



# Outside Plant Fiber Cables

CommScope delivers proven innovation, inside and out

COMMScope®

# Outside Plant Fiber Cables

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At CommScope, we help our customers better connect with their customers by helping them build the always-on networks of tomorrow. As an industry leader in fiber cables and connectivity, we offer a broad portfolio of fiber optic cables for a range of outside plant and indoor applications including direct buried, aerial or conduit.

CommScope's outside plant fiber cables are made with high-performance, standards-compliant materials. Many cables are available with CommScope's patented LightScope ZWP® (Zero Water Peak) technology, enabling them to transmit 30 percent more usable spectrum than standard singlemode cables.

Our cable portfolio includes both armored and dielectric designs available with dry or gel-filled tubes. Their standard jacket material is polyethylene, which provides a rugged, durable finish. The Non-Armored cable is all-dielectric and contains no metallic components, eliminating the need for bonding or grounding.

Our design and construction techniques mean that every cable we ship delivers:



Superior mechanical and optical performance



Rapid deployment and operational efficiency



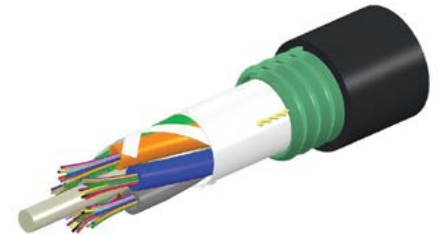
Unmatched stability and quality

# Outside Plant Fiber Cables

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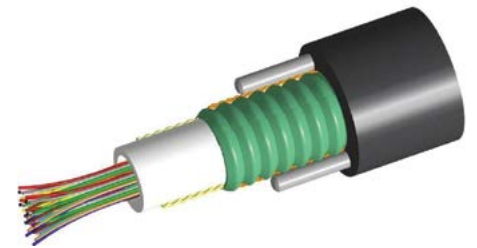
## STRANDED LOOSE TUBE CABLES

Stranded loose tube fiber cables are the standard workhorse cables of the industry. They are preferred for short-and long-haul backbone applications, and can be direct buried, installed in duct, or aerial lashed. The air-blown micro cable is designed for installations air blown into microducts, common in congested areas such as metro applications, where duct space is very limited. These cable designs are compact, lightweight, and contain high fiber density to maximize the fiber count available in a small cable diameter. Stranding individual buffer tubes around a central strength member provides a cable without preferential bend. It simplifies midspan entries and enables more efficient preparation and builds into closures.



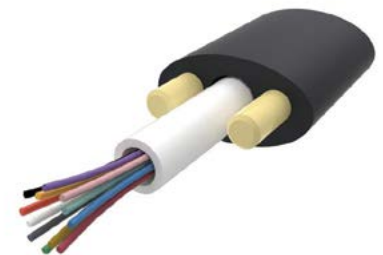
## CENTRAL TUBE CABLES

With all fibers inside a single central tube, these cables are preferred when stranded fiber counts are low and are often used for branching applications or at the end of distribution runs. The cable has a smaller overall dimension and ensures a more efficient use of conduit space than typical loose tube.



## DROP CABLES

Fiber drop cables are typically used between the fiber terminal and the building or home. A range of cable types are available for various indoor or outdoor applications: messenger, flat style, microduct, and more. Fiber drop cables are built with a central tube core design.



## RIBBON CABLES

Ribbon fiber cables are often preferred for high fiber density applications in constrained spaces requiring a more compact cable. Ribbon cables are available in both stranded loose tube and central tube cable constructions.



