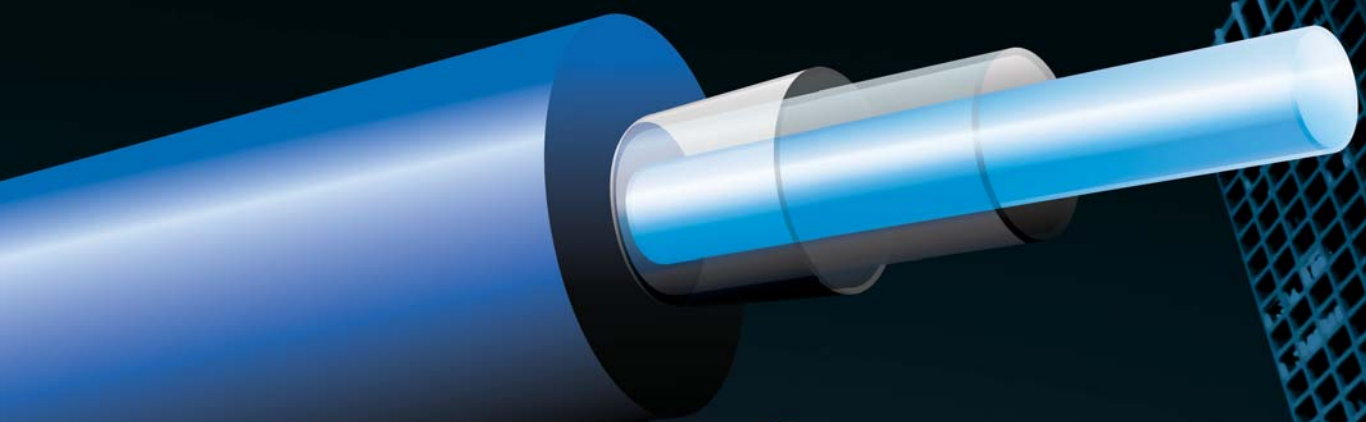
CLEERLINE SSF™

FIBER OPTICS REDEFINED™



BULK FIBER

CONNECTIVITY

TOOLS

PATCH CORDS

HARDWARE

CLEANING

PRODUCT CATALOG VOL. 1

CONTENTS

CONTACT US

Our fiber catalog is continually growing and changing. For questions on item availability, custom product inquiries or general technical support, please contact us.

All Cleerline SSF™ products are compatible with industry standard systems for 50/125 multimode and 9/125 single mode products.

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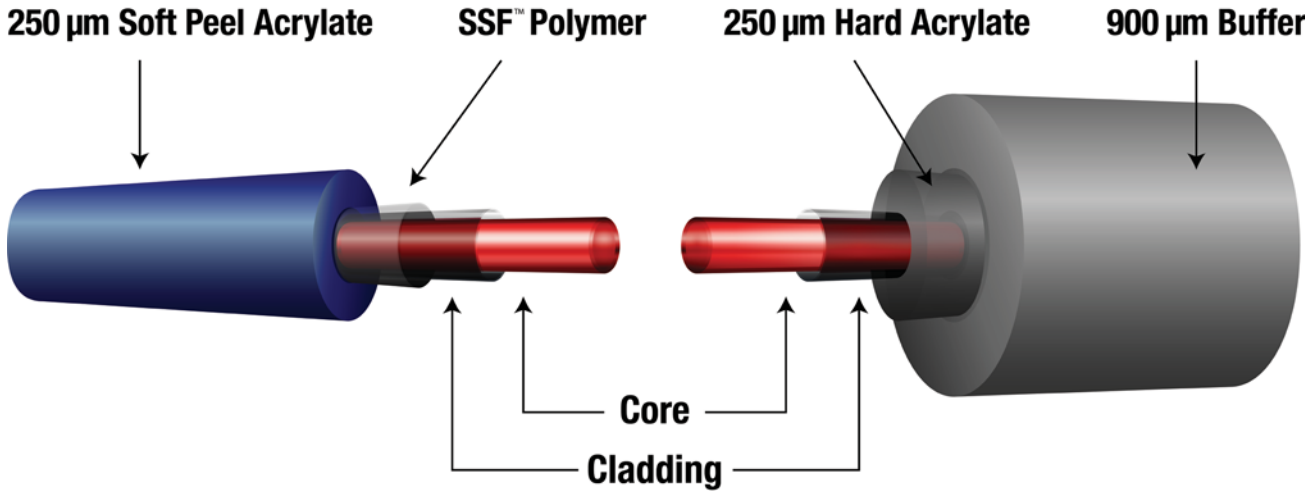
WHY CLEERLINE SSF™ FIBER?

At Cleerline Technology Group, we know all the potential pitfalls to fiber optic installation. Traditional fiber can be fragile, difficult to install, and require extensive training.

With Cleerline SSF™, we've changed all that. Our innovative fiber optic cable is Stronger, Safer, and Faster to terminate than any comparable product on the market.



SSF™ Fiber

9/125 µm Single Mode or 50/125 µm Multimode

Glass Core	=	Standard
Glass Cladding	=	Less than 125 µm
Proprietary Polymer Coating	=	Cladding + Polymer = 125 µm
Acrylate	=	Soft Peel/No Tools
Buffer	=	Not Required

Traditional Fiber

9/125 µm Single Mode or 50/125 µm Multimode

Glass Core	=	Standard
Glass Cladding	=	O.D. to 125 µm
Proprietary Polymer Coating	=	N/A
Acrylate	=	Hard Coating/Need Tools
Buffer	=	Typical 900 µm

STRONGER

Cleerline SSF™ has a proprietary Glass, Glass, Polymer construction. SSF™ coating provides an extra layer of strength to our glass, giving our fiber up to 10,000 times the bend capacity and up to 200 times the durability over traditional fiber.

SSF™ fiber has a minuscule minimum bend radius: as low as 3 mm during installation (depending on fiber type). Compare this to the industry standard 7.5 mm minimum bend radius for typical multimode bend insensitive fibers. No need to worry about SSF™ in a high-density rack installation.

SAFER

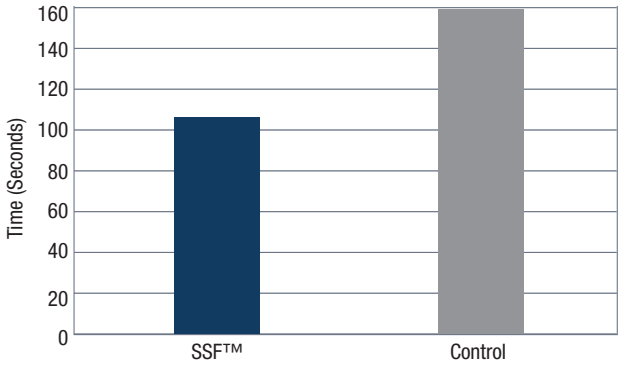
SSF™ fiber provides greater safety for installers. SSF™ coating prevents glass shards from puncturing skin, protecting the technician.

Our polymer coating remains present on the glass at all times, helping prevent contamination or damage to the glass. As shown in the traditional fiber cross section above, traditional fiber lacks any protective coating directly on the glass. This means that the glass is fragile and can easily shatter, creating hazardous microscopic shards.

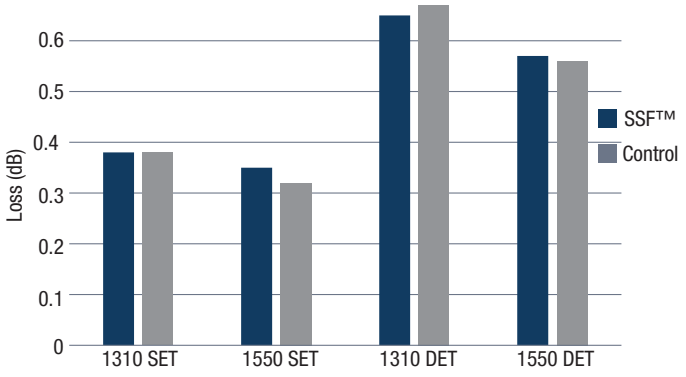
FASTER

Cleerline SSF™ does not require certification to terminate. Training can be as simple as watching a 4 minute instructional video. No scheduling commitment required.

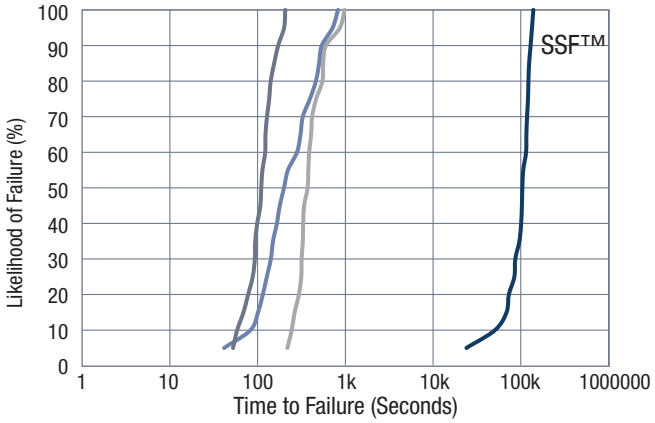
SSF™ is also faster to terminate than typical fiber. In one case study, fiber technicians were able to terminate SSF™ up to 33% faster than other industry bend insensitive fiber. This translates into major savings in installation time.



