## Optical Fiber Aerial Figure 8 Cables, PE (4-144 Fibers)



4-144 Fibers

## Description:

AMP Netconnect OSP (outside plant) Figure 8 Aerial Self Support cables are designed suitably for Outdoor campus-type UV/harsh outdoor environment protection, Ducted or Underground Conduit service for long runs between buildings short, medium span aerial installations. Cables are tested to the TIA/EIA 568-C and ISO/IEC 11801:2002, IEC 60794-3-12, IEC 60794-3-21, IEC 60794-3-21, EN 60794-3-21:2006 requirements for optical fiber cable performance, and are designed to exceed all of the performance requirements for current and proposed applications such as 100BASE-F, 155/622 Mbps ATM Gigabit Ethernet 10Gigabit and 40/100Gbps Ethernet. The cables are available with Singlemode OS2, $62.5 / 125 \mu \mathrm{~m}$ Extended Grade OM1, $50 / 125 \mu \mathrm{~m}$ OM2, $50 / 125 \mu \mathrm{~m}$ Laser Optimized (XG) OM3 and 50/125 $\mu \mathrm{m}$ OM4 Fiber

## Specification (Text in brackets [...] requires a choice):

The optical fiber cable comprise of $[6,12,24,36,48$ up to 144$]$ fibers. The cables are of $[5,6,8,12]$ elements construction and are detailed in performance table, Loose tubes are manufactured from high strength, low shrinkage PBT compound, and each tube will contain [6 or 12] optical fibers and a thixotropic jelly, to prevent water penetration and protect the fibers against shock. Fiber color sequence is complied with TIA-598. The filler elements are manufactured with PE to the same outside diameter as the loose tubes. The elements are SZ stranded around a non-metallic central strength member (FRP with coating if required) and the formation retained with polyester water blocking tapes binders. To prevent the ingress of water, the cable core is jelly filled. Over this core is applied a polyester tape. Finally a black HDPE is sheathed. This sheath is in a figure 8 formation with the upper part carrying a 7X1.2mm (for 4-72Fiber), 7X1.3mm (for 96Fiber), 7X1.6mm (for 144 Fiber) stranded zinc-coated steel strand bearer. The nominal radial thickness of the sheath around the cable core is 1.5 mm , and around the bearer the nominal radial thickness is 1.0 mm . The web dimensions are 2.0 mm wide $X 2.0 \mathrm{~mm}$ high.

## Shipping and Packaging:

The cable will be shipped on a wooden reel.

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## Part Numbers

| Description | Fiber <br> Type | Fiber <br> Count | Element | Fiber / <br> Element | Part Number |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| FO CABLE,OUTDOOR,FIGURE 8, 4F | OS2 | 4 | 5 | 6 | Y-1859400-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 6F | OS2 | 6 | 5 | 6 | Y-1859401-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 8F | OS2 | 8 | 5 | 6 | Y-1859402-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 12F | OS2 | 12 | 5 | 6 | Y-1859403-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 24F | OS2 | 24 | 5 | 6 | Y-1859404-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 36F | OS2 | 36 | 6 | 6 | Y-1859408-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 48F | OS2 | 48 | 5 | 12 | Y-1859409-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 60F | OS2 | 60 | 5 | 12 | Y-1859410-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 72F | OS2 | 72 | 6 | 12 | Y-1859411-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 96F | OS2 | 96 | 8 | 12 | Y-1859412-4 |
| FO CABLE,OUTDOOR,FIGURE 8, 144F | OS2 | 144 | 12 | 12 | Y-1859413-4 |

$Y$ denotes Length: $1=1 \mathrm{Km}, 2=2 \mathrm{Km}, 3=3 \mathrm{Km}, 4=4 \mathrm{Km}$.

## Performance Specifications:

AMP NETCONNECT Optical Fiber Aerial Figure 8 Cable are designed and tested in accordance with TIA-568C. 3 and ISO 11801, ITU G.652D, Performance specifications are measured in accordance with the Fiber Optic Test Procedures (EIA/TIA-455 documents) and the test procedures of IEC 60793-2-50,B1.3, IEC 60794.

