AFL

Building Entrance Facility Solution Guide

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Building Entrance Facility
Overview

Fiber counts in outside plant (OSP) cable for campus interconnection or service providers are rapidly increasing. The building entrance or External Network Interface (ENI) requires higher density, more space efficiency and more accessibility for effective fiber management and distribution of high fiber counts inside the data center.

AFL has designed and manufactured a range of entrance facility solutions for a fast and efficient installation that includes mass-splice frames, wall-mountable cabinets and rack-mountable panels to support fiber counts above and beyond today's demand.

High density

AFL has entrance facility solutions that can support 13,000+ fibers in a single cabinet

Space optimization

Our cabinets are available in a range of profiles to maximize your available floor or wall space

Flexible, scalable options

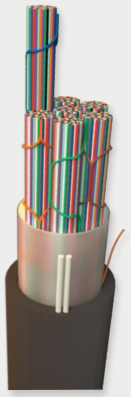
Supporting both mass-fusion and single-fiber splicing and accommodating cables with fiber counts from 288F all the way up to 6,912F, we have the right cabinet for your entrance facility

Fast installation

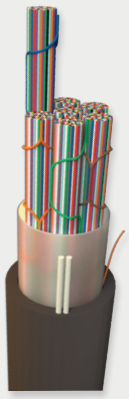
Using Wrapping Tube Cable (WTC) and SpiderWeb Ribbon® (SWR®) Technology, cables can be installed efficiently on day one and remain accessible for future cable installations or changes

Outside Plant Cabling (OSP) Overview

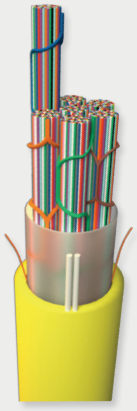
Advances in cable technology have led to an increase in fiber density and a decrease in cable diameter, weight and installation time. Utilizing SpiderWeb Ribbon® (SWR®) technology in your outside plant cabling means your data center's fleets or availability zones can grow at a faster rate, while minimizing the impact on already congested duct space.



250 µm Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR)

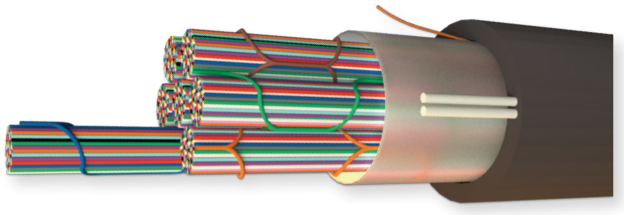


200 µm Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR)



Flame-Retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR)

250 µm Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®)



Wrapping Tube Cable (WTC), with SpiderWeb Ribbon (SWR), is an ultra-high density outside plant cable designed specifically for fiber-to-the-home (FTTH) or access markets and is compliant with the latest issue of the outside plant cable standard, Telcordia GR-20.

Utilizing an ultra-high density ribbon technology called SpiderWeb Ribbon, WTC provides the smallest cable diameter and lowest weight high-fiber count ribbon cable in the industry. WTC with SWR cables are available in fiber counts from 144 to 3,456.

SWR is a bonded fiber ribbon design allowing for either a highly efficient ribbon splicing or an individual fiber breakout splicing process. This flexibility allows for a single cable design to cover a diverse set of applications from access networks to high-fiber count mass-fusion splicing. With the ability to roll and conform, SWR provides ultra-high-density packaging in the WTC.

SWR technology eliminates many of the challenges that data center networks face today and will face in the future and works to maximize fiber counts, minimize space utilized in ducts and raceways and simplify high-fiber count installations.

Technical Specifications

Mechanical Data-Non-Armored

Fiber Count	Binder Unit	Nominal Diameter	Weight	Short Term/Installation		Long Term/Installation	
		Inches (MM)	LBS/1,000 FT (kg/km)	Max tensile load lbs (N)	Min bend radius inches (mm)	Max tensile load lbs (N)	Min bend radius inches (mm)
144	1 x 144F	0.41 (10.5)	57 (85)	607 (2700)	9 (229)	182 (810)	6 (158)
288	4 x 72F	0.47 (12.0)	71 (105)	607 (2700)	10 (254)	182 (810)	7 (180)
432	6 x 72F	0.53 (13.5)	91 (135)	607 (2700)	11 (270)	182 (810)	8 (203)
576	8 x 72F	0.59 (15.0)	111 (165)	607 (2700)	12 (300)	182 (810)	9 (225)
864	12 x 72F	0.69 (17.5)	145 (215)	607 (2700)	14 (350)	182 (810)	11 (279)
1152	8 x 144F	0.73 (18.5)	161 (240)	607 (2700)	15 (370)	182 (810)	11 (279)
1728	12 x 144F	0.91 (23.0)	242 (360)	607 (2700)	18 (460)	182 (810)	14 (345)
3456	24 x 144F	1.20 (30.5)	403 (600)	607 (2700)	24 (610)	182 (810)	18 (458)