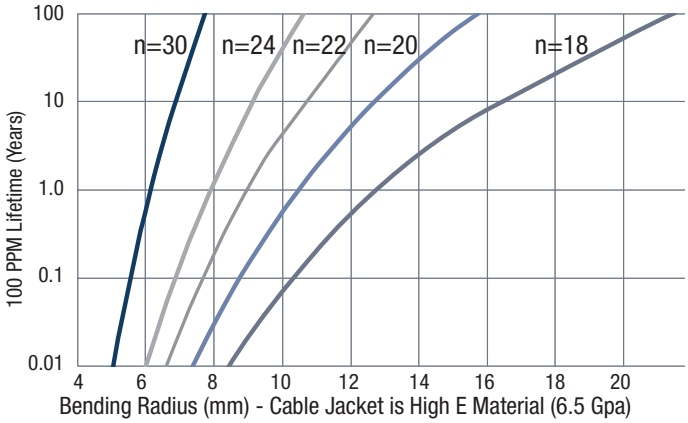
1) TERMINATION TIME: SSF™ VS CONTROL



2) LOSS (dB): SSF™ VS CONTROL



3) HOT WATER BEND TEST



4) DYNAMIC FATIGUE VALUE ON CABLE LIFETIME

SSF™ Fiber is far simpler to terminate because the bare fiber is never exposed, and SSF™ soft peel coating is far easier to remove than traditional fiber's hard acrylate layer.

In our 2014 case study, certified fiber technicians trained to work with traditional fiber were able to terminate SSF™ in an average time of 106 seconds (fig. 1). That's after only 10 minutes of instruction on how to work with SSF™. Comparatively, traditional fiber took an average of 159 seconds to terminate, or 33% longer. We're confident that after more opportunities to work with SSF™, termination times would decrease even further.

The case study also showed that after minimal training, technicians were able to achieve nearly identical attenuation rates with SSF™. Loss measurements for SSF™ were within 0.03 decibels (dB) of the loss measurements for traditional fiber when tested via single and double ended testing (fig. 2).

Not only is SSF™ simpler to terminate, it is extremely resilient under difficult conditions. In one test, both SSF™ and traditional fibers were bent to a radius of 3 to 3.5 mm between two metal plates and submerged in 90°C water to simulate extreme conditions.

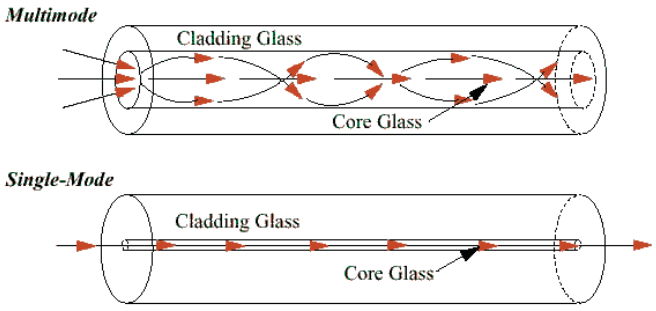
As demonstrated in the graph above (fig. 3), SSF™ took nearly 40 hours (130,000 seconds) to reach a 100% chance of failure. The nearest competitor took only approximately 16 minutes to reach a 100% failure rate.

SSF™ can tolerate a great deal of stress with little chance of failure, meaning enhanced security for installations.

Furthermore, under the IEC60793-1-33 standard for fiber optics, fiber is tested to determine the dynamic and static fatigue values for the fiber, indicating how well fiber will last over time. Currently, demonstrating a dynamic fatigue value (n) of 18 is recommended for industry fiber. Under testing, SSF™ shows a dynamic fatigue value of n=30 (fig. 4).

According to the ITU-T Series G recommendations for fiber reliability, a higher n value indicates higher tolerance to strain. As demonstrated in the graph, n=30 fibers like SSF™ are able to tolerate smaller bend radii under tension for a longer a period of time.

The bottom line? The enhanced strength of Cleerline SSF™ means that installations will be built to last.



SINGLE MODE vs MULTIMODE FIBER

Multimode fiber has a relatively large light-carrying core, usually about 50 microns or greater in diameter. Multimode is usually used for short distance transmissions with LED or laser-based fiber optic equipment.

With the larger core, multiple frequencies of light have room to travel down the cable's length, bouncing off the cladding around the core.

Ultimately, modal dispersion creates distance limitations when working with multimode fiber. At a certain point, the spread of the light waves becomes so great that it becomes difficult to determine the waveform's leading and trailing edges, making the signal nonfunctional.

Single mode fiber has a small light-carrying core of about 9 microns in diameter. It is normally used for long distance transmissions with laser diode-based fiber optic transmission equipment. Single mode fiber, due to its design, theoretically has infinite bandwidth.

Both fiber types are available in multiple configurations, such as a micro distribution cable with 12+ fibers. The primary deciding factors in choice of fiber type are:

1) Distance
2) Device Requirements

For long distance fiber runs (above 1300 ft), use of single mode fiber is typically recommended.

MULTIMODE FIBER TYPES AND REACH

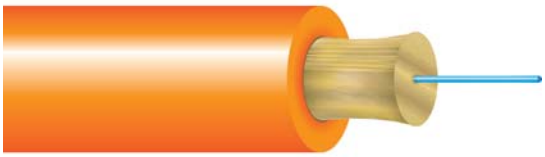
Fiber Type	Bandwidth* Length Product (MHz*km / GHz*m)	10GBASE-SR Distance (Meters/Feet)	40GBASE-SR4 / 100GBASE-SR10 Distance (Meters)
OM1	160-200	33 m / 100 ft	N/A
OM2	400-500	82 m / 260 ft	N/A
OM3	2000	300 m / 1000 ft	100 m / 330 ft
OM4	4700	400 m / 1300 ft	150 m / 500 ft

SINGLE MODE FIBER TYPES AND REACH*

Signal	Application	Reach	Wavelength
Gigabit	1000BASE-LX	5 km	1310 nm
10 Gb	10GBASE-LX4	10 km	1310 nm
	10GBASE-E	40 km	1550 nm
40 Gb	40GBASE-LR4	10 km	1310 nm
	40GBASE-FR	2 km	1310 nm
100 Gb	100GBASE-LR4	10 km	1310 nm

*ANSI/TIA-568.0-D-1

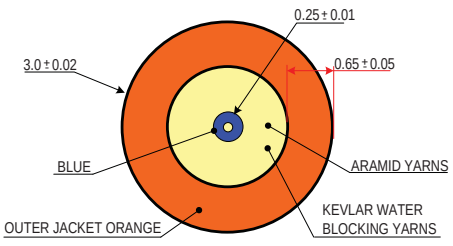
SIMPLEX



Cleerline SSF™ fiber Simplex cable is composed of a single fiber with an overall 3.0 mm Riser, Plenum, or LSZH jacket.

Applications include: inter-building and intra-building voice or data communication backbones requiring a 3.0 mm jacket diameter. Install in ducts or underground conduit.

This simplex style cable provides the ultimate in durability and bend in a very compact size as a result of the integral polymeric coating at the glass level. With increased bend and tensile strength, Cleerline SSF™ is safer and faster to terminate. Cleerline SSF™ fibers are compatible with all common connector systems on the market for standard 50/125 multimode and 9/125 single mode fibers.



Typical Cross Section

FIBER	
Fiber Count	Simplex = 1
Fiber Type	Single Mode: 9/125 OS2 Multimode: 50/125 OM2, OM3, or OM4
Coating	250 µm “Soft Peel” coating (1 = Blue)
Color	Color Coding per TIA/EIA 568C

JACKET	
Type	Riser Rated PVC / Plenum Rated PVC + UV I/O / LSZH
Diameter	3.0 mm Unit
Jacket Color	According to Fiber Type
Markings	Sequential footage markings
Strength Member	Aramid Yarns (Plenum/LSZH + water blocking yarns)

PHYSICAL DATA	
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +75°C
Max Tensile Load (Installation)	1000 N (225 lbf)
Max Tensile Load Long Term	500 N (112 lbf)
Min. Bend Radius, Unloaded	1 x O.D. (1 x 3.0 mm)
Cable Outside Diameter, Nominal	3.0 mm
Rating	FT4-Riser / FT6-Plenum / LSZH

SIMPLEX MULTIMODE OM2

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
S50125MOM2R	1	Simplex 50/125 SSF Indoor	Riser	Orange	3.0 mm
S50125MOM2P	1	Simplex 50/125 SSF Indoor/Outdoor	Plenum	Orange	3.0 mm
S50125MOM2L	1	Simplex 50/125 SSF Indoor/Outdoor	LSZH	Orange	3.0 mm

SIMPLEX MULTIMODE OM3

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
S50125MOM3R	1	Simplex 50/125 SSF Indoor	Riser	Aqua	3.0 mm
S50125MOM3P	1	Simplex 50/125 SSF Indoor/Outdoor	Plenum	Aqua	3.0 mm
S50125MOM3L	1	Simplex 50/125 SSF Indoor/Outdoor	LSZH	Aqua	3.0 mm

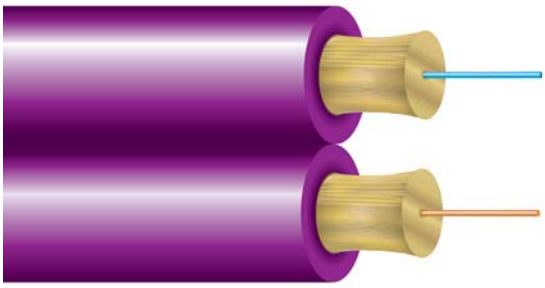
SIMPLEX MULTIMODE OM4

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
S50125MOM4R	1	Simplex 50/125 SSF Indoor	Riser	Violet	3.0 mm
S50125MOM4P	1	Simplex 50/125 SSF Indoor/Outdoor	Plenum	Violet	3.0 mm
S50125MOM4L	1	Simplex 50/125 SSF Indoor/Outdoor	LSZH	Violet	3.0 mm

SIMPLEX SINGLE MODE OS2

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
S19125SMOSR	1	Simplex 9/125 SSF G657 A2 & B2 Indoor	Riser	Yellow	3.0 mm
S19125SMOSP	1	Simplex 9/125 SSF G657 A2 & B2 Indoor/Outdoor	Plenum	Yellow	3.0 mm
S19125SMOSL	1	Simplex 9/125 SSF G657 A2 & B2 Indoor/Outdoor	LSZH	Yellow	3.0 mm

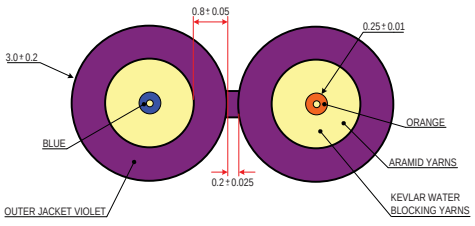
DUPLEX



Cleerline SSF™ fiber Duplex cable is composed of two strands of SSF™ cable in a zipcord style with an overall 3.0 mm Riser, Plenum, or LSZH jacket.

