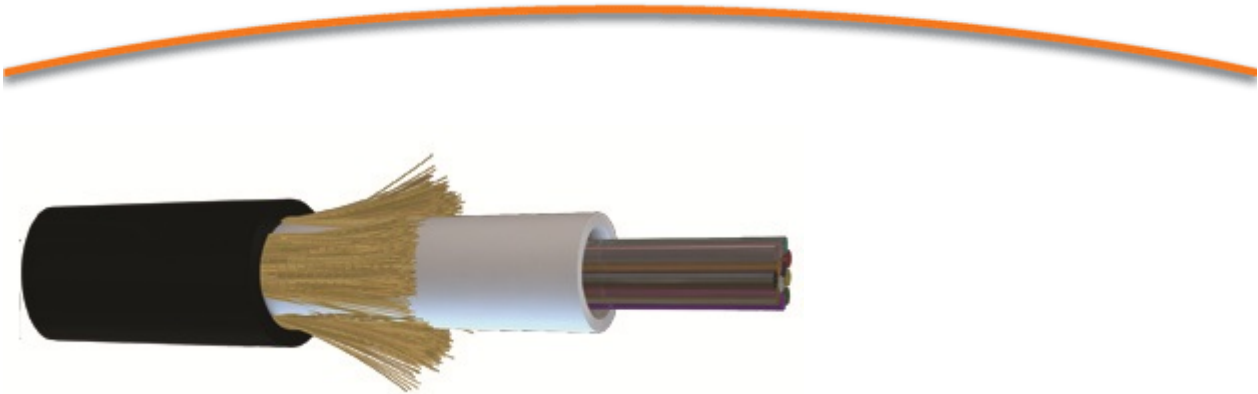


CTMC



CTMC - Central Tube Mini Cable.

The CTMC is a customer drop cable, consisting of a central tube filled with low bend radius, no waterpeak G.657.A1 fibres, finished with aramid yarns (as strenght-elements) and a polypropylene outer jacket. This cable has a small outside diameter and is ideal for blowing in micro-tubes in the Access Network.

Installation: blowing into microducts of 5.5 mm. (inside diameter)

| Commercial information | | Properties | Unit |
|------------------------|---|-------------------------------|-------|
| Product group | | Fibre optic cable | |
| Series | | Fibre optic cable Single mode | |
| Type | | CTMC | |
| Description | | 12x SM G.657.A1 200µm | |
| Net weight | | 13 | kg/Km |
| Marking | ACE - TKF CTMC 12x SM G.657.A1 (1x12) A-D(ZN)9Y 74935 | | |
| | | {Batch} {Year} {Length} | |

| Article number / standard length | EAN number | Properties | Unit |
|----------------------------------|---------------|-------------|------|
| 74935 | 8713182204884 | Drum à 1 | m |
| 74935H X 4000/200 | 8713182205966 | Drum à 4000 | m |

| Construction | | Properties | Unit |
|--------------------------------------|--|------------------------|------|
| Cable type | | CTMC | |
| Fibre type | | Single mode | |
| Optical fibre standard | | ITU-T G.657.A1 200um | |
| Number of fibres | | 12 | |
| Number of fibres per optical element | | 12 | |
| Number of cores | | 1 | |
| Optical element | | Loose tube, gel filled | |
| Cable metal free | | Yes | |
| Strain relief | | Yes | |
| Type of strain relief | | Aramid fibre | |
| Material outer sheath | | Polypropylene | |
| Colour outer sheath | | Black | |
| Outer sheath thickness | | 0.25 | mm |





| Construction | Properties | Unit |
|------------------------|------------|------|
| Outer diameter approx. | 3.9 | mm |

| Characteristics for use | Properties | Unit |
|-------------------------|------------|------|
| Application | Outside | |
| Blow in | Yes | |

| Technical characteristics | Properties | Unit |
|---|---------------|-------|
| Test procedures | IEC 60794-1-2 | |
| Longitudinal water blocking | Yes | |
| Operational temperature range TA1 - TB1 acc. IEC 60794-1-22 | -30 / 70 | °C |
| Max. attenuation increase during Ta1-Tb1 | 0.05 | dB/km |
| Max. attenuation increase during TA2 - TB2 | 0.10 | dB/km |
| UV resistant | Yes | |

