# Fiber Optic Cable

| | |
|---|---|
| Outdoor | Outdoor WTC™ 144-6912F |
| | Single Jacket Single Armor WTC™ |
| | Conventional Double Jacket Armored Outdoor WTC™ 24 – 864F |
| Indoor/Outdoor | Indoor/Outdoor WTC™ 144-6912F |
| Indoor | Indoor WTC™ 144-6912F |
| Microduct | Air Blow WTC™ 48-864F |
| Aerial cable | Self-Supporting Wire WTC™ 24F |

Fujikura Ltd. Telecommunication Systems Business Unit
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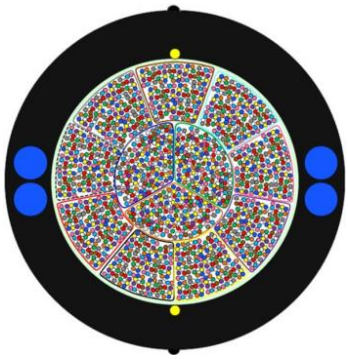
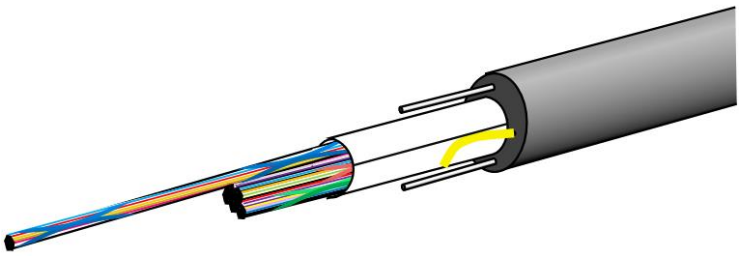
# Wrapping Tube Cable (WTC™) with 12 Fiber Spider Web Ribbon (SWR™)
# Outdoor WTC™ 144 – 6912F





The Wrapping Tube Cable (WTC™) with Spider Web Ribbon (SWR™) is an ultra-high density outside plant cable designed for fiber-to-the-home (FTTH), access markets, and data centers. It complies with the latest outside plant cable standard, Telcordia GR-20. WTC™ with SWR™ offers the smallest cable diameter and lowest weight among high-fiber count ribbon cables in the industry. It is available in fiber counts ranging from 144 to 6,912.
SWR™ is an intermittent bonded ribbon fiber design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. With the ability to roll and conform, the SWR™ provides ultra high density fiber packaging in the WTC™.

## Features

- UV Resistant
- Full dry (gel-free) construction
- Fully dielectric
- Mid Span Access

## Application

- Duct
- Aerial

## Physical & Mechanical Characteristics

| | | | 144F | 288F | 432F | 576F | 864F | 1152F | 1728F | 3456F | 6912F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cable diameter (in approx.) | | mm (in.) | 11.0 (0.414) | 12.0 (0.473) | 13.5 (0.537) | 15.0 (0.591) | 17.5 (0.689) | 18.5 (0.729) | 21.5 (0.847) | 26.5 (1.044) | 29.8 (1.174) |
| Cable weight (in approx.) | | kg/km (lbs/1000ft) | 85 (57) | 105 (71) | 135 (91) | 165 (111) | 215 (144) | 240 (161) | 300 (202) | 435 (292) | 640 (463) |
| Fiber counts in bundle unit | | | - | | 72F | | | 144F | | | 288F |
| Number of bundled units | | | - | | 6 | 8 | 12 | 8 | 12 | 24 | |
| Tensile performance (*1) | Short term(*2) | N | 2700 | | | | | | | | |
| | Long term | N | 810 | | | | | | | | |
| Bending radius(*1) | Cyclic flexing | mm | 110 | 120 | 135 | 150 | 175 | 185 | 215 | 265 | 300 |
| | Cable bend | mm | 110 | 180 | 203 | 225 | 263 | 278 | 332 | 397 | 450 |
| Compressive Strength(*1) | | N/100mm | 2200 | | | | | | | | |
| Impact resistance(*1) | | N・m | 4.4 | | | | | | | | |

***1.** Reference standard : Telcordia GR-20
***2.** Please follow the appropriate procedure that Fujikura recommends for pulling cable

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## Optical Fiber Characteristics

| Fiber Count | Fiber Diameter | Fiber Pitch | Fiber Type | MFD | Maximum Attenuation (Cabled) (dB/km) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1310 nm | 1383 nm (*3, 4) | 1550 nm |
| 144F to 864F | 250 µm | 250 µm | Ace (ITU-T G.652.D and G.657.A1) | 9.2 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |
| 144F to 1152F | 250 µm | 250 µm | SR15E (ITU-T G.652.D and G.657.A1) | 8.6 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |
| 1728F and 3456F | 200 µm | 250 µm | SR15E-200 (ITU-T G.652.D and G.657.A1) | 8.6 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |
| 6912F | 200 µm | 200 µm | BIS-B-P200 (ITU-T G.652.D and G.657.A2) | 8.6 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |

