990 and the environmental management system certified according to DIN EN ISO 14001 in 1998 also exclusively meet the demands of our customers for economy, reliability and flexibility. – We will continue to work in this direction in the future.

Horizontal cable



System competence in fibres

The demands made on in-house and site cabling are increasing constantly. As the information density rises, more and more data must be processed. New transmission protocols require higher bandwidths. FLine is an optical fibre cabling system which ensures that your network meets the requirements now and in future.

A system for high demands

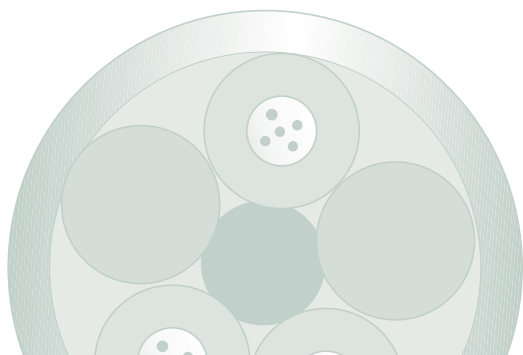
If high bandwidths, low space requirements and large transmission distances are required, optical fibre technology is the obvious choice.

All system components are matched in an optimum way. FLine is a system for high demands – and of course, its reserve performance exceeds the requirements of the standard by far. FLine is thus suitable for backbone cabling in the primary and secondary area and for storey cabling. Classically structured cabling according to

EN 50173 or reasonable collapsed backbone solutions can be implemented. The latter allow less active components to be used.

Quality is our watchword

The quality of the system is mainly determined by the capacity of the optical fibre. Optical fibres for GigaLine are characterised by their above-average fibre quality. In order to maintain this quality throughout the entire network, the FLine system components are subjected to a strict initial check. This includes measuring the attenuation of each product. The limits defined for the attenuation go far beyond the requirements of the international standards. An optional OTDR measurement can also be carried out.



A crystal-clear connection

GigaLine optical fibre cables are the outstanding basis for the FLine cabling system.

They are available in a variety of different models. FLine is adapted accordingly.

FLine also allows the individual requirements of the users to be met with regard to initial installation and system extensions.

Crystal-clear advantages

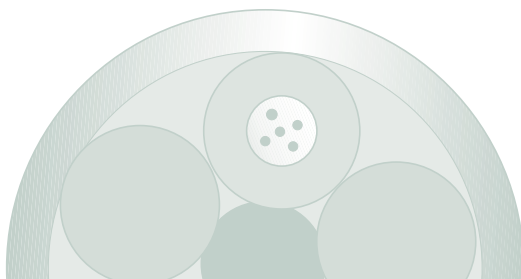
GigaLine optical fibre cables have a wide range of advantages:

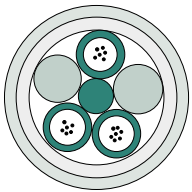
- no electromagnetic effects
- reliable potential separation
- large transmission bandwidths can be implemented
- low attenuation
- no cross-talk
- no spark formation
- low weight and small dimensions
- increased safety from tapping
- optimum protection against fire, environmentally sound
- reliable, safe installation through high tensile strength and crush resistance

GigaLine: the product family

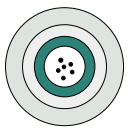
Universal cables are available in central or twisted loose tube designs. Metal-free rodent protection and a halogen-free outer sheath are standard features. All universal cables are flame-retardant according to IEC 60332-3 Cat. C (loose tube test).

GigaLine universal cables can be installed indoors and outdoors. They are especially suitable in the case of increased mechanical strain. House lead-ins are possible without additional transfer points.