| Mechanical characteristics | Properties | Unit |
|-------------------------------------|------------|-----------------|
| Tensile load short term (Tm) | 320 | N |
| Tensile load Long Term (TI) | 80 | N |
| Bending radius after installation | 45 | mm |
| Bending radius during installation | 55 | mm |
| Crush resistance acc. meth.E3A | 1000 | N/dm |
| Crush resistance acc. meth.E3B | 200 | N/dm |
| Mandrel diameter by Crush meth. E3B | 25 | mm |
| Impact strength | 3 | J |
| Striking surface radius | 10 | mm |
| Bending stiffness | 0.014 | Nm ² |
| Torsion resistance | 1800 | %/m |
| Kink resistance | 40 | mm |

| Optical characteristics | Properties | Unit |
|--|------------|-------|
| Attenuation @ 1310 nm | 0.38 | dB/km |
| Attenuation @ 1550 nm | 0.25 | dB/km |
| Attenuation @ 1625 nm | 0.28 | dB/km |
| Bending radius fiber (1 turn acc. to ITU rec.) | 30 | mm |

| Other characteristics/features | Properties | Unit |
|----------------------------------|------------|------|
| Halogen free (acc. EN 50267-2-2) | Yes | |

Product Characteristics - Optical fibres

| Fibre: | | | |
|--------|---------------|---|--|
| | type of fibre | hydrogen passivated, dispersion unshifted, matched cladding bending loss insensitive singlemode fibre 9/125µm | |
| | | Fully compatible with G.652.D fibre | |
| | | Reduced coating diameter | |
| | standard | | |
| | standard | ITU-T G.657.A1 | |

| Characteristics: | Properties | Unit |
|---|-------------------------|------------------------|
| Mode field diameter; 1310nm | 9.0 ± 0.4 | µm |
| Mode field diameter; 1550nm | 10.2 ± 0.5 | µm |
| Core non-circularity | max 6 | % |
| Core/Cladding concentricity error | max 0.5 | µm |
| Cladding diameter | 125.0 ± 0.5 | µm |
| Cladding non-circularity | max 0.8 | % |
| Coating diameter, uncoloured | 190 ± 5 | µm |
| Coating diameter, coloured | 198 ± 6 | µm |
| Coating/Cladding concentricity error | max 8 | µm |
| Temperature sensitivity; -60°C to +85°C | max 0.05 | dB/km |
| Bending sensitivity - 100 turns around Ø50mm - 1550nm | max 0.05 | dB |
| Bending sensitivity - 100 turns around Ø60mm - 1625nm | max 0.05 | dB |
| Bending sensitivity - 10 turns around Ø30mm - 1550nm | max 0.25 | dB |
| Bending sensitivity - 10 turns around Ø30mm - 1625nm | max 1.0 | dB |
| Bending sensitivity - 1 turn around Ø20mm - 1550nm | max 0.75 | dB |
| Bending sensitivity - 1 turn around Ø20mm - 1625nm | max 1.5 | dB |
| Proof test level | min 0.69 | GPa |
| Fibre curl | min 4 | m |
| Cable cut-off wavelength | max 1260 | nm |
| Zero-dispersion wavelength | 1300 - 1324 | nm |
| Zero-dispersion slope | max 0.090 | ps/nm ² .km |
| Chromatic dispersion; 1285nm - 1330 nm | max 3.2 | ps/nm.km |
| Chromatic dispersion; 1550nm | max 17 | ps/nm.km |
| Chromatic dispersion; 1625nm | max 21 | ps/nm.km |
| Polarisation Mode Dispersion; maximum individual fibre | max 0.1 | ps/√km |
| PMD _Q | max 0.08 | ps/√km |
| Max attenuation at 1383nm (α ₁₃₈₃) [note a] | < max α ₁₃₁₀ | |
| Effective Group Core Refractive Index; 1310 nm | 1.4671 | - |
| Effective Group Core Refractive Index; 1550 nm | 1.4675 | - |
| Effective Group Core Refractive Index; 1625 nm | 1.4680 | - |

note a: after hydrogen ageing