***3.** The value after hydrogen aging in optical fiber in accordance with IEC 60793-2-50 test procedure.
***4.** The value before coloring process

## Fiber Colors in 12F SWR

| No.1 | No.2 | No.3 | No.4 | No.5 | No.6 | No.7 | No.8 | No.9 | No.10 | No.11 | No.12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Blue | Orange | Green | Brown | Grey | White | Red | Black | Yellow | Violet | Pink | Turquoise |

## Stripe Ring Mark (*5, 6)

| SWR No.1 | SWR No.2 | SWR No.3 | SWR No.4 | SWR No.5 | SWR No.6 |
|---|---|---|---|---|---|
| SWR No.7 | SWR No.8 | SWR No.9 | SWR No.10 | SWR No.11 | SWR No.12 |
| SWR No.13 | SWR No.14 | SWR No.15 | SWR No.16 | SWR No.17 | SWR No.18 |
| SWR No.19 | SWR No.20 | SWR No.21 | SWR No.22 | SWR No.23 | SWR No.24 |

***5.** Each block denotes "5" and each bar denotes "1".
***6.** The order of block and bar for SWR may be reversed in the cable (e.g. No.6 may be ■▮ or ▮■)

## Environmental Characteristics

| | | |
|---|---|---|
| Temperature cycling | Installation | -30°C to 60°C (-22°F to +140°F) |
| | Operation | -40°C to 70°C (-40°F to +158°F) |
| | Transportation/Storage | -40°C to 70°C (-40°F to +158°F) |

## Qualifications

| Governing Body | Standard Code |
|---|---|
| Telcordia | GR-20 |

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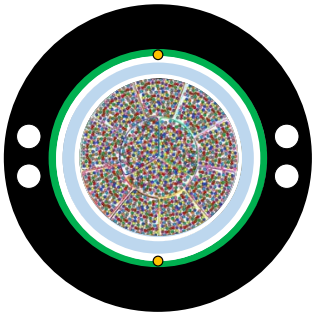
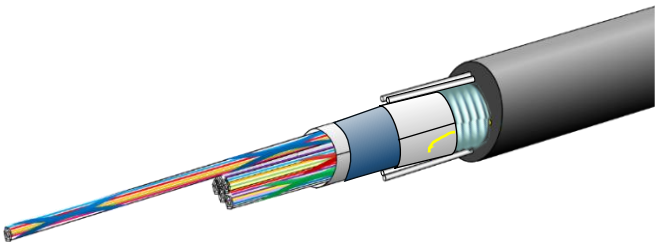
# Wrapping Tube Cable (WTC™) with 12 Fiber Spider Web Ribbon (SWR™) Single Jacket Single Armor Outdoor WTC™ 144 – 432F





The Wrapping Tube Cable (WTC™) with Spider Web Ribbon (SWR™) is an ultra-high density outside plant cable designed for fiber-to-the-home (FTTH), access markets, and data centers. It complies with the latest outside plant cable standard, Telcordia GR-20. It is available in fiber counts ranging from 144 to 432.
SWR™ is an intermittent bonded ribbon fiber design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. With the ability to roll and conform, the SWR™ provides ultra high density fiber packaging in the WTC™.
SJSA-WTC™ uses a single-jacket (sheath) structure instead of conventional double-jacket (sheath) structure. We achieved a lightweight optical fiber cable with a world-class small diameter. It can be used in environments where mechanical strength is required, such as along railway tracks, buried directly in the soil, and in rural/underground areas where there is a risk of wildlife damage by rodents. Additionally, the accessibility to optical fibers from cables by removing jacket is greatly improved compared to existing products.