# Stranded Loose Tube cables



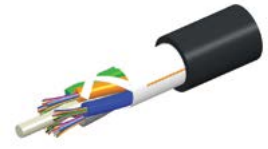
**D-LA:** armored



**D-L2:** armored, double jacket



**M-LA:** armored, messenger



**D-LN:** non-armored



**B-LN:** blown microduct



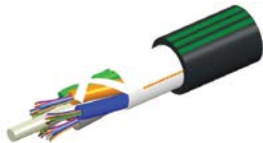
**M-LN:** non-armored, messenger



**O-LA/25T:** armored gel-filled tubes



**O-LN/25T:** non-armored gel-filled tubes



**D-LN/AJ:** non-armored, alternative jacket



**D-LA/AJ:** armored gel-filled tubes



**S-LN/NFB:** ADSS

## STRANDED LOOSE TUBE CABLE SPECIFICATIONS

| Cable Type         | Description                      | Fiber Count | Fiber Type |           | Buffer Tube | Gel-Free/<br>Gel-Filled | Max tensile strength<br>Long / Short Term   |
|--------------------|----------------------------------|-------------|------------|-----------|-------------|-------------------------|---|
|                    |                                  |             | G.652. D   | G.657. A1 |             |                         |   |
| <b>ARMORED</b>     |                                  |             |            |           |             |                         |   |
| D-LA               | Stranded loose tube armored      | 2 - 288     | √          | √         | 2.5mm       | Gel-Free                | 180 lbf / 607 lbf   |
| D-L2               | Double jacket single armor       | 2 - 288     | √          | √         | 2.5mm       | Gel-Free                | 180 lbf / 607 lbf   |
| D-LA/AJ            | Armored, alternative jacket      | 2-288       | √          | √         | 2.5mm       | Gel-Free                | 180 lbf / 607 lbf   |
| M-LA               | Messenger, Figure 8 armored      | 4 - 60      | √          | √         | 2.5mm       | Gel-Free                | 0.250" 3372 lbf / 4721 lbf<br>0.188" 1349 lbf / 1911 lbf<br>0.109" 719 lbf / 1012 lbf |
| O-LA/25T           | Stranded loose tube armored      | 2 - 288     | √          | √         | 2.5mm       | Gel-Filled              | 180 lbf / 607 lbf   |
| <b>NON-ARMORED</b> |                                  |             |            |           |             |                         |   |
| D-LN               | Stranded loose tube non- armored | 2 - 288     | √          | √         | 2.5mm       | Gel-Free                | 180 lbf / 607 lbf   |
| D-LN/AJ            | Non-armored, alternative jacket  | 2 - 288     | √          | √         | 2.5mm       | Gel-Free                | 180 lbf / 607 lbf   |
| M-LN               | Non-armored, messenger           | 4 - 60      | √          | √         | 2.5mm       | Gel-Free                | 0.250" 3372 lbf / 4721 lbf<br>0.188" 1349 lbf / 1911 lbf<br>0.109" 719 lbf / 1012 lbf |
| B-LN               | Blown microduct                  | 2 - 144     | √          | √         | 1.6mm       | Gel-Filled              | 180 lbf / 607 lbf   |
| O-LN/25T           | Stranded loose tube non- armored | 2 - 288     | √          | √         | 2.5mm       | Gel-Filled              | 180 lbf / 607 lbf   |
| S-LN/NFB           | All-Dielectric Self-Supporting   | 6 - 144     | √          | √         | 3.0mm       | Gel-Filled              | Sag & Tension Tables  |

# Stranded Loose Tube cables

## ORDERING INFORMATION

Stranded Loose Tube cables  
**D - 096 - LA - 8W - F 12 NS / 25T**

### Cable Style

|   |                                      |
|---|--------------------------------------|
| B | Blown                                |
| D | Dry                                  |
| O | Outdoor (Arid Core) Gel Filled Tubes |
| M | Messenger                            |
| P | Plenum                               |
| R | Riser                                |
| S | All Dielectric, Self Supporting      |
| Z | Zero Halogen Indoor/Outdoor          |

### Fiber Count

This field specifies the total fiber count in the cable. A value of "002" means 2 fiber strands, "096" means 96 fiber strands, and "288" means 288 fiber strands. The range of available fiber counts will depend on the specific cable ordered.

### Cable Construction

|    |   |
|----|---|
| LA | Stranded Loose Tube Armored                                     |
| LN | Stranded Loose Tube Non-Armored                                 |
| L2 | Stranded Loose Tube Double Jacketed, Single Armored             |
| LZ | Indoor/Outdoor Stranded Loose Tube, Aluminum Interlocking Armor |

### Fiber Type

|    |  |
|----|--|
| 8W | LightScope ZWP® Dispersion-Unshifted Matched-Clad, Singlemode Fiber      |
| 8G | Enhanced Bend Insensitive ZWP Singlemode Fiber Shifted, Singlemode Fiber |

### Additional Descriptions

|     |   |
|-----|---|
| 16  | 1.6mm Buffer Tubes (Micro Fiber are Gel Only) |
| 25  | 2.5mm Buffer Tubes                            |
| D   | Dry Buffer Tubes                              |
| G   | Gel Filled Buffer Tubes                       |
| T   | Gel Filled Buffer Tubes                       |
| AJ  | Alternate Jacket                              |
| MHB | ADSS  |

### Color

|    |   |
|----|---|
| NS | No Stripe (standard)                          |
| BL | Blue  |
| GR | Green   |
| 3G | Three Green Stripes (Alternative Jacket only) |
| WH | White   |
| YL | Yellow  |

Outdoor cables are all black. This field specifies the tracer/stripe color.

