

Introduction to FieldShield®

FieldShield Fiber, Drops and Microduct



Installing fiber where you want it, when you want it and cost-effectively is the promise of the FieldShield Optical Fiber Protection System. FieldShield is a turn-key system to take fiber through the fields and streets to the home or business, up the tower to the antenna or throughout the riser to the data center or desk. Used in conjunction with Clearfield® FieldSmart® fiber management solutions for the CO, Outside Plant and access network, FieldShield delivers and protects fiber through every distribution point of the network.

Components of the FieldShield System include:

- FieldShield Microduct
- FieldShield Pushable Optical Fiber and Connectors
- FieldShield Drop Cables
- FieldShield Assist Module and Accessories

FieldShield Microduct

FieldShield starts with a ruggedized microduct in a 10 mm or 14 mm outer diameter space-saving footprint across all deployment environments to support your aerial, direct-bury and inside plant last mile needs. FieldShield Microducts can be placed using traditional placement methods allowing you to leverage your existing conduit placement equipment of boring or plowing methods. FieldShield Microducts can also be placed using newer, less disruptive technologies such as saw cutting or micro-trenching. Due to the column strength of the FieldShield Microduct, occupied duct that was thought to be exhausted, can almost always accommodate FieldShield duct as the product can be deployed as a rod directly within the larger duct. Optional pulling carrots make installation of microduct inside a larger occupied duct a simple operation.

Available for aerial and buried environments in the outside plant as well as in a plenum configuration or riser environment, FieldShield Microduct provides the pathway to quickly deliver a crush-resistant FieldShield pushable fiber assembly.

FieldShield Pushable Optical Fiber and Connectors

Manufactured with bend-insensitive fiber, FieldShield Pushable Optical Fiber is strong enough to be stapled to walls and offers a built-in, bend-limiting function to prevent damage to fiber during installation. Available in bulk reels, FieldShield offers total installation flexibility. Terminated with a FieldShield Pushable Fiber Connector, the polymer properties unique to FieldShield Pushable Optical Fiber allow the assembly to be pushed or pulled through the FieldShield Microduct.

Terminating a FieldShield Pushable Fiber Connector onto FieldShield Fiber Cable allows it to be pulled or pushed through the FieldShield Microduct. Various connector styles are available including singlemode simplex SC/APC or SC/UPC, simplex or duplex LC/APC or LC/UPC and singlemode MPO. FieldShield Fiber Connectors are factory polished to achieve consistent high performance optical parameters. With a small profile, they can easily be pushed through FieldShield Microduct. The inner and outer housings are easily snapped in place by the technician in the field after the connector is pulled through the microduct. This factory pre-connectorized approach lowers installation costs by reducing costly labor in the field. Additionally, it presents a more reliable and consistent performance level compared to field installed connectors or field splices. Whether you choose to push or pull the fiber into the FieldShield Microduct, the PBT jacketing of the Clearfield FieldShield Pushable Fiber easily slips through the microducts smooth inner wall.



Introduction to FieldShield®

FieldShield Fiber, Drops and Microduct



FieldShield Drop Cables

Recognizing that no two networks are alike, Clearfield has developed the industry's widest choice of drop cable solutions – giving you the flexibility of configuration that best suits your network environment, network design and drop cable needs.

- FieldShield FLATdrop – lowest initial capital expenditure
- FieldShield D-ROP – flat drop functionality plus one-pass installation and easy restorability
- FieldShield FLEXdrop – increased flexibility for turns and bends. UL Listed for Plenum applications and UV stabilized for outdoor use as building wrap
- FieldShield Pushable Optical Fiber – increased rigidity for pushing/pulling extended distances through a ducted pathway
- FieldShield StrongFiber – innovative, spool-based technology offers craft-friendly deployment and simplified, small footprint slack storage

Utilizing factory terminated connectors, all FieldShield Drop Cables provide plug-and-play connectivity. When the assembly is equipped with a FieldShield FlexConnector, gone are the days of proprietary connections. The FlexConnector allows multiple size and type of last mile drop cables to interconnect the YOURx-Terminal and the YOURx-TAP.

FieldShield Assist Module and Other Accessories

Clearfield offers a number of FieldShield Microduct and Fiber Cable accessories to help install and complete a project. The FieldShield Assist Module can be used to enhance the pull/push experience by providing a continuous force on the FieldShield Fiber Cable being pushed into the FieldShield Microduct. Compared to hand push installation, the Assist Module can extend installations to 500 feet (152.40 meters) or more. The Assist Module also has an integrated clutch mechanism that releases the installation force should there be an unexpected resistance caused by too many corners passed or an excessively sharp bend of the microduct. Other accessories range from couplers and end caps to pulling eyes/carrots and socks for FieldShield Microduct and Fiber Cable.



FieldShield Fiber and Drop Cables



FieldShield Microduct

Inspect and clean EVERY connector BEFORE inserting into adapter. See page 161 for Cleaning Kits.

FieldShield®

Pushable Optical Fiber



Application

Designed to simplify the placement of fiber, FieldShield Pushable Optical Fiber reduces the cost of any fiber deployment, while providing industry leading protection when mated with FieldShield Microducts. Pushable Optical Fiber is either pulled or pushed through microduct at turn-up, maximizing installation efficiency. In the event of a later fiber cut, the fiber can be easily pulled from the microduct. The duct is then repaired and a new FieldShield Pushable Assembly is pushed or pulled through the microduct for a fast and cost-effective restoration.

Description

FieldShield Pushable Optical Fiber is a durable and crush resistant product that is suitable for most indoor or outdoor environments. Manufactured using PBT jacketing, pushable optical fiber offers flexibility as well as resistance to chemicals. FieldShield Pushable Optical Fiber is typically recommended to be used in conjunction with FieldShield Microduct.



Available in 1, 2, 6, 12, 24 and 48 fiber counts

Features and Benefits

Integrity

- Available in singlemode
- Supports all industry standard connectors

Protection

- Bend-insensitive (G.657.A2) fiber protects optical signal with minimal to zero attenuation down to a 10 mm radius
- Tough PBT jacketing provides high column strength and low coefficient of friction to maximize push and pull distances
- Lightweight and high crush resistance
- One and two fiber drops protected by water blocking Kevlar strength member
- 6 to 48-fiber utilize water blocking gel

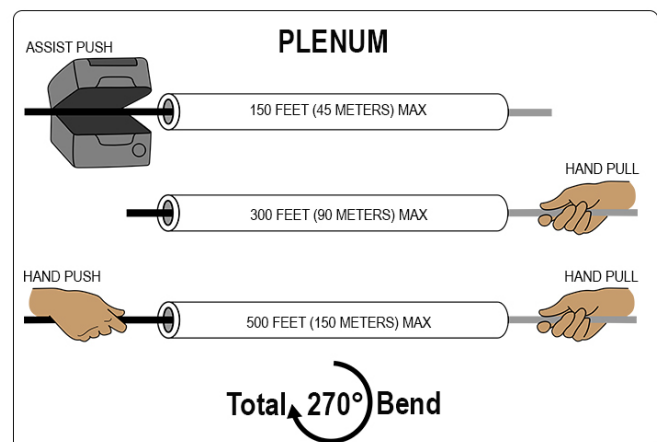
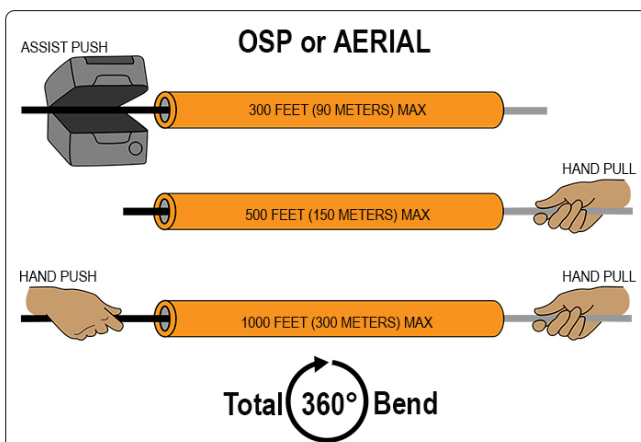
Access

- Standard color is black
- Tech-friendly 250 µm fiber inside the outer jacket reduces splicing steps and installation costs
- Suitable for all types of indoor and outdoor implementations within a microduct

Investment

- Pushes directly into a Clearview® Cassette, FieldShield is optimized for placement alongside Clearfield® FieldSmart® fiber management platforms
- Quick and easy deployment allows capital investment to be aligned to customer take rates
- Available in multiple fiber counts up to 48 fibers

Recommended Push/Pull



FieldShield®

Pushable Optical Fiber



Technical Specifications

FieldShield Pushable Optical Fiber	
Fiber	Corning ClearCurve Optical Fiber or equivalent
Water Peak	ZWP (Zero Water Peak)
Bend-Insensitive	Bend-Insensitive Fiber G.657.A2
Color Code	TIA/EIA 598 (US Standard)
Fiber Count	Any fiber count up to 48 fibers
Pushable Connectors	FieldShield SC/UPC, SC/APC, Simplex and Duplex LC/UPC, Simplex and Duplex LC/APC, MPO
Standard Connectors	SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, ST/UPC, HFOC SC/APC, MPO
Internal Fiber Size	250 µm
Outside Diameter	1 to 12-fiber : 0.118" (3 mm); 24-fiber: 0.156" (3.96 mm); 48-fiber :0.217" (5.51 mm)
Color	Black
Material	PBT
Bend-Radius	10 mm minimum
High Temperature Aging	(-40°C + 85°C) ≤ 0.05 dB/km
Temperature & Humidity Cycling	≤ 0.05 dB/km (at -10°C to 85°C and 95% RH)
Water Immersion (23 ± 2°C)	≤ 0.05 dB/km
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Installation Tension	20 lbf for 3 mm; 20 lbf for 4 mm
Markings	Part number, lot number and footage markers every two feet (609.60 mm)

Pre-Configured Part Numbers

Part Number	Description
FS-CA1-001-8ZD-B XXXX	FieldShield pushable optical fiber, 1-fiber (250 µm), singlemode, 3 mm jacket
FS-CA1-002-8ZD-B XXXX	FieldShield pushable optical fiber, 2-fiber (250 µm), singlemode, 3 mm jacket
FS-CA1-006-8ZD-B XXXX	FieldShield pushable optical fiber, 6-fiber (250 µm), singlemode, 3 mm jacket
FS-CA1-012-8ZD-B XXXX	FieldShield pushable optical fiber, 12-fiber (250 µm), singlemode, 3 mm jacket
FS-CA1-024-8ZE-B XXXX	FieldShield pushable optical fiber, 24-fiber (250 µm), singlemode, 4 mm jacket
FS-CA1-048-8ZF-B XXXX	FieldShield pushable optical fiber, 48-fiber (250 µm), singlemode, 5.5 mm jacket

FieldShield®

SC and LC Pushable Assemblies



Application

Designed to simplify the deployment of fiber where one or two fibers are required, FieldShield SC and LC Pushable Assemblies provide a tech-friendly field assembled connector that snaps together in seconds without jeopardizing fiber protection or optical reliability. FieldShield Pushable Assemblies greatly reduce installation costs for Fiber to the Home (FTTH) installations, business class services, cell backhaul or any other small count delivery application.

Description

FieldShield Pushable Assemblies are factory terminated and polished SC and LC connectors designed to be terminated on simplex and duplex FieldShield Pushable Optical Fiber Assemblies. After being pushed or pulled through FieldShield Microduct, the smooth wall protective sleeve is easily removed and an outer housing is snapped into place. This creates an industry standard connector without mechanical or fusion splicing. All SC and LC FieldShield Pushable Assemblies styles can be pushed/pulled in all FieldShield Microducts.



Features and Benefits

Integrity

- Terminations are designed and tested to Telcordia GR-326
- Available in singlemode SC/UPC, SC/APC, Simplex and Duplex LC/UPC, Simplex and Duplex LC/APC

Protection

- Smooth wall protective sleeve is easily removed and an outer housing is snapped into place
- Option for FlexConnector in YOURx applications

Access

- Zirconia ceramic ferrule measuring 1.25 mm O.D.
- Tool-less installation

Investment

- Tech-friendly pre-terminated pushable connectors rapidly decrease deployment times and reduce installation costs by eliminating in-field splicing
- Pushed directly into a Clearview® Cassette, FieldShield is optimized for placement alongside Clearfield's FieldSmart® fiber management platforms

Packaging



Lengths up to 32'
(9.75 m)



Lengths from 32' to 350'
(9.75 m to 106.68 m)



Lengths greater than 350' (106.68 m)

FieldShield®

SC and LC Pushable Assemblies



Accessories

Field Installable FlexConnector (FIFC)

- Once the cable has been prepped with the FlexConnector, the 3 mm cable is sandwiched between the two retainer clips. The FlexConnector is then pushed and snapped together with the retainer clips, pinching the grommet seal for a water-tight assembly.



Field Installable FlexConnector Pre-Configured Part Numbers

Part Number	Description
FS-FIFC-103-6PAK	Field installable FlexConnector, 10 mm Port, 3 mm Cable, Black Grommet, 6 Pack
FS-FIFC-143-6PAK	Field installable FlexConnector, 14 mm Port, 3 mm Cable, Gray Grommet, 6 Pack
FS-FIFC-144-6PAK	Field installable FlexConnector, 14 mm Port, 4 mm Cable, Red Grommet, 6 Pack

Description

For field installed applications, these three kits allow a water-tight transition from 3 mm and 4 mm cable, into the FlexPort. The kits include enough parts for six tool-less installations.

FieldShield®

MPO Pushable Assemblies



Application

Designed to simplify the deployment of fiber where multiple fibers are required, FieldShield MPO Pushable Assemblies provide a tech-friendly, field-assembled connector that snaps together in seconds without jeopardizing fiber protection or optical reliability. FieldShield Pushable Assemblies greatly reduce installation costs for Fiber to the Home installations, business class services, cell backhaul or any other small count delivery application.

Description

FieldShield Pushable Assemblies are factory terminated and polished. MPO Assemblies are designed to be terminated on 6, 12 or 24-fiber FieldShield Pushable Optical Fiber Assemblies. After being pushed or pulled through FieldShield Microduct, the black protective sleeve is easily removed and the green MPO outer housing is snapped into place creating an industry standard connector without mechanical or fusion splicing. FieldShield Pushable MPO Assemblies can be pulled/pushed in 14/10 mm FieldShield Microduct.

