Optical special cable
for industrial spectroscopy
600VIS-IR

Ready-to-lay special optical cable with a 600 µm fused silica fiber for use in harsh industrial environments and potentially explosive atmospheres (ATEX)

Unpack, lay, measure!
All possible with the new cable from LEONI.

Save yourself the extra effort of needing to pull measuring cables into additional protective tubes onsite and jump straight to installation instead. Thanks to a new production process, we can manufacture optical special cables in our cable factory, allowing you to avoid the use of an additional metal corrugated tube for laying work. Cutting out the expense of this extra installation step can lower your overall measuring cable costs by up to 33%.

Your connectors are also protected from damage by our Easy Pull installation aid.

The new optical special cable family offers professional protection for all harsh industrial environments – even for potentially explosive atmospheres (ATEX).

You also benefit from automated cable production for large-core fiber assembly. The end product is an extremely cost-effective cable that not only meets but in many respects actually exceeds all of the relevant requirements from manufacturing.

A potentially explosive atmosphere ('ATEX', from the French 'ATmosphère EXplosible') is created when air gases, vapors, mists, or dusts come together to create a mixture that could ignite under certain conditions. Many manufacturing sector businesses are therefore now interested in acquiring additional protection by using ATEX-safe cables for their spectrometric process analysis work.

Your advantages at a glance

- **Designed for use in harsh environments**
- **Complies with ATEX Directive 2014/34/EU**
- **Additional corrugated tube no longer needed for cable laying**
  - Avoiding this extra installation step on site lowers overall measuring cable costs by up to 33 %
- **Built-in installation aid (Easy Pull) with connector protection for quick, simple, and safe cable laying**
  - Mechanically strong and stable
  - Splash-proof
  - UV-/process media-resistant
  - Tool-less removal of protective tube
  - Threaded sleeve on cable can be used for secure installation in enclosures.
- **Additional special connection cable for high temperature ranges up to 250 °C**
- **Lengths from 10 m to 500 m**

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Fields of application

- Process Analytical Technology (PAT)
- Spectroscopy
- Sensors
- FTIR
- Environmental analysis
- Quality control
- Chemical and pharmaceutical industries
- Paints and coatings
- Food industry
- Power industry
- Pyrotechnic industry

Our strengths:

- Customer-specific solutions
- Complete value chain (raw materials, fibers, cables, assemblies, special optical components) with the option of modifications anywhere along the chain
- Specialists for in-house *special fiber* production and assembly
- Experience in high-end optical metrology applications, including the *Cold Atom Lab* on the International Space Station (ISS), NASA's *New Horizons mission* to Jupiter and Pluto, and the *detection of gravitational waves with LIGO*
- Experience with tight measurement tolerances
- Experience with high-power laser applications (*industrial laser assemblies*)
- Highest quality standards
- Long experience with product deployment under the harshest environmental conditions
- Excellence in production and logistics

Performance profile

Product portfolio

- Silica/silica fiber with high transmission in VIS-IR for use with spectroscopic analysis instruments
- 600 µm core diameter
- Optimized for use in the VIS-IR spectral region
- NA = 0.22
- Rugged polyurethane jacket with an outer diameter of 8 mm for harsh industrial environments
- Standard assembly with SMA connectors

Product properties

- Barrier-sealed, gel-filled cable design to avoid zone entrainment (as per DIN EN 60079-17, Annex E.1)
- Application temperature –40 °C to +85 °C (as per IEC 60794-1-2 E3)
- Installation temperature –5 °C to +50 °C
- Up to 300 N pulling force during installation
- Non-crushable (5000 N/dm short-term crush resistance, as per IEC 60794-1-2 E3)
- Halogen-free (as per IEC 60754-1)
- Electrically conductive
- UV-resistant
- Resistant to process media (good resistance to oil, petroleum, acids, and bases)

Ordering options

- Lengths from 10 m to 500 m
- Additional special connection cable for high temperature ranges up to 250 °C
- Other connectors on request

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