### Number of Fibers per Tube

|    |  |
|----|--|
| 06 | 6 fibers per tube for ADSS cables in fiber count ranges 6-24 |
| 12 | 12 fibers per tube for fiber counts from 2-288               |
| 24 | 24 fibers per tube for fiber counts from 312-576             |

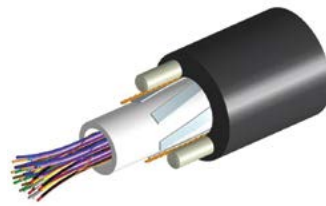
### Cable Marking

|   |   |
|---|---|
| F | Jacket Sequentially Marked in Feet (standard) |
| M | Jacket Sequentially Marked in Meters          |
| X | Custom Print Required                         |

# Central Tube cables



**O-CA:** armored



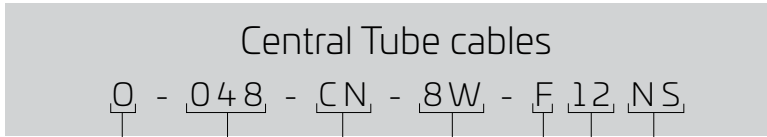
**O-CN:** non-armored

## CENTRAL LOOSE TUBE CABLE SPECIFICATIONS

| Cable Type | Description              | Fiber Count | Fiber Type |           | Buffer Tube | Gel-Free/<br>Gel-Filled | Max tensile strength<br>Long / Short Term |
|------------|--------------------------|-------------|------------|-----------|-------------|-------------------------|---|
|            |                          |             | G.652. D   | G.657. A1 |             |                         |   |
| O-CA       | Central Tube Armored     | 2 - 48      | √          | √         | 2.5mm       | Gel-Filled              | 180 lbf / 607 lbf                         |
| O-CN       | Central Tube Non-Armored | 2 - 48      | √          | √         | 2.5mm       | Gel-Filled              | 180 lbf / 607 lbf                         |

# Central Tube cables

## ORDERING INFORMATION



### Cable Style

|   |  |
|---|--|
| O | This field is fixed at "O" for Outdoor (Arid Core) Gel Filled Tubes. |
|---|--|

### Fiber Count

|     |  |
|-----|--|
| 048 | This field specifies the total fiber count in the cable. A value of "002" means 2 fiber strands, "048" means 48 fiber strands. Valid fiber counts are: 002, 004, 006, 008, 010, 012, 014, 016, 018, 020, 022, 024, 030, 032, 036, and 048. |
|-----|--|

### Cable Construction

|    |   |
|----|---|
| CA | Central Tube Armored                                    |
| CN | Central Tube Non-Armored. All Dielectric Tight Buffered |

### Fiber Type

|    |  |
|----|--|
| 8W | LightScope ZWP® Dispersion-Unshifted, Matched-Clad, Singlemode Fiber |
|----|--|

### Color

|    |                      |
|----|----------------------|
| NS | No Stripe (standard) |
| BL | Blue                 |
| GR | Green                |
| WH | White                |
| YL | Yellow               |

Outdoor cables are all black. This field specifies the tracer/stripe color.

### Number of Fibers per Tube

|         |  |
|---------|--|
| 02 - 10 | If the fiber count (field 2) is 10 or less, then the number of fibers per tube equals the fiber count.         |
| 12      | If the fiber count (field 2) is 12 or greater, then this field is fixed at "12" regardless of the fiber count. |

### Cable marking

|   |   |
|---|---|
| F | Jacket Sequentially Marked in Feet (standard) |
| M | Jacket Sequentially Marked in Meters          |
| X | Custom Print Required                         |