Features and Benefits

Integrity

- Terminations are designed and tested to Telcordia GR-326
- Available in singlemode 4, 6, 8, 12 and 24-fiber terminations
- FieldShield MPO Pushable Assemblies use high-quality components that keep the connector insertion loss to a maximum of 0.35 dB (1.00 dB 24 fiber)

Protection

- Smooth wall protective sleeve is easily removed and an outer housing is snapped into place

Access

- Thermoplastic high-precision ferrules
- Tool-less installation

Investment

- Tech-friendly, pre-terminated pushable assemblies decrease deployment times and reduce installation costs by eliminating in-field splicing
- Pushed directly up to a Clearview® Cassette, FieldShield is optimized for placement alongside FieldSmart® fiber management platforms



MPO Pushable Fiber in duct

Technical Specifications

FieldShield MPO Pushable Assemblies	
Connector Type	MPO
Ferrule Material	Thermoplastic
Polish Type	APC
Insertion Loss Typical	0.25 dB (12 fiber) 0.75 dB (24 fiber)
Maximum Insertion Loss	0.35 dB (12 fiber) 1.00 dB (24 fiber)
Minimum Return Loss	55.00 dB (12 and 24 fiber)

FieldShield®

Pushable 3 mm Optical Fiber with 900 μm Tight Buffer Fiber



Application

Designed to simplify the placement of fiber, FieldShield Pushable Optical Cable with 900 μm Tight Buffer Fiber reduces the cost of any fiber deployment while providing industry leading protection when mated with FieldShield Microducts. Pushable Fiber is either pushed or pulled through the microduct at turn-up, maximizing installation efficiency. Once deployed, the cable is cut to the specific application length and terminated with a CraftSmart® 900 μm Splice-On Connector.

Description

FieldShield Pushable Optical Cable is a durable and crush resistant product that is suitable for most indoor or outdoor environments. Manufactured using PBT jacketing, pushable optical fiber offers flexibility as well as resistance to chemicals. FieldShield Pushable Optical Fiber is typically recommended to be used in conjunction with FieldShield Microduct.



Features and Benefits

Integrity

- Available in singlemode
- Supports all industry standard connectors
- Only solution approved for use with FieldShield Pre-terminated Pushable Connectors

Protection

- Bend-insensitive (G.657.A2) fiber protects optical signal with minimal to zero attenuation down to a 10 mm radius
- Tough PBT jacketing provides high column strength and low coefficient of friction to maximize push and pull distances
- Lightweight and high crush resistance makes Pushable Optical Fiber strong enough to be stapled directly to walls studs, joists and around corners

Access

- Standard color is black
- Tech-friendly 900 μm fiber inside the outer jacket for applications where CraftSmart® Splice-On Connectors are used
- Suitable for all types of indoor and outdoor implementations

Investment

- Pushes directly into a Clearview® Cassette, FieldShield is optimized for placement alongside Clearfield® FieldSmart® fiber management platforms
- Quick and easy deployment allows capital investment to be aligned to customer take rates

Technical Specifications

FieldShield Pushable 3 mm Optical Fiber with 900 μm Tight Buffer Fiber	
Fiber	OFS All Wave Flex Fiber or equivalent
Water Peak	ZWP (Zero Water Peak)
Bend-Insensitive	Bend-Insensitive Fiber G.657.A2
Color Code	TIA/EIA 598 (US Standard)
Fiber Count	1 fiber
Pushable Connectors	FieldShield SC/UPC, SC/APC, LC/UPC, LC/APC
Standard Connectors	SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, ST/UPC, HFOC SC/APC
Mode	Singlemode
Internal Fiber Size	900 μm Tight Buffer
Color	Black
Outside Diameter	0.118" (3 mm)
Material	PBT
Bend-Radius	10 mm minimum
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Markings	Part number, lot number and footage markers every two feet (609.60 mm)

Physical Characteristics

FieldShield Pushable 3 mm Optical Fiber with 900 μm Tight Buffer Fiber	
Clad Diameter	125.0 ± 0.7 μm
Clad Non-circularity	≤ 1 %
Core/Clad Concentricity Error (Offset)	≤ 0.5 μm maximum, < 0.2 μm typically
Coating Diameter (Uncolored)	900 μm Tight Buffer
Coating-Clad Concentricity Error	(Offset) ≤ 12 μm
Tensile Proof Test	100 kpsi (0.69 GPa)
Coating Strip Force Range	≥ 0.3 lbf < 2.0 lbf (≥ 1.3 N < 8.9 N)

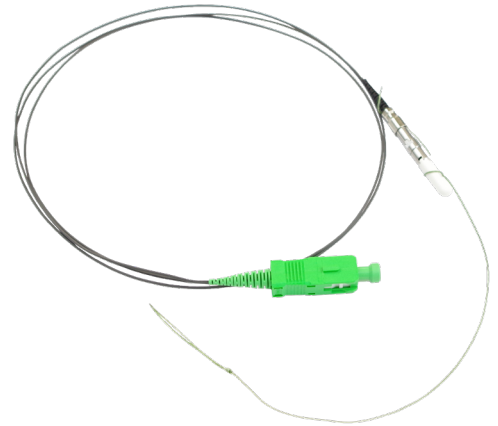
Pre-Configured Part Numbers

Part Number	Description
FS-CC1-001-8ZD-B 01000F	FieldShield pushable optical fiber, one fiber (900 μm), singlemode, 3 mm jacket, 1000 feet (304.80 m)
FS-CC1-001-8ZD-B 02000F	FieldShield pushable optical fiber, one fiber (900 μm), singlemode, 3 mm jacket, 2000 feet (609.60 m)

Application

Designed to simplify the placement of fiber, FieldShield StrongFiber reduces the cost of any fiber deployment while providing industry leading protection when combined with FieldShield Microducts. StrongFiber is pulled through microduct at turn-up maximizing installation efficiency. In the event of a duct or fiber being damaged or for future upgrades, the fiber can be easily pulled from the microduct. The duct is then repaired and a new FieldShield StrongFiber assembly is pushed or pulled through the microduct for a fast and cost-effective restoration or upgrade.

StrongFiber may be used in place of a traditional patch cord for reduced cable pileup within the route-path of new or traditionally oversubscribed frames within a central office, headend, data center or remote hut. StrongFiber is 85% smaller than traditional 3 mm patch cords and 69% smaller than 1.2 mm patch cords. The reduced size and weight makes the fiber less susceptible to micro-bends and makes it much easier to store using any fiber management element.



Description

FieldShield StrongFiber is a durable high tensile strength fiber when compared to other fibers of its size. It is suitable for both indoor and outdoor environments when used in FieldShield Microduct. Manufactured with premium bend-insensitive fiber, FieldShield StrongFiber offers high tensile strength to resist damage to the fiber during installation in the FieldShield Microducts. When terminated with a FieldShield Pullable Connector, the FieldShield StrongFiber can be quickly deployed in FieldShield Microduct, reducing installation time drastically.

Features and Benefits

Integrity

- Available in singlemode
- Supports all SC and LC connectors

Protection

- Bend-insensitive (G.657.A2) fiber protects optical signal with minimal to zero attenuation
- Lightweight with low coefficient of friction to maximize pull distances

Access

- Standard color is black
- Tech-friendly 900 μm fiber
- Suitable for all types of indoor implementations

Investment

- Quick and easy deployment allows capital investment to be aligned to customer take rates

Technical Specifications

Physical Glass Characteristics

FieldShield StrongFiber	
Fiber Size	250 μm
Clad Diameter	125.0 ± 0.7 μm
Clad Non-circularity	≤ 1 %
Core/Clad Concentricity Error (Offset)	≤ 0.5 μm maximum, < 0.2 μm typically
Coating Diameter (Uncolored)	235 - 245 μm
Coating-Clad Concentricity Error	(Offset) ≤ 12 μm
Tensile Proof Test	100 kpsi (0.69 GPa)
Coating Strip Force Range	≥ 0.3 lbf < 2.0 lbf (≥ 1.3 N < 8.9 N)

FieldShield StrongFiber	
Fiber	OFS All Wave Flex + Fiber or equivalent
Water Peak	ZWP (Zero Water Peak)
Bend-Insensitive	Meets G.657 A2
Color	Black
Length	Up to 300 feet (91.44 m)
Fiber Count	Single Fiber
Pullable Connectors	FieldShield SC/UPC, SC/APC
Standard Connectors	SC/UPC, SC/APC, LC/UPC, LC/APC
Mode	Singlemode
Outside Diameter	900 µm
Material	Thermoplastic Blend, Low Smoke/Fume, Non-Halogen Flame Retardant
Rating	OSP Temperature Rated
Bend-Radius	10 mm minimum
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Installation Tension	18 lbs (8.16 kg)

Performance Specifications

Connector Type	Ferrule Material	Polish Type	Ins. Loss Typical	Max. Ins. Loss	Min. Ret. Loss
SC	Ceramic	UPC	0.15 dB	0.20 dB	55.00 dB
LC	Ceramic	UPC	0.15 dB	0.20 dB	55.00 dB
SC	Ceramic	APC	0.18 dB	0.20 dB	65.00 dB
LC	Ceramic	APC	0.18 dB	0.20 dB	65.00 dB

Configured Part Numbers

F S - A S 1 - 0 0 1 - Z Z - Z Z XXXM or XXXF

Select Connector #1

B = Pullable SC/UPC
D = Pullable SC/APC
A = SC/UPC
C = SC/APC
E = LC/UPC
G = LC/APC

Select Connector #2

B = Pullable SC/UPC
D = Pullable SC/APC
A = SC/UPC
C = SC/APC
E = LC/UPC
G = LC/APC
Z = Pigtail

XXXM or XXXF

XXXM = Length in meters
XXXF = Length in feet

FieldShield®

StrongFiber Deploy Reel



Application

Due to the high variability of MDU architectures, extensive engineering has been required to ensure proper cable lengths for Fiber to the Premises deployments. The 4.5" (114.30 mm) FieldShield StrongFiber Deploy Reel minimizes pre-engineering because it allows StrongFiber to be pulled from the reel directly to the access point. Once the pullable connector has reached its destination, the connector assembly is completed with the supplied connector housings and the connector is mated to the adapter. The remaining slack on the reel is pre-stored with no further slack management required. The terminated end on the reel is pre-tested, cleaned and mated in a Clearfield® factory environment, leaving the technician to simply mate the patch cord to the adapter on the reel. The small form factor of the cable assembly and Deploy Reel allows the StrongFiber to be pulled and slack stored from the customer demarcation point. As an ISP Cable, StrongFiber reduces pre-engineering and on-site installation time for MDU and riser deployments.



Description

The FieldShield StrongFiber Deploy Reel is a 4.5" x 1" (114.30 mm x 25.40 mm) spool designed to hold up to 300 feet (91.44 m) of FieldShield StrongFiber. It has an integrated bulkhead and pre-mated adapter that can easily be mounted into a small form factor fiber management element. The small form factor of the 900 μ m fiber makes slack storage minimal and easy to accommodate, while the exceptional pull strength of StrongFiber makes it craft-friendly and easy for the technician to handle without fear of fiber damage. Less cable weight means reduced co-efficient of friction (COF). This results in quicker installations because there is minimal friction as the cable is pulled through bends and turns throughout the microduct route-path. Reducing the size requirements of the access point (above or below grade) provides a more aesthetically pleasing solution.

Features and Benefits

Integrity

- Terminations are designed and tested to Telcordia GR-326
- Supports singlemode SC connectors

Protection

- Deploying StrongFiber with a FieldShield StrongFiber Deploy Reel allows the installer to payout the exact amount of cable required and leave the remaining slack safely stored on the reel
- Exceptional pull strength makes it easier for the technician to handle without fear of fiber damage

Access

- Small form factor 900 μ m fiber makes slack storage minimal and easy to accommodate
- Straight forward, simple design means installation crews spend less time figuring out how to deploy
- Low co-efficient of friction (COF) allows StrongFiber to be pulled through bends and turns throughout the microduct route path with minimal friction, reducing deployment times

Investment

- Pre-terminated cable spools reduce upfront deployment costs by simplifying site survey inspections, reducing labor hours and streamlining cable deployment for MDU and Riser deployments

FieldShield® StrongFiber Deploy Reel



Technical Specifications

FieldShield StrongFiber Deploy Reel	
Dimensions	4.55" W x 1" H (114.30 mm x 25.40 mm)
Material	Black Thermoplastic
Storage Temperature	-40°F to 150°F (-40°C to 65°C)
Pullable Connectors	FieldShield® SC/APC and SC/UPC
Standard Connectors	SC/APC, SC/UPC
Fiber	FieldShield StrongFiber 900 µm
Cable Length	Up to 300 feet (91.44 m)

Configured Part Numbers

SRD - 1 1SA - 2 ZZ 3

1 Select Bulkhead Connector

A = SC/UPC
C = SC/APC

2 Select Pullable Connector

B = Pullable SC/UPC
D = Pullable SC/APC
Z = Pigtail

3 Select Cable Length

4 = 100 feet (30.48 m)
8 = 200 feet (60.96 m)
C = 300 feet (91.44 m)

YOURx-TAP

Description

Slack storage of excess fiber has always been an issue within network design and deployment. The YOURx-TAP, with the smallest demarcation footprint in the industry, provides the ability to store up to 600 feet (182.88 m) of slack fiber storage (300 feet - 91.44 m per reel) using the FieldShield Deploy Reel with 900 µm FieldShield StrongFiber. This eliminates the need for having a large, bulky and unsightly box on the side of an SFU, MDU or business location, to store excess or unused fiber.



Pre-Configured Part Numbers

Part Number	Description
TAPX-ZAA-ZZZZ-ZZZZ	YOURx-TAP, No Spools Loaded, Includes 1 Blank and 1 Dual Entrance Plate, Clearfield Logo

FieldShield StrongFiber Deploy Reel Wall Box

Description

The FieldSmart FDP-xWB1 Wall Box provides a NEMA 4 rated enclosure to distribute StrongFiber Deploy Reel drop cables to the indoor NID in a compact 9 x 12 inch (design).



Pre-Configured Part Numbers

Part Number	Description
FDP-XWB1-DEPLOY-01	Wall box, plastic, NEMA 4 rated, for FieldShield StrongFiber Deploy Reel, includes two 10 mm couplers and nuts, no Deploy Reel

Pull Sock

Description

The FieldShield Pull Sock provides a pulling eye to install pre-terminated SC pushable assemblies and blunt drops using the integrated pull string that comes standard in all FieldShield Microducts. The pull sock grips the outer jacket of FieldShield Optical Cables by compressing while under tension.



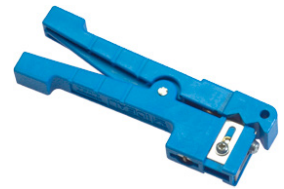
Pre-Configured Part Numbers

Part Number	Description
FS-PUL-3-4MM	FieldShield Pull Sock, for 3 to 5.5 mm FieldShield Pushable Fiber
FS-PUL-5-9MM	FieldShield Pull Sock, for 5 to 9 mm FieldShield Pushable Fiber

Rotary Fiber Tube Cutter

Description

Rotary Fiber Tube Cutter are designed to strip away the outer jacket from FieldShield Optical Fiber without damaging the fibers inside.



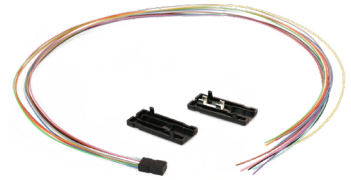
Pre-Configured Part Numbers

Part Number	Description
FS-TCUT-3-4MM	FieldShield Rotary Fiber Tube Cutter, for 3 mm to 5.5 mm jacket

Furcation Kits

Description

Available in 1, 2, 6 and 12-fiber kits, the FieldShield Furcation Kit provides all the components to up-jacket and terminate 250 µm FieldShield Pushable Fiber using a 900 µm Splice-On Connectors.