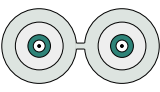
Twisted loose tubes



Central loose tube



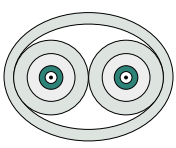
1 semi-loose tube (Simplex)



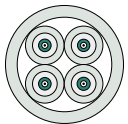
2 semi-loose tubes with tensile strength elements (Duplex)



4 semi-loose tubes (Multi)



2 individual cables with tensile strength elements (Duplex)



4 individual cables with tensile strength elements (Breakout)

GigaLine indoor cables

GigaLine indoor cables are available as loose tubes, semi-loose tubes or individual cables with tensile strength members (Breakout). The cable structures with 1-144 fibres allow a wide range of applications in the secondary and tertiary areas. The outer sheath is halogen-free. The cables are flame-retardant according to IEC 60332-1 (individual cable test). These types are easy to handle (direct plug mounting or splicing technique). Depending on the purpose for which they are designed, they ensure high flexibility or resistance to transverse pressure. As a matter of course, GigaLine indoor cables are resistant to tensile and thermal stress.

GigaLine outdoor cables

GigaLine outdoor cables are based on filled loose tubes. According to the number of fibres, the loose tubes are twisted or arranged centrally. All outdoor cables are equipped with non-metallic rodent protection. The resistance of the structure to water running down the cables is ensured by water blocking tape or a filling of petroleum jelly – this is an important factor for a cable installed in the primary area. GigaLine outdoor cables have considerable resistance to tensile and compressive stress.

Safely through “thick and thin”

Ready-to-connect units are the centrepiece of FLine system technology. The pre-packaged cables guarantee rapid, reliable and economical installation. The quality of the link is ensured. There are few down times.

A permanent solution

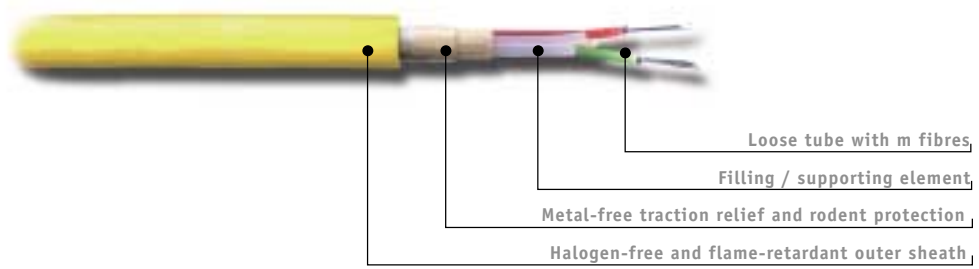
Installation *in situ* often takes place under unfavourable conditions. Damp, dirt and inaccessible places are frequent.

GigaLine VKT

GigaLine pre-packaged cables guarantee that these conditions do not affect the quality of the link, whether during installation or afterwards.

The tube is flexible and has a small diameter. GigaLine pre-packaged cables can thus easily be introduced into narrow, angular installation ducts. The connection to the splitting head is non-positive. It works on the sheath and on all other strength elements. In this way, the fibres remain free of stress. The design of the tube ensures the stability of the physical parameters and a long product lifetime.





Time is money

GigaLine VKT stands for reliable and foreseeable installations. The installation times are short. This minimises down times, for example through interruption of operation of a computer system.

The splicing of cables and mounting of plugs which often takes place under adverse conditions in situ is no longer necessary. Investments in expensive splicing equipment and specially trained personnel are also unnecessary.

Quality

The fitting of the plugs with ceramic ferrules is carried out under clean room conditions. The front surfaces of the plugs are polished in an optimum way, thus guaranteeing excellent plug transitions in reproducible quality. A text protocol with the attenuation values is supplied with each fibre. An optional OTDR measurement is also possible.



System technology – state of the art

FLine patch panels can be used in all fields of indoor cabling. The components are designed in such a way that rapidity and reliability are ensured for initial installation, maintenance and extension.

