



AICI

Tight buffered optical cable, 9/125 - 50/125 - 62.5/125

Steel wire braid armour

UV resistant

DNV-GL, ABS

Application

Optical fiber cable for industry environments. The cable is suitable for both indoor and outdoor use. Continuous submergence in water is not recommended. Strength elements of glass yarn around the cable core allow easy installation of long lengths. The 0,9mm tight buffer is easy to strip allowing fast and reliable splicing and connector mounting. Each fibre is color coded for easy identification. Outer jacket is marked to show fibre type and cable type.



Construction

| | |
|--------------|------------------------------|
| Fibers | 4, 8, 12 or 24 |
| Colour code | Individually coloured fibers |
| Bedding | Glass yarn |
| Inner jacket | SHF1 |
| Armour alt.1 | Galvanised steel wire braid |
| Armour alt.2 | Tinned Cu-braid |
| Armour alt.3 | Bronze wire braid |
| Outer Jacket | UV-resistant SHF1 |



Specifications

| | |
|-------------------------------|-------------------|
| Operating temperature | -40 – +70 [°C] |
| Temperature @ installation | -10 to +70 [°C] |
| Crush test | 2000 [N/10cm] |
| Impact | 1 impacts, 25J |
| Min. bending radius flexible | 15 [x outer diam] |
| Min. bending radius installed | 10 [x outer diam] |

Norms

| | |
|--|----------------------|
| Halogenfree, max content corrosive and toxic gases | IEC 60754-1, -2 |
| Sheathing material | IEC 60092-360 (359) |
| Fire retardant | IEC 60332-3-22 Cat.A |
| Oil and fuel, hydrocarbons resistant | IEC 60811-3-1 |
| UV-resistant | ASTM G 154 |
| Certification | DNV-GL, ABS |



Dimensions fibercable

| Number of fibers | Outer diam. (mm) | Weight (kg/km) | Tensile strength (N) (at installation/in operation) |
|------------------|------------------|----------------|---|
| 4 | 8.5 | 105 | 700/250 |
| 8 | 9.4 | 125 | 800/350 |
| 12 | 10.3 | 145 | 1,200/500 |
| 24 | 12.1 | 185 | 1,700/750 |

Fiber data

| Properties | MM 62.5 OM1 | MM 50 OM2 | MM 50 OM3 | MM 50 OM4 |
|---|------------------|------------------|------------------|------------------|
| Core Diameter | 62.5 ± 2.5 µm | 50 ± 2.5 µm | 50 ± 2.5 µm | 50 ± 2.5 µm |
| Core non-circularity | < 5% | < 5% | < 5% | < 5% |
| Cladding diameter | 125 ± 1.0 µm | 125 ± 1.0 µm | 125 ± 1.0 µm | 125 ± 1.0 µm |
| Coating diameter | 242 ± 5 µm | 242 ± 5 µm | 242 ± 5 µm | 242 ± 5 µm |
| Cladding non-circularity | <0.7% | <0.7% | <0.7% | <0.7% |
| Core/Cladding concentricity error | <1 µm | <1 µm | <1 µm | <1 µm |
| Coating/cladding concentricity error | <10 µm | <6 µm | <6 µm | <6 µm |
| Numerical Aperture | 0.275 ± 0.015 µm | 0.200 ± 0.015 µm | 0.200 ± 0.015 µm | 0.200 ± 0.015 µm |
| Attenuation @ 850 nm | <3.50 dB/km | <2.89 dB/km | <2.89 dB/km | <2.89 dB/km |
| Attenuation @1300 nm | <1.00 dB/km | <0.80 dB/km | <0.80 dB/km | <0.80 dB/km |
| Bandwidth @ 850 nm | >200 MHz*km | >500 MHz*km | >1500 MHz*km | >3500 MHz*km |
| Bandwidth @ 1300 nm | >500 MHz*km | >500 MHz*km | >500 MHz*km | >500 MHz*km |
| Effective Modal Bandwidth (EMB)@ 850 nm | | | >2000 MHz*km | >4700 MHz*km |
| Fibre capacity 10GBase-SR | 33 m | 83 m | 300 m | 550 m |
| Fibre capacity 1GBase-SR | 274 m | 600 m | 1000 m | 1100 m |
| Fibre cap. 40GBase-SR4/100Base-RS10 | | | 140 m | 170 m |
| Proof test | >100kpsi | >100kpsi | >100kpsi | >100kpsi |