Applications include: inter-building and intra-building voice or data communication backbones. Install in ducts or underground conduit.

Cleerline SSF™ Duplex, like all SSF™, is fully compatible with all common connector systems on the market for standard 50/125 multimode and 9/125 single mode fibers.



Typical Cross Section

FIBER	
Fiber Count	Duplex = 2
Fiber Type	Single Mode: 9/125 OS2 Multimode: 50/125 OM2, OM3, or OM4
Coating	250 µm “Soft Peel” coating (1 = Blue, 2 = Orange)
Color	Color Coding per TIA/EIA 568C

JACKET	
Type	Riser Rated PVC Plenum Rated PVC + UV I/O / LSZH
Diameter	3.0 mm Unit
Jacket Color	According to Fiber Type
Markings	Sequential footage markings
Strength Member	Aramid Yarns (Kevlar®) (Plenum/LSZH + water blocking yarns)

PHYSICAL DATA	
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +75°C
Max Tensile Load (Installation)	1000 N (225 lbf)
Max Tensile Load (Long Term)	500 N (112 lbf)
Min. Bend Radius, Unloaded	1 x O.D.
Cable Outside Diameter, Nominal	3.0 mm x 2
Rating	FT4-Riser / FT6-Plenum / LSZH

DUPLEX MULTIMODE OM2

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
D50125MOM2R	2	Duplex 50/125 SSF Indoor	Riser	Orange	3.0 mm x 2
D50125MOM2P	2	Duplex 50/125 SSF Indoor/Outdoor	Plenum	Orange	3.0 mm x 2
D50125MOM2L	2	Duplex 50/125 SSF Indoor/Outdoor	LSZH	Orange	3.0 mm x 2

DUPLEX MULTIMODE OM3

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
D50125MOM3R	2	Duplex 50/125 SSF Indoor	Riser	Aqua	3.0 mm x 2
D50125MOM3P	2	Duplex 50/125 SSF Indoor/Outdoor	Plenum	Aqua	3.0 mm x 2
D50125MOM3L	2	Duplex 50/125 SSF Indoor/Outdoor	LSZH	Aqua	3.0 mm x 2

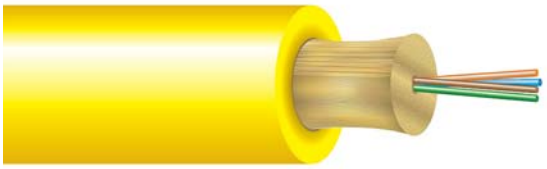
DUPLEX MULTIMODE OM4

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
D50125MOM4R	2	Duplex 50/125 SSF Indoor	Riser	Violet	3.0 mm x 2
D50125MOM4P	2	Duplex 50/125 SSF Indoor/Outdoor	Plenum	Violet	3.0 mm x 2
D50125MOM4L	2	Duplex 50/125 SSF Indoor/Outdoor	LSZH	Violet	3.0 mm x 2

DUPLEX SINGLE MODE OS2

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
D29125SMOSR	2	Duplex 9/125 SSF G657 A2 & B2 Indoor	Riser	Yellow	3.0 mm x 2
D29125SMOSP	2	Duplex 9/125 SSF G657 A2 & B2 Indoor/Outdoor	Plenum	Yellow	3.0 mm x 2
D29125SMOSL	2	Duplex 9/125 SSF G657 A2 & B2 Indoor/Outdoor	LSZH	Yellow	3.0 mm x 2

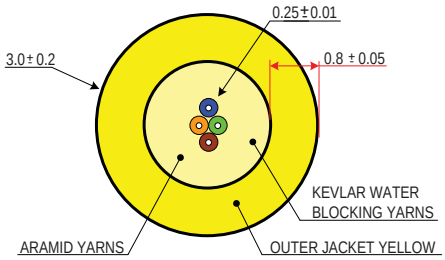
MICRO DISTRIBUTION



Cleerline SSF™ 2-144 strand fiber Micro Distribution cable is composed of distribution style SSF™ cable with an overall Riser, Plenum, or LSZH jacket.

Applications include: inter-building and intra-building voice or data communication backbones. Install in ducts or underground conduit.

Cleerline SSF™ advanced optical glass fibers are much stronger, safer, and faster terminating than typical fibers. This distribution style cable provides the ultimate in durability and bend in a very compact size.



Typical Cross Section

FIBER AND JACKET	
Fiber Count	2, 4, 6, 12, 24, 48, 72, 96, 144 Strands
Fiber Type	9/125 Single Mode or 50/125 Multimode
Coating	250 µm “Soft Peel” S-Type Coating
Color	Color Coding per TIA/EIA 568C

JACKET	
Type	Riser Rated PVC / Plenum Rated PVC + UV I/O / LSZH
Jacket Strength Member	Aramid Yarns (Kevlar®) (Plenum/LSZH + water blocking yarns)
Markings	Sequential Footage
Rating	FT4-Riser / FT6-Plenum / LSZH

PHYSICAL DATA	
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +75°C
Max Tensile Load (Installation)	1000 N (225 lbf)
Max Tensile Load (Long Term)	500 N (112 lbf)
Min. Bend Radius, Unloaded	1 x O.D.

MICRO DISTRIBUTION MULTIMODE OM2

PART NUMBER	FIBERS	DESCRIPTION	TYPE RISER/PLENUM/LSZH	COLOR	O.D.
2D50125MOM2X	2	2 Strand 50/125 SSF	X = R/P/L	Orange	3.0 mm
4D50125MOM2X	4	4 Strand 50/125 SSF	X = R/P/L	Orange	3.0 mm
6D50125MOM2X	6	6 Strand 50/125 SSF	X = R/P/L	Orange	3.0 mm
12D50125MOM2X	12	12 Strand 50/125 SSF	X = R/P/L	Orange	3.0 mm

MICRO DISTRIBUTION MULTIMODE OM3

PART NUMBER	FIBERS	DESCRIPTION	TYPE RISER/PLENUM/LSZH	COLOR	O.D.
2D50125MOM3X	2	2 Strand 50/125 SSF	X = R/P/L	Aqua	3.0 mm
4D50125MOM3X	4	4 Strand 50/125 SSF	X = R/P/L	Aqua	3.0 mm
6D50125MOM3X	6	6 Strand 50/125 SSF	X = R/P/L	Aqua	3.0 mm
12D50125MOM3X	12	12 Strand 50/125 SSF	X = R/P/L	Aqua	3.0 mm
24D50125MOM3X	24	24 Strand 50/125 SSF	X = R/P/L	Aqua	8.2 mm
48D50125MOM3X	48	48 Strand 50/125 SSF	X = R/P/L	Aqua	8.6 mm
72D50125MOM3X	72	72 Strand 50/125 SSF	X = R/P/L	Aqua	10.5 mm
96D50125MOM3X-2	96	96 Strand 50/125 SSF	X = R/P/L	Aqua	9.3 mm
144D50125MOM3X-2	144	144 Strand 50/125 SSF	X = R/P/L	Aqua	10.6 mm

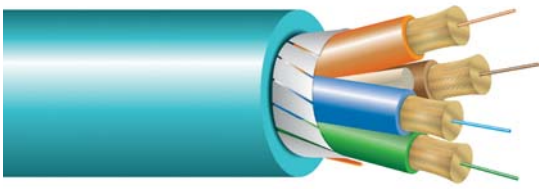
MICRO DISTRIBUTION MULTIMODE OM4

PART NUMBER	FIBERS	DESCRIPTION	TYPE RISER/PLENUM/LSZH	COLOR	O.D.
2D50125MOM4X	2	2 Strand 50/125 SSF	X = R/P/L	Violet	3.0 mm
4D50125MOM4X	4	4 Strand 50/125 SSF	X = R/P/L	Violet	3.0 mm
6D50125MOM4X	6	6 Strand 50/125 SSF	X = R/P/L	Violet	3.0 mm
12D50125MOM4X	12	12 Strand 50/125 SSF	X = R/P/L	Violet	3.0 mm
24D50125MOM4X	24	24 Strand 50/125 SSF	X = R/P/L	Violet	8.2 mm
48D50125MOM4X	48	48 Strand 50/125 SSF	X = R/P/L	Violet	8.6 mm
72D50125MOM4X	72	72 Strand 50/125 SSF	X = R/P/L	Violet	10.5 mm
96D50125MOM4X-2	96	96 Strand 50/125 SSF	X = R/P/L	Violet	9.3 mm
144D50125MOM4X-2	144	144 Strand 50/125 SSF	X = R/P/L	Violet	10.6 mm