Mechanical Data-OSP Armored

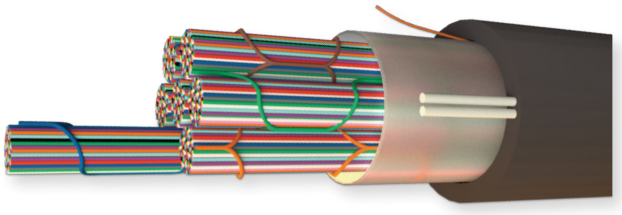
Fiber Count	Binder Unit	Nominal Diameter	Weight	Short Term/Installation		Long Term/Installation	
		Inches (MM)	LBS/1,000 FT (kg/km)	Max tensile load lbs (N)	Min bend radius inches (mm)	Max tensile load lbs (N)	Min bend radius inches (mm)
144	1 x 144F	0.63 (16.0)	148 (220)	607 (2700)	13 (320)	182 (810)	10 (254)
288	4 x 72F	0.69 (17.5)	172 (255)	607 (2700)	14 (350)	182 (810)	11 (279)
432	6 x 72F	0.75 (19.0)	202 (300)	607 (2700)	15 (380)	182 (810)	11 (285)
576	8 x 72F	0.81 (20.5)	235 (350)	607 (2700)	16 (410)	182 (810)	12 (308)
864	12 x 72F	0.91 (23.0)	286 (425)	607 (2700)	18 (460)	182 (810)	14 (345)
1728	12 x 144F	1.14 (29.0)	410 (610)	607 (2700)	23 (580)	182 (810)	17 (435)

Ordering Information

Contact us for ordering information.

View Product Datasheet

200 µm Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®)



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Utilizing an ultra-high density ribbon technology called SpiderWeb Ribbon, WTC provides the smallest cable diameter and lowest weight high-fiber count ribbon cable in the industry. WTC with SWR cables are available in fiber counts from 144 to 3,456.

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SWR technology eliminates many of the challenges that data center networks face today and will face in the future and works to maximize fiber counts, minimize space utilized in ducts and raceways and simplify high-fiber count installations.

Technical Specifications

Operating temperature

-40°C to +70°C

Storage temperature

-40°C to +70°C

Installation temperature

-30°C to +60°C

Mechanical Data-Non-Armored

Fiber Count	Binder Unit	Nominal Diameter	Weight	Short Term/Installation		Long Term/Installation	
		Inches (MM)	LBS/1,000 FT (kg/km)	Max tensile load lbs (N)	Min bend radius inches (mm)	Max tensile load lbs (N)	Min bend radius inches (mm)
1728	12 x 144F	0.85 (21.5)	202 (300)	607 (2700)	17 (432)	182 (810)	13 (330)
3456	24 x 144F	1.04 (26.5)	292 (435)	607 (2700)	21 (533)	182 (810)	16 (406)
6912	24 x 288F	1.38 (35.0)	514 (765)	607 (2700)	28 (711)	182 (810)	21 (533)

200 µm Optical Fiber

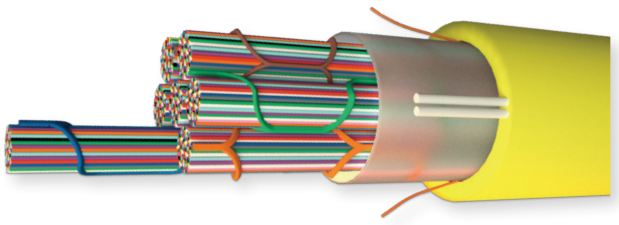
Fiber Count	Fiber Designator	MFD	Maximum Attenuation (Cabled) dB/km		
			1310 NM	1383 NM	1550 NM
1728	BE (ITU-T G.652.D and G.657.A1)	8.6 ± 0.4µm	≤0.40	≤0.40	≤0.30
3456	BE (ITU-T G.652.D and G.657.A1)	8.6 ± 0.4µm	≤0.40	≤0.40	≤0.30
6912	BE (ITU-T G.652.D and G.657.A1)	8.6 ± 0.4µm	≤0.40	≤0.40	≤0.30

Ordering Information

Contact us for ordering information.