## Mechanical Specification:

| Fiber Count | Nominal O.D. mm (in) | Nominal Weight Kg/Km | Min. Bending Radius |  | Rated Tensile Load |  | Crush Resistance | Span 108km/hr | Temperature |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Installation mm (in) | Long term mm (in) | Installation N | $\begin{gathered} \hline \text { Long Term } \\ \mathrm{N} \\ \hline \end{gathered}$ | $\mathrm{N} / 10 \mathrm{~cm}$ | m |  |
| 4-fiber | 8.8 (0.346) | 142 | 176 (6.93) | 88 (3.46) | 4410 | 11630 | 2000 | 80 | Operation /Installation$\begin{gathered} -20{ }^{\circ} \mathrm{c} \text { to } \\ +70{ }^{\circ} \mathrm{C} \end{gathered}$ |
| 6 -fiber | 8.8 (0.346) | 142 | 176 (6.93) | 88 (3.46) | 4410 | 11630 | 2000 | 80 |  |
| 8-fiber | 8.8 (0.346) | 142 | 176 (6.93) | 88 (3.46) | 4410 | 11630 | 2000 | 80 |  |
| 12-fiber | 8.8 (0.346) | 142 | 176 (6.93) | 88 (3.46) | 4410 | 11630 | 2000 | 80 |  |
| 24-fiber | 8.8 (0.346) | 142 | 176 (6.93) | 88 (3.46) | 4410 | 11630 | 2000 | 80 |  |
| 36-fiber | 9.4 (0.370) | 153 | 188 (7.40) | 94 (3.70) | 4900 | 11630 | 2000 | 80 |  |
| 48-fiber | 10 (0.394) | 160 | 200 (7.87) | 100 (3.93) | 4900 | 11630 | 2000 | 80 | Storage $-40{ }^{\circ} \mathrm{c}$ to $+70{ }^{\circ} \mathrm{C}$ |
| 60-fiber | 10 (0.394) | 160 | 200 (7.87) | 100 (3.93) | 4900 | 11630 | 2000 | 80 |  |
| 72-fiber | 10.7 (0.421) | 174 | 214 (8.42) | 107 (4.21) | 5690 | 11630 | 2000 | 80 |  |
| 96-fiber | 12.4 (0.488) | 223 | 248 (9.76) | 124 (4.88) | 6470 | 13660 | 2000 | 80 |  |
| 144-fiber | 15.6 (0.614) | 355 | 312 (12.28) | 156 (6.14) | 9520 | 15230 | 2000 | 80 |  |

## Technical Details

| General Characteristics |  |
| ---: | :--- |
| Material $-\quad$ Silica/Germanium doped silica |  |
| Cladding Diameter - | Step Index, Matched Cladding |
| Cladding Non-Circularity error - | $\leq 1.0 \%$ |
| Core/Cladding concentricity error - | $\leq 0.5 \mu \mathrm{~m}$ |
| Primary Coating |  |
| Material - | UV Cured acrylic resin |
| External Diameter $-\quad 245 \pm 5 \mu \mathrm{~m}$ |  |
| Coating Concentricity error $-\quad \leq 12 \mu \mathrm{~m}$ |  |