## Features

- UV Resistant
- Rodent Resistant
- Full dry (gel-free) construction
- Mid Span Access

## Application

- Duct
- Direct buried

## Physical & Mechanical Characteristics

| | | | 144F | 288F | 432F |
|---|---|---|---|---|---|
| Cable diameter (in approx.) | | Mm (in.) | 14.0 (0.551) | 14.5 (0.571) | 16.0 (0.630) |
| Cable weight (in approx.) | | kg/km (lbs/1000ft) | 175 (118) | 190 (121) | 220 (148) |
| Fiber counts in bundled unit | | | - | | 72F |
| Number of bundled unit | | | - | | 6 |
| Tensile performance (*1) | Short term(*2) | N | 2700 | | |
| | Long term | N | 810 | | |
| Bending radius(*1) | Cyclic flexing | mm | 140 | 145 | 160 |
| | Cable bend | mm | 140 | 218 | 240 |
| Compressive strength(*1) | | N/100mm | 2200 | | |
| Impact resistance(*1) | | N ・m | 4.4 | | |

***1.** Reference standard : Telcordia GR-20
***2.** Please follow the appropriate procedure that Fujikura recommends for pulling cable

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## Optical Fiber Characteristics

| Fiber Count | Fiber Diameter | Fiber Pitch | Fiber Type | MFD | Maximum Attenuation (Cabled) (dB/km) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1310 nm | 1383 nm (*3, 4) | 1550 nm |
| 144F to 864F | 250 µm | 250 µm | Ace (ITU-T G.652.D and G.657.A1) | 9.2 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |

***3.** The value after hydrogen aging in optical fiber in accordance with IEC 60793-2-50 test procedure.
***4.** The value before coloring process

## Fiber Colors in 12F SWR

| No.1 | No.2 | No.3 | No.4 | No.5 | No.6 | No.7 | No.8 | No.9 | No.10 | No.11 | No.12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Blue | Orange | Green | Brown | Grey | White | Red | Black | Yellow | Violet | Pink | Turquoise |

## Stripe Ring Mark (*5, 6)

| SWR No.1 | SWR No.2 | SWR No.3 | SWR No.4 | SWR No.5 | SWR No.6 |
|---|---|---|---|---|---|
| SWR No.7 | SWR No.8 | SWR No.9 | SWR No.10 | SWR No.11 | SWR No.12 |
| SWR No.13 | SWR No.14 | SWR No.15 | SWR No.16 | SWR No.17 | SWR No.18 |
| SWR No.19 | SWR No.20 | SWR No.21 | SWR No.22 | SWR No.23 | SWR No.24 |

***5.** Each block denotes "5" and each bar denotes "1".
***6.** The order of block and bar for SWR may be reversed in the cable (e.g. No.6 may be ■▮ or ▮■)

## Environmental Characteristics

| | | |
|---|---|---|
| Temperature cycling | Installation | -30°C to 60°C (-22°F to +140°F) |
| | Operation | -40°C to 70°C (-40°F to +158°F) |
| | Transportation/Storage | -40°C to 70°C (-40°F to +158°F) |

## Qualifications

| Governing Body | Standard Code |
|---|---|
| Telcordia | GR-20 |

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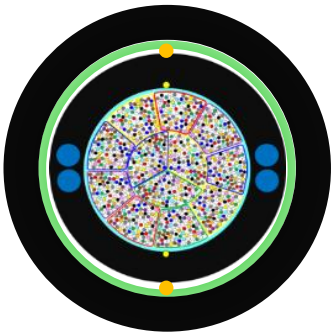
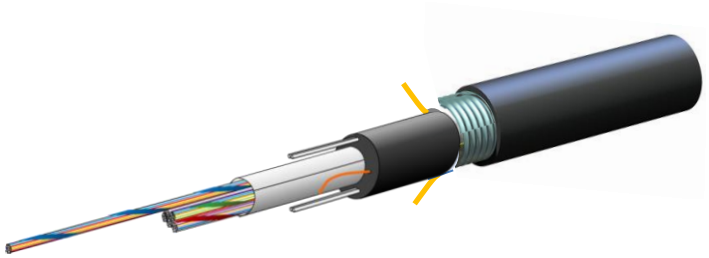
# Wrapping Tube Cable (WTC™) with 12 Fiber Spider Web Ribbon (SWR™)
# Conventional Double Jacket Armored Outdoor WTC™ 24 – 864F





The Wrapping Tube Cable (WTC™) with Spider Web Ribbon (SWR™) is an ultra-high density outside plant cable designed for fiber-to-the-home (FTTH), access markets, and data centers. It complies with the latest outside plant cable standard, Telcordia GR-20. WTC™ with SWR™ offers the smallest cable diameter and lowest weight among high-fiber count ribbon cables in the industry. It is available in fiber counts ranging from 24 to 864.
SWR™ is an intermittent bonded ribbon fiber design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. With the ability to roll and conform, the SWR™ provides ultra high density fiber packaging in the WTC™.
Armored Outdoor WTC™ provide extra protection and durability in harsh environments. Encased in a robust corrugated steel armor, these cables are resistant to physical damage, moisture, and other external factors. Ideal for industrial settings and outdoor installations, armored cables offer reliable and long-lasting connectivity for critical applications.