Pre-Configured Part Numbers

Part Number	Description
FS-900UM-01-03F	FieldShield Furcation Kit for 3 mm jacketing, 1-fiber 900 µm, yellow tubing, 3 feet (914.40 mm)
FS-900UM-02-02F	FieldShield Furcation Kit for 3 mm jacketing, 2-fiber 900 µm, colored tubing, 2 feet (609.60 mm)
FS-900UM-06-02F	FieldShield Furcation Kit for 3 mm jacketing, 6-fiber 900 µm, colored tubing, 2 feet (609.60 mm)
FS-900UM-12-02F	FieldShield Furcation Kit for 3 mm jacketing, 12-fiber 900 µm, colored tubing, 2 feet (609.60 mm)
FS-900UM-24-02F	FieldShield Furcation Kit for 4 mm tube, 12-fiber 900 µm, colored tubing, 36 inches (914.40 mm)

Fiber End Face Cleaning Kits

Description

The Fiber End Face Cleaning Kit is the ideal solution to clean fiber end faces effectively every time.



Pre-Configured Part Numbers

Part Number	Description
Cleankit-SC-01	Ferrule and V groove swabs, SFF flat swab, 2.5 mm foam swabs, portable platform, fiber wash MX cleaner pen
Cleankit-LC-01	Ferrule and V groove swabs, SFF flat swab, 1.25 mm ferrule swab portable platform, fiber wash MX cleaner pen
Clean MPO-01	MPO chamois swabs, 25 per tube

FieldShield®

Accessories - Assist Module

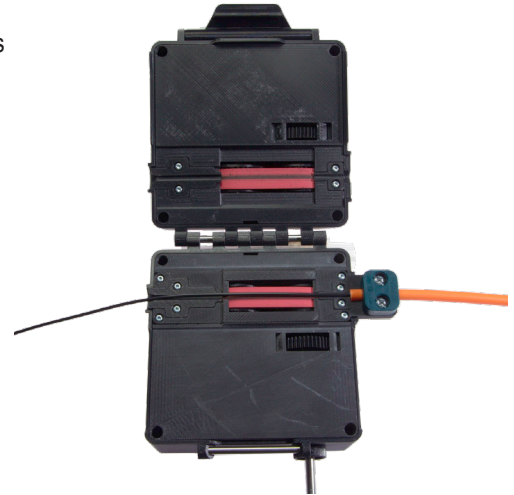


Application

The FieldShield Assist Module is specifically designed to speed up installation time and ease deployment of pushable fiber within FieldShield Microducts. Powered by any cordless drill, the FieldShield Assist Module enables FieldShield pre-connectorized and blunt end assemblies to be pushed quickly, at a constant and controlled speed, from the network access point to the end subscriber. Both lightweight and portable the FieldShield Assist Module is ideal for both internal and external use and can be mounted on a tripod, set on a flat work surface or hand-held when space is a premium.

Description

The FieldShield Assist Module is a hand-held, cordless drill-powered tool used to push FieldShield Fiber into unoccupied FieldShield Microduct. The Assist Module incorporates an integrated clutch that engages when resistance reaches a threshold that could damage the cable. This helps to eliminate potential catastrophic damage due to buckling or folding of the fiber. Cable can be pushed 500 feet (152.40 m) within OSP rated duct through four 90 degree turns or 300 feet (91.44 m) when pushing in plenum duct for an inside plant environment. When used in conjunction with the integrated pull string that comes standard in all FieldShield ducts, push/pull methods can provide longer distances.



Features and Benefits

Integrity

- Easy and intuitive use: open, clamp duct, insert FieldShield Optical Cable, close latch and apply a drill driven 1/4" (6.35 mm) hex socket

Protection

- Torque-limited clutch helps prevent folding, buckling and kinking of fiber
- Assist module prevents high compression loads on fiber during installation
- Glare resistant LCD display cover improves visibility in direct sunlight
- High-impact resistant polyurethane designed to be weather resistant for OSP environments

Access

- Tripod mount threading
- Integrated LCD counter gives installer instant feedback on distances pushed in feet or meters
- Works with 10 mm O.D. microducts and FieldShield Pushable Optical Fiber with diameter of 3 mm and 4 mm

Investment

- Assists in delivering pre-terminated fiber in a small footprint, eliminating time and higher skilled splicing labor
- Most economical, tech-friendly pushing machine on the market
- Individual serialization and labeling of each unit to track factory repairs and service

Pre-Configured Part Numbers

Part Number	Description
FS-ASSIST-T	FieldShield Assist Module, with mounting tripod
FS-ASSIST-KIT-BELT	FieldShield Assist Module, replacement belt kit (includes two belts)
FS-ASSIST-KIT-PLATE	FieldShield Assist Module, replacement wear plate kit (includes two wear plates)

FieldShield®

Accessories - Turn Table



Application

The FieldShield Turn Table assists in the deployment of the patch only models of the FieldShield SmartTerminal.

Description

Patch Only SmartTerminals are mounted on a spool (the size of spool is dependent on the fiber length). Carefully remove the spool from packaging and place the cable spool over the center post of the Deploy Reel. Once installed, the fiber can easily be pulled without damaging or tangling the fiber. The FieldShield Turn Table for deploying FieldShield products provides a sturdy base and turn table to safely deploy the feeder fiber while protecting the SmartTerminal during installation.

Features and Benefits

Integrity

- Wide/sturdy base allows for fibers to be deployed with use of Turn Table

Protection

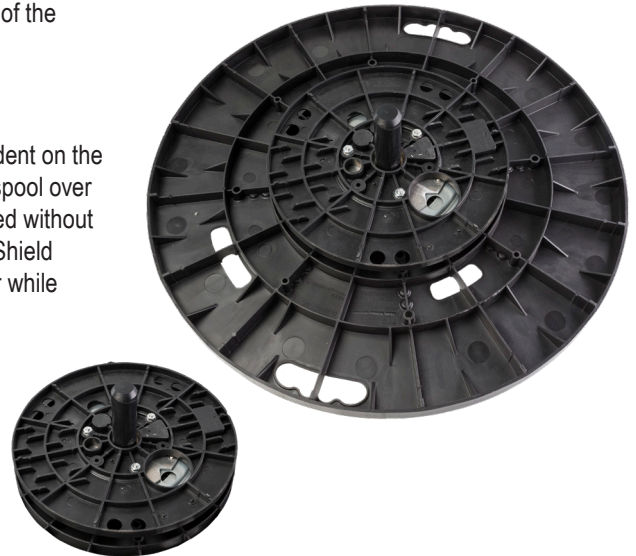
- Plastic construction allows for use in all environments

Access

- Two different sizes for multiple spool sizes

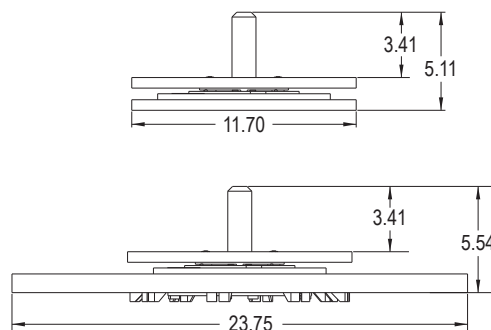
Investment

- Units can be used multiple times for additional projects



Pre-Configured Part Numbers

Part Number	Description
FMA-XXX-100	Turn Table, Small, for deploying FieldShield products, 12" base (304.80 mm)
FMA-XXX-101	Turn Table, Large, for deploying FieldShield products, 24" base (609.60 mm)



CraftSmart®

Splice-On Connector (SOC)



Application

Fiber assemblies are used in a variety of carrier networks and private network environments. In some applications, the fiber assembly cannot be deployed with factory terminated connectors. In other instances, there may be a need for quick fiber restoration in the field. CraftSmart Splice-On Connectors are designed for these applications.

Description

In situations where a factory terminated fiber assembly isn't possible, the CraftSmart Splice-On Connector provides the solution for consistent performance. Common applications include field restoration of a broken fiber or when the customer is using media that is expensive and/or difficult to store. In these cases, the customer prefers to cut the media to exact length for his purposes and then use the CraftSmart Splice-On Connector. The Clearfield® advantage is that the protection splice sleeve is directly under the boot, making the routing of the terminated end easier.

The CraftSmart Splice-On Connector is available in all industry standard connectors, including SC/UPC, SC/APC and LC/UPC. The Splice-On Connector meets, and even exceeds industry standard insertion and return loss. Pre-polished and pre-cleaved, the CraftSmart Splice-On Connector is packaged with all required connector components needed to splice a connector onto a 900 μm fiber in the field. CraftSmart Splice-on Connectors require the use of a fusion splicer with removable splice holders.



Features and Benefits

Integrity

- CraftSmart Splice-On Connector is available in all industry standard connectors
- Utilizes a fusion splice for minimal loss and long lasting dependability in any environment
- Meets or exceeds industry standard insertion loss and return loss

Protection

- Individually packaged to protect pre-stripped and cleaved fiber during storage
- Fusion splice is protected by a fusion splice sleeve under a color coded boot
- Ferrules are made of durable Zirconia

Access

- Compact 900 μm fusion splice design that reduces the overall footprint
- Pre-polished fiber end face and pre-stripped, pre-cleaved fiber ready to splice

Investment

- Singlemode, multimode (62.5 μm and 50 μm) and laser optimized available
- Universal holder works with common industry fusion splice machines

CraftSmart® Splice-On Connector (SOC)



Technical Specifications

CraftSmart Splice-On Connector (SOC)					
Mode Type	Singlemode/APC	Singlemode/UPC	Multimode/62.5 μm	Multimode/50 μm	Multimode/LO
Insertion Loss (maximum)	0.3 dB	0.3 dB	0.4 dB	0.4 dB	0.4 dB
Optical Return Loss	> 65 dB	> 55 dB	35 dB (typical)	35 dB (typical)	35 dB (typical)
Ferrule Type	Zirconia Pre-Polished Ferrules				
Color Code	Green	Blue	Beige	Black	Aqua
Operating Temperature	-40°C to 80°C	-40°C to 80°C	-40°C to 80°C	-40°C to 80°C	-40°C to 80°C
Industry Standards	RoHS Compliant, Compliant to Telcordia GR-326				

Compatible Splice Machines

Manufacturer	Splicer Model	Metal Holder Compatibility	Metal Holder Part Number	Universal Holder Compatibility
FIS	Super Cougar	All Versions	CSM-SOC-FIBER HOLDER-01	All Versions
AFL/Fujikura	FSM-11(S/M)	All Versions	SM-SOC-FIBER HOLDER-02	All Versions
	FSM-12S FSM-19S FSM-70S	All Versions	CSM-SOC-FIBER HOLDER-03	All Versions
	FSM-17S/R	SC and LC Only		N/A
	FSM-18S FSM-60 (S/R)	SC, LC and ST Only		
Furukawa/Fitel	S122 (A/C/M) S121 (A/M) S123 (C/M) S153 S178A	All Versions	CSM-SOC-FIBER HOLDER-04	All Versions
Sumitomo	Type-25e (U/S/M)	All Versions	CSM-SOC-FIBER HOLDER-05	All Versions
	Type-39FH Type-46 Type-65 Type-66 Quantum (Q101-CA)			N/A
INNO	IFS 10 IFS 15	All Versions	SM-SOC-FIBER HOLDER-06	N/A
Greenlee	910FS	All Versions	CSM-SOC-FIBER HOLDER-07	N/A

Pre-Configured Part Numbers

Part Number	Description
CSM-FCU-SM-6PAK	CraftSmart® Splice-On Connectors, FC/UPC, singlemode, 6 pack
CSM-LCU-SM-6PAK	CraftSmart Splice-On Connectors, LC/UPC, singlemode, 6 pack
CSM-SCA-SM-6PAK	CraftSmart Splice-On Connectors, SC/APC, singlemode, 6 pack
CSM-SCU-SM-6PAK	CraftSmart Splice-On Connectors, SC/UPC, singlemode, 6 pack
CSM-STU-SM-6PAK	CraftSmart Splice-On Connectors, ST/UPC, singlemode, 6 pack

FieldShield®

Pushable Optical Fiber



Application

Designed to simplify the placement of fiber, FieldShield Pushable Optical Fiber reduces the cost of any fiber deployment, while providing industry leading protection when mated with FieldShield Microducts. Pushable Optical Fiber is either pulled or pushed through microduct at turn-up, maximizing installation efficiency. In the event of a later fiber cut, the fiber can be easily pulled from the microduct. The duct is then repaired and a new FieldShield Assembly is pushed or pulled through the microduct for a fast and cost-effective restoration.

Description

FieldShield Pushable Optical Fiber is a durable and crush resistant product that is suitable for most indoor or outdoor environments. Manufactured using PBT jacketing, pushable optical fiber offers flexibility as well as resistance to chemicals. FieldShield Pushable Optical Fiber is typically recommended to be used in conjunction with FieldShield Microduct.



Available in 1, 2, 6, 12, 24 and 48 fiber counts

Features and Benefits

Integrity

- Available in singlemode
- Supports all industry standard connectors

Protection

- Bend-insensitive (G.657.A2) fiber protects optical signal with minimal to zero attenuation down to a 10 mm radius
- Tough PBT jacketing provides high column strength and low coefficient of friction to maximize push and pull distances
- Lightweight and high crush resistance
- One and two fiber drops protected by water blocking Kevlar strength member
- 6 to 48-fiber utilize water blocking gel

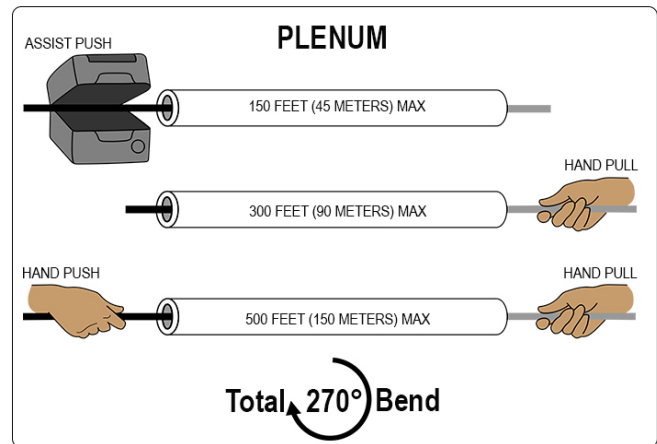
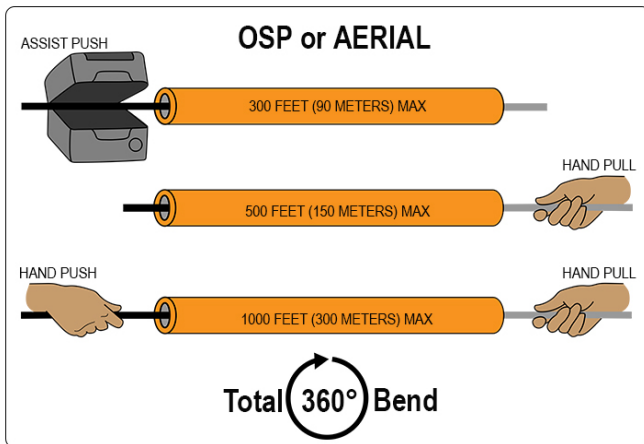
Access