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| Mode Field Diameter @1310 nm - | $9.2 \pm 0.4 \mu \mathrm{~m}$ |
| :---: | :---: |
| Chromatic Dispersion in the range 1285 to 1330 nm @1550nm <br> @1625nm | $\leq 3.5 \mathrm{ps} /(\mathrm{nm} . \mathrm{km})$ <br> $\leq 18 \mathrm{ps} /(\mathrm{nm} . \mathrm{km})$ <br> $\leq 22 \mathrm{ps} /(\mathrm{nm} . \mathrm{km})$ |
| Cut-Off Wavelength " $\lambda$ cc" - | $\leq 1260 \mathrm{~nm}$ |
| Zero dispersion wavelength ( $\lambda_{\circ}$ ) - | 1302 to $1322 \mathrm{ps} /\left(\mathrm{nm}^{2} . \mathrm{km}\right)$ |
| Zero dispersion Slope (So) - | $\leq 0.089 \mathrm{ps} /\left(\mathrm{nm}^{2} . \mathrm{km}\right)$ |
| Polarization mode dispersion coefficient (PMD Single drum) (PMD Link) | $\begin{aligned} & \leq 0.1 \mathrm{ps} / \sqrt{\mathrm{km}} \\ & \leq 0.07 \mathrm{ps} / \sqrt{\mathrm{km}} \\ & \hline \end{aligned}$ |
| Effective Group Index @1310 nm @1550 nm - | $\begin{aligned} & 1.4675 \\ & 1.4681 \\ & \hline \end{aligned}$ |
| Proof test for $1 \mathrm{sec}-$ | 1\% |
| Macro bending attenuation 100 turns, 75 mm diameter @1550 nm | $\leq 0.05 \mathrm{~dB}$ |
| Approvals |  |
| Tensile Load - | IEC 60794-1-2-E1 |
| Crush Resistance - | IEC 60794-1-2-E3 |
| Repeat Bending - | IEC 60794-1-2-E6 |
| Cable Bend - | IEC 60794-1-2-E11B |
| Water Penetration - | IEC 60794-1-2-F5 |
| Temperature Cycling - | IEC 60794-1-2-F1 |
| RoHS Compliant - | RoHS |

Performance Characteristics (meet or exceed EIA/TIA 568-C. 3 and ISO/IEC 11801 requirements)

| Application | OM4 <br> $50 / 125 \mu \mathrm{~m}$ <br> $(850 / 1300)$ | OM3 <br> $50 / 125 \mu \mathrm{~m}$ <br> $(850 / 1300)$ | OM2 <br> $50 / 125 \mu \mathrm{~m}$ <br> $(850 / 1300)$ | OM1 <br> $62.5 / 125 \mu \mathrm{~m}$ <br> $(850 / 1300)$ | OS2 <br> Singlemode <br> $(1310 / 1383 / 1550)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Typical Attenuation (dB/Km) | $2.4 / 0.6$ | $2.4 / 0.6$ | $2.6 / 1.1$ | $2.9 / 0.9$ | $0.36 / 0.36 / 0.23$ |
| Maximum Attenuation (dB/Km) | $3.5 / 1.5$ | $3.5 / 1.5$ | $3.5 / 1.5$ | $3.5 / 1.0$ | $0.4 / 0.4 / 0.4$ |
| OFL Bandwidth (MHz×km) | $3500 / 500$ | $1500 / 500$ | $500 / 500$ | $200 / 600$ | $\mathrm{~N} / \mathrm{A}$ |
| 850nm Laser Bandwidth (MHz×km) | 4700 | 2000 | $\mathrm{~N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ | $\mathrm{N} / \mathrm{A}$ |
| 1000Base-SX,Gigabit Ethernet,@850nm | 900 m | 900 m | 550 m | 220 m | - |
| 1000Base-LX,Gigabit Ethernet,@1300nm | 550 m | 550 m | $550 \mathrm{~m}^{*}$ | $550 \mathrm{~m}^{*}$ | 5000 m |
| 10GBase-SR,10Gbps,@850nm | 550 m | 300 m | 82 m | 33 m | - |
| 10GBASE-LX4,10Gbps,WDM,@1310nm | 300 m | 300 m | 300 m | 300 m | 10000 m |
| 10GBASE-LR,10Gbps,@1310nm | - | - | - | - | 10000 m |
| 10GBASE-ER,10Gbps,@1550nm | - | - | - | - | 40000 m |
| 40GBASE-SR4,40Gbps,@850nm | 150 m | 100 m | - | - | - |
| 40GBASE-LR4,40Gbps,@1310nm | - | - | - | - | 10000 m |
| 100GBASE-SR10,100Gbps,@850nm | 100 m | - | - | - | - |
| 100GBASE-LR4,100Gbps,@1310nm | - | - | - | - | 10000 m |
| 100GBASE-ER4,100Gbps,@1550nm | - | - | - | - | 40000 m |

* To reach 550m on traditional fiber OM2, OM3 Mode Conditioning Lunch Patch Cord is required

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