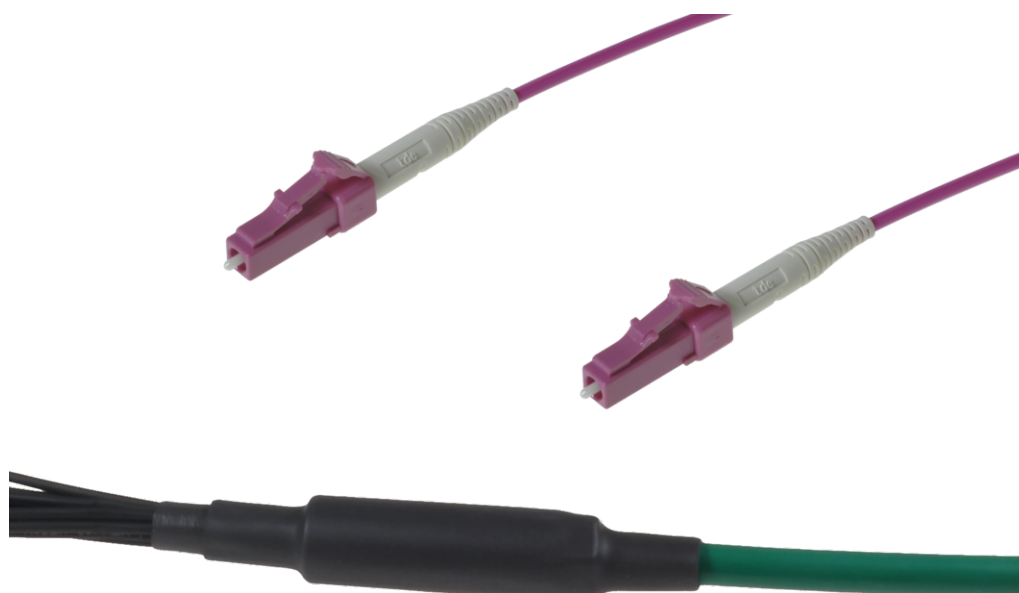


FO Universal Cable 24x LC/24x LC 24G50/125μ OM4 LSHF, Length: xxxx



## tde - Fiber Optic Assemblies

The tde patch and trunk cables are manufactured completely at the German facility in Ohrte. Production processes at tde meet the latest standards, and the company has one of the most up-to-date fiber optic assembly houses in Europe. Fiber optic patch cables and trunk cables are manufactured in many different configurations using highly automated processes on two independent mass production lines. The range of products on offer encompasses the entire spectrum of connector types available on the market. Production capacity is around 100,000 fiber optic connectors per month, and this can be ramped up easily whenever required. To guarantee consistently top quality, only the best components from renowned vendors are used. All tde production staff have the necessary qualifications and education, and have been well trained in using specialist technical equipment such as laser cleavers and glue-dispensing robots.

Each cable application is subjected to a full test procedure comprising interferometer measurements, insertion loss and return loss measurements and a final visual inspection to ensure that only 100% error-free products are shipped to the customer.

Products made by tde perform at least internationally accepted quality standards and norms. The quality management system is ISO 9001, ISO 14001 and TL9000 certified.

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FO Universal Cable 24x LC/24x LC 24G50/125μ OM4 LSHF, Length: xxxx

## Technical Data

### FO Connectors

|                       |                                               |
|-----------------------|-----------------------------------------------|
| Connector Type        | LC Unibody Simplex                            |
| Housing               | Plastic, Magenta                              |
| Ferrule               | Zirkonia Staight Split, Spring-loaded Axially |
| Ferrule Hole          | 126 μ                                         |
| Mating Cycles         | 1.000                                         |
| Operating Temperature | -40°C up to +75°C                             |
| Strain Relief to      | 100 N                                         |
| Manufacturer          | tde                                           |

### Optical performance

| Fiber       | Type | Wavelength    | Insertion loss typ. | Insertion loss max. | Return loss min. |
|-------------|------|---------------|---------------------|---------------------|------------------|
| 50/125μ OM4 | LC   | 850 / 1300 nm | ≤ 0.07 dB           | 0.15 dB             | 35 dB            |

### FO Fan-Out

|                    |                         |
|--------------------|-------------------------|
| Fan-out length     | 50 mm                   |
| Ø Fan-out          | 16 mm                   |
| Ø Single unit      | 1.7 - 2 mm              |
| Single unit length | 78 ± 5 cm (not stepped) |

### FO Cables

#### Mechanical characteristics

|                     |                                         |
|---------------------|-----------------------------------------|
| Temperature range   | Storage -25 to +70°C, IEC 60794-1-22 F1 |
|                     | Pulling in -10 to +50°C                 |
|                     | Operation -25 to +60°C                  |
| Tensile performance | IEC 60794-1-21 E1                       |
| Crush resistance    | IEC 60794-1-21 E3                       |
| Impact              | IEC 60794-1-21 E4                       |
| Repeated bending    | IEC 60794-1-21 E6                       |
| Torsion             | IEC 60794-1-21 E7                       |
| Bend                | IEC 60794-1-21 E11                      |
| Water penetration   | IEC 60794-1-22 F5                       |