View Product Datasheet

Flame-Retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®)



Flame-retardant (FR) Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR) is a high-density fiber optic ribbon cable intended for inside plant and indoor/outdoor network applications where riser-rated products are required. The FR-WTC-SWR incorporates the leading-edge SpiderWeb Ribbon technology in a robust, flame-retardant cable package that can be used within buildings and, because of the core water-blocking feature, can also be routed outside provided the cable is housed within covered pathway spaces including duct-banks and cable trays.

The FR-WTC-SWR product set is available in LSZH, UL 1666 Riser Rated, CPR Classification, non-armored 250 µm SR15E fiber (288F) and 200 µm SR15E-200 fiber (864F and 1728F) constructions.

Technical Specifications

Operating temperature
-20°C to +70°C

Storage temperature
-40°C to +70°C

Installation temperature
-10°C to +60°C

Mechanical Data — Non-Armored

Fiber Count	Binder Unit	Nominal Diameter	Weight	Short Term/Installation		Long Term/Installation	
		inches (mm)	LBS/1,000 ft (kg/km)	Max tensile load lbs (N)	Min bend radius inches (mm)	Max tensile load lbs (N)	Min bend radius inches (mm)
288	4 X 72F	0.49 (12.5)	108 (160)	297 (1320)	9.8 (250)	89 (396)	7.4 (188)
864	12 X 72F	0.65 (16.5)	181 (270)	297 (1320)	13.0 (330)	89 (396)	9.7 (248)
1728	12 X 144F	0.85 (21.5)	276 (410)	297 (1320)	16.9 (430)	89 (396)	12.7 (323)

Optical Fiber

Fiber Count	Fiber Buffer	Optical Fiber Standard	MFD	Maximum Attenuation (Cabled) dB/km		
				1310 nm	1383 nm	1550 nm
288	250 µm	K (ITU-T G.652D/G.657.A1)	8.6 ± 0.4 µm	≤ 0.35 dB/km	≤ 0.35 dB/km	≤ 0.25 dB/km
864, 1728	200 µm	BE (ITU-T G.652.D AND G.657.A1)	8.6 ± 0.4 µm	≤ 0.35 dB/km	≤ 0.35 dB/km	≤ 0.25 dB/km

Ordering Information

Contact us for ordering information.

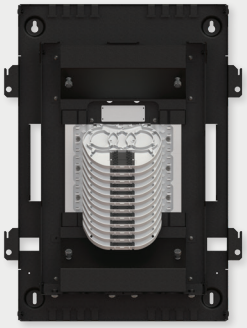
View Product Datasheet

Wall-Mountable Solutions Overview

AFL's Mass-Fusion Splice Cabinets are designed to save space in the data center entrance facility. Rather than splicing on a fiber frame, the cabinets can be wall-mounted to transition OSP cables to ISP cables up to 6,912 fibers. The cabinets are lightweight and designed for easy installation by one person.

6912F
Mass-Fusion
Splice Wall Cabinet

3456F
Mass-Fusion
Splice Wall Cabinet



288 Single-Fiber
864 Standard Ribbon
1152 SWR® Fusion
Splice Wall Cabinet

6912F Mass-Fusion Splice Wall Cabinet

The 6912F Mass-Fusion Splice Wall Cabinet is designed for use in a building entrance facility, providing an enclosure to splice outside plant (OSP) cables to inside plant (ISP) cables with an ultra-high fiber count. This cabinet is lightweight, flexible and designed for easy installation by one person providing a space-saving and cost-effective solution. Pass-through space provides cable routing for the installation of multiple cabinets.

The cabinet features 48 leaf-style trays which allow 144 fiber mass fusion splices per tray and a raceway and manifold system which ensures the 250 µm fiber is protected at all times. There are various cable entry options at both top and bottom with modular tie-off points allowing up to 8 x Ø34 mm at a time.

This Mass-Fusion Splice Wall Cabinet has the capacity to splice up to 6912F for SWR® and traditional ribbon cables. The cabinet can also be adapted to accommodate standard optical fiber by purchasing our standard fiber optic splice tray, allowing for 36 splices per tray and a maximum fiber count of 864F.