# Drop cables



**O-DF:** flat drop



**O-DF/AWG:** flat drop, toneable



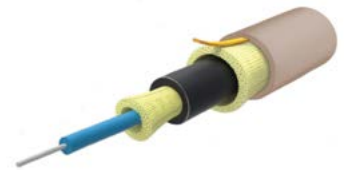
**USD:** 900 micron flat drop



**O-DA:** armored



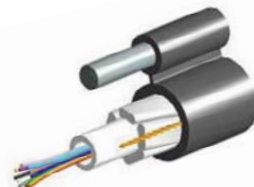
**M-MN/109:** messenger



**R-DN:** indoor/outdoor



**M-MN/CCS:** messenger



**M-DN/GSM:** messenger

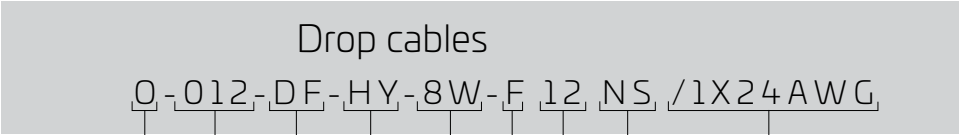
## DROP CABLE SPECIFICATIONS

| Cable Type | Description                     | Fiber Count | Fiber Type |           |              | Buffer Tube | Gel-Free/<br>Gel-Filled | Max tensile strength<br>Long / Short Term |
|------------|---------------------------------|-------------|------------|-----------|--------------|-------------|-------------------------|---|
|            |                                 |             | G.652. D   | G.657. A1 | G.657. A2/B2 |             |                         |   |
| O-DF       | All-Dielectric                  | 1 - 12      | √          | √         |              | 2.0mm       | Gel-Filled              | 90 lbf / 300 lbf                          |
| O-DF/AWG   | Non-Armored, Toneable           | 1 - 12      | √          | √         |              | 2.0mm       | Gel-Filled              | 90 lbf / 300 lbf                          |
| O-DA       | Armored                         | 1 - 12      | √          | √         |              | 3.0mm       | Gel-Filled              | 90 lbf / 300 lbf                          |
| USD        | Non-Armored                     | 1           |            |           | √            | 2.9mm       | Gel-Free                | 90 lbf / 300 lbf                          |
| M-MN/CCS   | Figure 8/copper clad steel      | 1 - 6       | √          | √         |              | 2.5mm       | Gel-Filled              | 90 lbf / 300 lbf                          |
| M-DN/GSM   | Figure 8/galvanized steel       | 1 - 12      | √          | √         |              | 4.0mm       | Gel-Filled              | 90 lbf / 300 lbf                          |
| R-DN       | Riser Indoor/Outdoor            | 1           |            |           | √            | 1.8mm       | Gel-Free                | 40 lbf / 135 lbf                          |
| M-MN/109   | Figure 8/ Solid Steel Messenger | 1 - 6       | √          | √         |              | 2.5mm       | Gel-Filled              | 90 lbf / 300 lbf                          |



# Drop cables

## ORDERING INFORMATION



### Cable Style

|   |                                      |
|---|--------------------------------------|
| O | Outdoor (Arid Core) Gel Filled Tubes |
| R | Riser Indoor/Outdoor                 |

### Fiber Count

This field specifies the total fiber count in the cable. A value of "001" means 1 fiber strand, and "012" means 12 fiber strands. Valid fiber counts depend on the cable construction:

|      |                                   |
|------|-----------------------------------|
| DF   | 001, 002, 004, 006, 008, 012, 024 |
| USD  | 001                               |
| O-DA | 002, 004, 006, 008, 010, 012      |
| M-MN | 002, 006, 012                     |
| R-DN | 001                               |
| M-DN | 006, 012                          |

### Cable Construction

|    |                  |
|----|------------------|
| DA | Drop Armored     |
| DF | Flat Drop        |
| DN | Drop Non-Armored |
| MN | Messenger Drop   |

### Cable Construction

|    |                    |
|----|--------------------|
| HY | Toneable Flat Drop |
|----|--------------------|

### Fiber Type

|    |  |
|----|--|
| 8W | LightScope ZWP® Dispersion-Unshifted, Matched-Clad, Singlemode Fiber     |
| 8G | Enhanced Bend Insensitive ZWP Singlemode Fiber Shifted, Singlemode Fiber |

### Additional Descriptors

|          |                                   |
|----------|-----------------------------------|
| /1X24AWG | Toneable Flat Drop                |
| /109     | 0.109" Solid Steel Messenger      |
| /CCS     | 0.64" Copper Clad Steel Messenger |
| /GSM     | 0.83" Galvanized Steel Messenger  |

### Color

|    |                      |
|----|----------------------|
| NS | No Stripe (standard) |
|----|----------------------|

