FieldShield FAQ

- **Do I need the FieldShield Assist to install FieldShield Fiber Cable?** FieldShield can be pushed by hand, but the FieldShield Assist applies a constant and continuous force and incorporates an integrated clutch that engages when resistance reaches a threshold that could damage the cable. This helps eliminate potential catastrophic damage due to buckling or folding of the fiber. The FieldShield Assist Module will also decrease cable installation time and increase the distance FieldShield can be pushed. To see how the FieldShield Assist functions, see this video.

- **How far will the FieldShield Assist Module push the FieldShield Fiber Cable in the FieldShield Microduct?** The FieldShield Assist Module will push the FieldShield Cable into the FieldShield Microduct approximately 500 feet. This is based on a maximum of 360 degrees of total bends in the duct route. Clearfield has seen customers go significantly further during installations. The condition and location of the route and the amount of bends in the route can influence the total length the fiber cable can be pushed. Due to the special materials needed for the FieldShield Plenum Microduct, it has a push distance of about 300 feet.

- **How far can you push the FieldShield Fiber Cable by hand through FieldShield Microduct?** The FieldShield Fiber Cable can be hand-pushed into the FieldShield Buried and Aerial Microduct 200 feet. This is based on a maximum of 360 degrees of total bends in the duct route. The condition and location of the route and the amount of bends in the route can influence the total length the duct is able to be pushed. Clearfield has seen this go further during some installs. To see how to push FieldShield Fiber, see this video.

- **How far can FieldShield Fiber Cable be pulled through a FieldShield Microduct?** FieldShield Cable has been pulled over 1,000 feet in FieldShield Microducts without any cable lubricant or air assist. The condition and location of the route and the amount of bends in the route can influence the total length the fiber cable can be pushed. Due to the special materials needed for the FieldShield Plenum Microduct, it has a pull distance of about 300 feet.

- **Does Clearfield offer a pulling sock to safely and reliably pull FieldShield pre-connectorized assemblies?** Yes, Clearfield offers a pull sock (FS-PUL-3-4MM) to assist with pulling pre-connectorized assemblies through duct without damage. To see how the pulling sock functions, see this video.

- **How far can you push/pull FieldShield Fiber Cable through a FieldShield Microduct?** Clearfield has done installations over 1,000 feet using the push/pull method. The condition and location of the route and the amount of bends in the route can influence the total length the fiber cable can be pushed. Due to the special materials needed for the FieldShield Plenum Microduct, it has a push/pull distance of about 500 feet.

- **How many fibers can I get in a FieldShield Microduct?** Clearfield offers 1, 2, 6, 12, 24 and 48 fiber FieldShield Cables that can easily be installed into the FieldShield Microduct. The 1, 2, 6, 12 and 24 fiber FieldShield cables will fit into our 10/6 duct. The 48 fiber FieldShield cable must be used in the 14/10 or 12.7/10 duct.

- **Why would I want to buy a FieldShield terminated assembly over just buying bulk FieldShield Cable?** The advantage of buying a FieldShield terminated assembly is that it improves the quality of the network while lowering labor cost and installation time by eliminating the need to splice in the field. Clearfield's pre-terminated FieldShield assemblies are factory polished to achieve consistent high performance optical parameters. Whether you are using the FieldShield Pushable Connectors or just terminating one end of a multi-fiber cable, the fewer terminations or splices you to do in the field, the cheaper and more reliable it will be.

- **What type of connectors can I get on the FieldShield Pushable Fiber Cable?** Clearfield offers many different pushable connectors, such as SC/UPC, SC/APC, Simplex LC/UPC, Simplex LC/APC, Duplex LC/UPC and Duplex LC/APC. For multi-fiber FieldShield Cables, we also offer pushable MPO style connectors. In addition to our pushable connectors, we offer standard connecters such as SC, FC, LC, ST, HFOC and more.

- **If using FieldShield bulk fiber, can I just splice on a connector or is there a special process?** When using the Clearfield single fiber cable in bulk, it is recommended to use the furcation tubing that matches the cable type to upjacket the 250µm to 900µm and then use our CraftSmart 900 µm Splice on Connector.