- Standard color is black
- Tech-friendly 250 μ m fiber inside the outer jacket reduces splicing steps and installation costs
- Suitable for all types of indoor and outdoor implementations within a microduct

Investment

- Pushes directly into a Clearview® Cassette, FieldShield is optimized for placement alongside Clearfield® FieldSmart® fiber management platforms
- Quick and easy deployment allows capital investment to be aligned to customer take rates
- Available in multiple fiber counts up to 48 fibers

Recommended Push/Pull



FieldShield®

Pushable Optical Fiber



Technical Specifications

FieldShield Pushable Optical Fiber	
Fiber	Corning ClearCurve Optical Fiber or equivalent
Water Peak	ZWP (Zero Water Peak)
Bend-Insensitive	Bend-Insensitive Fiber G.657.A2
Color Code	TIA/EIA 598 (US Standard)
Fiber Count	Any fiber count up to 48 fibers
Pushable Connectors	FieldShield SC/UPC, SC/APC, Simplex and Duplex LC/UPC, Simplex and Duplex LC/APC, MPO
Standard Connectors	SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, ST/UPC, HFOC SC/APC, MPO
Internal Fiber Size	250 µm
Outside Diameter	1 to 12-fiber : 0.118" (3.0 mm); 24-fiber: 0.156" (3.96 mm); 48-fiber :0.217" (5.51 mm)
Color	Black
Material	PBT
Bend-Radius	10 mm minimum
High Temperature Aging	(-40°C + 85°C) ≤ 0.05 dB/km
Temperature & Humidity Cycling	≤ 0.05 dB/km (at -10°C to 85°C and 95% RH)
Water Immersion (23 ± 2°C)	≤ 0.05 dB/km
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Installation Tension	20 lbf for 3 mm; 20 lbf for 4 mm
Markings	Part number, lot number and footage markers every two feet (609.60 mm)

Pre-Configured Part Numbers

Part Number	Description
FS-CA1-001-8ZD-B 01000F	FieldShield boxed Pushable Optical Fiber, 1-fiber (250 µm), singlemode, 3 mm jacket, 1000 feet (305 m)
FS-CA1-001-8ZD-B 02000F	FieldShield boxed Pushable Optical Fiber, 1-fiber (250 µm), singlemode, 3 mm jacket, 2000 feet (610 m)
FS-CA1-001-8ZD-B 03000F	FieldShield boxed Pushable Optical Fiber, 1-fiber (250 µm), singlemode, 3 mm jacket, 3000 feet (914 m)
FS-CA1-001-8ZD-B 05000F	FieldShield boxed Pushable Optical Fiber, 1-fiber (250 µm), singlemode, 3 mm jacket, 5000 feet (1,524 m)
FS-CA1-002-8ZD-B 01000F	FieldShield boxed Pushable Optical Fiber, 2-fiber (250 µm), singlemode, 3 mm jacket, 1000 feet (305 m)
FS-CA1-002-8ZD-B 02000F	FieldShield boxed Pushable Optical Fiber, 2-fiber (250 µm), singlemode, 3 mm jacket, 2000 feet (610 m)
FS-CA1-002-8ZD-B 03000F	FieldShield boxed Pushable Optical Fiber, 2-fiber (250 µm), singlemode, 3 mm jacket, 3000 feet (914 m)
FS-CA1-006-8ZD-B 01000F	FieldShield boxed Pushable Optical Fiber, 6-fiber (250 µm), singlemode, 3 mm jacket, 1000 feet (305 m)
FS-CA1-006-8ZD-B 03000F	FieldShield boxed Pushable Optical Fiber, 6-fiber (250 µm), singlemode, 3 mm jacket, 3000 feet (914 m)
FS-CA1-012-8ZD-B 01000F	FieldShield boxed Pushable Optical Fiber, 12-fiber (250 µm), singlemode, 3 mm jacket, 1000 feet (305 m)
FS-CA1-012-8ZD-B 03000F	FieldShield boxed Pushable Optical Fiber, 12-fiber (250 µm), singlemode, 3 mm jacket, 3000 feet (914 m)
FS-CA1-024-8ZE-B 01000F	FieldShield boxed Pushable Optical Fiber, 24-fiber (250 µm), singlemode, 4 mm jacket, 1000 feet (305 m)
FS-CA1-024-8ZE-B 02000F	FieldShield boxed Pushable Optical Fiber, 24-fiber (250 µm), singlemode, 4 mm jacket, 2000 feet (610 m)
FS-CA1-024-8ZE-B 05000F	FieldShield boxed Pushable Optical Fiber, 24-fiber (250 µm), singlemode, 4 mm jacket, 5000 feet (1,524 m)
FS-CA1-048-8ZF-B 01500F	FieldShield boxed Pushable Optical Fiber, 48-fiber (250 µm), singlemode, 5.5 mm jacket, 1500 feet (457 m)
FS-CA1-048-8ZF-B 02500F	FieldShield boxed Pushable Optical Fiber, 48-fiber (250 µm), singlemode, 5.5 mm jacket, 2500 feet (762 m)

FieldShield®

FLEXdrop (UL Listed Plenum)



Application

Clearfield's FieldShield FLEXdrop cable provides the most flexible option of our FieldShield product line. The OSP-rated PVDF jacketing allows for transition of FLEXdrop from the OSP environment directly into the inside plant, with the added benefit of being UL listed for plenum applications. FLEXdrop is either pulled or pushed through microduct at turn-up, maximizing installation efficiency. In the event of a later fiber cut, the fiber can be easily pulled from microduct. The duct is then repaired and a new FieldShield Pushable Assembly is pushed or pulled through the microduct for a fast and cost-effective restoration.

Description

FieldShield FLEXdrop has more flexibility than standard FieldShield Optical Cable making it ideal for shorter drops where more handling and slack storage may be required. Whether it's used indoor or outdoor, the flexibility of the jacket allows for deployment with reduced jacket memory and decreases the risk of kinking. While FLEXdrop is typically used in conjunction with FieldShield Microduct solutions, in some applications, it can be stapled directly to walls and ceilings or used on building wrap applications securing with crown T18 staples.



Available in single and dual fiber count



Features and Benefits

Integrity

- Available in singlemode
- Supports all industry standard connectors

Protection

- UL listed for plenum applications for single fiber only
- Passed UV testing and measurement standards per ASTM G155 for UL 1581
- Bend-insensitive (G.657.A2) fiber protects optical signal with minimal to zero attenuation down to a 10 mm radius
- OSP rated PVDF jacketing provides ruggedized protection for the patchcord or pigtail
- Staple-ready for walls, joists and around corners, with Crown T-18 staples
- Swellable yarns for water blocking capabilities

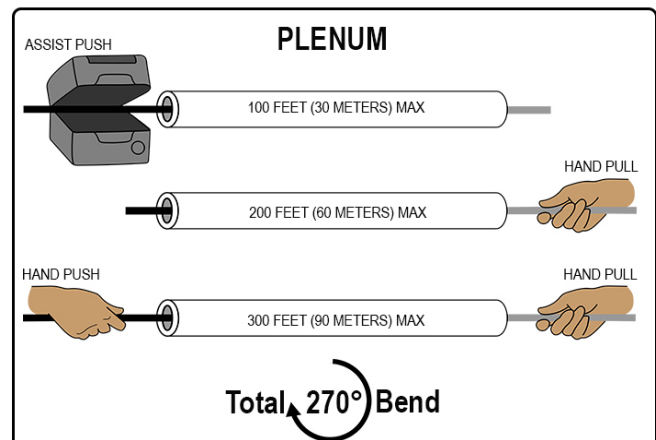
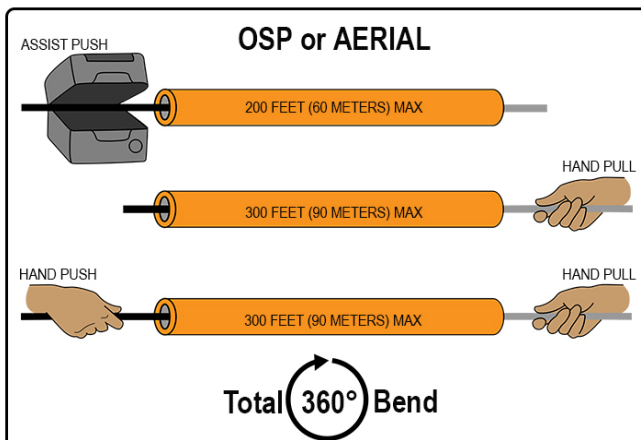
Access

- Standard color is black with an option for off-white
- Suitable for all types of indoor and outdoor implementations (duct required for aerial and direct bury)

Investment

- Quick and easy deployment allows capital investment to be aligned to customer take rates

Recommended Push/Pull



FieldShield®

FLEXdrop (UL Listed Plenum)



Technical Specifications

FieldShield FLEXdrop	
Fiber	Corning ClearCurve Optical Fiber or equivalent
Clad Diameter	125.0 ± 0.7 µm
Coating Diameter (Uncolored)	235 - 245 µm
Bend-Insensitive	Bend-Insensitive Fiber G.657.A2
Color Code	TIA/EIA 598 (US Standard)
Fiber Count	Single and dual fiber
Pushable Connectors	FieldShield SC/UPC, SC/APC, Simplex LC/UPC, Simplex LC/APC, Duplex LC/UPC, Duplex LC/APC
Standard Connectors	SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, ST/UPC, HFOC SC/APC
Mode	Singlemode
Internal Fiber Size	900 µm
Outside Diameter	0.118" (3 mm)
Color	Black or white
Material	PVDF
Bend-Radius	Standard to G.657.A2 specifications
Installation Temperature	-22°F to 131°F (-30°C to 55°C)
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Tension	20 lbf
Markings	Part number, lot number and footage markers every two feet (609.60 mm)
Cable Attenuation Spec	0.35 dB/km @ 1310 nm/0.25 dB/km @ 1550 nm
Recommended Drop Length	150 feet (45.72 m) or less for normal installation conditions

Pre-Configured Part Numbers

Part Number	Description
FS-CP1-001-6ZD-B 01000F	FieldShield FLEXdrop Optical Cable, Boxed, 1 Fiber, Bend Insensitive 900 µm Singlemode, 3 mm White Jacket, 1000 Feet (305 m)
FS-CP1-001-8ZD-B 01000F	FieldShield FLEXdrop Optical Cable, Boxed, 1 Fiber, Bend Insensitive 900 µm Singlemode, 3 mm Black Jacket, 1000 Feet (305 m)
FS-CP1-002-6ZD	FieldShield FLEXdrop Optical Cable, Boxed, 2 Fiber, Bend Insensitive 900 µm Singlemode, Plenum, UV, 3MM Jacket, White, 1000 Feet (305m)
FS-CP1-002-8ZD	FieldShield FLEXdrop Optical Cable, Boxed, 2 Fiber, Bend Insensitive 900 µm Singlemode, Plenum, UV, 3MM Jacket, Black, 1000 Feet (305m)

FieldShield®

FLEXdrop SC and LC Pushable Assemblies (UL Listed Plenum) —



Application

Designed to simplify the deployment of fiber, FieldShield FLEXdrop SC and LC Pushable Assemblies provide a tech-friendly field assembled connector that snaps together in seconds without jeopardizing fiber protection or optical reliability. FieldShield Pushable Assemblies greatly reduce installation costs for Fiber to the Home (FTTH) installations, business class services, cell backhaul or any other small count delivery application.

Description

FieldShield FLEXdrop SC and LC Pushable Assemblies are factory terminated and polished SC and LC connectors designed to be terminated on simplex FieldShield Pushable Optical Fiber Assemblies. After being pushed or pulled through FieldShield Microduct, the smooth wall protective sleeve is easily removed and an outer housing is snapped into place. This creates an industry standard connector without mechanical or fusion splicing. All SC and LC FieldShield Pushable Assemblies styles can be pushed/pulled in all FieldShield Microducts.



Features and Benefits

Integrity

- Terminations are designed and tested to Telcordia GR-326
- Available in singlemode SC/UPC, SC/APC, Simplex LC/UPC and Simplex LC/APC

Protection

- UL Listed for plenum applications
- Smooth wall protective sleeve is easily removed and an outer housing is snapped into place
- Passed UV testing and measurements standards per ASTM G155 for UL 1581
- Option for FlexConnector in YOURx applications

Access

- Zirconia ceramic ferrule measuring 1.25 mm O.D.
- Tool-less installation

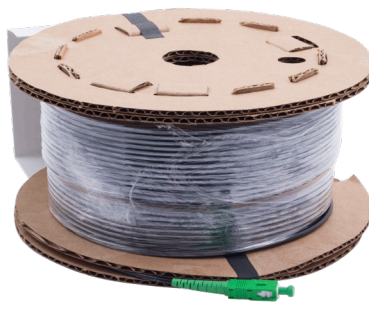
Investment

- Tech-friendly pre-terminated pushable connectors rapidly decrease deployment times and reduce installation costs by eliminating in-field splicing
- Pushed directly into a Clearview Cassette, FieldShield is optimized for placement alongside Clearfield's FieldSmart® fiber management platforms

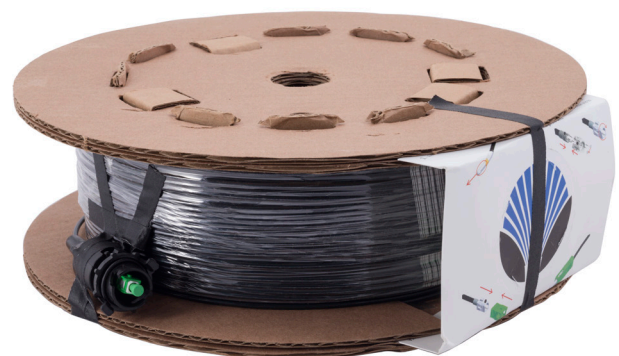
Packaging



Lengths up to 50'
(9.75 m)



Lengths from 50' to 350'
(9.75 m to 106.68 m)



Lengths greater than 350' (106.68 m)

Technical Specifications

Minimum Performance Specifications for Terminated Singlemode Connectors

Connector Type	Ferrule Material	Polish Type	Ins. Loss, Typical	Max. Ins. Loss	Min. Ret. Loss
SC or LC	Ceramic	UPC	0.15 dB	0.30 dB	55.00 dB
SC or LC	Ceramic	APC	0.20 dB	0.30 dB	65.00 dB

Configured Part Numbers

F S - A _____ - _____ - _____ - _____ **XXXXM or XXXXF**

1 2 3 4 5 6 7 8 9

1 Select Cable Type
P = FLEXdrop Black
W = FLEXdrop White

2 Select Mode/Type
2 = Singlemode (900 μm)

3 Select Fiber Count
001 = Simplex
002 = Duplex

4 Select Connector #1
1 = Pushable LC/UPC
2 = Pushable LC/APC
3 = Dual LC/UPC Unibody
4 = Dual LC/APC Unibody
B = Pushable SC/UPC
D = Pushable SC/APC
A = SC/UPC
C = SC/APC
E = LC/UPC
G = LC/APC
J = FC/UPC
K = FC/APC
M = ST/UPC
W = HFOC SC/APC

5 Select Breakout #1
U = Hardened Connector
Q = YOURx
Z = N/A

6 Select Upjacketing #1
Z = N/A

7 Select Connector #2
1 = Pushable LC/UPC
2 = Pushable LC/APC
3 = Dual LC/UPC Unibody
4 = Dual LC/APC Unibody
B = Pushable SC/UPC
D = Pushable SC/APC
A = SC/UPC
C = SC/APC
E = LC/UPC
G = LC/APC
J = FC/UPC
K = FC/APC
M = ST/UPC
W = HFOC SC/APC
Z = None

8 Select Breakout #2
U = Hardened Connector
Q = YOURx
Z = N/A

9 Select Upjacketing #2
Z = N/A

XXXXM or XXXXF
XXXXM = Length in meters
XXXXF = Length in feet

Accessories

Field Installable FlexConnector (FIFC)

- Once the cable has been prepped with the FlexConnector, the 3 mm cable is sandwiched between the two retainer clips. The FlexConnector is then pushed and snapped together with the retainer clips, pinching the grommet seal for a water-tight assembly.