| Properties | SMR ITU-T G652D | SMR ITU-T G657A | SMR ITU-T G657B | SMR NZD ITU-T G655.E |
|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------|
| Mode field Diameter @ 1310 nm | 9,0±0,4 µm | 9,0±0,4 µm | 8,9±0,4 µm | - |
| Mode field Diameter @ 1550 nm | 10,1±0,5µm | 10,1±0,5µm | 9,9±0,5µm | 9,2±0,5µm |
| Cladding diameter | 125±0,7µm | 125±0,7µm | 125±0,7µm | 125±1,0µm |
| Coating diameter | 242±7 µm | 242±7 µm | 242±7 µm | 242±7 µm |
| Cladding non-circularity | ≤ 0,7 % | ≤ 0,7 % | ≤ 0,7 % | ≤ 0,7 % |
| Core/Cladding concentricity error | ≤ 0,5 µm | ≤ 0,5 µm | ≤ 0,5 µm | ≤ 0,5 µm |
| Coating/cladding concentricity error | ≤ 12 µm | ≤ 12 µm | ≤ 12 µm | ≤ 12 µm |
| Cable Cut off wavelength | ≤ 1260 nm | ≤ 1260 nm | ≤ 1260 nm | ≤ 1300 nm |
| Zero dispersion wavelength (λ) | 1300-1322 µm | 1300-1322 µm | 1300-1324 µm | 1440 µm |
| Dispersion slope (SI) @ (λ) | ≤ 0,090 ps/(nm ² * km) | ≤ 0,090 ps/(nm ² * km) | ≤ 0,092 ps/(nm ² * km) | - |
| Chromatic dispersion @ 1285-1330 nm | ≤ 3,5 ps/(nm * km) | ≤ 3,5 ps/(nm * km) | - | - |
| Chromatic dispersion @ 1550 nm | ≤ 18 ps/(nm * km) | ≤ 18 ps/(nm * km) | - | - |
| Chromatic dispersion @ 1625 nm | ≤ 22 ps/(nm * km) | ≤ 22 ps/(nm * km) | - | - |
| Chromatic dispersion @ 1530-1565 nm | - | - | - | 5,5 - 10 ps/(nm * km) |
| Chromatic dispersion @ 1565-1625 nm | - | - | - | 5,5 - 10 ps/(nm * km) |
| PMD @ 1550 nm | ≤ 0,1 ps/√ km | ≤ 0,1 ps/√ km | ≤ 0,1 ps/√ km | ≤ 0,2 ps/√ km |
| Attenuation @ 1310 nm | ≤ 0,35 dB/km | ≤ 0,35 dB/km | ≤ 0,35 dB/km | ≤ 0,40 dB/km |
| Attenuation @ 1383nm | ≤ 0,35 dB/km | ≤ 0,35 dB/km | ≤ 0,35 dB/km | ≤ 1,0 dB/km |
| Attenuation @ 1550 nm | ≤ 0,25 dB/km | ≤ 0,25 dB/km | ≤ 0,25 dB/km | ≤ 0,25 dB/km |
| Attenuation @ 1625 nm | ≤ 0,28 dB/km | ≤ 0,28 dB/km | ≤ 0,28 dB/km | ≤ 0,28 dB/km |
| Attenuation with bending: | | | | |
| Mandreal Radius 15mm @1550 10 turns | - | ≤ 0,25 dB | ≤ 0,03 dB | - |
| Mandreal Radius 15mm @1625 10 turns | - | ≤ 1,0 dB | ≤ 1,0 dB | - |
| Mandreal Radius 10mm @1550 1 turn | - | ≤ 0,75 dB | ≤ 1,0 dB | - |
| Mandreal Radius 10mm @1625 1 turn | - | ≤ 1,5 dB | ≤ 0,2 dB | - |
| Mandreal Radius 7,5mm @1550 1 turn | - | - | ≤ 0,5dB | - |
| Mandreal Radius 7,5mm @1625 1 turn | - | - | ≤ 1,0dB | - |
| Proof test | ≥ 100 kpsi | ≥ 100 kpsi | ≥ 100 kpsi | ≥ 100 kpsi |



Updated

| Date | Rev. | Description |
|------------|------|----------------------|
| 10.03.2015 | 1 | Armour |
| 30.03.2016 | 2 | Dimensions |
| 14.10.2016 | 3 | Fire properties (BS) |
| 23.01.2017 | 4 | Fiber data |