### Number of Fibers per Tube

|         |  |
|---------|--|
| 01 - 10 | If the fiber count (field 2) is 10 or less, then the number of fibers per tube equals the fiber count.         |
| 12      | If the fiber count (field 2) is 12 or greater, then this field is fixed at "12" regardless of the fiber count. |

### Cable marking

|   |   |
|---|---|
| F | Jacket Sequentially Marked in Feet (standard) |
| M | Jacket Sequentially Marked in Meters          |
| X | Custom Print Required                         |

# Ribbon cables



**D-CA-RB:** dry central tube armored



**D-CN-RB:** dry central tube non-armored



**O-CA-RB:** gel-filled central tube armored



**O-CN-RB:** gel-filled central tube non-armored



**Z-CN-RB:** low smoke zero halogen



**O-LN-RB:** gel-filled loose tube non-armored



**O-LA-RB:** gel-filled loosed tube armored



**D-LN-RR:** dry loose tube non-armored rollable



**D-LA-RR:** dry loose tube armored rollable



**D-CN-RR:** central tube, non-armored rollable



**D-C2-RR:** central tube, double jacket rollable

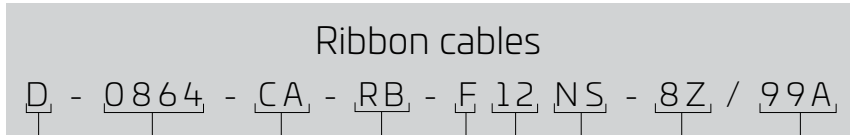
## RIBBON CABLE SPECIFICATIONS

| Cable Type | Description                        | Fiber Count | Fiber Type |           | Gel-Free/Gel-Filled | Max tensile strength<br>Long / Short Term |
|------------|------------------------------------|-------------|------------|-----------|---------------------|---|
|            |                                    |             | G.652. D   | G.657. A1 |                     |   |
| D-CA-RB    | Central Tube/Armored               | 0012 - 0864 | √          | √         | Gel-Free            | 180 lbf / 600 lbf                         |
| D-CN-RB    | Central Tube/Non-Armored           | 0012 - 0864 | √          | √         | Gel-Free            | 180 lbf / 600 lbf                         |
| O-CA-RB    | Central Tube/Armored               | 0012 - 0864 | √          | √         | Gel-Filled          | 180 lbf / 600 lbf                         |
| O-CN-RB    | Central Tube/Non-Armored           | 0012 - 0864 | √          | √         | Gel-Filled          | 180 lbf / 600 lbf                         |
| Z-CN-RB    | LSZH/Non-Armored                   | 0012 - 0864 | √          | √         | Gel-Free            | 180 lbf / 600 lbf                         |
| O-LN-RB    | SLT/Non-Armored                    | 0360 - 1728 | √          | √         | Gel-Filled          | 333 lbf / 1000 lbf                        |
| O-LA-RB    | SLT/Armored                        | 0360 - 0864 | √          | √         | Gel-Filled          | 333 lbf / 1000 lbf                        |
| D-LN-RR    | Rollable/Non-Armored               | 0432 - 3456 | √          | √         | Gel-Free            | 333 lbf / 1000 lbf                        |
| D-LA-RR    | Rollable/Armored                   | 0432 - 1728 | √          | √         | Gel-Free            | 333 lbf / 1000 lbf                        |
| D-CN-RR    | Central Tube Rollable Non-armored  | 0144 - 0288 | √          | √         | Gel-Free            | 180 lbf / 600 lbf                         |
| D-C2-RR    | Central Tube Double Jacket Armored | 0144 - 0288 | √          | √         | Gel-Free            | 180 lbf / 600 lbf                         |

\*Buffer tube size will change depending on fiber count

# Ribbon cables

## ORDERING INFORMATION



### Cable Style

|   |  |
|---|--|
| D | Dry. Up to 432 count.  |
| O | Outdoor (Arid Core) Gel Filled Tubes. Up to 864 fiber count.         |
| Z | LSZH (Low Smoke Zero Halogen) Indoor/Outdoor. Up to 864 fiber count. |

### Fiber Count

|  |   |
|--|---|
|  | This field specifies the total fiber count in the cable.  |
|  | A value of "012" means 12 fiber strands, "096" means 96 fiber strands, and "864" means 864 fiber strands. |
|  | The range of available fiber counts will depend on the specific cable ordered.                            |