Field Installable FlexConnector Pre-Configured Part Numbers

Part Number	Description
FS-FIFC-103-6PAK	Field installable FlexConnector, 10 mm Port, 3 mm Cable, Black Grommet, 6 Pack
FS-FIFC-143-6PAK	Field installable FlexConnector, 14 mm Port, 3 mm Cable, Gray Grommet, 6 Pack
FS-FIFC-144-6PAK	Field installable FlexConnector, 14 mm Port, 4 mm Cable, Red Grommet, 6 Pack

Description

For field installed applications, these three kits allow a water-tight transition from 3 mm and 4 mm cable, into the FlexPort. The kits include enough parts for six tool-less installations.

FieldShield®

FLEXdrop Deploy Reel



Application

Due to the high variability of MDU architectures, extensive engineering has been required to ensure proper cable lengths for Fiber-to-the-Premise deployments. The 4.5" (114.30 mm) FieldShield FLEXdrop Deploy Reel minimizes pre-engineering because it allows FLEXdrop to be pulled from the reel directly to the access point. Once the pushable connector has reached its destination, the connector assembly is completed with the supplied connector housings and the connector is mated to the adapter. The remaining slack on the reel is pre-stored with no further slack management required. The terminated end on the reel is pre-tested, cleaned and mated in a Clearfield® factory environment, leaving the technician to simply mate the patch cord to the adapter on the reel. The small form factor of the cable assembly and Deploy Reel allows the FLEXdrop to be pulled and slack stored from the customer demarcation point. As an ISP Cable, FLEXdrop reduces pre-engineering and on-site installation time for MDU and riser deployments.



Description

The FieldShield FLEXdrop Deploy Reel is a 4.5" x 2.125" (114.30 mm x 54.02 mm) spool designed to hold up to 100 feet (30.48 mm) of FieldShield FLEXdrop. The FLEXdrop 3mm fiber makes slack storage minimal and easy to accommodate, while the exceptional pull strength of FLEXdrop makes it craft-friendly and easy for the technician to handle without fear of fiber damage.

Features and Benefits

Integrity

- Terminations are designed and tested to Telcordia GR-326
- Supports singlemode SC connectors

Protection

- Deploying FLEXdrop with a FieldShield FLEXdrop Deploy Reel allows the installer to payout the exact amount of cable required and leave the remaining slack safely stored on the reel

Access

- Straight forward, simple design means installation crews spend less time figuring out how to deploy
- Available in 50 and 100 foot lengths

Investment

- Pre-terminated cable spools reduce upfront deployment costs by simplifying site survey inspections, reducing labor hours and streamlining cable deployment for SFU and MDU deployments

FieldShield® FLEXdrop Deploy Reel



Technical Specifications

FieldShield FLEXdrop Deploy Reel	
Dimensions	5.8" W x 2.125" H (147.30 mm x 54.02 mm)
Material	Black Thermoplastic
Storage Temperature	-40°F to 150°F (-40°C to 65°C)
Pullable Connectors	FieldShield® SC/APC and SC/UPC
Standard Connectors	SC/APC, SC/UPC
Fiber	FieldShield FLEXdrop 3mm, black and white
Cable Length	50 and 100 foot lengths (15.24 m and 30.48 m)

Configured Part Numbers

FDR - 1FA - ZZ

1
 2
 3

1 Select Bulkhead Connector

A = SC/UPC
C = SC/APC

2 Select Pullable Connector

B = Pullable SC/UPC
D = Pullable SC/APC

3 Select Cable Length

2 = 50 feet (15.24 m)
4 = 100 feet (30.48 m)

YOURx-TAP

Description

Slack storage of excess fiber has always been an issue within network design and deployment. The YOURx-TAP, with the smallest demarcation footprint in the industry, provides the ability to store up to 100 feet (30.48 m) of slack fiber storage using the FLEXdrop Deploy Reel with 3mm FieldShield FLEXdrop. This eliminates the need for having a large, bulky and unsightly box on the side of an SFU, MDU or business location, to store excess or unused fiber.



Pre-Configured Part Numbers

Part Number	Description
TAPX-ZAA-ZZZZ-ZZZZ	YOURx-TAP, No Spools Loaded, Includes 1 Blank and 1 Dual Entrance Plate, Clearfield Logo

FieldSmart Small Count Delivery (SCD) Wall Box

Description

The lockable, NEMA-4 rated enclosure is compact with two bottom entry/exit points, making it ideal for a variety of applications. This enclosure can utilize the larger format FLEXdrop Deploy Reel with extension flanges for 100 and 200 feet applications.



Pre-Configured Part Numbers

Part Number	Description
FDP-xWB1	Empty Wall Box With One Ship Along ¾ Strain Relief (External 12.17" H x 8.62" W x 3.91" D)
FDR-C1F1-DZZ4-01	FLEXdrop Deploy Reel, Large Format, SC/APC, 100 Feet
FDR-C1F1-DZZ8-01	FLEXdrop Deploy Reel, Large Format, SC/APC, 200 Feet

FieldShield®

D-ROP - Direct Bury 10/6 mm



Application

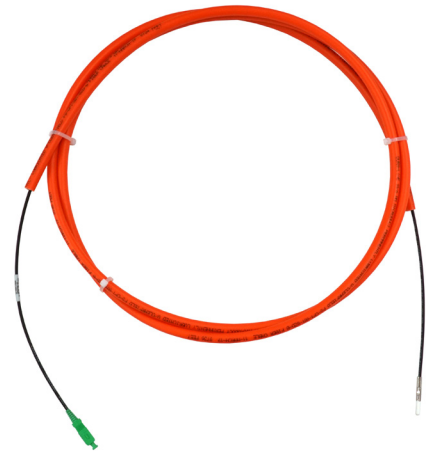
Building upon the restoration promise of FieldShield Pushable Fiber, FieldShield D-ROP is a pre-connectorized drop cable delivered to market pre-placed in microduct. The microduct plugs directly into the FieldShield FlexPort, providing an air-tight, water-tight connection between the YOURx-TAP and the YOURx-Terminal.

Installed as a single-pass deployment, FieldShield D-ROP provides ease of restoration. In the event of a future fiber cut, a field technician easily identifies the cut area, and utilizes a simple coupler and a FieldShield Fiber Assembly to restore service.

Description

D-ROP cable presents the same footprint as a flat drop cable with the added advantage of being restorable. As with all FieldShield ducted solutions, fiber cuts are located and microduct is repaired with repair kit. A new pushable assembly is installed, minimizing costs and time to restore the service outage. It provides a completely protected pathway from the access point directly to the premise, business or antenna with the option for restoration after accidental fiber cut.

D-ROP does not have the slack storage challenges that a flat drop presents because the duct slack can be ring cut and removed leaving only the fiber assembly.



Features and Benefits

Integrity

- Duct is compliant to Telcordia GR-3155
- Available with singlemode fiber

Protection

- FieldShield FlexConnector provides an air-tight, water-tight connection
- FieldShield Direct Bury Microduct has high tensile strength and crush resistance that withstands all types of implementations including open trenching, vibratory plowing and directional boring
- Duct is constructed from HDPE to prevent degradation

Access

- Available pre-terminated with SC and LC
- Includes bend-insensitive fiber
- Microduct pushes directly into a YOURx-Terminal or YOURx-TAP
- Integrated tone wire simplifies ground locating in direct bury applications
- Industry standard orange provides high visibility for direct bury applications

Investment

- Pre-connectorized for a labor-lite, plug-and-play installation

FieldShield®

D-ROP - Direct Bury 10/6 mm



Technical Specifications

FieldShield D-ROP - Direct Bury	
Outside Diameter	0.394" (10.01 mm); Oversheathed Toneable 0.50" (12.70 mm)
Inside Diameter	0.246" (6.25 mm)
Installation Tension	340 lbf
Bend Radius	Non-toneable: 6" (152.40 mm) Radius Minimum; Toneable: 7" (177.80 mm) Radius Minimum
Material	High Density Polyethylene (HDPE)
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	Orange
Tone Wire	Insulated Copper (Tone Only)
Tone Wire Diameter	0.032" (0.813 mm)/20 AWG (Tone Only)

Configured Part Numbers

F S D - 1 2 3 - 4 - 5 6 7 8 9 10 XXXXF

1 Select Duct Construction
D = 10/6 Direct Bury Non-Toneable
T = 10/6 Direct Bury Toneable

2 Select Duct Color
2 = Orange
8 = Black

3 Select Fiber Type
2 = Riser 2mm
3 = FLEXdrop 3mm

4 Select Fiber Count
001 = 1

5 Select Connector #1
A = SC/UPC D = Pushable SC/APC
B = Pushable SC/UPC E = LC/UPC
C = SC/APC G = LC/APC

6 Select Breakout
3 = 14" for FlexPort

7 Select Upjacketing
B = 2mm Ruggedized
D = 3mm Ruggedized

8 Select Connector #2
A = SC/UPC D = Pushable SC/APC
B = Pushable SC/UPC E = LC/UPC
C = SC/APC G = LC/APC

9 Select Breakout
3 = 14" for FlexPort
P = Pulling Eye

10 Select Upjacketing
Z = N/A

Select Length (XXXXF)

0050 = 50 ft. (15.24 mm)	0200 = 200 ft. (60.96 mm)
0075 = 75 ft. (22.86 mm)	0225 = 225 ft. (68.58 mm)
0100 = 100 ft. (30.48 mm)	0250 = 250 ft. (76.20 mm)
0125 = 125 ft. (38.10 mm)	0275 = 275 ft. (83.82 mm)
0150 = 150 ft. (45.72 mm)	0300 = 300 ft. (91.44 mm)
0175 = 175 ft. (53.34 mm)	

FieldShield®

D-ROP - Riser Rated 8.5/6 mm



Application

Building upon the restoration promise of FieldShield Pushable Fiber, FieldShield D-ROP is a pre-connectorized drop cable delivered to market pre-placed in microduct. The microduct plugs directly into the FieldShield FlexPort, providing an air-tight, water-tight connection between the YOURx-TAP and the YOURx-Terminal.

Installed as a single-pass deployment, FieldShield D-ROP provides ease of restoration. In the event of a future fiber cut, a field technician easily identifies the cut area, and utilizes a simple coupler and a FieldShield Fiber Assembly to restore service.

Description

D-ROP cable presents the same footprint as a flat drop cable with the added advantage of being restorable. As with all FieldShield ducted solutions, fiber cuts are located and microduct is repaired with repair kit. A new pushable assembly is installed, minimizing costs and time to restore the service outage. It provides a completely protected pathway from the access point directly to the premise, business or antenna with the option for restoration after accidental fiber cut.

D-ROP does not have the slack storage challenges that a flat drop presents because the duct slack can be ring cut and removed leaving only the fiber assembly.



Features and Benefits

Integrity

- Duct is compliant to Telcordia GR-3155
- UL-2024 Listed

Protection

- Riser Rated 8.5/6 mm Microduct has high tensile strength and crush resistance
- Designed for applications designated as riser air space

Access

- Industry standard beige provides high visibility for indoor installation applications in existing conduit and by itself

Investment

- Pre-connectorized for a labor-lite, plug-and-play installation

FieldShield®

D-ROP - Riser Rated 8.5/6 mm



Technical Specifications

FieldShield D-ROP - Riser Rated	
Outside Diameter	0.33" (8.5 mm)
Inside Diameter	0.23" (5.9 mm)
Installation Tension	96 lbf
Min. Bend Radius	76.2 mm/3 mm
Material	Thermoplastic
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	Beige
Tone Wire	N/A

Configured Part Numbers

F S D - - - - - XXXXF

1 2 3 4 5 6 7 8 9 10

1 Select Duct Construction
 P = 8.5/6 Plenum
 R = 8.5/6 Riser

2 Select Duct Color
 6 = White
 C = Beige

3 Select Fiber Type
 2 = Riser 2mm
 3 = FLEXdrop 3mm

4 Select Fiber Count
 001 = 1

5 Select Connector #1
 A = SC/UPC D = Pushable SC/APC
 B = Pushable SC/UPC E = LC/UPC
 C = SC/APC G = LC/APC

6 Select Breakout
 3 = 14" for FlexPort

7 Select Upjacketing
 B = 2mm Ruggedized
 D = 3mm Ruggedized

8 Select Connector #2
 A = SC/UPC D = Pushable SC/APC
 B = Pushable SC/UPC E = LC/UPC
 C = SC/APC G = LC/APC

9 Select Breakout
 3 = 14" for FlexPort
 P = Pulling Eye

10 Select Upjacketing
 Z = N/A

Select Length (XXXXF)

0050 = 50 ft. (15.24 mm)	0200 = 200 ft. (60.96 mm)
0075 = 75 ft. (22.86 mm)	0225 = 225 ft. (68.58 mm)
0100 = 100 ft. (30.48 mm)	0250 = 250 ft. (76.20 mm)
0125 = 125 ft. (38.10 mm)	0275 = 275 ft. (83.82 mm)
0150 = 150 ft. (45.72 mm)	0300 = 300 ft. (91.44 mm)
0175 = 175 ft. (53.34 mm)	

FieldShield®

D-ROP 7/3.5 mm



Application

Building upon the restoration promise of FieldShield Pushable Fiber, FieldShield D-ROP is a pre-connectorized drop cable delivered to market pre-placed in a 7 mm microduct. The FieldShield FlexConnector snaps into the FieldShield FlexPort, providing an air-tight, water-tight connection between the YOURx-TAP and the YOURx-Terminal.

Installed as a single-pass deployment, FieldShield D-ROP provides ease of restoration. In the event of a future fiber cut, a field technician easily identifies the cut area, and utilizes a simple coupler and a FieldShield Fiber Assembly to restore service.

Description

D-ROP cable presents the same footprint as a flat drop cable with the added advantage of being restorable. As with all FieldShield ducted solutions, fiber cuts are located and microduct is repaired with repair kit. Blunt fiber is then pulled and terminated with a splice-on connector, minimizing costs and time to restore the service outage. The pre-installed FlexConnector is plugged directly into the FlexPort opening of the YOURx-Terminal or YOURx-TAP, providing a completely protected pathway from the access point directly to the premise, business or antenna with the option for restoration after accidental fiber cut.