Technical Specifications

Dimensions
585 mm (W) x 227 mm (D) x 1212 mm (H)

Material
Aluminum

Operating temperature
-40°C to +60°C

Maximum fiber count
6912F

Material coating
Powder

Materials compliant to
RoHS, Reach/SVHC

Cable entry
Top and bottom

Color
Gray

Ordering Information

Part Number	Description Characteristic
FXHCXXBXXX-04ZZ	High Capacity Wall Box 6912F Mass Splice

View Product Datasheet

3456F Mass-Fusion Splice Wall Cabinet

The 3456F Mass-Fusion Splice Wall Cabinet is designed for use in a building entrance facility providing an enclosure to splice outside plant (OSP) cables to inside plant (ISP) cables with an ultra-high fiber count. This cabinet is lightweight, flexible and designed for easy installation by one person, providing a space-saving and cost-effective solution. Pass-through space provides cable routing for the installation of multiple cabinets.

The cabinet features 24 leaf-style trays which allow 144 fiber mass fusion splices per tray and a raceway and manifold system which ensures the 250 µm fiber is protected at all times. There are various cable entry options at both top and bottom with modular tie-off points allowing up to 8 x Ø34 mm at a time.

This Mass-Fusion Splice Wall Cabinet has the capacity to splice up to 3456F for SWR® and traditional ribbon cables. The cabinet can also be adapted to accommodate standard optical allowing for 36 splices per tray and a total fiber count of 1,728F.

Technical Specifications

Dimensions
585 mm (W) x 227 mm (D) x 882 mm (H)

Material
Aluminum

Operating temperature
-40°C to +60°C

Maximum fiber count
3456F

Material coating
Powder

Materials compliant to
RoHS, Reach/SVHC

Cable entry
Top and bottom

Color
Gray

Ordering Information

Part Number	Description Characteristic
FXHCXXBXXX-03ZZ	High Capacity Wall Box 3456F Mass Splice

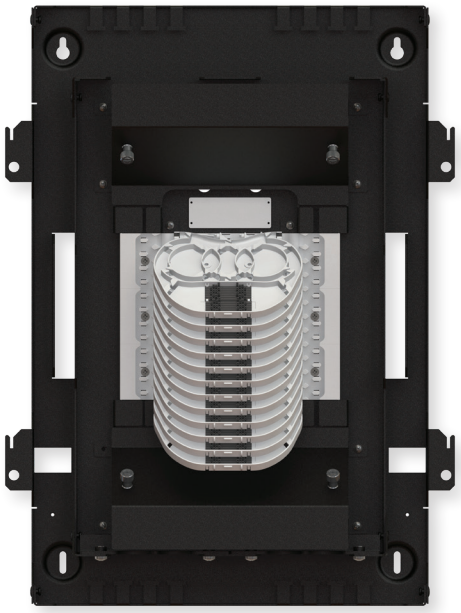
View Product Datasheet

288 Single-Fiber/864 Standard Ribbon/ 1152 SWR® Fusion Splice Wall Cabinet

This innovative mass-fusion splice wall cabinet is designed for applications in a building entrance facility providing an enclosure to splice outside plant (OSP) cables to inside plant (ISP) cables with a maximum fiber count of 1152F. This cabinet can be fitted into areas with limited physical space and it can be installed as a single unit or multiple units can be stacked. It can be both wall-mounted or in mounted in standard 19" racks.

Cable pass-through spaces inside and outside the cabinet provide cable routing for the installation of multiple cabinets on a wall or rack.

The splice cabinet features 12 leaf-style trays which allow 24 single fiber splices per tray and a raceway manifold system which ensures the fiber is protected at all times. The cabinet accommodates a variety of cables from inside plant cable (12 x 24F) to outside plant cable (1 x 288F/2 x 144F). It can also be used for standard ribbon splicing with 12 x 72F splice trays providing a total fiber count of 864F. When used with SWR cable, splicing is possible with 12 x 96F splice trays providing a total fiber count of 1152F. Note: these splice trays (SPT17-12) are not included and will need to be ordered separately).



Technical Specifications

Dimensions
404 mm (W) x 167 mm (D) x 616 mm (H)

Material
Aluminum

Operating temperature
-40°C to +60°C

Maximum fiber count
288 (single-fiber)
864 (standard ribbon)
1152 (SWR)

Material coating
Powder

Materials compliant to
RoHS, Reach/SVHC

Cable entry
Top and bottom

Color
Black

Ordering Information

Part Number	Description Characteristic
FXHCXXBXXX-02ZZ	High Capacity Wall Box 288F Single Splice
SPT17-12	Splice Tray and Splice Holder for SWR and Standard Ribbon Cable up to 1152F

View Product Datasheet

Mass-Splice Frames
Overview

AFL's selection of mass-splice frames provides scalable and high-density splicing capability. Our cabinets are ideal for splicing OSP cables carrying up to 13,824F into indoor backbone 288F segments.