Snap-in:

A concept that goes “click”

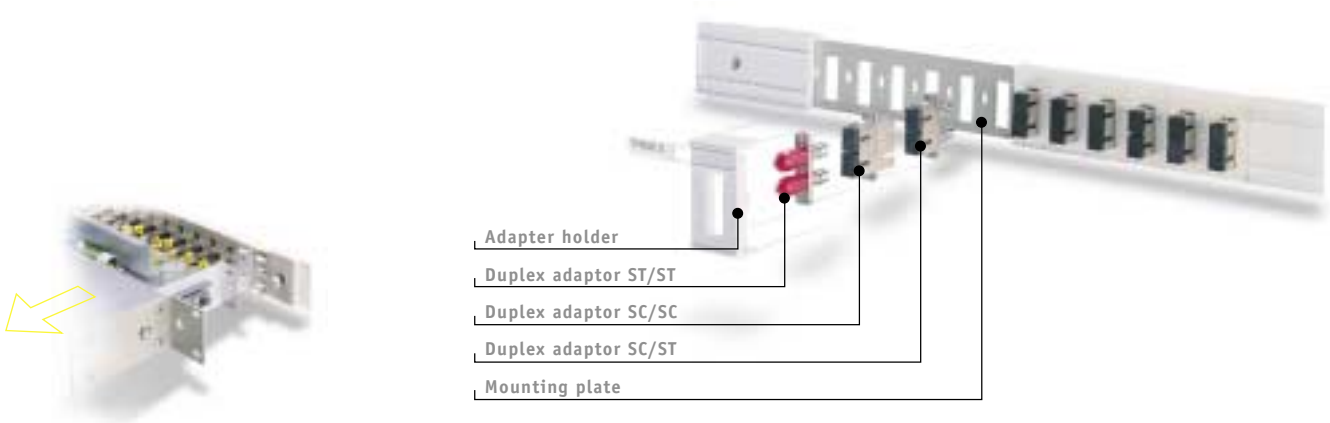
Facts that guarantee rapid and reliable installation:

- The cable is inserted into the patch panel housing at an angle of 45°.
- The permissible bending radii are observed.
- The space in the cabinet is used in an optimum way
- Traction relief is ensured by fixing the cable sheath in a V-groove.

The FLine patch panel housing also has a variety of advantages with regard to maintenance and extension of the system:

- A telescopic drawer makes the connections easy to access.
- The drawer locks into its final position.





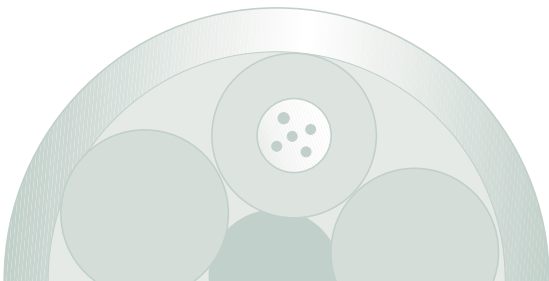
The couplings can be mounted without tools, via the easy snap-in method.

This saves a considerable amount of time.

- All adaptors have identical dimensions, whether ST/ST, SC/SC or ST/SC adaptors are used.
- The adaptors can be combined in any desired way.
- A maximum of three fan-out cables with a variety of dimensions and a total of 24 fibres can be used in one patch panel.

Econo – for all possible cases

Depending on the wishes of the customer, Econo housings can be used for pre-packaged cables and for cut goods. Previously fitted splice housings with inserted core pigtailed ensure minimum installation times.