## Features
- UV Resistant
- Rodent Resistant
- Full dry (gel-free) construction
- Mid Span Access

## Application
- Duct
- Direct buried

## Physical & Mechanical Characteristics

| | | | 24F | 48F | 72F | 96F | 144F | 288F | 432F | 576F | 864F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cable diameter (in approx.) | | Mm (in.) | 14.0 (0.551) | 14.5 (0.571) | 14.5 (0.571) | 15.0 (0.591) | 15.5 (0.621) | 17.5 (0.689) | 19.0 (0.749) | 20.5 (0.808) | 23.0 (0.906) |
| Cable weight (in approx.) | | kg/km (lbs/1000ft) | 165 (111) | 180 (121) | 185 (125) | 185 (125) | 215 (145) | 255 (171) | 300 (202) | 350 (235) | 425 (286) |
| Fiber counts in bundled unit | | | - | - | - | - | - | - | 72F | | |
| Number of bundled unit | | | - | - | - | - | - | - | 6 | 8 | 12 |
| Tensile performance (*1) | Short term(*2) | N | 1600 | | | | | 2700 | | | |
| | Long term | N | 480 | | | | | 800 | | | |
| Bending radius(*1) | Cyclic flexing | mm | 140 | 145 | 145 | 150 | 155 | 175 | 190 | 205 | 230 |
| | Cable bend | mm | 140 | 145 | 145 | 150 | 155 | 262 | 285 | 307 | 345 |
| Compressive strength(*1) | | N/100mm | 2200 | | | | | | | | |
| Impact resistance(*1) | | N ・m | 4.4 | | | | | | | | |

***1.** Reference standard : Telcordia GR-20
***2.** Please follow the appropriate procedure that Fujikura recommends for pulling cable

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## Optical Fiber Characteristics

| Fiber Count | Fiber Diameter | Fiber Pitch | Fiber Type | MFD | Maximum Attenuation (Cabled) (dB/km) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1310 nm | 1383 nm (*3, 4) | 1550 nm |
| 24F to 864F | 250 µm | 250 µm | SR15E (ITU-T G.652.D and G.657.A1) | 8.6 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |
| 144F to 864F | 250 µm | 250 µm | Ace (ITU-T G.652.D and G.657.A1) | 9.2 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |

***3.** The value after hydrogen aging in optical fiber in accordance with IEC 60793-2-50 test procedure.
***4.** The value before coloring process

## Fiber Colors in 12F SWR

| No.1 | No.2 | No.3 | No.4 | No.5 | No.6 | No.7 | No.8 | No.9 | No.10 | No.11 | No.12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Blue | Orange | Green | Brown | Grey | White | Red | Black | Yellow | Violet | Pink | Turquoise |

## Stripe Ring Mark (*5, 6)

| SWR No.1 | SWR No.2 | SWR No.3 | SWR No.4 | SWR No.5 | SWR No.6 |
|---|---|---|---|---|---|
| SWR No.7 | SWR No.8 | SWR No.9 | SWR No.10 | SWR No.11 | SWR No.12 |
| SWR No.13 | SWR No.14 | SWR No.15 | SWR No.16 | SWR No.17 | SWR No.18 |
| SWR No.19 | SWR No.20 | SWR No.21 | SWR No.22 | SWR No.23 | SWR No.24 |

***5.** Each block denotes "5" and each bar denotes "1".
***6.** The order of block and bar for SWR may be reversed in the cable (e.g. No.6 may be ■▮ or ▮■)

## Environmental Characteristics

| | | |
|---|---|---|
| Temperature cycling | Installation | -30°C to 50°C (-22°F to +122°F) |
| | Operation | -40°C to 60°C (-40°F to +140°F) |
| | Transportation/Storage | -40°C to 60°C (-40°F to +140°F) |

## Qualifications

| Governing Body | Standard Code |
|---|---|
| Telcordia | GR-20 |

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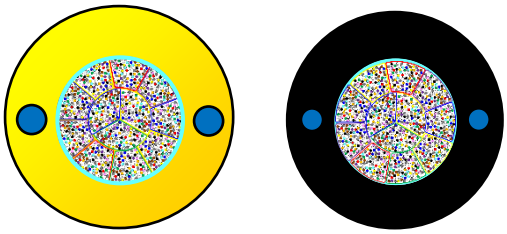
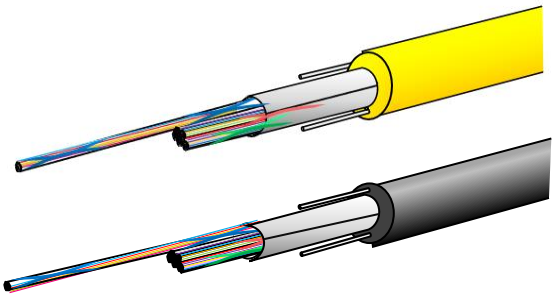
# Wrapping Tube Cable (WTC™) with 12 Fiber Spider Web Ribbon (SWR™) Indoor, Indoor/Outdoor WTC™ 144 – 6912F





