Optical polymer fiber – simple cabling solution with a broad application potential for office, industrial and home cabling
POF – a third dimension in cabling

MORE BANDWIDTH – LOWER COSTS
Are you looking for an optical network solution? Glass optical fiber would be overrated for your project and the connection technique too complex? Discover the new dimension of cabling: POF, plastic optical fiber. The optical fiber made of plastic provides enormous advantages and an interesting cost-benefit ratio.

THE OPTIMAL SUPPLEMENT FOR COPPER AND FIBER OPTIC SOLUTIONS
Plastic Optical Fiber (POF) – also called polymer Optical Fiber – calls into question the notion that more bandwidth for data transmission has to be significantly more expensive. As a supplementary medium for copper and fiber optic solutions, POF makes an advantageous cost-benefit ratio in cabling possible for numerous applications. For short to medium long distances and in specific environments, the POF solutions are often unbeatable. In addition, the plastic fiber is robust, light, reliable and easy to install.

TOPS FOR SHORT DISTANCES
The standard SI-POF, for example, displays competitive performance and cost effectiveness in office, industrial and home cabling of up to 50 or 100 meters. In this realm, Fast Ethernet and Gigabit Ethernet can be implemented via POF. Well-known carmakers have successfully used POF for data transmission for years.

ROBUST IN USE
POF is appropriate for harsh environments. The polymer fiber is unperturbant, resistant, durable and more flexible than fiber optic. It can be laid without any problems even in tight spaces. The large fiber diameter provides for tolerance at the interfaces.

EASY TO INSTALL
The connectors with screw ferrules can even be installed by laypeople and handymen in a few steps and without special tools.

R&M’s motto, for more than 40 years, has been to make information and communications technology as convenient as possible and to facilitate installation.

The pictures on this page show the easy handling and the basic work steps.
POF applications
POF is universally applicable for voice and video transmission as well as data transmission in building services management, bus systems, controls, circuits or lighting.

Enterprise cabling
POF is an alternative to copper cabling in building and office cabling if transmission distances from 50 to 100 meters are required. POF is appropriate for fast applications with large data volumes: high speed Internet, voice over IP (VoIP), video, virtual reality, shared computing, backbone.

Residential cabling
POF is available as an alternative to copper cabling for structured home cabling, "smart building" and multimedia applications in the home – in particular for configuring an integrated backbone for video, TV, audio, high speed Internet, telephone, security, etc. EMC increasingly plays a role in home cabling. Many EMC problems can be avoided with POF. Thin POF cables allow easy new and retro-installation.

Industrial cabling
POF has already been successfully used in field bus systems. In the same vein, it is appropriate for Industrial Ethernet and the connection between office and production. POF withstands the heavy-duty industrial environment with its mechanical, electromagnetic and chemical loads. POF cabling does not cause any sparks and no EMC problems, therefore, it is ideal for explosive environments or medical technology.

Carrier cabling
POF is an attractive solution for telecommunications companies, citycarriers and MAN providers, to quickly and simply implement fiber to the home (FTTH) or fiber to the building (FTTB), or to bridge the last mile cost-effectively or upgrade distribution systems.

POF: Technology and advantages of plastic fiber
POF (Plastic Optical Fiber) is an optical fiber made of plastic. The core is up to 1000 µm considerably thicker than in fiber optics and for the most part consists of polymethyl methacrylate (PMMA) and is enveloped by a thin cladding coating of fluorated PMMA that serves as a reflection layer.

The convenient 650 nm window (red light visible) is used for the transmission of technical applications. The polymer fiber attenuates light more than fiber optic. Fast Ethernet and Gigabit Ethernet can be transmitted over distances from 50 to 100 meters.

Special advantages of POF:
- extremely robust, hard-wearing
- lightweight, minimal space requirements
- flexible, easy to handle
- narrow bending radius
- high tensile force
- very easy to assemble
- noise immunity and operational reliability
- resistant to heat
- hardly any dB loss in bends
- no EMC problems
- grounding not necessary
- no crosstalk
- no overvoltages
- no development of sparks
- tamper proof
- retrofittable, expandable
- almost maintenance free
- low follow-up costs
- long service life
- visible light
- energy-efficient (Green Network)
POF solutions from one source

YOUR WISH – OUR PRODUCT DEVELOPMENT
Excellent price-performance ratio, faster installation – these market demands inspire the development of new POF solutions for LAN, Industrial Ethernet and multimedia home cabling.
At R&M you will find a fully developed product line for POF cabling with unique performance features.

A POF SOLUTION FROM R&M FOR ANY APPLICATION
Are you planning or installing a network for industrial facilities, production locations, smart buildings, future-oriented office spaces or for a multimedia configuration in private residences? R&M supports you in any application situation for which POF cabling is the ideal solution, with the appropriate modular installation concept.

Based on extensive experience in fiber optic technology, R&M develops innovative POF connector systems with unique quality, handling and performance. Adapters, outlets, patch cords, mounting sets and tools for field assembly complete the product line. You are ready to launch into the new cabling dimension.

SC AND SC-RJ CONNECTORS
Cabling for Ethernet via POF becomes routine with the compact fiber optic connectors of the SC class from R&M – SC Simplex, SC Duplex and SC-RJ. Stable 2.5 mm precision screw ferrules accommodate the polymer fibers. The SC-RJ from R&M is the smallest SC Duplex connector (SFF) and is characterized by great attenuation properties. This is a quick, easy and reliable connection technique requiring no special tools. The mounting dimensions correspond to the RJ45 mounting cutouts. The connector system can easily be integrated into existing platforms.

POF WITH IP67 PROTECTION
The R&M connector concept for heavy-duty application conditions complies with the requirements of the IP67 protection class. With the IP67 SC-JR plus POF, areas can be tapped, which experience severe electromagnetic interferences, strong vibrations or dust, moisture, oil, aggressive chemicals, etc. A leak-proof round sleeve protects the connection. Abundant features make it an outstanding connector: precise 2.5-millimeter ferrule technology, anti-swivel system, double color coding. A mechanical locking system locks the connection tool-free and makes it mechanically highly load capable.

YOU CAN COUNT ON US
Make good use of the versatile potential of the plastic optical fiber. Benefit from the unique added value of the POF solution from R&M. The endless flexibility of our international active family enterprise ensures your technological and quality advantage in any market segment – whether in Enterprise Cabling, Industrial Cabling or Residential Cabling. Don’t wait; test our POF solution today.