Designed for ease of installation and maintenance, there is plenty of room for slack storage both at incoming and outgoing cable ends. Integrated mounting points for cable transitions ensure appropriate management of breakout from cable to splicing area.

10,368F
Mass-Fusion
Splice Frame

10,368F Mass-Fusion Splice Frame

The 10,368F Mass-Fusion Spice Frame is a high-capacity frame designed to accommodate up to 10,368 fibers utilizing ribbon cable. This fiber count is achieved using 72 mass splice cassettes providing 288 fibers per panel. Mass splice cassettes allowing 288 fibers per tray, each supplied with a fast mount mechanism for easy installation and maintenance.

Utilizing the latest SpiderWeb Ribbon® (SWR®) cable technology, the 288F splice trays accommodate to 24 mass splice protectors while ensuring sufficient slack storage for multiple re-splices.

Integrated mounting points for cable transitions ensure appropriate management of breakout from cable the splicing area.

Technical Specifications

Dimensions
600mm (W) x 300mm (D) x 2200mm (H)

Material
Cold Rolled Steel

Operating temperature
-40°C to +50°C

Maximum fiber count
10,368F

Material coating
Powder

Materials compliant to
RoHS, Reach/SVHC

Cable entry
Top and bottom

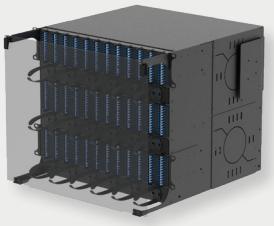
Color
Gray

Ordering Information

Contact us for ordering information.

Rack-Mountable Panels **Overview**

The below rack-mountable panels accommodate pre-installed SpiderWeb Ribbon® (SWR®) LC pigtails and a host of unique features for a rapid installation where interconnection is required.



9RU

36 Adapter Plates
864 LC Ports
6 x 144F Splice Trays

6RU FVP

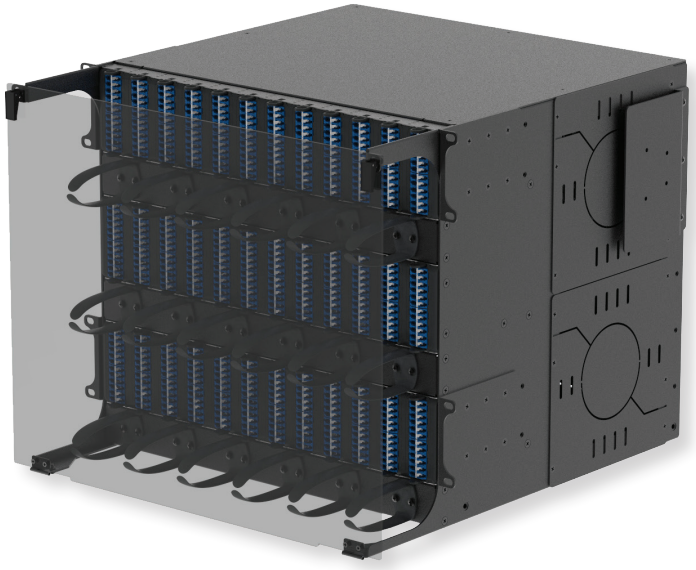
36 Cassettes
864 LC Ports
6 x 144F Splice Trays

2RU FVP

12 Cassettes
288 LC Ports
1 x 144F Splice Trays

Series

9RU Splice and Patch Panel



The U-Series 9RU Splice and Patch Panel is a high-density, 19" profile rack-mountable fiber management solution that splices and patches in a 9RU cabinet space. Ribbon cabling splicing is possible via a rear positioned hinge down panel that is supplied with a latching feature for both open and closed positions. Shuttered LC adapter plates (for 432 LC duplex connectors or 864 LC simplex connectors) on the front of the panel improve space management and allow for smooth patching and easy LC/SC port access.

6 splice trays accommodate both SWR® ribbon cable as well as traditional ribbon cable with each splice tray having the capacity to splice up to 144 fibers. Integrated mounting points for cable transitions ensure appropriate management of breakout from cable to splicing area. A traditional leaf-style splice tray stack provides fully managed fiber routing from transition to the splice tray while minimizing the risk of bend losses.