The Wrapping Tube Cable (WTC™) with Spider Web Ribbon (SWR™) is an ultra-high density cable designed for fiber-to-the-home (FTTH), access markets, and data centers. WTC™ with SWR™ offers the smallest cable diameter and lowest weight among high-fiber count ribbon cables in the industry. It is available in fiber counts ranging from 144 to 6,912.
SWR™ is an intermittent bonded fiber ribbon design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. With the ability to roll and conform, the SWR™ provides ultra high density fiber packaging in the WTC™.
Indoor, Indoor/Outdoor WTC™ are compliant to requirements of both the European construction products regulation (CPR) and the North American standard UL. This incorporates the leading-edge Spider Web Ribbon technology in a robust, flame-retardant cable package that can be used within buildings and, because of the core water-blocking feature, can also be routed outside provided the cable is housed within covered pathway spaces including duct-banks and cable trays.

## Features

- UV Resistant (for Indoor/Outdoor)
- Full dry (gel-free) construction
- Mid Span Access
- Fully dielectric
- OFNR-ST1
- CPR Certified
- Splicing compatibility with 250µm Ribbon

## Application

- Indoor, Indoor/Outdoor installation
- Riser for vertical use in shafts or from floor to floor

## Physical & Mechanical Characteristics

| Fiber count | | | 144F | 192F | 288F | 432F | 576F | 864F | 1152F | 1728F | 2880F | 3456F | 6912F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cable diameter (in approx.) | | mm (in.) | 12.5 (0.492) | 13.0 (0.512) | 13.0 (0.512) | 14.5 (0.571) | 15.5 (0.610) | 17.0 (0.669) | 18.0 (0.709) | 21.5 (0.846) | 25.0 (0.984) | 25.5 (1.004) | 34.5 (1.358) |
| Cable weight (in approx.) | | kg/km (lbs/1000ft) | 165 (111) | 175 (118) | 190 (128) | 215 (145) | 240 (161) | 290 (219) | 325 (717) | 475 (320) | 615 (414) | 675 (454) | 955 (642) |
| Fibers per bundled unit | | | - | | | 72F | | | 144F | | 288F | 144F | 288F |
| Number of bundled units | | | - | | | 6 | 8 | 12 | 8 | 12 | 10 | 24 | 24 |
| Tensile performance (*1) | Short term(*2) | N | 1300 | | | | | 2700 | | | | | |
| | Long term | N | 399 | | | | | 810 | | | | | |
| Bending radius(*1) | Cyclic Flexing | mm | 125 | 130 | 130 | 145 | 155 | 170 | 180 | 215 | 250 | 270 | 345 |
| | Cable bend | mm | 125 | 130 | 130 | 145 | 155 | 170 | 180 | 215 | 250 | 270 | 345 |
| Compressive strength(*1) | | N/100mm | 2200 | | | | | | | | | | |
| Impact resistance(*1) | | N・m | 4.4 | | | | | | | | | | |

***1.** Reference standard : ANSI/ICEA S-104-696
***2.** Please follow the appropriate procedure that Fujikura recommends for pulling cable

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## Optical Fiber Characteristics

| Fiber Count | Fiber Diameter | Fiber Pitch | Fiber Type | MFD | Maximum Attenuation (Cabled) (dB/km) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1310 nm | 1383 nm (*3, 4) | 1550 nm |
| 144F to 6912F | 200 µm | 250 µm | SR15E-200 (ITU-T G.652.D and G.657.A1) | 8.6 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |

***3.** The value after hydrogen aging in optical fiber in accordance with IEC 60793-2-50 test procedure.
***4.** The value before coloring process

## Fiber Colors in 12F SWR

| No.1 | No.2 | No.3 | No.4 | No.5 | No.6 | No.7 | No.8 | No.9 | No.10 | No.11 | No.12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Blue | Orange | Green | Brown | Grey | White | Red | Black | Yellow | Violet | Pink | Turquoise |

## Stripe Ring Mark (*5, 6)

| SWR No.1 | SWR No.2 | SWR No.3 | SWR No.4 | SWR No.5 | SWR No.6 |
|---|---|---|---|---|---|
| SWR No.7 | SWR No.8 | SWR No.9 | SWR No.10 | SWR No.11 | SWR No.12 |
| SWR No.13 | SWR No.14 | SWR No.15 | SWR No.16 | SWR No.17 | SWR No.18 |
| SWR No.19 | SWR No.20 | SWR No.21 | SWR No.22 | SWR No.23 | SWR No.24 |