MICRO DISTRIBUTION SINGLE MODE OS2

PART NUMBER	FIBERS	DESCRIPTION	TYPE RISER/PLENUM/LSZH	COLOR	O.D.
2D9125SMOS2X	2	2 Strand 9/125 SSF	X = R/P/L	Yellow	3.0 mm
4D9125SMOS2X	4	4 Strand 9/125 SSF	X = R/P/L	Yellow	3.0 mm
6D9125SMOS2X	6	6 Strand 9/125 SSF	X = R/P/L	Yellow	3.0 mm
12D9125SMOS2X	12	12 Strand 9/125 SSF	X = R/P/L	Yellow	3.0 mm
24D9125SMOS2X	24	24 Strand 9/125 SSF	X = R/P/L	Yellow	8.2 mm
48D9125SMOS2X	48	48 Strand 9/125 SSF	X = R/P/L	Yellow	8.6 mm
72D9125SMOS2X	72	72 Strand 9/125 SSF	X = R/P/L	Yellow	10.5 mm
96D9125SMOS2X-2	96	96 Strand 9/125 SSF	X = R/P/L	Yellow	9.3 mm
144D9125SMOS2X-2	144	144 Strand 9/125 SSF	X = R/P/L	Yellow	10.6 mm

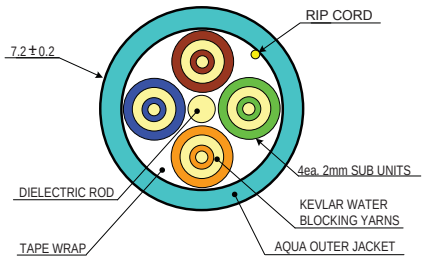
BREAKOUT



Cleerline SSF™ 2-4 strand fiber Breakout type cable is composed of SSF™ fibers in an overall jacket with 2.0 mm subunits and if applicable, a central strength member.

Applications include: Inter-building and intra-building voice or data communication backbones. Install in ducts or underground conduits.

Cleerline SSF™ Breakout cable is lightweight and ultra flexible for easy installation. The cable's construction provides extra durability and efficient termination.



Typical Cross Section

FIBER	
Fiber Count	2, 4
Fiber Type	Multimode: 50/125 OM3, or OM4
Coating	250 µm "Soft Peel" coating
Color	Color Coding per TIA/EIA 568C

JACKET AND CABLE	
Jacket	Riser Rated PVC / Plenum Rated PVC + UV I/O
Sub Units	2.0 mm Flame Retardant PVC/Jacket Type
Markings	Sequential footage markings
Strength Member	Aramid Yarns (Plenum + water blocking yarns)

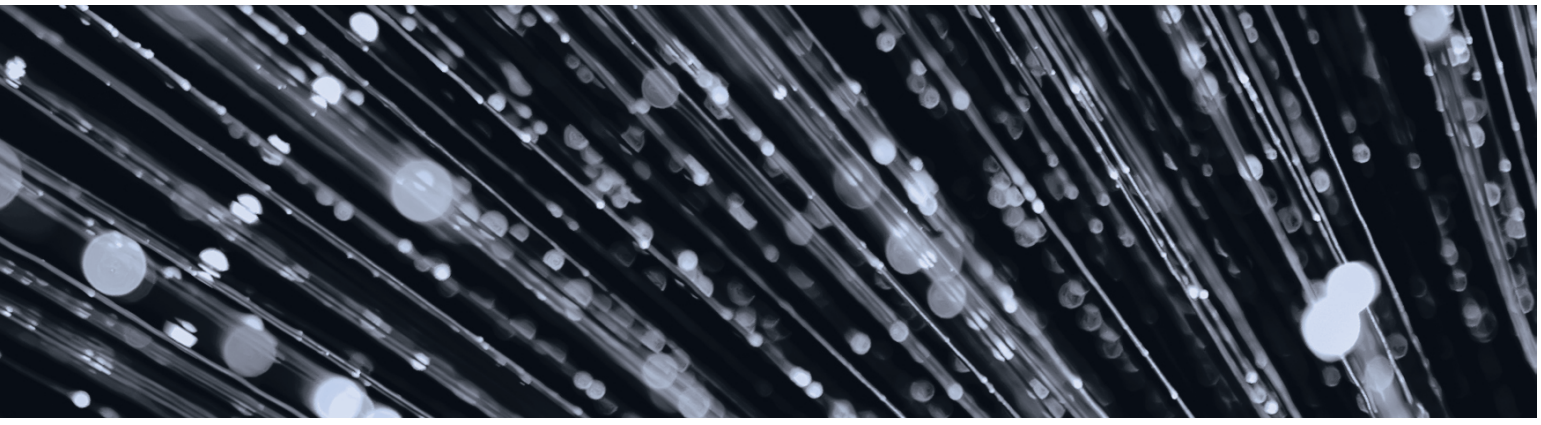
PHYSICAL DATA	
Central Strength Member (If Applicable)	Fiber-Reinforced Plastic Rod w/Flame Retardant PVC Coating
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +75°C
Max Tensile Load (Installation)	1000 N (225 lbf)
Max Tensile Load (Long Term)	500 N (112 lbf)
Min. Bend Radius, Unloaded	1 x O.D.
Rating	FT4-Riser / FT6-Plenum Riser: Indoor Plenum: Indoor/Outdoor

BREAKOUT MULTIMODE OM3

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2B501250M3R	2	2 Strand 50/125 SSF	Riser	Aqua	5.0 mm
2B501250M3P	2	2 Strand 50/125 SSF	Plenum	Aqua	5.0 mm
4B501250M3R	4	4 Strand 50/125 SSF	Riser	Aqua	7.2 mm
4B501250M3P	4	4 Strand 50/125 SSF	Plenum	Aqua	7.2 mm

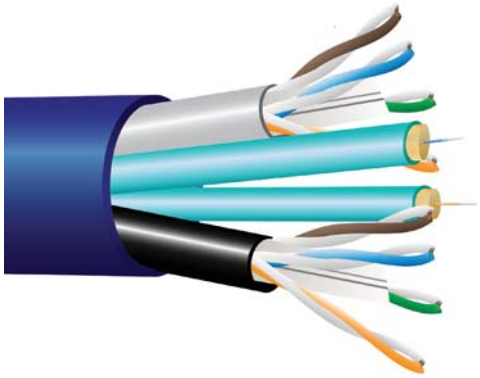
BREAKOUT MULTIMODE OM4

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2B501250M4R	2	2 Strand 50/125 SSF	Riser	Violet	5.0 mm
2B501250M4P	2	2 Strand 50/125 SSF	Plenum	Violet	5.0 mm
4B501250M4R	4	4 Strand 50/125 SSF	Riser	Violet	7.2 mm
4B501250M4P	4	4 Strand 50/125 SSF	Plenum	Violet	7.2 mm



SPECIALTY

OM3 MULTIMODE & CAT6 UTP



Cleerline SSF™ Fiber & Category cable is composed of two simplex OM3 fibers with two Category 6 cables.

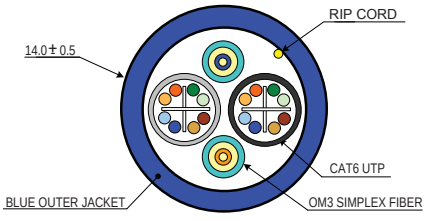
Applications include: future-proofing installations by including both fiber optic and Category cables in one run of cable.

Like all Cleerline SSF™ cables, the fiber in SSF™ bundled cable provides incredible strength and bend insensitivity.

FIBER	
Fiber Count	Simplex = 2 / UTP/CAT6 = 2
Fiber Type	Multimode: 50/125 OM3
Coating	250 µm “Soft Peel” coating
Color	Color Coding per TIA/EIA 568C

JACKET AND CABLE	
Type	Riser Rated PVC
Outer Diameter	14.0 mm
Jacket Color	Blue overall jacket; Aqua Subs = OM3
Markings	Sequential footage markings

PHYSICAL DATA	
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +75°C
Max Tensile Load (Installation)	1000 N (225 lbf)
Max Tensile Load Long Term	500 N (112 lbf)
Min. Bend Radius, Unloaded	Overall: 4 x O.D. Fiber: 3.0 mm
Rating	OFNR/FT4-Riser



Typical Cross Section

BUNDLED MULTIMODE OM3 & CAT6 UTP

PART NUMBER	FIBERS	DESCRIPTION	TYPE	O.D.
2C62501250M3R	2	2 Cat6 + 2 Simplex OM3 Bundle	Riser	14.0 mm

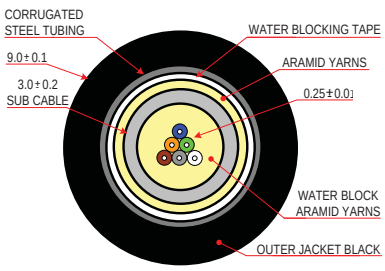
ARMORED CORRUGATED STEEL

Cleerline SSF™ Armored Corrugated Steel Distribution cable consists of a PE overall jacket with 2, 6, or 12 fibers and water blocking Kevlar yarns.

The core is protected by a corrugated armored steel tube that offers easy installation and high crush resistance.

Applications include direct burial and installations requiring superior bend performance and crush resistance.

Cleerline SSF™ Armored Corrugated Steel Distribution cable provides superior protection for fiber in rugged environments. The cable is protected by a polyethylene, UV-resistant jacket, allowing direct burial of the cable.