Technical Specifications

Dimensions
524 mm (W) x 521 mm (D) x 400 mm (H)

Material
CR4 Steel
Aluminum

Operating temperature
-20°C to +50°C

Maximum fiber count
864F (LC)
432f (SC)

Material coating
Powder

Materials compliant to
RoHS, Reach/SVHC

Cable entry
Left and right

Color
Black

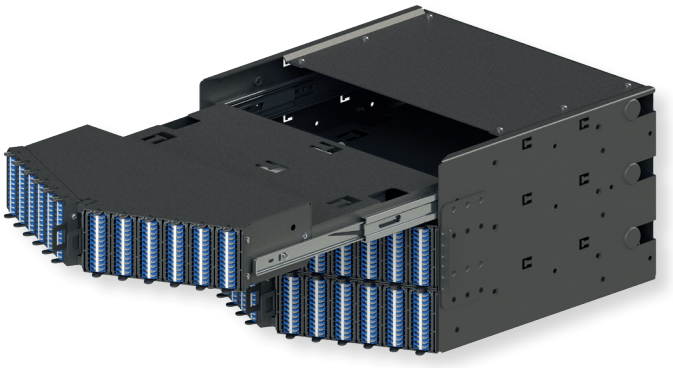
Ordering Information

Part Number	Description Characteristic
F7HAAFBPAX-06AL	U-Series 864F 9RU Splice+Patch Panel Low Loss LC SM G.657A1 Ribbon Pigtails
F7HAARBPDX-06AL	U-Series 432F 9RU Splice+Patch Panel Low Loss SC SM G.657A1 Ribbon Pigtails
F7HAAFBPBX-06AL	U-Series 864F 9RU Splice+Patch Panel Low Loss LC/APC SM G.657A1 Ribbon Pigtails

View Product Datasheet

Series

6RU Front-Access V-Panel (FVP)



The 6RU Front-Access V-Panel (FVP) facilitates ergonomic, modular and simultaneous cold aisle front-access splicing and patching of up to 864 fibers utilizing SpiderWeb Ribbon® (SWR®) Technology.

The one-person 19" rack-mountable unit is easy to work with and both sturdy and lightweight. 3 slide-out modular drawers are dismounted from the panel and spliced in simultaneously providing a fast, efficient and more comfortable cold aisle installation. Slack allows for simultaneous splicing to take place on a workbench at a safe working height.

A V-shaped design provides easy finger access and LC quad shuttered adapters help prevent the ingress of dust or debris while additionally providing laser eye safety.

Technical Specifications

Dimensions
513 mm (W) x 565 mm (D) x 255 mm (H)

Material
CR4 Steel
Aluminum

Operating temperature
-20°C to +50°C

Maximum fiber count
864F (LC)

Material coating
Powder

Materials compliant to
RoHS, Reach/SVHC

Cable entry
Left, right, top and bottom

Color
Black

Ordering Information

Part Number	Description Characteristic
F7HAAFBPAX-09AM	U-Series 864F 6RU Splice+Patch FVP Panel Low Loss LC SM G.657A1 SWR Pigtails
A7UD24BPAX-14JF-M4	U-Series 24F FVP Splice Cassette Low Loss LC SM G.657A1 Stub LSZH SWR MC 4M
FXSEXXBXXX-13ZZ	U-Series FVP Breakout Box for 3456F cable
FXSEXXBXXX-14ZZ	U-Series FVP Breakout Box for 6912F cable

View Product Datasheet

Series

2RU Front-Access V-Panel (FVP)

The U-Series 2RU Front-Access V-Panel (FVP) facilitates rapid, cold-aisle, front-access splicing and patching of up to 288 fibers utilizing SpiderWeb Ribbon® (SWR®) Technology to pre-loaded, high-performance SWR LC pigtails.

The one-person rack-mountable unit is easy to work with and both lightweight and sturdy. A slide-out modular drawer is dismounted from the panel so splicing can take place on a workbench at a safe working height. Its V-shaped design provides easy finger access and LC quad shuttered adapters help prevent the ingress of dust or debris while additionally providing laser eye safety.

Technical Specifications

Dimensions
482 mm (W) x 559 mm (D) x 88 mm (H)

Material
CR4 Steel
Aluminum

Operating temperature
-20°C to +50°C

Maximum fiber count
288F

Material coating
Powder

Materials Compliant to
RoHS, Reach/SVHC

Cable entry
Left or right

Color
Black

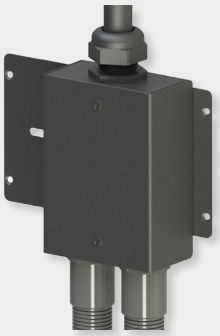
Ordering Information

Part Number	Description Characteristic
F7HAADBPAX-10AM	U-Series High Capacity 2U Front Access V Patch Panel Black Premium LC G.657A1 288F (SWR Pigtails)
A7UD24BPAX-14JF-M4	U-Series FVP 24F Pigtail Cassette with Premium LCSM G.657A1 24F 4m Stub 3.0mm OD

View Product Datasheet

Breakout Boxes
Overview

AFL has a range of easy to install breakout boxes designed to land high-core-count SpiderWeb Ribbon® (SWR®) cables and distribute them to multiple splice and patch panels.