***5.** Each block denotes "5" and each bar denotes "1".
***6.** The order of block and bar for SWR may be reversed in the cable (e.g. No.6 may be ■▮ or ▮■)

## Environmental Characteristics

| | | |
|---|---|---|
| Temperature cycling | Installation | -30°C to 60°C (-22°F to +140°F) |
| | Operation | -40°C to 70°C (-40ºF to +158ºF) |
| | Transportation/Storage | -40°C to 70°C (-40°F to +158°F) |

Reference standard : ANSI/ICEA S-104-696

## Flame Retardant Characteristics

| Fiber count | 144, 192, 288, 432, 576, 864,1152, 1728F | 2880, 3456, 6912F |
|---|---|---|
| EN13501-6 Classification | Cca-s1b,d1,a1 | Cca-s1,d0,a1 |
| Vertical test | UL 1666 | |
| Fire propagation with smoke-release test | UL 1685 | |

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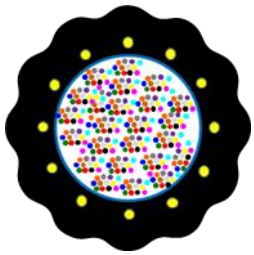
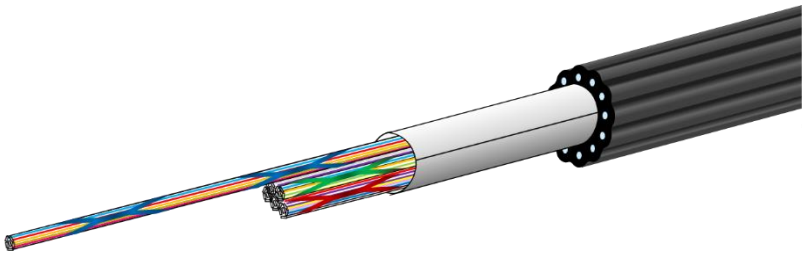
# Wrapping Tube Cable (WTC™) with 12 Fiber Spider Web Ribbon (SWR™)
# Air Blown WTC™ 48 – 864F





The Wrapping Tube Cable (WTC™), with Spider Web Ribbon (SWR™), is an ultra-high density outside plant cable designed specifically for fiber-to-the-home (FTTH), access markets, and hyperscale data center. Ultra-high density and a new ribbon technology called Spider Web Ribbon, WTC provides the smallest cable diameter and lowest weight, high-fiber count ribbon cable in the industry. WTC™ with SWR™ cables are available in fiber counts from 48 to 864.
SWR™ is a bonded fiber ribbon design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. With the ability to roll and conform, the SWR™ provides ultra high density fiber packaging in the WTC™.
Air Blown WTC™ is designed for easy installation using air blowing installation method. These cables have a lightweight and flexible construction, allowing them to be blown through pre-installed microducts or tubes. The compressed air creates a pathway for the cable, eliminating the need for traditional cable pulling methods. This technology enables quick and efficient deployment of fiber optic networks, saving time and reducing installation costs.

## Features

- Air blown installation
- UV Resistant
- Full dry (gel-free) construction
- Fully dielectric
- Splicing compatibility with 250µm Ribbon
- Mid Span Access

## Application

- Microduct

## Physical & Mechanical Characteristics

| | | | 48F | 72F | 96F | 144F | 192F | 288F | 432F | 576F | 864F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cable diameter (in approx.) | | mm (in.) | 6.1 (0.240) | | | 6.6 (0.260) | 7.3 (0.288) | 8.1 (0.319) | 9.7 (0.382) | 10.7 (0.422) | 12.3 (0.485) |
| Cable weight (in approx.) | | kg/km (lbs/1000ft) | 25 (17) | | | 30 (21) | 36 (25) | 45 (31) | 65 (44) | 80 (54) | 105 (71) |
| Fiber counts in bundled units | | | - | | | | 48F | 72F | | | |
| Number of bundled units | | | - | | | | 4 | | 6 | 8 | 12 |
| Tensile performance(*1) | Short term | N | 245 | | | 294 | 353 | 441 | 637 | 784 | 1030 |
| Bending radius(*1) | Cyclic flexing | mm | 122 | | | 132 | 146 | 162 | 194 | 214 | 246 |
| | Cable bend | mm | 122 | | | 132 | 146 | 162 | 194 | 214 | 246 |
| Compressive Strength(*1) | | N/ 100mm | 500 | | | | | | | | |
| Impact resistance(*1) | | N・m | 1 | | | | | | | | |