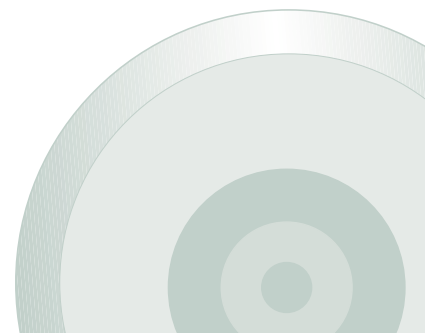
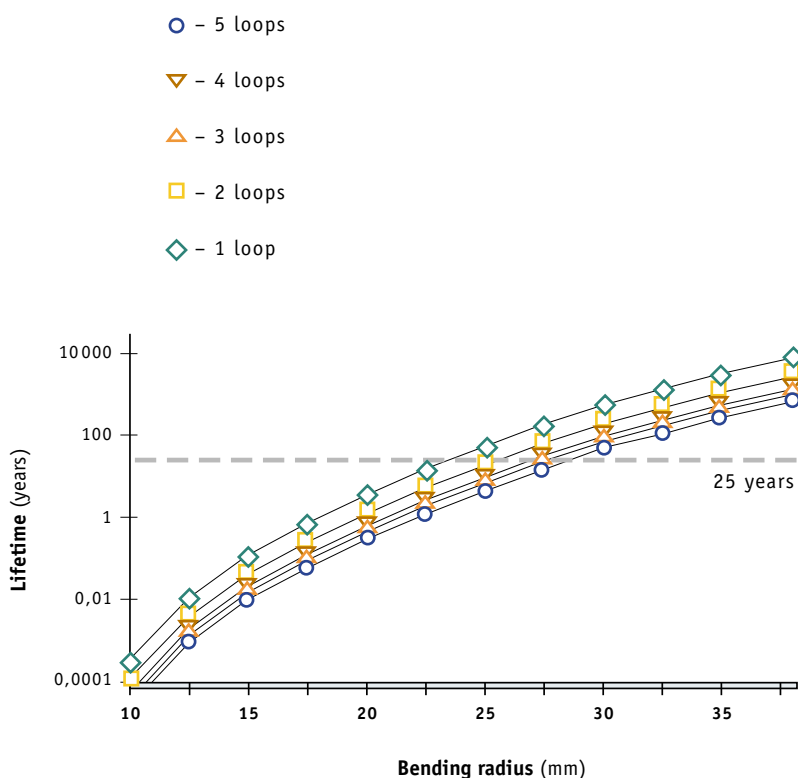


Good things come in small packages

Fibre-to-the-desk. It goes without saying that the FLine System includes sockets which ensure high-capacity cabling right down to the terminal device. The optical fibre thus permanently retains its full functionality.

With the UP and EK sockets, the FLine system offers two alternatives. Both designs take the critical values into account.

- A defined bending radius ensures a long lifetime for the fibre.
- Effective traction relief for the plug-in connectors and clean cable guidance within the socket ensure minimum strain on the fibre and the maintenance of its physical characteristics.
- The dimensions of the sockets are kept as small as possible.



FLine UP socket

The UP socket is suitable for integration into cornice trunking and for exposed or concealed installation.

The special features of this professional version are as follows:

- It is available with one or two slots implemented as ST/ST, SC/SC or SC/ST duplex adaptors.
- The bending radius of the fibre of at least 30 mm is ensured by the cable reservoir or the cable guide.
- The outlet points down at an angle of 10°. This provides optimum protection against mechanical strain.
- The universal supporting frame is compatible with all commercially available installation cups.
- Ready-made plugs as well as plugs assembled in situ can be used.

FLine UP socket



FLine EK socket



FLine EK socket

The outstanding feature of the EK socket is its compact design. It can be integrated into the cornice trunking horizontally or vertically.

The EK socket has the following features:

- It has a slot with an ST/ST, SC/SC or SC/ST duplex adaptor.
- The integrated cable guide guarantees a defined bending radius.
- The universal centrepiece can be combined with various switch programmes.
- Ready-made plugs as well as plugs assembled in situ can be used.

KERPEN

Kerpen special GmbH & Co. KG · Zweifaller Straße 275-287 · D-52224 Stolberg

Telefon: +49/24 02/17-1 · Fax: +49/24 02/7 51 54

E-Mail: ks@kerpen.com · <http://www.kerpen.com>