#### General characteristics

|                                  |                                                  |
|----------------------------------|--------------------------------------------------|
| Sheath colour                    | green, similar to RAL 6016                       |
| Zero halogen, no corrosive gases | IEC 60754-1/-2, EN 60754-1/-2, VDE 0482-754-1/-2 |
| Flame propagation                | IEC 60332-1-2, EN 60332-1-2, VDE 0482-332-1-2    |

## FO Universal Cable 24x LC/24x LC 24G50/125μ OM4 LSHF, Length: xxxx

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Flame spread                   | IEC 60332-3-24, EN 50266-2-4, VDE 0482-266-2-4    |
| Minimum smoke emission         | IEC 61034-1/-2, EN 61034-1/-2, VDE 0482-1034-1/-2 |
| Reaction to fire (Euroclasses) | EN 13501-6: D <sub>ca</sub>                       |

|                             |                                                                                                                     |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------|
| Cabletype                   | Universal U-DQ(ZN)BH for indoor and outdoor use                                                                     |
|                             | non metallic, dry interstices, rodent protection, flame retardant, in accordance with IEC 60332.1 and IEC 60332.3 C |
| Fibertype                   | Corning G50/125 OM4                                                                                                 |
| No. of fibers               | 24                                                                                                                  |
| Loose tube                  | 2                                                                                                                   |
| Sheath ø                    | 9.5 mm                                                                                                              |
| Weight                      | 84 kg/km                                                                                                            |
| Bending radius              | 140 mm                                                                                                              |
| Tensile load short term     | 4.000 N                                                                                                             |
| Tensile load continuous     | 1.500 N                                                                                                             |
| Crush resistance short term | 5.000 N                                                                                                             |
| Crush resistance continuous | 3.000 N                                                                                                             |
| Fire load                   | 430 kWh/km                                                                                                          |
|                             | 1548 MJ/km                                                                                                          |

### Length tolerances (prefabricated with plugs)

|                                   |          |
|-----------------------------------|----------|
| Tolerances for lengths up to 40m  | ± 100 cm |
| Tolerances for lengths up to 100m | ± 100 cm |
| Tolerances for lengths from 100m  | ± 2%     |

## FO Fiber

### Optical properties

|                                                                           |                                       |
|---------------------------------------------------------------------------|---------------------------------------|
| Attenuation typical (cabled)                                              | 850 nm: 2.5 / 1300 nm: 0.5 dB/km      |
| Attenuation maximum (cabled)                                              | 850 nm: 2.7 / 1300 nm: 0.7 dB/km      |
| OFL bandwidth as per TIA/EIA 455-204 and IEC 60793-1-41                   | 850 nm: 3500 / 1300 nm: 500 MHz x km  |
| High-Performance EMB bandwidth as per TIA/EIA 455-220A and IEC 60793-1-49 | 850 nm: 4700 / 1300 nm: 4700 MHz x km |
| Refractive Index                                                          | 850 nm: 1.480 / 1300 nm: 1.479        |

### Technical properties

| Bending radius | No. of windings (turns) | Max. induced attenuation               |
|----------------|-------------------------|----------------------------------------|
| 37.5 mm        | 100                     | 850 nm: ≤ 0.05 / 1300 nm: ≤ 0.15 dB/km |
| 15 mm          | 2                       | 850 nm: ≤ 0.1 / 1300 nm: ≤ 0.3 dB/km   |

## FO Universal Cable 24x LC/24x LC 24G50/125μ OM4 LSHF, Length: xxxx

7.5 mm

2

850 nm: ≤ 0.2 / 1300 nm: ≤ 0.5  
dB/km

### Geometrical and mechanical characteristics

|                                           |                  |
|-------------------------------------------|------------------|
| Numerical Aperture                        | 0.200 +/- 0.015  |
| Core Ø                                    | 50.0 +/- 2.5 μm  |
| Maximum Core Non-Circularity              | 5 %              |
| Cladding Ø                                | 125.0 +/- 1.0 μm |
| Maximum Cladding Non-Circularity          | 1.0 %            |
| Maximum Cladding/Core Concentricity Error | 1.5 μm           |
| Maximum Coating Concentricity Error       | 12 μm            |
| Coating Ø                                 | 242 +/- 5 μm     |
| Test load                                 | 100 kpsi         |

### Product variants & accessories

| Art.-No.            | Description                                                        |
|---------------------|--------------------------------------------------------------------|
| P-LC/LC50B12G4-xxxx | FO Universal Cable 12x LC/12x LC 12G50/125μ OM4 LSHF, Length: xxxx |
| P-LC/LC50B24G4-xxxx | FO Universal Cable 24x LC/24x LC 24G50/125μ OM4 LSHF, Length: xxxx |
| P-LC/LC50B48G4-xxxx | FO Universal Cable 48x LC/48x LC 48G50/125μ OM4 LSHF, Length: xxxx |
| P-LC/LC50B72G4-xxxx | FO Universal Cable 72x LC/72x LC 72G50/125μ OM4 LSHF, Length: xxxx |
| P-LC/LC50B96G4-xxxx | FO Universal Cable 96x LC/96x LC 96G50/125μ OM4 LSHF, Length: xxxx |