*1. Reference standard : IEC 60794-1-21

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## Optical Fiber Characteristics

| Fiber Count | Fiber Diameter | Fiber Pitch | Fiber Type | MFD | Maximum Attenuation (Cabled) (dB/km) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1310 nm | 1383 nm (*2, 3) | 1550 nm |
| 48F to 864F | 200 µm | 250 µm | SR15E-200 (ITU-T G.652.D and G.657.A1) | 8.6 ± 0.4 µm | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |

***2.** The value after hydrogen aging in optical fiber in accordance with IEC 60793-2-50 test procedure.
***3.** The value before coloring process

## Fiber Colors in 12F SWR

| No.1 | No.2 | No.3 | No.4 | No.5 | No.6 | No.7 | No.8 | No.9 | No.10 | No.11 | No.12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Blue | Orange | Green | Brown | Grey | White | Red | Black | Yellow | Violet | Pink | Turquoise |

## Stripe Ring Mark (*4, 5)

| SWR No.1 | SWR No.2 | SWR No.3 | SWR No.4 | SWR No.5 | SWR No.6 |
|---|---|---|---|---|---|
| ▮ | ▮▮ | ▮▮▮ | ▮▮▮▮ | ■ | ■▮ |
| SWR No.7 | SWR No.8 | SWR No.9 | SWR No.10 | SWR No.11 | SWR No.12 |
| ■▮▮ | ■▮▮▮ | ■▮▮▮▮ | ■■ | ■■▮ | ■■▮▮ |

***4.** Each block denotes "5" and each bar denotes "1".
***5.** The order of block and bar for SWR may be reversed in the cable (e.g. No.6 may be ■▮ or ▮■)

## Environmental Characteristics

| | |
|---|---|
| Temperature cycling(*6) | -30°C to 70°C (-22°F to +158°F) |

***6.** Reference: IEC 60794-1-22

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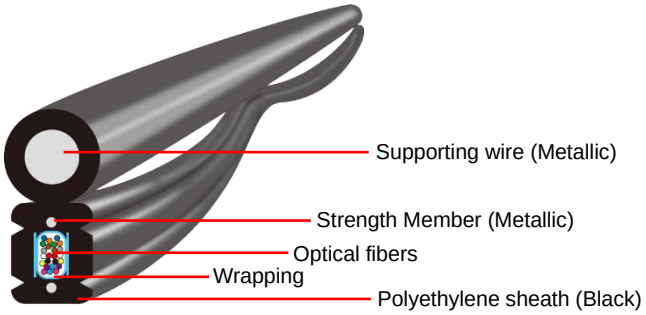
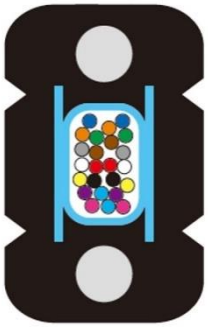
# Wrapping Tube Cable (WTC™) with 12 Fiber Spider Web Ribbon (SWR™)
# Self-Supporting Wire WTC™ 24F



* Suitable fillers may be included if necessary.

The Wrapping Tube Cable (WTC™) with Spider Web Ribbon (SWR™) is an ultra-high density outside plant cable designed for fiber-to-the-home (FTTH), access markets, and data centers. SWR™ is an intermittent bonded ribbon fiber design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. With the ability to roll and conform, the SWR™ provides ultra high-density fiber packaging in the WTC™.
Self-Supporting Wire WTC™ cable solution offers a flexible and efficient approach to deployment and reconfiguration. By enabling freedom of design, it reduces CAPEX, as proven by end-users who have achieved significant savings. The "Pay-&-Build-As-You-Grow" model ensures cost-effective scalability, positively impacting both CAPEX and OPEX expenditure. With easy training, short project schedules, and a fine-tuned FTTH solution, our technology simplifies implementation while prioritizing drop technology alongside distribution. We eliminate the need for specialized tools or personnel, making installation accessible to all.