PART NUMBER	DESCRIPTION
FS-900UM-01-03F	FieldShield, furcation kit for 3mm jacketing, 1-fiber 900µm, yellow tubing, 3’
FS-900UM-02-02F	FieldShield, furcation kit for 3mm jacketing, 2-fiber 900µm, yellow tubing, 2’
FS-900UM-06-02F	FieldShield, furcation kit for 3mm jacketing, 6-fiber 900µm, yellow tubing, 2’
FS-900UM-12-02F	FieldShield, furcation kit for 3mm jacketing, 12-fiber 900µm, yellow tubing, 2’

*** Contact Clearfield for a 900µm version of FieldShield Cable that is better suited for field installable connectors.

- **Can you fit more than 1 fiber through the FieldShield Microduct?** Clearfield does not recommend installing two separate FieldShield Cables in the same duct. However, we offer multi-fiber FieldShield cables up to 48 fibers. You can quickly pull out the existing cable and push/pull in another higher fiber count cable with very little disruption and labor.

- **Can I get multiple FieldShield Microducts bundled together or multi-cell microducts?** Clearfield offers bundled and multi-cell microducts through our industry partner, Duraline. If you have a large project or new application, please contact one of our Clearfield representatives and we will work with you to support your needs.

- **Does Clearfield offer riser rated or plenum indoor microduct?** Yes, FieldShield Microduct is available with riser rating in sizes of 10/6 and 14/10. FieldShield Microduct is also available with plenum rating in sizes of 10/6 and 12.7/10.

- **Why is plenum duct more expensive than riser or direct bury?** The FieldShield Plenum Microduct is specially manufactured to be used indoors in all plenum air space buildings. The special plenum materials used during manufacturing is what drives the price to where it is today. You will see the similar increase in other plenum rated products like Fiber Optic Cable and Copper cable. Clearfield’s Plenum Microduct has been tested and certified as UL 2024.

- **What is the maximum span/length of the FieldShield Aerial Microduct?** The FieldShield Aerial Microduct is designed to be self-supporting up to 200 feet. If lashed to an existing cable or strand, it can go further.

- **What can be used for fastening hardware for the FieldShield Aerial Microduct?** The Aerial Microduct is designed to be used like other industry standard figure-8 self-supporting cables. Clearfield offers FieldShield Dead End Aerial Attachments to be used with FieldShield Aerial Microduct.

Part Number	Description
FS-DEADEND	FieldShield, aerial attachment, dead end
FS-DEADEND-LG1410	FieldShield, aerial attachment, 14/10 dead end, large cable
FS-DEADEND-LGT	FieldShield, aerial attachment, 7mm dead end, D-ROP
FS-AERIAL-SPLICE	FieldShield, aerial attachment, open wire splice, galvanized, BWG-10 0.134” x 14”

- **What is the material and diameter of the FieldShield Aerial strength member?** The Aerial strength wire is a copper clad steel wire that has a diameter of 0.059" (1.5mm). All of this information can also be found on the FieldShield Microduct datasheets.

- **Can I use the FieldShield Cable in other supplier's duct?** The FieldShield Fiber Cable has outperformed other similar products in the industry in push/pull performance tests in other supplier's ducts. FieldShield Cable has a unique jacket with exceptional column strength to facilitate push/pulling through conduit.

- **Will water enter the microduct?** The FieldShield Microduct system does not let water penetrate through the duct. When connecting two same-size ducts together, Clearfield offers airtight couplers that will not allow water to get into the duct, whether it is a buried or aerial duct. Clearfield also offers airtight transition couplers to connect two ducts of different sizes together, as well as airtight microduct end-caps.

- **How do you use the water tight couplers with the FieldShield toneable orange Microduct?** When connecting two microducts that have toneable location wires on them, you can use the Clearfield FS-MD-FLD-RPR-KIT. This includes two water tight duct couplers, 2 crimp-on wire splices and 4 heat shrinks to create a water-tight seal and protection around the duct and wire splice. The crimp-on wire sleeves are used to repair the continuity of the tone wire.

- **Do we need to "debur" the microduct when using a coupler?** Yes, it is very critical to make sure all microduct ends are deburred when using a duct coupler. This eliminates the chance of the fiber getting caught on the inside edge of the duct. Clearfield offers a deburring tool for sale (FS-MD-DBR-TOOL). Check out our instructional video on our website that covers uses of our FieldShield accessories, including deburring and coupling microduct.

- **What type of glass fiber is used in the FieldShield Fiber Cable?** The FieldShield Fiber Cable is manufactured using OFS G.657-A2 bend-insensitive singlemode glass fiber.