### Cable Construction

|    |   |
|----|---|
| CA | Central Tube Armored                                    |
| CN | Central Tube Non-Armored. All Dielectric Tight Buffered |
| C2 | Double jacket armored                                   |
| LA | Stranded Loose Tube Armored                             |
| LN | Stranded Loose Tube Non-Armored                         |

### Shape

|    |                 |
|----|-----------------|
| RB | Ribbon          |
| RR | Rollable Ribbon |

### Cable Marking

|   |   |
|---|---|
| F | Jacket Sequentially Marked in Feet (standard) |
| M | Jacket Sequentially Marked in Meters          |
| X | Custom Print Required                         |

### Additional Descriptors

|     |  |
|-----|--|
| 99A | Central Tube, Dry                                  |
| 99B | Central Tube, Gel-filled                           |
| 99F | LSZH, up to 216 count, 12 Ribbon Fiber Stacks      |
| 99G | LSZH, >216 up to 288 count, 24 Ribbon Fiber Stacks |

### Fiber Type

|    |   |
|----|---|
| 8Z | LightScope ZWP® Dispersion-Unshifted, Matched-Clad, Singlemode Ribbon Fiber |
|----|---|

### Color

|    |                      |
|----|----------------------|
| NS | No Stripe (standard) |
| BL | Blue                 |
| GR | Green                |
| WH | White                |
| YL | Yellow               |





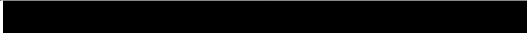
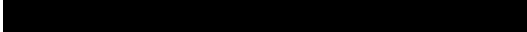
Outdoor cables are all black.  
This field specifies the tracer/stripe color.

### Number of fibers per tube

|    |   |
|----|---|
| 12 | 12 fibers per stack for fiber counts from 2-216   |
| 24 | 24 fibers per stack for fiber counts from 288-864 |

# Fiber Cable Color Chart

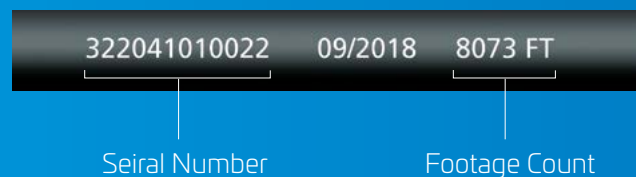
| OPTICAL FIBER COLOR CODE |        |
|--------------------------|--------|
| Fiber 1                  | Blue   |
| Fiber 2                  | Orange |
| Fiber 3                  | Green  |
| Fiber 4                  | Brown  |
| Fiber 5                  | Slate  |
| Fiber 6                  | White  |
| Fiber 7                  | Red    |
| Fiber 8                  | Black  |
| Fiber 9                  | Yellow |
| Fiber 10                 | Violet |
| Fiber 11                 | Rose   |
| Fiber 12                 | Aqua   |

| FIBER CABLE JACKET COLOR CODE |                         |                 |  |
|-------------------------------|-------------------------|-----------------|--|
| Application                   | Fiber Type              |                 | Jacket Color   |
| Indoor                        | 50 um (LazrSPEED)       | Aqua            |    |
| Indoor                        | 50 um WBMMF (LazrSPEED) | Lime Green      |    |
| Indoor                        | 62.5 um (OptiSPEED)     | Orange or Slate |   |
| Indoor                        | Singlemode (TeraSPEED)  | Yellow          |  |
| Indoor/Outdoor                | All                     | Black           |  |
| Outdoor (OSP)                 | All                     | Black           |  |

## Committed and on your side

We stand by our performance and provide certified fiber cable test results. Each fiber reel is tested before leaving a CommScope factory. You can view fiber performance test results online with our WebTrak tool. Enter the serial number printed on the cable jacket along with the footage/meter reference to access the data. The WebTrak tool is available online or cTrak as a mobile app.

Additionally, you can receive credits toward future cable purchases through our CommScope reel recycling program. In North America, we'll pick up and recycle your used cable reels for FREE.



## We're here to help you find the best solution

CommScope has a vision for the future of your network, and the expertise to get you there. For assistance in identifying the ideal CommScope fiber solution for your outside plant applications, please contact your CommScope representative through our **Support Center** to discuss your challenges.

You can also visit CommScope's detailed **outside plant fiber** page to learn more about the deployment options available to you. You can explore our innovative solutions by installation environment, materials, fiber count and more.



CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at [commscope.com](https://commscope.com)

**COMMSCOPE®**

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