1728F

SWR Breakout Box
1728 fiber count

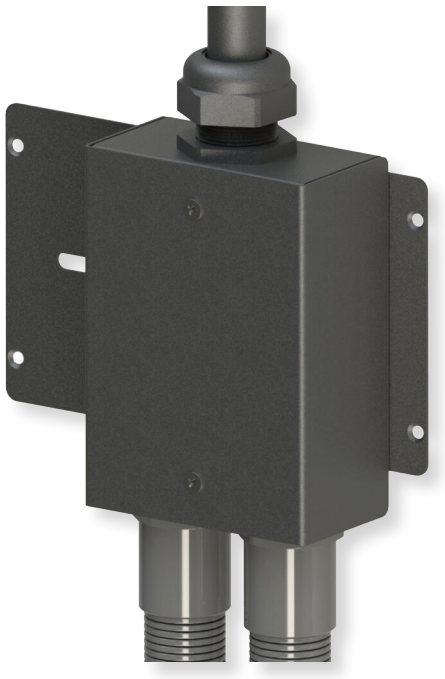
3456F

Breakout Box
3456 fiber count

6912F

Breakout Box
6912 fiber count

1728F SWR® Cable Breakout Box



This cable Breakout Box is an accessory kit designed to be used on two or more stackable HCF-005, our 6U Mass Fusion Splice and Patch Cabinets. It can be fitted onto the side of HCF-005 with a mounting plate included.

It allows the splitting of a high fiber count SWR cable of 1728f into 2x 864f cables. The 1728f cable can be fitted into a M32 Compression Gland secured with a nut and held by a Hose Clip inside the robust metal Breakout Box which protect the split fibers. The 2x 864f cables will exit the Breakout Box via the 2x Ø32 mm Compress Gland secured with nuts. These 2x 864f cables will be protected by a Ø32 mm Conduit all the way into the HCF-005 cabinets' splicing trays.

Technical Specifications

Dimensions
145 mm (H) x 105 mm (W) x 57.5 mm (D)

Material
Cold roll steel (CR4)

Operating temperature
-40°C to +60°C

Maximum fiber count
1728F

Material coating
Powder coating

Compliant to
RoHS, Reach/SVHC

Cable entry
16-21 mm

Color
Black

Ordering Information

Part Number	Description Characteristic
AFLHS-HCF-BB-1728	1728F High Fiber Count SWR Breakout Box

View Product Datasheet

Series

3456F and 6912F Breakout Box

Breakout boxes designed to land 3456F/6912F high-core-count SpiderWeb Ribbon® (SWR®) cables and distribute them to multiple splice and patch panels.

Their primary function is to ensure robust engagement with the cable and the safe transition to multiple panels, each of which will house 864 fibers.

The 3456F/6912F breakout boxes are designed to be used with the 6RU Front-Access V-Panel (FVP).

3456F

6912F

Technical Specifications

Dimensions

3456F: 210 mm (W) x 60.5 mm (D) x 538.5 mm (H)
6912F: 210 mm (W) x 110.5 mm (D) x 538.5 mm (H)

Material

CR4 Steel

Operating temperature

-40°C to +60°C

Maximum fiber count

3456F and 6912F

Material coating

Powder

Materials compliant to

RoHS, Reach/SVHC

Cable entry

3456F up to Ø30 mm,
6912F up to Ø34 mm

Color

Black

Ordering Information

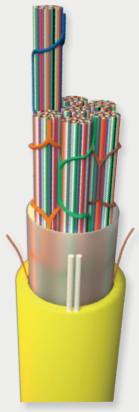
Part Number	Description Characteristic
FXSEXXBXXX-13ZZ	U-Series FVP Breakout Box for 3456f cable
FXSEXXBXXX-14ZZ	U-Series FVP Breakout Box for 6912f cable
F7HAAFBPAX-09AM	U-Series 864F 6RU Splice+Patch FVP Panel Low Loss LC SM G.657A1 SWR Pigtails
A7UD24BPAX-14JF-M4	U-Series 24F FVP Splice Cassette Low Loss LC SM G.657A1 Stub LSZH SWR MC 4M