Typical Cross Section

FIBER	
Fiber Count	2, 6, 12
Fiber Type	Single Mode: 9/125 OS2 Multimode: 50/125 OM2 or OM3
Coating	250 µm “Soft Peel” coating
Color	Color Coding per TIA/EIA 568C

JACKET	
Type	PE – UV, moisture resistant outer jacket
Diameter	9.0 mm
Jacket Color	Black jacket
Markings	Sequential footage markings
Strength Member	Aramid Yarns = Kevlar + Water Block

PHYSICAL DATA	
Storage Temperature Range	-30°C to +60°C
Operating Temperature Range	-20°C to +75°C
Max Tensile Load (Installation)	2000 N (450 lbf)
Max Tensile Load (Long Term)	600 N (135 lbf)
Allowable Bend Radius	Dynamic 20D
Cable Outside Diameter, Nominal	9.0 mm
Crush Resistance (N/100m)	3000 N

ARMORED MULTIMODE OM2

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2ACS50125OM2PE	2	2 Strand 50/125 SSF Direct Burial	PE - UV	Black	9.0 mm
6ACS50125OM2PE	6	6 Strand 50/125 SSF Direct Burial	PE - UV	Black	9.0 mm
12ACS50125OM2PE	12	12 Strand 50/125 SSF Direct Burial	PE - UV	Black	9.0 mm

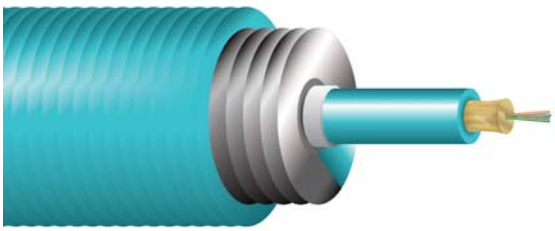
ARMORED MULTIMODE OM3

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2ACS50125OM3PE	2	2 Strand 50/125 SSF Direct Burial	PE - UV	Black	9.0 mm
6ACS50125OM3PE	6	6 Strand 50/125 SSF Direct Burial	PE - UV	Black	9.0 mm
12ACS50125OM3PE	12	12 Strand 50/125 SSF Direct Burial	PE - UV	Black	9.0 mm

ARMORED SINGLE MODE OS2

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2ACS9125OS2PE	2	2 Strand 9/125 SSF G657 A2 & B2 Direct Burial	PE - UV	Black	9.0 mm
6ACS9125OS2PE	6	6 Strand 9/125 SSF G657 A2 & B2 Direct Burial	PE - UV	Black	9.0 mm
12ACS9125OS2PE	12	12 Strand 9/125 SSF G657 A2 & B2 Direct Burial	PE - UV	Black	9.0 mm

ALUMINUM INTERLOCKING ARMORED



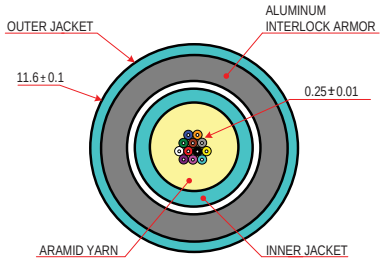
FIBER AND JACKET	
Fiber Count	2, 6, 12, 24, 48, or 72 Strands
Fiber Type	9/125 Single Mode or 50/125 Multimode
Coating	250 µm “Soft Peel” S-Type Coating
Color	Color Coding per TIA/EIA 568C

Cleerline SSF™ micro distribution Aluminum Interlocking Armored cable consists of either a Riser or Plenum overall jacket with 2-72 fibers and water blocking Kevlar® yarns. All Aluminum Interlocking Armored is indoor rated.

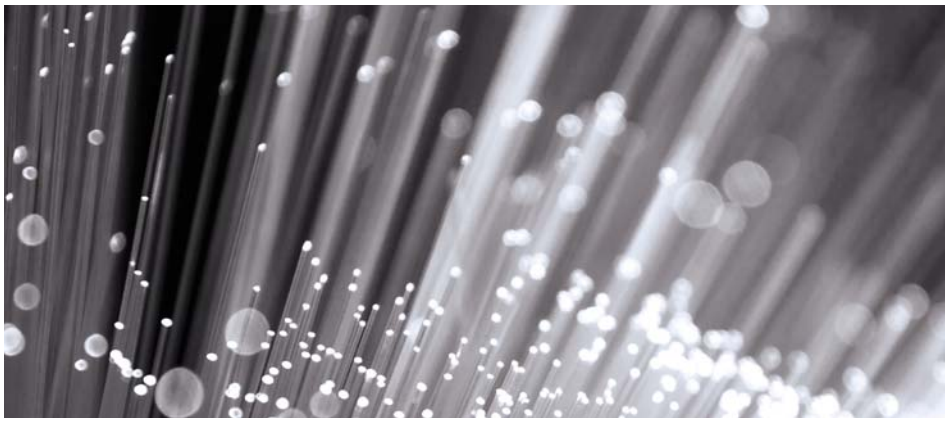
JACKET	
Type	Riser Rated PVC / Plenum Rated PVC, Indoor
Jacket Strength Member	Kevlar + Water Block
Markings	Sequential Footage

Cleerline SSF™ micro distribution Aluminum Interlocking Armored cable is designed to protect the encased fibers. The cable’s spirally wrapped internal aluminum strip provides high crush resistance, as well as helping to prevent damage from rodents and rugged environments. This cable’s construction also allows easy termination, as it can be installed without inner duct or conduit.

PHYSICAL DATA	
Storage Temperature Range	-40°C to +70°C
Operating Temperature Range	-20°C to +70°C
Max Tensile Load (Installation)	800 N (180 lbf)
Max Tensile Load Long Term	600 N (135 lbf)
Allowable Bend Radius	Dynamic 20D
Rating	Indoor Only



Typical Cross Section



ALUMINUM INTERLOCKING OM3 MULTIMODE

PART NUMBER	FIBERS	DESCRIPTION	TYPE RISER/PLENUM	COLOR	O.D.
2IAD50125MOM3X	2	2 Strand 50/125 SSF Indoor	X = R/P	Aqua	11.6 mm
6IAD50125MOM3X	6	6 Strand 50/125 SSF Indoor	X = R/P	Aqua	11.6 mm
12IAD50125MOM3X	12	12 Strand 50/125 SSF Indoor	X = R/P	Aqua	11.6 mm
24IAD50125MOM3X	24	24 Strand 50/125 SSF Indoor	X = R/P	Aqua	13.0 mm
48IAD50125MOM3X	48	48 Strand 50/125 SSF Indoor	X = R/P	Aqua	17.45 mm
72IAD50125MOM3X	72	72 Strand 50/125 SSF Indoor	X = R/P	Aqua	19.25 mm

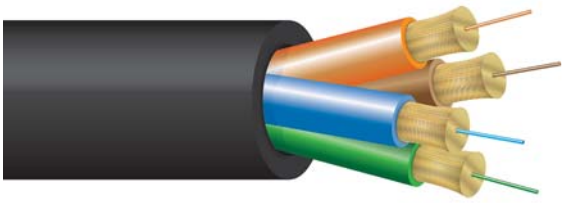
ALUMINUM INTERLOCKING OM4 MULTIMODE

PART NUMBER	FIBERS	DESCRIPTION	TYPE RISER/PLENUM	COLOR	O.D.
2IAD50125MOM4X	2	2 Strand 50/125 SSF Indoor	X = R/P	Violet	11.6 mm
6IAD50125MOM4X	6	6 Strand 50/125 SSF Indoor	X = R/P	Violet	11.6 mm
12IAD50125MOM4X	12	12 Strand 50/125 SSF Indoor	X = R/P	Violet	11.6 mm
24IAD50125MOM4X	24	24 Strand 50/125 SSF Indoor	X = R/P	Violet	13.0 mm
48IAD50125MOM4X	48	48 Strand 50/125 SSF Indoor	X = R/P	Violet	17.45 mm
72IAD50125MOM4X	72	72 Strand 50/125 SSF Indoor	X = R/P	Violet	19.25 mm

ALUMINUM INTERLOCKING OS2 SINGLE MODE

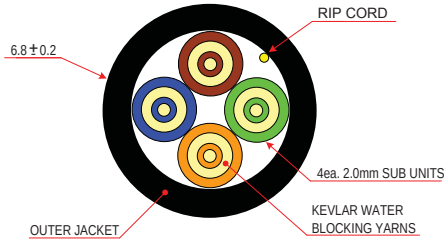
PART NUMBER	FIBERS	DESCRIPTION	TYPE RISER/PLENUM	COLOR	O.D.
2IAD9125SMOS2X	2	2 Strand 9/125 SSF Indoor	X = R/P	Yellow	11.6 mm
6IAD9125SMOS2X	6	6 Strand 9/125 SSF Indoor	X = R/P	Yellow	11.6 mm
12IAD9125SMOS2X	12	12 Strand 9/125 SSF Indoor	X = R/P	Yellow	11.6 mm
24IAD9125SMOS2X	24	24 Strand 9/125 SSF Indoor	X = R/P	Yellow	13.0 mm
48IAD9125SMOS2X	48	48 Strand 9/125 SSF Indoor	X = R/P	Yellow	17.45 mm
72IAD9125SMOS2X	72	72 Strand 9/125 SSF Indoor	X = R/P	Yellow	19.25 mm

TACTICAL BREAKOUT



Tactical cable is designed for installations where cable may need to be removed or changed, such as rental or staging applications. Tactical PU jacketing provides increased durability, UV and chemical resistance, and extreme flexibility.

Cleerline SSF™ Tactical Breakout type cable is composed of an overall polyurethane jacket with 2.0 mm subunits.