- **What is the bend radius of the FieldShield Fiber Cable?** Clearfield uses G.657-A2 bend-insensitive glass fiber in the FieldShield Fiber Cable. It is recommended to not go below a 10mm radius with the cable.

- **What is the bend radius of the FieldShield Microducts?** The FieldShield 10/6 Microducts have a minimum bend radius of 6 inches. The larger 12.7/10 and 14/10 FieldShield Microduct has a minimum bend radius of 8 inches.

- **Does the FieldShield Pushable Fiber or Microduct kink?** With proper handling and adherence to the recommended minimum bend radius, both the FieldShield Cable and FieldShield Microduct will resist kinking.

- **Can the FieldShield Microduct be pre-loaded with fiber cable at the factory?** Clearfield believes the advantage of offering factory connectorized pushable connectors to be pushed through microduct outweigh the benefits of pre-loaded microduct. With that, Clearfield now offers FieldShield D-ROP assemblies. Please check here for more information.

- **Is there a "duct plug ballistic insert" available for the FieldShield Microduct to help when pushing/pulling it into larger ducts/conduits with other cables?** Clearfield offers a "carrot" shaped pulling eye that is self-threading and can be screwed into the end of a duct and used to tie on and pull the duct in or as a smooth transition cone if being pushed in. Because of the smooth wall and low friction design, it will not harm existing conduits or cables in the same pathway.

Duct Size	Pulling Carrot Part Number	Description
10/6	FS-PUL-CRT-5-9MM	FieldShield, microduct pulling carrot, 6 mm ID, FieldShield Microduct
12.7/10	FS-PUL-CRT-10MM	FieldShield, microduct pulling carrot, 10 mm ID, FieldShield Microduct
14/10	FS-PUL-CRT-10MM	FieldShield, microduct pulling carrot, 10 mm ID, FieldShield Microduct

- **What are the pull string specs used in the FieldShield Microduct?** All of the FieldShield Microducts have pull strings already installed in them during the manufacturing process. The pull string has a break point at 50 lbs.

- **What length can you get the FieldShield Microduct at, and what is the reel size and weight?**

Duct Size	Duct Length	Spool Size	Weight
10/6 Direct Bury	2,000 feet	12" ID x 24" OD x 20" W	Direct Bury Toneable – 78 lbs. Direct Bury Non-Toneable – 71 lbs.
10/6 Plenum	2,000 feet	12" ID x 24" OD x 15" W	Plenum – 104 lbs.
10/6 Riser	2,000 feet	12" ID x 24" OD x 14" W	Riser – 84 lbs.
12.7/10 Plenum	1,500 feet	12" ID x 24" OD x 20" W	Plenum – 125 lbs.
14/10 Toneable	1,250 feet	12" ID x 24" OD x 20" W	Direct Bury – 95 lbs.
14/10 Non-toneable	1,500 feet	12" ID x 24" OD x 20" W	Direct Bury – 72 lbs. Riser – 96 lbs.
Aerial	2,000 feet	12" ID x 23.5" OD x 14.5" W	Aerial – 61 lbs.
14/10 Aerial	2,000 feet	24" ID x 36" OD x 36" W	Aerial – 95 lbs.

- **What length can you get the FieldShield Fiber Cable at and what is the reel size?** The FieldShield Fiber Cable can be ordered in foot lengths typically at 5,000 feet on a reel that has a 23.75" flange x 8" W x 12" paper core. If longer lengths are needed, they can be special ordered.

Part Number	MAX LENGTH ON A SPOOL
1, 2, 6 and 12 Fiber	20,000 feet
24 Fiber	13,450 feet
48 Fiber	13,000 feet

- **Does Clearfield offer FieldShield Cable with multimode glass fiber?** At this time, we do not offer FieldShield with multimode glass. If you have a project requiring this, please contact one of our Clearfield representatives and we will work with you to support your needs as best as we can.

- **Does the FieldShield Microduct and Fiber Cable have footage markings?** All of the FieldShield Microduct and fiber cables have easy-to-read printed cable markings. This will include the part number, lot number and footage markers every two feet.

- **What is the gel in the FieldShield Cable?** There is no gel in 1 and 2 fiber FieldShield Cables. The gel that is found in 6, 12, 24, and 48 fiber FieldShield Cable is used as a lubricant during the manufacturing process. This is the same gel that is found in most gel filled outside plant cables.