D-ROP does not have the slack storage challenges that a flat drop presents because the duct slack can be peeled or removed leaving only the fiber assembly.

FlexConnector Options

- Factory Installed: the connector is shipped permanently installed on the pre-connectorized cable.
- Field Installable: the connector is shipped separately to be installed in the field. This is an ideal solution for eliminating excess slack storage when standard cable lengths are used for custom drop distances. The FlexConnector can be field installed on the pre-connectorized cable (full plug-and-play) or blunt cable followed by a splice-on connector.

Features and Benefits

Integrity

- Duct is compliant to Telcordia GR-3155
- Available with singlemode fiber

Protection

- FieldShield FlexConnector provides an air-tight, water-tight connection
- FieldShield Direct Bury Microduct has high tensile strength and crush resistance that withstands all types of implementations including open trenching, vibratory plowing and directional boring
- Duct is constructed from HDPE to prevent degradation

Access

- Available pre-terminated with SC and LC or bulk for field installation
- Option for splice-on connector (utilizing fiber matrix 850 μm)
- Includes bend-insensitive fiber
- The FlexConnector installed onto microduct pushes directly into a YOURx-Terminal or YOURx-TAP
- Integrated tone wire simplifies ground locating in direct bury applications
- Industry standard orange provides high visibility for direct bury applications
- Available for aerial applications

Investment

- Available in bulk or pre-connectorized for a labor-lite, plug-and-play installation
- FieldShield FlexConnector available in 4 packs for field installations



Field Installable FlexConnector

www.SeeClearfield.com



D-ROP Opener



Bulk D-ROP Spool



D-ROP Deadend

1-800-422-2537

Technical Specifications

FieldShield D-ROP	
Outside Diameter	0.276" (7.01 mm)
Inside Diameter	0.146" (3.71 mm)
Material	HDPE
Connector Style	SC and LC
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Stringing Tension	To local regulations. Recommended not to exceed 0.2 KN
Min. Bend Radius	4.72" (119.89 mm)
Rated Cable Load	270 lbf (1.2 KN)
Duct Color	Orange (Direct Bury with tone) or Black (Aerial)
Tone Wire	Copper coated steel wire (Direct Bury only)
Markings	Part number, lot number, footage markers every foot
Breakout Length	12 inches (304.80 mm)

Accessories

- Field Installable FlexConnector (FSD-FIFC-4PAK)
 - Installer cuts duct to desired length in the field using a rotary cutter, then snaps on the FlexConnector. After fusing on the standard connector and passing through the FlexPort, the outer housing is attached and connected to the adapter.
- D-ROP Opener: splitter tool with 7 mm OD (FS-DUCT-OPENER)
- D-ROP Deadend (FS-DEADEND-LG7)

Configured Part Numbers

Factory Installed Connectors

F S D - 1 2 3 4 5 6 7 8 9 10 **XXXXF**

<p>1 Select Duct Construction A = 7 mm Aerial C = 7 mm Toneable</p>	<p>5 Select Connector #1 A = SC/UPC E = LC/UPC C = SC/APC G = LC/APC</p>	<p>9 Select Breakout Q = xTAP Z = N/A - Pigtail</p>
<p>2 Select Duct Color 2 = Orange 8 = Black</p>	<p>6 Select Breakout Q = xTAP</p>	<p>10 Select Upjacketing Z = N/A</p>
<p>3 Select Fiber Type 1 = Singlemode, 800 µm</p>	<p>7 Select Upjacketing Z = N/A</p>	<p>Select Length (XXXXF) 0050 = 50 ft. (15.24 mm) 0200 = 200 ft. (60.96 mm) 0075 = 75 ft. (22.86 mm) 0225 = 225 ft. (68.58 mm) 0100 = 100 ft. (30.48 mm) 0250 = 250 ft. (76.20 mm) 0125 = 125 ft. (38.10 mm) 0275 = 275 ft. (83.82 mm) 0150 = 150 ft. (45.72 mm) 0300 = 300 ft. (91.44 mm) 0175 = 175 ft. (53.34 mm)</p>
<p>4 Select Fiber Count 001 = 1</p>	<p>8 Select Connector #2 A = SC/UPC E = LC/UPC C = SC/APC G = LC/APC</p>	

Pre-Configured Part Numbers

Field-Installed Connectors

Part Number	Description
FS-MED-001-T-207-3280F	Bulk D-ROP, direct bury, toneable, orange, 7 mm O.D., 3280 foot (999.75 m) spool
FS-MEA-001-NT-807-3280F	Bulk D-ROP, aerial, black, 7 mm O.D., 3280 foot (999.75 m) spool
FSD-FIFC-4PAK	Field installable FlexConnector in 4 pack
FSD-FIFC-SCA-4PAK	Field installable FlexConnector with splice-on SC/APC connectors, 4 pack

Application

FieldShield FLATdrop is a drop cable solution for the access network such as FTTH and FTTB. FLATdrop takes industry standard flat drop cable that is factory pre-connectorized and incorporates a 10 mm FieldShield FlexConnector, providing simple plug-and-play connectivity between the YOURx-Terminal and YOURx-TAP.

Description

FieldShield FLATdrop is the first pre-connectorized flat drop style cable to provide hardened environmental performance on a flat drop style cable without the added cost or dependency on the market's existing bulky connector. Connectivity to access terminals is achieved through the innovative FlexConnector, which snaps into the YOURx-Terminal and YOURx-TAP, providing an air-tight and water-tight connection.

FlexConnector Options

- Factory Installed: the connector is shipped permanently installed on the pre-connectorized cable.
- Field Installable: the connector is shipped separately to be installed in the field. This is an ideal solution for eliminating excess slack storage when standard cable lengths are used for custom drop distances. The FlexConnector can be field installed on the pre-connectorized cable (full plug-and-play) or blunt cable followed by a splice-on connector.



Features and Benefits

Integrity

- Available in singlemode
- Supports most industry standard flat drop cable
- FlexConnector is designed and tested to GR-3120 using FieldShield FLATdrop

Protection

- FlexConnector provides an air-tight, water-tight connection
- Single loose-tube is gel-filled for ultimate water blocking protection
- FLATdrop peel-and-play cable allows for the outer jacket to be stripped back to expose the more flexible 3mm sub-unit, easing storage of terminated ends

Access

- Flat drop cable construction allows for installation in direct bury and aerial applications
- Pre-terminated with an SC, LC or MPO connector or with pigtail for customer choice application
- Toneable cables allow for traceability

Investment

- Leveraging the low cost of a traditional optical flat drop cable with option for plug-and-play field terminations
- Quick and easy deployment allows capital investment to be aligned to customer take rates
- FieldShield FlexConnector available in 4 packs for field installations

Technical Specifications

FieldShield FLATdrop	
Core Size and Type	Singlemode
Inner Cable Jacket OD	3.0 mm Ruggedized
Cable Types	Flat Drop Cable (Dielectric/Toneable)
Connector Type	SC, LC, MPO
Breakout Length	12 inches (304.80 mm)
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Color	Black
Markings	Part number, lot number, footage markers every two feet (609.60 mm)

Accessories

- Field Installable FlexConnector (FSH-FIFC-4PAK)
 - Once the cable has been prepped, the flat cable is sandwiched between the two retainer clips, pinched into place and then the FlexConnector is pushed and snapped together with the retaining clips



Field Installable FlexConnector

Configured Part Numbers

SC and LC Factory Installed Connector

F S H - 1 - 0 0 1 - - - - - XXXXF

1 2 3 4 5 6 7

1 Select Jacket Construction

T = FLATdrop Non-toneable (Non-rated)
 U = FLATdrop Toneable (Non-rated)
 3 = Peelable 900µm Non-Toneable (Non-rated)
 4 = Peelable 900µm Toneable (Non-rated)

2 Select Connector #1

A = SC/UPC D = SC/APC Pushable
 B = SC/UPC Pushable W = HFOC SC/APC
 C = SC/APC

3 Select Breakout

Q = YOURx (Factory Installed)
 Z = N/A for HFOC or Pigtail
 1 = YOURx (Ship-along)
 3 = 14" for FlexPort

4 Select Upjacketing

A = 900 µm
 D = 3mm Ruggedized
 K = 3mm Subunit
 Z = N/A

5 Select Connector #2

A = SC/UPC E = LC/UPC
 B = SC/UPC Pushable G = LC/APC
 C = SC/APC W = HFOC SC/APC
 D = SC/APC Pushable Z = Pigtail

6 Select Breakout

B = 1 Meter P = Pulling Eye
 C = ½ Meter Q = YOURx
 Z = N/A for HFOC or Pigtail 3 = 14" for FlexPort

7 Select Upjacketing

A = 900 µm
 D = 3mm Ruggedized (YOURx only)
 K = 3mm Subunit
 Z = N/A

XXXM or XXXF

XXXM = Length in meters
 XXXF = Length in feet

MPO Factory Installed Connector

H 1 - - - - - Q D - - - - - XXXXF or XXXF

1 2 3 4 5 6

1 Select Jacket Construction

E = FLATdrop Non-Toneable
 M = FLATdrop Toneable

2 Select Fiber Count

006 = 6
 012 = 12

3 Select Connector #1

N = Pushable MPO Male
 P = Pushable MPO Female

4 Select Connector #2

N = Pushable MPO Male
 P = Pushable MPO Female
 Z = Pigtail

5 Select Breakout #2

Q = YOURx
 Z = N/A

6 Select Upjacketing

D = YOURx
 Z = N/A

XXXM or XXXF

XXXM = Length in meters
 XXXF = Length in feet

Pre-Configured Part Numbers

SC Field Installed Connector

Part Number	Description
FSH-FIFC-4PAK	Field installable FlexConnector with pieces for 4 terminations
FSH-FIFC-SCA-4PAK	Field installable FlexConnector with splice-on SCA connectors and pieces for 4 terminations
020753-2000F	Bulk FLATdrop, toneable, 2.9mm Riser Subunit, 2000 foot (609.60 m) spool
020752-2000F	Bulk FLATdrop, non-toneable, 2.9mm Riser Subunit, 2000 foot (609.60 m) spool

FieldShield®

Field Installable FlexConnector (FIFC)



Application

The FieldShield Field Installable FlexConnector (FIFC) is an easy, tool-less way to create a water-tight seal when connecting FieldShield drop cable assemblies to the FieldShield FlexPorts in the YOURx-Terminal and YOURx-TAP in the OSP or building demarc.

Features and Benefits

Integrity

- FlexConnector designed and tested using FieldShield Drop Cables

Protection

- FieldShield FlexConnector provides an air-tight, water-tight connection

Access

- Suitable for all types of indoor and outdoor implementations utilizing the FlexPort

Investment

- Quick and easy deployment allows capital investment to be aligned to customer take-rates



FieldShield 3mm and 4mm Cable

Description

The Field Installable FlexConnector for FieldShield 3 and 4 mm cables completes the field installation options for FieldShield drop cable assemblies. Available for 3 mm cable with either a 10 or 14 mm FlexConnector or a 4 mm cable with a 14 mm FlexConnector, the simple design allows for installation in the field, without the need for heat shrink or specialized tools. Preconnectorized, pushable SC or MPO connectors, as well as pullable LC connectors, will easily pass through the FlexConnector.

Pre-Configured Part Numbers

Part Number	Description
FS-FIFC-103-6PAK	Field installable FlexConnector, 10 mm Port, 3 mm Cable, Black Grommet, 6 Pack
FS-FIFC-143-6PAK	Field installable FlexConnector, 14 mm Port, 3 mm Cable, Gray Grommet, 6 Pack
FS-FIFC-144-6PAK	Field installable FlexConnector, 14 mm Port, 4 mm Cable, Red Grommet, 6 Pack

FieldShield FLATdrop

Description

FieldShield FLATdrop is the first pre-connectorized flat drop style cable to provide hardened environmental performance on a flat drop style cable without the added cost or dependency on the market's existing bulky connector. Connectivity to access terminals is achieved through the innovative FlexConnector, which snaps into the YOURx-Terminal and YOURx-TAP, providing an air-tight and water-tight connection.

Pre-Configured Part Numbers

Part Number	Description
FSH-FIFC-4PAK	Field installable FlexConnector with pieces for 4 terminations
FSH-FIFC-SCA-4PAK	Field installable FlexConnector splice-on SCA connectors and pieces for 4 terminations
020519-2000F	Bulk FLATdrop, toneable, 2.9mm Riser Sub-unit, 2000 foot (609.60 m) spool
020484-2000F	Bulk FLATdrop, non-toneable, 2.9mm Riser Sub-unit, 2000 foot (609.60 m) spool



FieldShield®

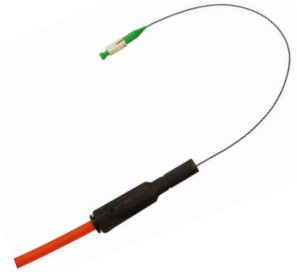
Field Installable FlexConnector (FIFC)



FieldShield D-ROP

Description

FieldShield D-ROP cable presents the same footprint as a flat drop cable with the added advantage of being restorable. As with all FieldShield ducted solutions, fiber cuts are located and microduct is repaired with repair kit. Blunt fiber is then pulled and terminated with a splice-on connector, minimizing costs and time to restore the service outage. The pre-installed FlexConnector is plugged directly into the FlexPort opening of the YOURx-Terminal or YOURx-TAP, providing a completely protected pathway from the access point directly to the premise, business or antenna with the option for restoration after accidental fiber cut.



Pre-Configured Part Numbers

Part Number	Description
FS-MED-001-T-207-3280F	Bulk D-ROP, direct bury, orange, 7 mm O.D., 3280 foot (999.75 m) spool
FS-MEA-001-NT-807-3280F	Bulk D-ROP, aerial, black, 7 mm O.D., 3280 foot (999.75 m) spool
FSD-FIFC-4PAK	Field Installable FlexConnector in 4 pack
FSD-FIFC-SCA-4PAK	Field Installable FlexConnector with splice-on SC/APC connectors, 4 pack

FieldShield®

Direct Bury 10/6 mm Microduct



Application

Simplifying the placement of fiber, while providing protection from harsh environmental elements, FieldShield Direct Bury 10/6 mm Microduct is specifically designed for applications requiring a small heavy duty drop feed. Rugged crush resistance protects FieldShield Direct Bury Microduct from the rigors of all industry standard ground deployment methods, while rigid column strength allows microducts to be deployed through occupied duct previously thought exhausted. Direct Bury 10/6 mm Microduct has an outer diameter of 10 mm and an inner diameter of 6 mm.

Description

FieldShield Direct Bury 10/6 mm Microduct is a durable and crush resistant micro-conduit designed to increase the protection of fiber while decreasing installation and maintenance expenses. Manufactured using high density polyethylene (HDPE), FieldShield Direct Bury Microduct offers superior durability and protection.