Typical Cross Section

FIBER	
Fiber Count	2, 4
Fiber Type	Single Mode: 9/125 OS2 Multimode: 50/125 OM3
Coating	250 µm “Soft Peel” coating
Color	Color Coding per TIA/EIA 568C

JACKET	
Type	Tactical Polyurethane (PU), Indoor/Outdoor
Subunits	2.0 mm
Jacket Color	Black
Markings	Sequential footage markings
Strength Member	Kevlar + water blocking yarns

PHYSICAL DATA	
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +75°C
Max Tensile Load (Installation)	1000 N (225 lbf)
Max Tensile Load (Long Term)	500 N (112 lbf)
Min. Bend Radius, Unloaded	1 x O.D.
Cable Outside Diameter, Nominal	Varies by Part Number
Rating	Indoor/Outdoor

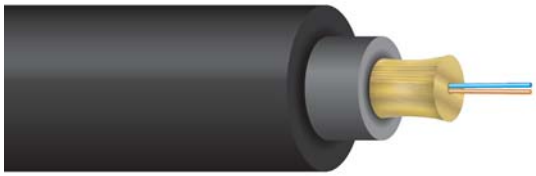
TACTICAL BREAKOUT MULTIMODE OM3

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2TB501250M3PU	2	2 Strand 50/125 SSF Indoor/Outdoor	PU	Black	5.0 mm
4TB501250M3PU	4	4 Strand 50/125 SSF Indoor/Outdoor	PU	Black	6.8 mm

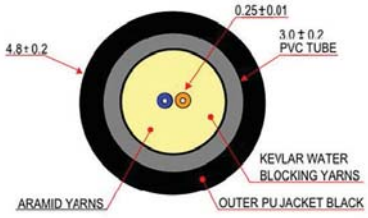
TACTICAL BREAKOUT SINGLE MODE OS2

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2TB91250S2PU	2	2 Strand 9/125 SSF Indoor/Outdoor	PU	Black	5.0 mm
4TB91250S2PU	4	4 Strand 9/125 SSF Indoor/Outdoor	PU	Black	6.8 mm

TACTICAL MICRO DISTRIBUTION



Cleerline SSF™ Tactical Micro Distribution cable is composed of an overall polyurethane jacket with a 3.0 mm subunit containing the fiber strands.



Typical Cross Section

FIBER	
Fiber Count	2, 6, 12
Fiber Type	Single Mode: 9/125 OS2 Multimode: 50/125 OM3
Coating	250 µm “Soft Peel” coating
Color	Color Coding per TIA/EIA 568C

JACKET	
Type	Tactical Polyurethane (PU), Indoor/Outdoor
Jacket Color	Black
Markings	Sequential footage markings
Strength Member	Kevlar + water blocking yarns

PHYSICAL DATA	
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +75°C
Max Tensile Load (Installation)	1000 N (225 lbf)
Max Tensile Load (Long Term)	500 N (112 lbf)
Min. Bend Radius, Unloaded	1 x O.D.
Cable Outside Diameter, Nominal	Varies by Part Number
Rating	Indoor/Outdoor

TACTICAL MICRO DISTRIBUTION MULTIMODE OM3

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2TMD501250M3PU	2	2 Strand 50/125 SSF I/O	PU	Black	4.8 mm
6TMD501250M3PU	6	6 Strand 50/125 SSF I/O	PU	Black	4.8 mm
12TMD501250M3PU	12	12 Strand 50/125 SSF I/O	PU	Black	4.8 mm

TACTICAL MICRO DISTRIBUTION SINGLE MODE OS2

PART NUMBER	FIBERS	DESCRIPTION	TYPE	COLOR	O.D.
2TMD912SMOS2PU	2	2 Strand 9/125 I/O	PU	Black	4.8 mm
6TMD91250S2PU	6	6 Strand 9/125 I/O	PU	Black	4.8 mm
12TMD91250S2PU	12	12 Strand 9/125 I/O	PU	Black	4.8 mm

ACCESSORIES

FIBER OPTIC CONNECTORS

SSF™ LC and SC mechanical splice connectors ensure precise fiber alignment, producing low loss terminations for all multimode or single mode applications.

SSF™ connectors are compatible with 250 µm, 900 µm, 2.0 mm, and 3.0 mm cables. No crimping or propriety tooling is required to terminate. Each connector features a large confirmation window for easy verification and a V-groove channel for easy fiber insertion.

SSF™ connectors are compatible with all SSF™ fibers as well as standard fiber optic cabling.

SSF-LC-MMFPC-10	
Fiber Type	OM3/OM4 Multimode
Connector	LC
Polish Type	Flat
Insertion Loss	Typical ≤ 0.3 / Max 0.5
Color	Aqua
Pack	10 pack

SSF-LC-SMUPC-10	
Fiber Type	OS1/OS2 Single Mode
Connector	LC
Polish Type	Ultra Physical Contact
Insertion Loss	Typical ≤ 0.3 / Max 0.5
Color	Blue
Pack	10 pack

SSF-LC-SMAPC-10	
Fiber Type	OS1/OS2 Single Mode
Connector	LC
Polish Type	Angled Physical Contact
Insertion Loss	Typical ≤ 0.3 / Max 0.6
Color	Green
Pack	10 pack

SSF-SC-MMFPC-10	
Fiber Type	OM3/OM4 Multimode
Connector	SC
Polish Type	Flat
Insertion Loss	Typical ≤ 0.3 / Max 0.5
Color	Aqua
Pack	10 pack

SSF-SC-SMUPC-10	
Fiber Type	OS1/OS2 Single Mode
Connector	SC
Polish Type	Ultra Physical Contact
Insertion Loss	Typical ≤ 0.3 / Max 0.5
Color	Blue
Pack	10 pack

SSF-SC-SMAPC-10	
Fiber Type	OS1/OS2 Single Mode
Connector	SC
Polish Type	Angled Physical Contact
Insertion Loss	Typical ≤ 0.3 / Max 0.6
Color	Green
Pack	10 pack

SOLID DOOR WALL MOUNT ENCLOSURES

Cleerline SSF™ Solid Door Wall Mount Enclosure units have 2 to 8 adapter panel positions, depending on style. Two compartments separate the network terminations from the distribution terminations.

The unit has a single solid outer door with optional key lock.

Sold Empty. Accepts SSF™ Adapter plates or any LGX-118 compatible adapter plate or MTP module.

SSF-SWM-SOLID-NL-E2 SSF-SWM-SOLID-WL-E2	
Adapter Plates	Up to 2
Splice Trays	Up to 4
Lock	WL = Lock NL = No Lock

SSF-MWM-SOLID-NL-E4 SSF-MWM-SOLID-WL-E4	
Adapter Plates	Up to 4
Splice Trays	Up to 4
Lock	WL = Lock NL = No Lock

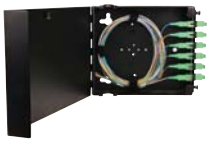
SSF-LWM-SOLID-NL-E8 SSF-LWM-SOLID-WL-E8	
Adapter Plates	Up to 8
Splice Trays	Up to 4
Lock	WL = Lock NL = No Lock

SPLIT DOOR WALL MOUNT ENCLOSURES

Cleerline SSF™ Split Door Wall Mount Enclosures can accommodate up to 12 SSF™ Adapter Plates, depending on unit design.

The enclosures feature a split outer door with one key lock.

Sold Empty. Accepts SSF™ Adapter plates or any LGX compatible adapter plate or MTP module.



SSF-SWM-SPLIT-WL-E2	
Adapter Plates	Up to 2
Splice Trays	Up to 4
Lock	1 Key Lock

SSF-MWM-SPLIT-WL-E4	
Adapter Plates	Up to 4
Splice Trays	Up to 4
Lock	1 Key Lock

SSF-LWM-SPLIT-WL-E12	
Adapter Plates	Up to 12
Splice Trays	Up to 8
Lock	1 Key Lock

RACK MOUNT ENCLOSURES

Cleerline SSF™ Rack Mount Enclosures can accept up to 12 SSF™ Adapter Plates, depending on model. Each enclosure includes a slide-out master panel that allows easy fiber management. The unit kit includes both recessed and flush mount rack ears.

Sold Empty. Accepts SSF™ Adapter plates or any LGX-118 compatible adapter plate or MTP module.

SSF-1RU-E3	
Rack Units	1 RU
Adapter Plates	Up to 3
Splice Trays	Up to 2

SSF-2RU-E6	
Rack Units	2 RU
Adapter Plates	Up to 6
Splice Trays	Up to 4

SSF-3RU-E8	
Rack Units	3 RU
Adapter Plates	Up to 8
Splice Trays	Up to 4

SSF-4RU-E12	
Rack Units	4 RU
Adapter Plates	Up to 12
Splice Trays	Up to 6

ADAPTER PLATES

Cleerline SSF™ adapter plates are designed to provide a wide variety of adapter configurations in any LGX-118 compatible panel. These SSF™ adapter plates have a simple push-in design to fit SSF™ Rack Mount and Wall Mount enclosures, or other fiber enclosures, making it easy to add additional ports as needed. A large selection of options are available, including high-density adapters.

For use in any LGX-118 compatible Wall or Rack Mount Enclosure.

	PART NUMBER	FIBER TYPE	STYLE	PORTS
	SSF-SC06-MM-OM2	MM OM2	SC	6
	SSF-SC06-MM-OM3-4	MM OM3/OM4		
	SSF-SC06-SM-OS2	SM OS2		
	SSF-SC06-SM-OS2-APC	SM/APC OS2		
	SSF-SC12-MM-OM2	MM OM2	Duplex SC	12
	SSF-SC12-MM-OM3-4	MM OM3/OM4		
	SSF-SC12-SM-OS2	SM OS2		
	SSF-SC12-SM-OS2-APC	SM/APC OS2		
	SSF-LC12-MM-OM2	MM OM2	Duplex LC	12
	SSF-LC12-MM-OM3-4	MM OM3/OM4		
	SSF-LC12-SM-OS2	SM OS2		
	SSF-LC12-SM-OS2-APC	SM/APC OS2		
	SSF-LC24-MM-OM2	MM OM2	Quad LC	24
	SSF-LC24-MM-OM3-4	MM OM3/OM4		
	SSF-LC24-SM-OS2	SM OS1/OS2		
	SSF-ST06-MM-SM	MM/SM	ST	6
	SSF-ST08-MM-SM	MM/SM		8
	SSF-BLANK	0	Blank	0

PATCH CORDS

Cleerline SSF™ XD fiber optic patch cords deliver extreme performance and reliability for all system connections. XD series patch cords incorporate Cleerline's exclusive SSF™ integral polymer as part of the fiber optic glass technology.