## Features

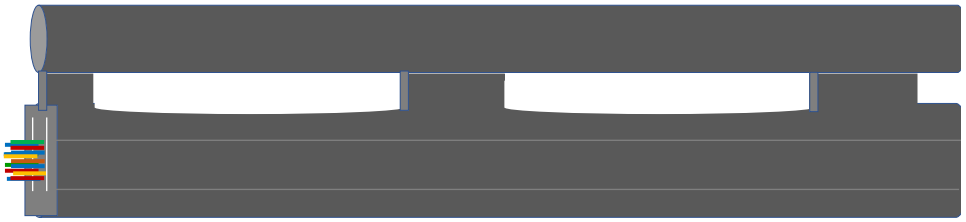
- UV Resistant
- Full dry (gel-free) construction
- Mid Span Access
- Reduced wind load
- Pay-&- build –As –you Grow
- Freedom of network design

## Application

- Aerial

## Window design

Self-Supporting Wire-WTC™ bonds to the supporting wire intermittently, and there is a slack between bonded point. it allows mid span access installation and realizes easy access to the fiber after deploying the cable to the filed.



- Self supporting aerial cable with even spaced windows between supporting wire & optical cable. It reduces almost 20% of the wind load.
- This design provides better aerodynamic characteristics & reduce fiber bends.
- Lower wind load enables lighter poles & longer lifetime for aerial infrastructures.
- Designed in excess cable/fiber length helps mid-span branching installation & reduce fiber strain on installed cable.

Contact us

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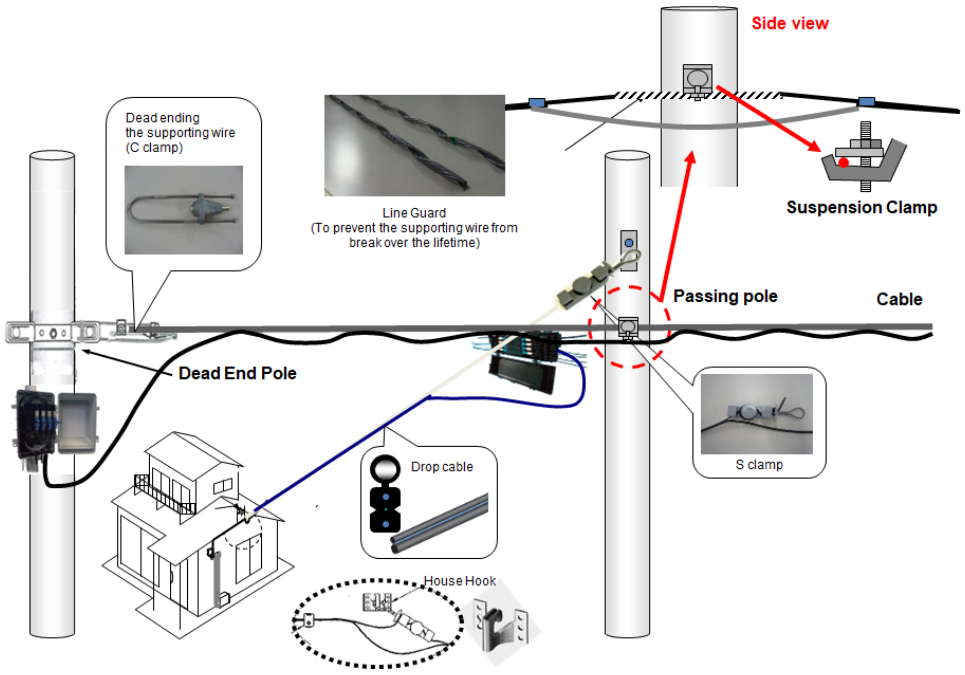
## Sample installation of Self-Supporting Wire WTC™




## Physical & Mechanical Characteristics

| | | | OG12WTGDE-SSW SR15E×24C |
|---|---|---|---|
| Fiber count | | - | 24 |
| Cable dimensions | | mm | Approx, 3.5 x 5.5 |
| Cable dimension (with supporting wire) | | mm | Approx, 4.0 x 10.5 |
| Cable weight | | kg/km | Approx. 75 |
| Permissible tensile strength | | N | 3000 |
| Permissible bending radius | with supporting wire | mm | 260 |
| | without supporting wire | mm | 100 |

## Optical Fiber Characteristics

| Fiber Count | Fiber Diameter | Fiber Pitch | Fiber Type | MFD | Maximum Attenuation (Cabled) (dB/km) | | |
|---|---|---|---|---|---|---|---|
| | | | | | 1310 nm | 1383 nm (*1, 2) | 1550 nm |
| 24F | 250um | 250um | ITU-T G.652.D and G.657.A1 | 8.6±0.4um | ≤ 0.40 | ≤ 0.40 | ≤ 0.30 |

***1.** The value after hydrogen aging in optical fiber in accordance with IEC 60793-2-50 test procedure.
***2.** The value before coloring process

## Environmental Characteristics

| | | |
|---|---|---|
| Temperature | Installation | -10°C to 50°C |
| | Operation | -30°C to 70°C |
| | Transportation/Storage | -30°C to 70°C |

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