Features and Benefits

Integrity

- Compliant to Telcordia GR-3155

Protection

- Quick and easy to install
- Direct Bury Microduct has high tensile strength and crush resistance that withstands all types of ground implementations including open trenching, vibratory plowing, micro-trenching and directional boring
- Made from HDPE to prevent degradation

Access

- Optional external tone wire simplifies ground locating
- Industry standard orange provides high visibility for direct bury applications
- Standard nylon pull string simplifies deployment of fiber
- Smooth core slip lining reduces drag co-efficient enabling fiber to be pushed or pulled with minimal resistance
- Optional black color available to couple direct bury orange to a more aesthetically pleasing black color as it transitions above ground on the side of a living unit

Investment

- Maximizes capacity of existing conduit previously considered exhausted
- Provides industry leading protection for "last mile" feeds

FieldShield®

Direct Bury 10/6 mm Microduct



Technical Specifications

FieldShield Direct Bury 10/6 mm Microduct	
Length	2,000 feet (609.60 m) per spool (-0 / +5%)
Outside Diameter	0.394" (10.01 mm); Oversheathed Toneable 0.50" (12.70 mm)
Inside Diameter	0.246" (6.25 mm)
Wall Thickness	0.074" (1.88 mm)
Slip Layer	Minimum 0.004" (0.102 mm)
Ovality	≤ 5%
Installation Tension	340 lbf
Bend-Radius	Non-toneable: 6" (152.40 mm) radius minimum; Toneable: 7" (177.80 mm) radius minimum
Material	High Density Polyethylene (HDPE)
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	Orange and Black
Tone Wire	Insulated Copper
Tone Wire Diameter	0.032" (0.813 mm) / 20 AWG
Markings	Part number, lot number, footage markers every two feet (609.60 m)
Spool Size	12" ID x 24" OD x 20" W (304.80 mm x 609.60 mm x 508.00 mm)
Weight	Non-toneable: 71 lbs (32.21 kg); Toneable: 78 lbs (35.38 kg)

Pre-Configured Part Numbers

Part Number	Description
FS-DED-NT-210-PS-2000F	FieldShield Microduct, 10 mm, direct bury, non-toneable, orange, 2000 feet (609.60 m)
FS-MEO-T-210-2000F	FieldShield Microduct, 10 mm, direct bury, oversheathed toneable, orange, 2000 feet (609.60 m)
FS-MED-NT-810-2000F	FieldShield Microduct, 10 mm, direct bury, non-toneable, black, 2000 feet (609.60 m)

FieldShield®

Direct Bury 14/10 mm Microduct



Application

Simplifying the placement of fiber, while providing protection from harsh environmental elements, FieldShield Direct Bury 14/10 mm Microduct is specifically designed for applications requiring a small heavy duty drop feed. Rugged crush resistance protects FieldShield Direct Bury Microduct from the rigors of all industry standard ground deployment methods, while rigid column strength allows microducts to be deployed through occupied duct previously thought exhausted. Direct Bury 14/10 mm Microduct has an outer diameter of 14 mm and an inner diameter of 10 mm.

Description

FieldShield Direct Bury 14/10 mm Microduct is a durable and crush resistant micro-conduit designed to increase the protection of fiber while decreasing installation and maintenance expenses. Manufactured using high density polyethylene (HDPE), FieldShield Direct Bury 14/10 mm Microduct offers superior durability and protection.



Features and Benefits

Integrity

- Compliant to Telcordia GR-3155

Protection

- Quick and easy to install
- Direct Bury Microduct has high tensile strength and crush resistance that withstands all types of ground implementations including open trenching, vibratory plowing, micro-trenching and directional boring
- Made from HDPE to prevent degradation

Access

- Optional external tone wire simplifies ground locating
- Industry standard orange provides high visibility for direct bury applications
- Standard nylon pull string simplifies deployment of fiber
- Smooth core slip lining reduces drag co-efficient enabling fiber to be pushed or pulled with minimal resistance

Investment

- Maximizes capacity of existing conduit previously considered exhausted
- Provides industry leading protection for "last mile" feeds

FieldShield®

Direct Bury 14/10 mm Microduct



Technical Specifications

FieldShield Direct Bury 14/10 mm Microduct	
Length	Non-toneable: 1,500 feet (457.20 m) per spool; Toneable: 1,250 feet (381.00 m) per spool
Outside Diameter	Non-toneable: 0.551" (14.00 mm); Toneable: 0.66" (16.76 mm)
Inside Diameter	0.390" (9.91 mm)
Wall Thickness	0.079" (2.01 mm)
Slip Layer	Minimum 0.004" (0.102 mm)
Ovality	≤ 5%
Installation Tension	Non-toneable: 264 lbf; Toneable: 346 lbf
Bend-Radius	Non-toneable: 8" (203.20 mm) radius minimum; Toneable: 10" (254.00 mm) radius minimum
Material	High Density Polyethylene (HDPE)
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	Orange
Tone Wire	Insulated Stranded Copper
Tone Wire Diameter	0.032" (0.813 mm) / 20 AWG
Markings	Part number, lot number, footage markers every two feet (609.60 mm)
Spool Size	12" ID x 24" OD x 20" W (304.80 mm x 609.60 mm x 508.00 mm)
Weight	Non-toneable: 72 lb (32.66 kg); Toneable: 95 lbs (43.09 kg)

Pre-Configured Part Numbers

Part Number	Description
FS-DED-NT-214-PS-1500F	FieldShield microduct, 14 mm, direct bury, non-toneable, orange, 1500 feet (457.20 m)
FS-DEO-T-214-PS-1250F	FieldShield microduct, 14 mm, direct bury, oversheathed toneable, orange, 1250 feet (381.00 m)

FieldShield®

Direct Bury 14/10 mm Black Microduct



Application

Simplifying the placement of fiber, while providing protection from harsh environmental elements, FieldShield Direct Bury 14/10 mm Black Microduct is specifically designed for applications requiring a small heavy duty drop feed. Rugged crush resistance protects FieldShield Direct Bury Microduct from the rigors of all industry standard ground deployment methods, while rigid column strength allows microducts to be deployed through occupied duct previously thought exhausted. Direct Bury 14/10 mm Black Microduct has an outer diameter of 14 mm and an inner diameter of 10 mm.



Description

FieldShield Direct Bury 14/10 mm Black Microduct is a durable and crush resistant micro-conduit designed to increase the protection of fiber while decreasing installation and maintenance expenses. Manufactured using high density polyethylene (HDPE), FieldShield Direct Bury 14/10 mm Microduct offers superior durability and protection.

Features and Benefits

Integrity

- Compliant to Telcordia GR-3155

Protection

- Quick and easy to install
- Direct Bury Microduct has high tensile strength and crush resistance that withstands all types of ground implementations including open trenching, vibratory plowing, micro-trenching and directional boring
- Made from HDPE to prevent degradation

Access

- Standard nylon pull string simplifies deployment of fiber
- Ribbed core slip lining reduces drag co-efficient enabling fiber to be pushed or pulled with minimal resistance

Investment

- Maximizes capacity of existing conduit previously considered exhausted
- Provides industry leading protection for "last mile" feeds

Technical Specifications

FieldShield Direct Bury 14/10 mm Black Microduct	
Length	4,922 feet (1500.23 m) per spool
Outside Diameter	0.551" (14 mm +/- 0.2 mm)
Inside Diameter	0.390" (9.91 mm)
Wall Thickness	0.079" (2 mm +/- 0.2 mm)
Installation Tension	Non-toneable: 264 lbf; Toneable: 346 lbf
Bend-Radius	8" (203.20 mm) radius minimum
Material	High Density Polyethylene (HDPE)
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	Black
Markings	Part number, lot number, footage markers every two feet (609.60 mm)
Spool Size	40" OD x 24" W (1016.00 mm x 609.60 mm)
Weight	375 lbs (170.10 kg)

Configured Part Numbers

Part Number	Description
FS-MED-NT-814-PS-1500F	FieldShield microduct, 14 mm, Direct Bury, non-toneable, black, 1,500 feet (457 m)

FieldShield®

Plenum 10/6 mm Microduct



Application

Plenum rated microducts provide a self extinguishing raceway to protect and deploy optical fiber in airspaces, raised floors and other indoor applications designated as plenum air spaces. Plenum 10/6 mm Microduct has an outer diameter of 10 mm and an inner diameter of 6.9 mm.

Description

FieldShield Plenum 10/6 mm Microduct is a durable, polyvinylidene difluoride (PVDF) crush resistant microduct suitable for protecting fiber in any indoor application. Easily mated with an airtight and waterproof coupler, FieldShield Plenum Microducts integrate with direct bury and aerial microducts creating a single and continuous pathway from outside plant to inside plant environments.



Features and Benefits

Integrity

- Compliant to Telcordia GR-3155
- Conforms to UL-2024. ETL listed.

Protection

- Plenum rated material self-extinguishes flame and does not reignite
- High tension and crush resistance allows microduct to be pushed through existing conduit and around tight corners without degrading microduct

Access

- Quick and easy to install
- Small 10 mm footprint makes FieldShield ideal for all types of indoor implementations maximizing space in ladder racks, raised floors and air handling elevator shafts
- Smooth core enables fiber to be pushed or pulled with minimal resistance
- White color for easy identification

Investment

- Extends the capacity of existing conduit previously considered exhausted

FieldShield®

Plenum 10/6 mm Microduct



Technical Specifications

FieldShield Plenum 10/6 mm Microducts	
Length	2,000 feet (609.60 m) per spool (-0 / +5%)
Outside Diameter	0.394" (10.01 mm)
Inside Diameter	0.272" (6.91 mm)
Wall Thickness	0.059" (1.50 mm)
Slip Layer	Minimum 0.004" (0.102 mm)
Ovality	≤ 5%
Minimum Bend-Radius	6" (152.40 mm) radius, supported 4" (101.60 mm), unsupported 8" (203.20 mm)
Material	Polyvinylidene Difluoride (PVDF)
Rating	Plenum rated
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	White
Tone Wire	N/A
Tone Wire Diameter	N/A
Markings	Part number, lot number, footage markers every two feet (609.60 mm)
Spool Size	12" ID x 24" OD x 15" W (304.80 mm x 609.60 mm x 381.00 mm)
Weight	104 lbs (47 kg)

Pre-Configured Part Numbers

Part Number	Description
FS-MCP-NT-610-2000F	FieldShield Microduct, 10 mm, Indoor Plenum, non-toneable, white, 2000 feet (609.60 m)

FieldShield®

Plenum 12.7/10 mm Microduct



Application

Plenum rated microducts provide a self extinguishing raceway to protect and deploy optical fiber in airspaces, raised floors and other indoor applications designated as plenum air spaces. Plenum 12.7/10 mm Microduct has an outer diameter of 12.7 mm and an inner diameter of 10 mm.

Description

FieldShield Plenum 12.7/10 mm Microduct is a durable, polyvinylidene difluoride (PVDF) crush resistant microduct suitable for protecting fiber in any indoor application. Easily mated with an airtight and waterproof coupler, FieldShield Plenum Microducts integrate with direct bury and aerial microducts creating a single and continuous pathway from outside plant to inside plant environments.



Features and Benefits

Integrity

- Compliant to Telcordia GR-3155
- Conforms to UL-2024. ETL listed.

Protection

- Plenum rated material self-extinguishes flame and does not reignite
- High tension and crush resistance allows microduct to be pushed through existing conduit and around tight corners without degrading microduct

Access

- Quick and easy to install
- Small 10 mm footprint makes FieldShield ideal for all types of indoor implementations maximizing space in ladder racks, raised floors and air handling elevator shafts
- Straight ribs with silicone lining enables fiber to be pushed or pulled with minimal resistance
- White color for easy identification

Investment

- Extends the capacity of existing conduit previously considered exhausted

FieldShield®

Plenum 12.7/10 mm Microduct



Technical Specifications

FieldShield Plenum 12.7/10 mm Microducts	
Length	1,500 feet (457.20 m) per spool (-0 / +5%)
Outside Diameter	0.500" (12.70 mm)
Inside Diameter	0.408" (10.36 mm)
Wall Thickness	0.042" (1.07 mm)
Slip Layer	Minimum 0.004" (0.102 mm)
Ovality	≤ 5%
Minimum Bend-Radius	8" (203.20 mm) radius
Material	Polyvinylidene Difluoride (PVDF)
Rating	Plenum rated
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	White
Tone Wire	N/A
Tone Wire Diameter	N/A
Markings	Part number, date code, footage markers every two feet (609.60 mm)
Spool Size	12" ID x 24" OD x 20" W (304.80 mm x 609.60 mm x 508.00 mm)
Weight	125 lbs (57.00 kg)

Pre-Configured Part Numbers

Part Number	Description
FS-DCP-NT-612.7-PS-1500F	FieldShield Microduct, 12.7 mm, Indoor Plenum, non-toneable, white, 1500 feet (457.20 m)

FieldShield®

Riser Rated 10/6 mm Microduct



Application

Simplifying the placement of fiber, while providing protection for all indoor elements, FieldShield Riser Rated 10/6 mm Microduct is specifically designed for applications requiring small pathways in confined spaces. Rugged crush resistance protects FieldShield Riser Rated 10/6 mm Microduct from the rigors of all industry standard deployment methods, while the rigid column strength allows microducts to be deployed through occupied duct previously thought to be exhausted. Riser Rated 10/6 mm Microduct has an outer diameter of 10 mm and an inner diameter of 6 mm.



Description

FieldShield Riser Rated 10/6 mm Microduct is a durable, crush resistant micro-conduit designed to increase the protection of fiber while decreasing installation and maintenance expenses. Manufactured using high density thermoplastic, FieldShield Riser Rated Microduct offers superior durability and protection.

Features and Benefits

Integrity

- Compliant to Telcordia GR-3155
- UL-2024 listed

Protection

- Quick and easy to install
- Riser Rated 10/6 mm Microduct has high tensile strength and crush resistance
- Designed for applications designated as riser air space

Access

- Industry standard beige provides high visibility for indoor installation applications in existing conduit and by itself
- Standard nylon pull string simplifies deployment of fiber
- Smooth core slip lining reduces drag co-efficient enabling fiber to be pushed or pulled with minimal resistance

Investment

- Maximizes capacity of existing conduit previously considered exhausted
- Provides industry leading protection for any indoor riser rated application

FieldShield®

Riser Rated 10/6 mm Microduct



Technical Specifications

FieldShield Riser Rated 10/6 mm Microducts	
Length	2,000 feet (609.60 m) per spool (-0 / +5%)
Outside Diameter	0.394" (10.01 mm)
Inside Diameter	0.246" (6.25 mm)
Wall Thickness	0.074" (1.88 mm)
Slip Layer	Minimum 0.004" (0.102 mm)
Ovality	≤ 5%
Installation Tension	340 lbf
Minimum Bend-Radius	132.08 mm/5.2" radius
Material	Thermoplastic
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	White
Markings	Part number, lot number, footage markers every two feet (609.60 mm)
Spool Size	12" ID x 24" OD x 14" W (304.80 mm x 609.60 mm x 355.60 mm)
Weight	84 lbs

Pre-Configured Part Numbers

Part Number	Description
FS-DCR-NT-610-PS-2000F	FieldShield Microduct, 10 mm, riser, non-toneable, white, 2,000 foot (609.60 m) spool

FieldShield®

Riser Rated 14/10 mm Microduct



Application

Simplifying the placement of fiber, while providing protection for all indoor elements, FieldShield Riser Rated 14/10 mm Microduct is specifically designed for applications requiring small pathways in confined spaces. Rugged crush resistance protects FieldShield Riser Rated 14/10 mm Microduct from the rigors of all industry standard deployment methods, while the rigid column strength allows microducts to be deployed through occupied duct previously thought to be exhausted. Riser Rated 14/10 mm Microduct has an outer diameter of 14 mm and an inner diameter of 10 mm.