Designed for reliability in all applications, XD series patch cords provide flexible interconnection to active equipment, passive optical devices, and cross-connects.

XD series patch cords exhibit lower optical power loss under bend than standard cables and are compatible with all conventional cabling.

Available in duplex configuration and OM2, OM3, OM4 (multimode), and OS2 (single mode) type fibers. LC style available with clips. Custom lengths and styles also available.

EXAMPLE IMAGE	PART NUMBER	OUTER DIAMETER	FIBERS	FIBER TYPE	CONNECTOR	XX = LENGTH (METERS)	JACKET
	DOM2LCLCXXm	1.6 mm	2	OM2 MM	LC - LC	01 / 02 / 03 / 05 / 10 m	Riser
	DOM2SCSCXXm	1.6 mm	2	OM2 MM	SC - SC	01 / 02 / 03 / 05 / 10 m	Riser
	DOM2LCSCXXm	1.6 mm	2	OM2 MM	LC - SC	01 / 02 / 03 / 05 / 10 m	Riser
	DOM3LCLCXXm	1.6 mm	2	OM3 MM	LC - LC	01 / 02 / 03 / 05 / 10 m	Riser
	DOM3SCSCXXm	1.6 mm	2	OM3 MM	SC - SC	01 / 02 / 03 / 05 / 10 m	Riser
	DOM3LCSCXXm	1.6 mm	2	OM3 MM	LC - SC	01 / 02 / 03 / 05 / 10 m	Riser
	3DOM3LCLCXXm	3.0 mm	2	OM3 MM	LC - LC	01 / 02 / 03 m	Riser
	3DOM3SCSCXXm	3.0 mm	2	OM3 MM	SC - SC	01 / 02 / 03 m	Riser
	3DOM3LCSCXXm	3.0 mm	2	OM3 MM	LC - SC	01 / 02 / 03 m	Riser
	DOM4LCLCXXm	1.6 mm	2	OM4 MM	LC - LC	01 / 02 / 03 / 05 / 10 m	Riser
	DOM4SCSCXXm	1.6 mm	2	OM4 MM	SC - SC	01 / 02 / 03 / 05 / 10 m	Riser
	DOM4LCSCXXm	1.6 mm	2	OM4 MM	LC - SC	01 / 02 / 03 / 05 / 10 m	Riser
	DOS2LCLCXXm-UPC	1.6 mm	2	OS2 SM	LC - LC UPC	01 / 02 / 03 / 05 / 10 m	Riser
	DOS2SCSCXXm-UPC	1.6 mm	2	OS2 SM	SC - SC UPC	01 / 02 / 03 / 05 / 10 m	Riser
	DOS2LCSCXXm-UPC	1.6 mm	2	OS2 SM	LC - SC UPC	01 / 02 / 03 / 05 / 10 m	Riser
	DOS2LCLCXXm-APC	1.6 mm	2	OS2 SM	LC - LC APC	01 / 02 / 03 / 05 / 10 m	Riser
	DOS2SCSCXXm-APC	1.6 mm	2	OS2 SM	SC - SC APC	01 / 02 / 03 / 05 / 10 m	Riser
	DOS2LCSCXXm-APC	1.6 mm	2	OS2 SM	LC - SC APC	01 / 02 / 03 / 05 / 10 m	Riser

CUSTOM CONFIGURATION MATRIX

Example: P/N 3DOM3LCSC05m = 3.0mm Outer Diameter, Duplex, Multimode OM3, LC to SC, 5 meter patch cord

OUTER DIAMETER	STYLE	FIBER TYPE	CONNECTOR	LENGTH	POLISH (SINGLE MODE ONLY)
X	**X**	**XXX**	**XXXX**	**XXX**	**-XXX**
Blank = 1.6 mm	D = Duplex	OM2 = Multimode OM2 (Orange)	LCLC = LC to LC	Meters	-UPC (Ultra)
3 = 3.0 mm		OM3 = Multimode OM3 (Aqua)	LCSC = LC to SC	Ex: 03m	-APC (Angled)
		OM4 = Multimode OM4 (Magenta)	SCSC = SC to SC		
		OS2 = Single Mode OS2 (Yellow)			

FIBER OPTIC ADAPTERS AND INSERTS






SSF™ Fiber Optic Feedthrough Adapters provide easy cable connections. Available in simplex and duplex SC/SC and LC/LC configurations for single mode (OS2 or 9/125 µm) and multimode fibers (OM2, OM3, OM4 or 50/125 µm).

SSF™ Hybrid Adapters are available in single mode or multimode and SC to LC.

Feedthrough-style keystone inserts for standard wallplates are also available in LC and SC configurations.

PART NUMBER	STYLE	CONNECTOR	FIBER TYPE
FEEDTHROUGH ADAPTERS			
SSF-DLCLC-MMADP	Duplex	LC to LC	OM2/OM3/OM4
SSF-DLCLC-SMADP	Duplex	LC to LC	OS2
SSF-DSCSC-MMADP	Duplex	SC to SC	OM2/OM3/OM4
SSF-DSCSC-SMADP	Duplex	SC to SC	OS2
SSF-SLCLC-MMADP	Simplex	LC to LC	OM2/OM3/OM4
SSF-SLCLC-SMADP	Simplex	LC to LC	OS2
SSF-SSCSC-MMADP	Simplex	SC to SC	OM2/OM3/OM4
SSF-SSCSC-SMADP	Simplex	SC to SC	OS2
HYBRID ADAPTERS			
SSF-SCLC-MMADP	Simplex	Male SC to Female LC	OM2/OM3/OM4
SSF-SCLC-SMADP	Simplex	Male SC to Female LC	OS2
SSF-LCSC-MMADP	Simplex	Male LC to Female SC	OM2/OM3/OM4
SSF-LCSC-SMADP	Simplex	Male LC to Female SC	OS2
KEYSTONE INSERTS			
SSF-LC-MMKIW	Duplex-White	LC to LC	OM2/OM3/OM4
SSF-LC-SMKIW	Duplex - White	LC to LC	OS2
SSF-SC-MMKIW	Simplex - White	SC to SC	OM2/OM3/OM4
SSF-SC-SMKIW	Simplex - White	SC to SC	OS2
SSF-LC-MMKILA	Duplex - Light Almond	LC to LC	OM2/OM3/OM4
SSF-LC-SMKILA	Duplex - Light Almond	LC to LC	OS2
SSF-SC-MMKILA	Simplex - Light Almond	SC to SC	OM2/OM3/OM4
SSF-SC-SMKILA	Simplex - Light Almond	SC to SC	OS2

SPLICING TOOLS

Easily splice SSF™ fiber during installation using the Mechanical Splicer and Protector with the SSF-SPLICE-TOOL.

For 250 µm, 900 µm, 2.0 mm, or 3.0 mm fibers.

SSF-SPLICE-10	
Pack	10 Pack

SSF-SPLICE-TOOL	
Pack	Each

FAN OUT & BREAKOUT KITS

Cleerline SSF™ 900 µm Fan Out and 3.0 mm Breakout Kits enable fast and easy build-up of 250 µm fibers found in today's common micro distribution style cables.

The color coded buffer tubes allow the cable's overall jacket to be removed and each 250 µm fiber to be threaded through the corresponding colored tube.

Tubing colored per TIA/EIA-569-B standard. Fan out kits feature easy to assemble, simple snap housing.

Specially designed grommet strain relief speeds the installation of spider breakout kits.

SSF™ Fan Out and Breakout Kits work with all 250 µm fibers found in today's common micro distribution style cables.

PART NUMBER	STRANDS	JACKET	LENGTH
FAN0425M250	4	900 µm	25 in
FAN0436M250	4	900 µm	36 in
FAN0625M250	6	900 µm	25 in
FAN0636M250	6	900 µm	36 in
FAN01225M250	12	900 µm	25 in
FAN01236M250	12	900 µm	36 in

PART NUMBER	STRANDS	JACKET	LENGTH
SBOK0640M250	6	3.0 mm	40 in
SBOK1240M250	12	3.0 mm	40 in

CLEANING EQUIPMENT

The Cleerline SSF™ Fiber Optic Cleaning Kit provides a selection of fiber optic cleaning products utilized during termination and testing. This kit allows easy connector end-face cleaning on patch cords and cables, cleaning of through-bulkhead and feedthrough adapters, and preparation of items for termination and splicing.

SC, LC, ST, MPO/MTP cleaning tools included.

These tools can be used to clean the majority of connector types and allow for both wet and dry cleaning methods. Kit components are also available separately.

SSF-CKIT01E	
Kit Contents (Also Available Separately)	
SSF-1CLK-SC	"1-Click" Type Cleaner (SC/ST/FC)
SSF-1CLK-LC	"1-Click" Type Cleaner (LC)
SSF-SWAB250	Cleaning Swabs (SC/ST/FC)
SSF-SWAB125	Cleaning Swabs (LC)
SSF-OPTI-R	Cartridge Style Cleaner
SSF-CLN-CUBE	Fiber optic dry wipes (120 wipes)
SSF-AQUAKLEEN	Water-based fiber optic cleaner

TERMINATION KITS

Cleerline SSF™ Fiber Termination kits provide all the essential tools needed to terminate fiber. Two termination kit models are available to meet the needs of a wide range of installations.

