# FlexRibbon® Technology



## What is FlexRibbon® Technology?

- Fibers in conventional ribbons are locked together. This enables mass-fusion splicing but reduces flexibility and wastes space.
- FlexRibbon fibers are loosely connected with intermittent bonds in a way that allows mass-fusion splicing, while providing massive improvements in flexibility and space-efficiency.

#### **Major Milestones:** 2017 2018 2019 2023 2020 2021 FlexRibbon cables Flame-Rated 6912 FlexRibbon 288F Indoor-Outdoor Launched FlexRibbon cables FlexRibbon® with 200um fiber FlexRibbon cables cable in 2-inch duct FlexRibbon cable for for Microducts technology in 12mm microduct North America

## Benefits of FlexRibbon® Technology

## **Smaller Tubes, Less Stress**

Conventional ribbons in a buffer tube are like a "square peg in a round hole". This leads to:

- · Wasted space (yellow area)
- · Stressed corner fibers (red highlights)

FlexRibbon fibers adapt to any space, which provides these improvements:

- · No wasted space
- Pressure is spread evenly over fibers, which improves optical performance
- · Buffer Tubes can be made much smaller without reducing performance

## **Smaller Cables**

Prysmian's 1728-count FlexRibbon cable is smaller than an 864-count cable made with flat ribbons.

### That's more than a 2X improvement in fiber density!

This provides many benefits, including:

- · More cable per reel; less waste
- · Lower shipping and storage costs
- · Better duct and vault utilization
- · Lower pole loading and make-ready costs

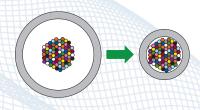
### Easier to Install

FlexRibbon Cables and Ribbons are also more flexible. As a result:

- · Placing, Figure-8'ing and coiling are faster and safer.
- · Tight spaces, smaller ducts and smaller vaults are easier to work with.
- · Splice tray prep is 80% faster.









864F Flat Ribbon Cable



1728F FlexRibbon Cable

Faster, easier installs save manpower and money.



### Prysmian

# FlexRibbon® Technology





288 Count Armored FlexRibbon Central Tube Cable



6912 Count FlexRibbon Cable

# Prysmian Group FlexRibbon™ Product Offerings

## **Outside Plant Products**

| Fiber<br>Count | Rating         | Fiber<br>Diameter | Cable OD<br>mm (in) | Duct / Fill<br>Ratio |  |
|----------------|----------------|-------------------|---------------------|----------------------|--|
| RICT           |                |                   |                     |                      |  |
| 06.177         | OSP Dielectric | 250µm             | 12.7 (0.50)         | 1" / 50%             |  |
| 96-144         | OSP Armored    |                   | 12.6 (0.50)         | 1" / 50%             |  |
|                | OSP Dielectric | 250µm             | 15.3 (0.60)         | 1" / 60%             |  |
| 288            | OSP Armored    |                   | 16.3 (0.64)         | 1" / 64%             |  |
|                | OSP Dielectric | 200µm             | 15.3 (0.60)         | 1" / 60%             |  |
|                | OSP Dielectric |                   | 18.8 (0.74)         | 1" / 74%             |  |
| 432            | OSP Armored    | 250µm             | 19.8 (0.78)         | 1" / 78%             |  |
|                | OSP Dielectric | 200µm             | 17.1 (0.67)         | 1" / 67%             |  |

## Multi-Tube

| (72  | OSP Dielectric | 250µm | 19.5 (0.77) | 1" / 77%    |
|------|----------------|-------|-------------|-------------|
| 432  | OSP Armored    |       | 22.9 (0.90) | 11/4" / 72% |
|      | OSP Dielectric | 250µm | 21.9 (0.86) | 11/4" / 69% |
| 864  | OSP Armored    |       | 25.3 (1.00) | 11/4" / 80% |
|      | OSP Dielectric | 200µm | 19.5 (0.77) | 1" / 77%    |
|      | OSP Dielectric | 250µm | 24.9 (0.98) | 11/4" / 78% |
| 1728 | OSP Armored    |       | 30.1 (1.19) | 1½" / 79%   |
|      | OSP Dielectric | 200µm | 24.9 (0.98) | 11/4" / 78% |
| 3456 | OSP Dielectric | 200µm | 30.9 (1.22) | 1½" / 81%   |
| 6912 | OSP Dielectric | 200µm | 38.9 (1.53) | 2" / 77%    |

## **Riser Products**

|  | Fiber<br>Count    | Rating       | Fiber<br>Diameter | Cable OD<br>mm (in) | Duct / Fill<br>Ratio |
|--|-------------------|--------------|-------------------|---------------------|----------------------|
|  | 288-432           | OFNR/FT4     | 200µm             | 15.8 (0.62)         | 1" / 62%             |
|  | 864               | OFNR/FT4     | 250µm             | 23.6 (0.93)         | 11/4" / 74%          |
|  |                   | OFNR/FT4     | 200µm             | 18.5 (0.73)         | 1" / 73%             |
|  |                   | OFNR/FT4/CPR |                   | 18.9 (0.74)         | 1" / 74%             |
|  | 1728              | OFNR/FT4     | 250µm             | 26.6 (1.05)         | 1½" / 70%            |
|  |                   | OFNR/FT4/CPR |                   | 1½" / 70%           |                      |
|  |                   | OFNR/FT4     | 200               | 26.0 (1.02)         | 11/4" / 82%          |
|  |                   | OFNR/FT4/CPR | 200µm             | 27.8 (1.09)         | 1½" / 73%            |
|  | 3456              | OFNR/FT4/CPR | 200µm             | 34.0 (1.34)         | 2" / 67%             |
|  | 288f<br>Microduct | OFNR/FT4     | 200µm             | 10.1 (0.40)         | 13mm / 77%           |

## **Microduct Products**

| Fiber<br>Count | Rating                  | Fiber<br>Diameter | Cable OD<br>mm (in) | Duct / Fill<br>Ratio |
|----------------|-------------------------|-------------------|---------------------|----------------------|
| 144-192        | Microduct<br>Microcable | 250µm             | 10.5 (0.41)         | 13mm / 81%           |
| 288            | Microduct<br>Microcable | 200µm             | 9.4 (0.37)          | 13mm / 72%           |
| 432            | Microduct<br>Microcable | 200µm             | 10.2 (0.40)         | 13mm / 78%           |
| 864            | Microduct<br>Microcable | 200µm             | 12.3 (0.48)         | 15mm / 82%           |

## **Flex Drop Products**

| Fiber<br>Count | Rating                 | Fiber<br>Diameter | Cable OD<br>mm (in)        | Duct / Fill<br>Ratio |
|----------------|------------------------|-------------------|----------------------------|----------------------|
| 12-24          | Round<br>Microcable    | 250µm             | 3.0 (0.12)                 | 4mm / 75%            |
| 12-24          | FlatDrop<br>Microcable | 250µm             | 4.3 x 8.3<br>(0.17 x 0.31) | 13mm / 80%           |