Description

FieldShield Riser Rated 14/10 mm Microduct is a durable, crush resistant micro-conduit designed to increase the protection of fiber while decreasing installation and maintenance expenses. Manufactured using high density thermoplastic, FieldShield Riser Rated Microduct offers superior durability and protection.

Features and Benefits

Integrity

- Compliant to Telcordia GR-3155
- UL-2024 listed

Protection

- Quick and easy to install
- Riser Rated 10/6 mm Microduct has high tensile strength and crush resistance
- Designed for applications designated as riser air space

Access

- Industry standard beige provides high visibility for indoor installation applications in existing conduit and by itself
- Standard nylon pull string simplifies deployment of fiber
- Smooth core slip lining reduces drag co-efficient enabling fiber to be pushed or pulled with minimal resistance

Investment

- Maximizes capacity of existing conduit previously considered exhausted
- Provides industry leading protection for any indoor riser rated application

FieldShield®

Riser Rated 14/10 mm Microduct



Technical Specifications

FieldShield Riser Rated 14/10 mm Microducts	
Length	1,500 feet (457.20 m) per spool (-0 / +5%)
Outside Diameter	0.551" (14 mm)
Inside Diameter	0.390" (9.90 mm)
Wall Thickness	0.079" (2.01 mm)
Slip Layer	Minimum 0.004" (0.102 mm)
Ovality	≤ 5%
Installation Tension	340 lbf
Minimum Bend-Radius	8" (203.20 mm) radius
Material	Thermoplastic
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	White
Markings	Part number, lot number, footage markers every two feet (609.60 mm)
Spool Size	12" ID x 24" OD x 20" W (304.80 mm x 609.60 mm x 508.00 mm)
Weight	96 lbs (43.54 kg)

Pre-Configured Part Numbers

Part Number	Description
FS-DCR-NT-614-PS-1500F	FieldShield Microduct, 14 mm, riser, non-toneable, white, 1,500 foot (457.20 mm) spool

FieldShield®

Aerial 10/6 mm Microduct



Application

Designed to simplify the placement of fiber, FieldShield Aerial 10/6 mm Microduct is a durable 10/6 solution, protecting fiber from exposed outdoor environments. FieldShield Aerial Microduct easily integrates into pole mounted distribution terminals providing an aerial pole to pole distribution and “last mile” drop to the customer premise.

Description

FieldShield Aerial 10/6 mm Microduct is a 10 mm diameter, self-supporting (figure-8 style) microduct intended to deploy fiber the same way an aerial drop is installed. Designed to comply with North American storm and ice loading standards, the strength member makes FieldShield Aerial 10/6 mm Microduct the solution for spanning up to 500 feet (152.40 m). The FieldShield Aerial 10/6 mm Microduct supports FieldShield Pushable Optical Fiber up to 3 mm in diameter.



7 strands of 1.6 mm galvanized steel (twisted)

Features and Benefits

Integrity

- Compliant to Telcordia GR-3155

Protection

- High crush and tension resistance protects duct from harshest environmental conditions
- Made with MDPE to prevent degradation from sun and elements

Access

- Industry standard black for high visibility in aerial applications
- External aerial strength support requires Clearfield FS-DEADEND-AD10 for dead end application
- Quick and easy to install in self-supporting aerial applications
- Smooth core with additional slip lining enables fiber to be pushed or pulled with minimal resistance
- Standard nylon pull string simplifies deployment of fiber when pulling or using a push/pull combo

Investment

- Tech-friendly deployment methods reduce installation expenses

FieldShield®

Aerial 10/6 mm Microduct



Technical Specifications

FieldShield Aerial 10/6 mm Microduct	
Outside Diameter	0.528" (13.4 mm +/- 0.2 mm)
Inside Diameter	0.236" (6 mm)
Minimum Bend Radius	8" (203.20 mm) radius
Maximum Tensile Load	2,900 lbs (1315.42 kg)
Rating Length	500 foot (152.40 m) span in North America heavy zone
Material	MDPE
Color	Black
Figure 8 Strength Wire Material	7 x 1.6 mm stranded galvanized
Markings	Part number, lot number, footage markers every foot
Spool Size	32" OD x 24" W (812.80 mm x 609.60 mm)

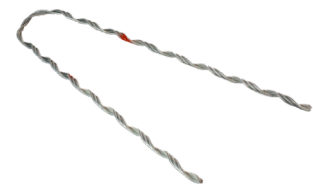
Pre-Configured Part Numbers

Part Number	Description
FS-MEA-T-810-PS-1300F	FieldShield Microduct, Aerial 10/6, figure 8, black, 1,300 foot (396.24 m) spool

Large Aerial Microduct Attachment

Description

FieldShield Large Aerial Microduct Attachment provides the quickest and easiest way to attach FieldShield Large 14/10 and 10/6 Figure-8 Microducts. Simply strip away the jacket from the support strand on the microduct to accommodate the dead end and place the attachment over the strand.



Pre-Configured Part Numbers

Part Number	Description
FS-DEADEND-AD10	Microduct, Aerial 14/10 and 10/6 Dead End, Large Cable

FieldShield®

Aerial 14/10 mm Microduct



Application

Designed to simplify the placement of fiber, FieldShield Aerial 14/10 mm Microduct is a durable 14/10 solution, protecting fiber from exposed outdoor environments. FieldShield Aerial Microduct easily integrates into pole mounted distribution terminals providing an aerial pole to pole distribution and “last mile” drop to the customer premise.

Description

FieldShield Aerial 14/10 mm Microduct is a 14 mm diameter, self-supporting (figure-8 style) microduct intended to deploy fiber the same way an aerial drop is installed. Designed to comply with North American storm and ice loading standards, the strength member makes FieldShield Aerial 14/10 mm Microduct the solution for spanning up to 500 feet (152.40 m). The FieldShield Aerial 14/10 mm Microduct supports FieldShield Pushable Optical Fiber up to 5.5 mm in diameter.



7 strands of 1.6 mm galvanized steel (twisted)

Features and Benefits

Integrity

- Compliant to Telcordia GR-3155

Protection

- High crush and tension resistance protects duct from harshest environmental conditions
- Made with HDPE to prevent degradation from sun and elements

Access

- Industry standard black for high visibility in aerial applications
- External aerial strength support requires Clearfield FS-DEADEND-AD10 for dead end application
- Quick and easy to install in self-supporting aerial applications
- Smooth core with additional slip lining enables fiber to be pushed or pulled with minimal resistance
- Standard nylon pull string simplifies deployment of fiber when pulling or using a push/pull combo

Investment

- Tech-friendly deployment methods reduce installation expenses

FieldShield®

Aerial 14/10 mm Microduct



Technical Specifications

FieldShield Aerial 14/10 mm Microduct	
Length	1,250 feet (381 m) per spool (-0 / +5%)
Outside Diameter	0.551" (14 mm +/- 0.2 mm)
Inside Diameter	0.390" (9.91 mm)
Wall Thickness	0.079" (2 mm +/- 0.2 mm)
Slip Layer	Minimum 0.004" (0.102 mm)
Max. Tensile Load	2,900 lbs. (1315.42 kg)
Ovality	≤5%
Crush Resistance	900 psi
Rating Length	500 foot (152.40 m) span in North America heavy zone
Minimum Bend-Radius	12" (304.80 mm) radius
Material	HDPE
Operating Temperature	-40°F to 176°F (-40°C to 80°C)
Installation Temperature	-14°F to 158°F (-26°C to 70°C)
Color	Black
Figure 8 Strength Wire Material	7 x 1.6 mm stranded galvanized
Markings	Part number, lot number, footage markers every foot
Spool Size	35" (889 .00 mm) No OD Reel
Weight (3,281 feet on spool)	394 lbs. (178 kg)

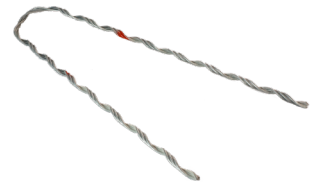
Configured Part Numbers

Part Number	Description
FS-MEA-T-814-PS-1250F	FieldShield Microduct, aerial 14/10, figure-8, black, 1,250 feet (381.00 m)

Large Aerial Microduct Attachment

Description

FieldShield Large Aerial Microduct Attachment provides the quickest and easiest way to attach FieldShield Large 14/10 and 10/8 Figure-8 Microducts. Simply strip away the jacket from the support strand on the microduct to accommodate the dead end and place the attachment over the strand.



Pre-Configured Part Numbers

Part Number	Description
FS-DEADEND-AD10	Microduct, Aerial 14/10 and 10/8 Dead End, Large Cable

Rotary Duct Cutter

Description

Rotary Duct Cutters are designed to make cutting all standard microducts as simple as possible without cutting the pull string inside.



Pre-Configured Part Numbers

Part Number	Description
FS-TCUT-8-10MM	FieldShield Rotary Duct Cutter, 8 to 14 mm microducts

Duct Cutter

Description

The Duct Cutter is used to make a clean, flat cut on any Clearfield® microduct products. It resembles a cigar cutter in that it has a fixed blade that is attached to a hinged mechanism to “cleave” the duct. This provides a clean cut that is suitable for insertion into a coupler. Care should be taken when handling the cutter as the blade is very sharp.



Pre-Configured Part Numbers

Part Number	Description
FS-DCUT-8-10MM	FieldShield Duct Cutter, 8 mm to 14 mm microducts

De-Burring Tool

Description

Microduct De-Burring Tools are designed to make chamfering the inside of microducts simple, helping to ensure pushing and pulling are smooth operations. It is used after a cut has been made to the microduct and prior to inserting a cut microduct into a coupler. The purpose of the de-burring tool is to form a conical shape on the inside surface of the microduct that, after insertion into a coupler, allows the fiber to glide between microducts with ease.



Pre-Configured Part Numbers

Part Number	Description
FS-MD-DBR-TOOL	FieldShield Microduct De-Burring Tool, 8 mm to 10 mm, blue

Microduct Proofing Mandrel

Description

The FieldShield Microduct Proofing Mandrels allow the installer to proof duct installation prior to push/pull the drop.



Pre-Configured Part Numbers

Part Number	Description
FS-DUCT-PROOFING-KIT	Proofing Mandrel for 6 mm and 10 mm duct, which includes 2000F spool of pull string
FS-DUCT-PROOFING-TOOL	Proofing Mandrel for 6 mm and 10 mm duct

Replacement Pull String

Description

The FieldShield Replacement Pull String allows the installer to replace string in microduct or blow string into unoccupied duct.



Pre-Configured Part Numbers

Part Number	Description
FS-PUL-STRING-2000F	Replacement Pull String, 50 lb., 2000 Foot Spool
FS-PUL-YOURX	Pulling Tool, YOURx Breakout, for 50 lb. Maximum Pulling Force, 10mm FlexPort

Airtight Coupler

Description

Airtight Couplers are designed to provide simple, 2-click plug-and-play joining of microducts, enabling longer runs and safe pushing and pulling performance.



Pre-Configured Part Numbers

Part Number	Description
FS-CPLR-7MM-7MM-10	FieldShield Microduct Airtight Coupler, 7 mm to 7 mm, 10 pack
FS-CPLR-8MM-8MM-10	FieldShield Microduct Airtight Coupler, 8 mm to 8 mm, 10 pack
FS-CPLR-10MM-10MM-10	FieldShield Microduct Airtight Coupler, 10 mm to 10 mm, 10 pack
FS-CPLR-12.7MM-12.7MM-10	FieldShield Microduct Airtight Coupler, 12.7 mm to 12.7 mm, 10 pack
FS-CPLR-14MM-14MM-10	FieldShield Microduct Airtight Coupler, 14 mm to 14 mm, 10 pack

Airtight Transition Coupler

Description

Airtight Transition Couplers are used to join two different sizes of microduct.



Pre-Configured Part Numbers

Part Number	Description
FS-CPLR-8MM-10MM-10	FieldShield Microduct Airtight Transition Coupler, 8 mm to 10 mm, 10 pack
FS-CPLR-10MM-12.7MM-10	FieldShield Microduct Airtight Transition Coupler, 10 mm to 12.7 mm, 10 pack
FS-CPLR-12.7MM-14MM-10	FieldShield Microduct Airtight Transition Coupler, 12.7 mm to 14 mm, 10 pack

End Cap

Description

End caps are airtight caps used to keep debris out of the end of the microduct when pulling duct through existing conduit and plowed holes, sealing the end of the conduit temporarily. The end cap is a clear cap that installs much like the couplers providing an airtight seal.



Pre-Configured Part Numbers

Part Number	Description
FS-END-STP-10MM-10	FieldShield Microduct End Caps, 10 mm, 10 pack
FS-END-STP-12.7MM-10	FieldShield Microduct End Caps, 12.7 mm, 10 pack
FS-END-STP-14MM-10	FieldShield Microduct End Caps, 14 mm, 10 pack

Microduct Field Repair Kit

Description

There are many situations where two microducts need to be coupled together to continue the conduit pathway. Regardless of whether the microduct was cut after initial installation or if the duct pathway simply needs to be continued, the FieldShield Microduct Repair Kit provides all the components to properly couple two microducts. For toneable duct, the kit includes components to ensure tone wire circuit integrity for ground locating.



Pre-Configured Part Numbers

Part Number	Description
FS-MD-FLD-RPR-KIT-7MM	FieldShield Microduct Field Repair Kit, 7 mm
FS-MD-FLD-RPR-KIT	FieldShield Microduct Field Repair Kit, 10 mm
FS-MD-FLD-RPR-KIT-14MM	FieldShield Microduct Field Repair Kit, 14 mm

Microduct Pulling Carrots

Description

The FieldShield Microduct Pulling Carrot screws into the inner bore of the duct and provides an attachment point to direct bury FieldShield Microducts to pull them through existing conduit systems.



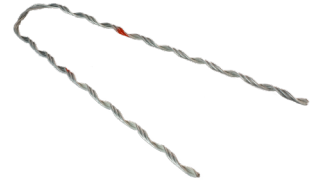
Pre-Configured Part Numbers

Part Number	Description
FS-PUL-CRT-6MM-M	FieldShield Microduct Pulling Carrot, 6 mm ID, metal, with string tie on
FS-PUL-CRT-10MM-M	FieldShield Microduct Pulling Carrot, 10 mm ID, metal, with string tie on

Aerial Microduct Attachment

Description

The Aerial Microduct Attachments provide a quick and easy way to attach FieldShield Aerial figure-8 style microducts. Strip away the jacket from the support strand on the microduct to accommodate the dead end or aerial splice and wrap the attachment onto the strand for a secure and permanent installation.



Pre-Configured Part Numbers

Part Number	Description
FS-DEADEND	FieldShield Aerial Microduct Attachment, dead end
FS-DEADEND-AD10	FieldShield Aerial Microduct Attachment, large cable
FS-AERIAL-SPLICE	FieldShield Aerial Microduct Attachment, open wire splice, galvanized, BWG-10 0.134" x 14" (3.40 mm x 355.60 mm)