Each kit contains a precision wheel fiber cleaver and all the necessary tools to terminate fiber.

SSF-FKIT02E TERMINATION KIT
Precision wheel fiber cleaver (up to 36,000 cleaves)
Visual Fault Locator included
Aramid strand scissors
Tri-holed fiber strippers included
Soft-sided carrying bag

SSF-FKIT03P TERMINATION KIT
High precision wheel fiber cleaver (up to 48,000 cleaves)
Cleaver includes universal cable holder
Visual Fault Locator included
Aramid strand scissors
Tri-holed fiber strippers
Other hand tools for varied fiber types
Hard plastic case

TESTING KITS

Cleerline SSF™ Fiber Optic Testing Kits contain Optical Power Meter and Light Source units to test installed fiber in order to measure optical power loss. All kits include adapters to test SC and LC terminated cables.

SSF™ testing kits allow measurements with a known good reference cable calibrated to “0 dB.” Utilization of these kits provides verification of cable links to industry standards.

SSF-TKITE-100 TEST KIT
Tests both multimode and single mode
Wavelengths of 850, 1300, 1310, 1550 nm
SC and LC Adapters Included
Single mode and multimode reference cables included

SSF-TKITP-400 TEST KIT
Tests both multimode and single mode
Wavelengths of 850, 1300, 1310, 1550 nm
High precision laser and power meter
Storage of up to 1000 test records
Included PC software and USB cable

COMBO KITS

Termination and Testing Equipment are also available together in one of our convenient combo kits.

PART NUMBER	CONTAINS
SSF-FKIT02E-T	**SSF-FKIT02E and SSF-TKITE-100**
SSF-FKIT03P-T	**SSF-FKIT03P and SSF-TKIPT-400**

SSF™ MULTIMODE FIBER PERFORMANCE vs. INDUSTRY STANDARDS

						Industry Standard					
Parameter	**SSF™ Multimode Specification**				**Test Method**	**ISO/IEC 11801**	**IEC 60793-2-10**	**ITU G651.1**	**TIA/EIA 492AAAD**	**TIA/EIA 492AAAC-B**	**TIA/EIA 492AAAB-A**
Attenuation (dB/km)					FOTP 78						
850nm	3.0				IEC 60793-1-40	≤ 3.5 (Cabled)	2.4-3.5 (A1a.1) 2.5 (A1a.2)	≤ 3.5 (Cabled)	≤ 2.5	≤ 2.5	≤ 3.0
1300nm	1.0					≤ 1.5 (Cabled)	0.7-1.5 (A1a.1) 0.8 (A1a.2)	≤ 1.5 (Cabled)	≤ 0.8	≤ 0.8	≤ 1.0
1380 value minus 1300nm value	≤ 3.0								≤ 3.0	≤ 3.0	≤ 3.0
Point Discontinuity (dB)	≤ 0.05				FOTP 78				≤ 0.2	≤ 0.2	≤ 0.2
850nm and 1300nm					IEC 60793-1-40						
Attenuation with Bending (dB)	**Turns**	**Radius**	**nm**	**dB**	FOTP62						
	100	37.5	850	≤ 0.5	IEC 60793-1-47		≤ 0.5				
	100	37.5	1300	≤ 0.5			≤ 0.5				
	2	15	850	≤ 0.1				< 1			
	2	15	1300	≤ 0.3				< 1			
	2	7.5	850	≤ 0.2							
	2	7.5	1300	≤ 0.5							
Modal Bandwidth (MHZ-km)	**OM2**	**OM3**		**OM4**							
OFL @ 850nm	≥ 500	≥ 1500		≥ 3500	FOTP 204	≥ 200 (OM1) ≥ 500 (OM2) ≥ 1500 (OM3)	200-800 (A1a.1) 1500 (A1a.2)	≥ 500	≥ 3500	≥ 1500	≥ 400
OFL@ 1300nm	≥ 500	≥ 500		≥ 500	IEC 60793-1-41	≥ 500 OM1/OM2/OM3	500	≥ 500	≥ 500	≥ 500	≥ 400
EMB @ 850nm	≥ 850	≥ 2000		≥ 4700	FOTP 220 IEC 60793-1-49	≥ 2000 OM3	≥ 2000 (A1a.2)		≥ 4700	≥ 2000	
Numerical Aperture	0.200 ± 0.015				FOTP 177 IEC 60793-1-43	Complies w/ IEC 60793-2-10	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015
Core Diameter (µm)	50.0 ± 2.5				FOTP 176 IEC 60793-1-20	Complies w/ IEC 60793-2-10	50.0 ± 3.0	50.0 ± 3.0	50.0 ± 2.5	50.0 ± 3.0	50.0 ± 3.0

SSF™ SINGLE MODE FIBER PERFORMANCE vs. INDUSTRY STANDARDS

						Industry Standard				
Parameter	**SSF™ Single Mode**				**Test Method**	**ITU G.652.D**	**ITU G.657.A1**	**ITU G.657.A2**	**ITU G.657.B2**	**ITU G.657.B3**
Attenuation (dB/km)					FOTP 78					
1310nm	≤ 0.35				IEC 60793-1-40	≤ 0.4 (Cabled)	≤ 0.4 (Cabled)	≤ 0.4 (Cabled)	≤ 0.5 (Cabled)	≤ 0.5 (Cabled)
1385nm	≤ 0.31					≤ 0.4 (Cabled)	≤ 0.4 (Cabled)	≤ 0.4 (Cabled)		
1550nm	≤ 0.21					≤ 0.3 (Cabled)	≤ 0.3 (Cabled)	≤ 0.3 (Cabled)	≤ 0.3 (Cabled)	≤ 0.3 (Cabled)
1625nm	≤ 0.23								≤ 0.4 (Cabled)	≤ 0.4 (Cabled)
Mode Field Diameter					FOTP 167					
1310nm	8.6 ± 0.4					(8.6 ~ 9.5) ± 0.6	(8.6 ~ 9.5) ± 0.4	(8.6 ~ 9.5) ± 0.4	(6.3 ~ 9.5) ± 0.4	(6.3 ~ 9.5) ± 0.4
1550nm	9.7 ± 0.5									
Cable Cut-Off Wavelength	≤ 1260				FOTP 80	≤ 1260	≤ 1260	≤ 1260	≤ 1260	≤ 1260
Zero Dispersion Wavelength	1300 ~ 1324				FOTP 75	1300 ~ 1324	1300 ~ 1324	1300 ~ 1324		
Zero Dispersion Slope	≤ 0.092				FOTP 75	≤ 0.092	≤ 0.092	≤ 0.092		
Dispersion Coefficient					FOTP 75					
1285-1330nm	≤ 3.1									
1550nm	≤ 18									
Attenuation Directional Uniformity	≤ 0.03									
Point Discontinuity (dB)	≤ 0.05				FOTP 78					
Attenuation with Bending (dB)	**Turns**	**Radius**	**nm**	**dB**	FOTP 62					
	1	5	1550	≤ 0.75	IEC 60793-1-47					≤ 0.15
	1	5	1625	≤ 1.0						≤ 0.45
	1	7.5	1550	≤ 0.5				≤ 0.5	≤ 0.5	≤ 0.08
	1	7.5	1625	≤ 1.0				≤ 1.0	≤ 1.0	≤ 0.25
	1	10	1550	≤ 0.1			≤ 0.75	≤ 0.1	≤ 0.1	≤ 0.03
	1	10	1625	≤ 0.1			≤ 1.5	≤ 0.2	≤ 0.2	≤ 0.1
	10	15	1550	≤ 0.03			≤ 0.25	≤ 0.03	≤ 0.03	
	10	15	1625	≤ 0.1			≤1.0	≤ 0.1	≤ 0.1	
Cladding Diameter (µm)	125.0 ± 0.7				FOTP 176	125.0 ± 1.0	125.0 ± 0.7		125.0 ± 0.7	125.0 ± 0.7
Cladding Non-Circularity (%)	≤ 1.0				IEC 60793-1-20	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
Core-Clad Concentricity (µm)	≤ 0.5					≤ 0.6	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Length (km)	2.2 ~ 25.2				Calibrated Winder IEC 60793-1-22					
Environmental/Attenuation (dB/km)	1310 and 1550nm									
Temperature Dependence (-60°C +85°C)	≤ 0.05				FOTP 3 IEC 60793-1-52					
Dry Heat Soak (85 ± 2°C)	≤ 0.05				FOTP 67 IEC 60793-1-51					
Water Immersion (23 ± 2°C)	≤ 0.05				FOTP 74 IEC 60793-1-53					
Overall Cladding Diameter (µm)	245 ± 10				FOTP 195					
Coating-Cladding Concentricity (µm)	≤ 6				IEC 60793-1-21					
Minimum Strength (by Proof Test)	≥ 0.69 Gpa				FOTP 31 IEC 60793-1-30	≥ 0.69 Gpa	≥ 0.69 Gpa	≥ 0.69 Gpa	≥ 0.69 Gpa	≥ 0.69 Gpa
Coating Strip Force (N)										
Peak	< 1.0				FOTP 178					
Average	< 1.0				IEC 60793-1-32					


CLEERLINE SSF™
10,000 times the bend longevity of standard fiber.
200 times the durability of standard fiber.
Forget delicate handling.
No protective gear required.
Termination in as little as 1 minute.
STRONGER. SAFER. FASTER
Innovative Bulk Fiber Optic Cables and Accessories. Custom Cables and Constructions Available.
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