View 3456F Datasheet

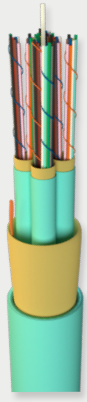
View 6912F Datasheet

Inside Plant Cabling (ISP) Overview

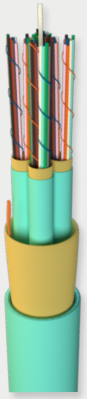
Our range of inside plant cables utilize SpiderWeb Ribbon® (SWR®) technology meaning that, across the data hall, operators can go from very high fiber count cables and break down to small fiber counts very easily. AFL have a range of ISP cables with a variety of jackets including LSZH, plenum and CPR-rated so networks can be designed with a global mindset for a local deployment.



Flame-Retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR)



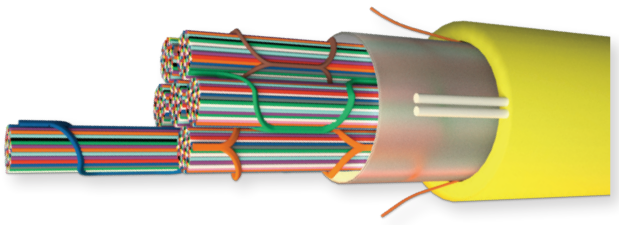
Sub-Unitized Premise MicroCore® 3.0 BASE-24 with SWR



Sub-Unitized Premise MicroCore 3.0 BASE-12 with SWR

Ruggedized MicroCore Cable with SWR

Flame-Retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon® (SWR®)



Flame-retardant (FR) Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR) is a high-density fiber optic ribbon cable intended for inside plant and indoor/outdoor network applications where riser-rated products are required. The FR-WTC-SWR incorporates the leading-edge SpiderWeb Ribbon technology in a robust, flame-retardant cable package that can be used within buildings and, because of the core water-blocking feature, can also be routed outside provided the cable is housed within covered pathway spaces including duct-banks and cable trays.

The FR-WTC-SWR product set is available in LSZH, UL 1666 Riser Rated, CPR Classification, non-armored 250 µm SR15E fiber (288F) and 200 µm SR15E-200 fiber (864F and 1728F) constructions.

Technical Specifications

Operating temperature
-20°C to +70°C

Storage temperature
-40°C to +70°C

Installation temperature
-10°C to +60°C

Mechanical Data — Non-Armored

Fiber Count	Binder Unit	Nominal Diameter	Weight	Short Term/Installation		Long Term/Installation	
		inches (mm)	LBS/1,000 ft (kg/km)	Max tensile load lbs (N)	Min bend radius inches (mm)	Max tensile load lbs (N)	Min bend radius inches (mm)
288	4 X 72F	0.49 (12.5)	108 (160)	297 (1320)	9.8 (250)	89 (396)	7.4 (188)
864	12 X 72F	0.65 (16.5)	181 (270)	297 (1320)	13.0 (330)	89 (396)	9.7 (248)
1728	12 X 144F	0.85 (21.5)	276 (410)	297 (1320)	16.9 (430)	89 (396)	12.7 (323)

Optical Fiber

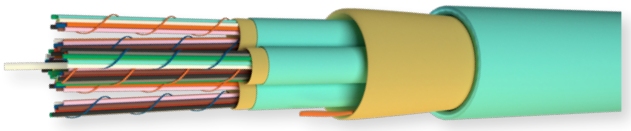
Fiber Count	Fiber Buffer	Optical Fiber Standard	MFD	Maximum Attenuation (Cabled) dB/km		
				1310 nm	1383 nm	1550 nm
288	250 µm	K (ITU-T G.652D/G.657.A1)	8.6 ± 0.4 µm	≤ 0.35 dB/km	≤ 0.35 dB/km	≤ 0.25 dB/km
864, 1728	200 µm	BE (ITU-T G.652.D AND G.657.A1)	8.6 ± 0.4 µm	≤ 0.35 dB/km	≤ 0.35 dB/km	≤ 0.25 dB/km

Ordering Information

Contact us for ordering information.

View Product Datasheet

Sub-Unitized Premise MicroCore® 3.0 BASE-24 with SWR®



The third generation of AFL's Sub-Unitized Premise MicroCore Cable is another astounding evolution of high-performance premise cabling. Enabling even greater pathway density than our 2.0 version, the 3.0 BASE-24 revolutionizes cable deployment and allows the end user to realize savings in space, routing infrastructures and fiber management with fiber counts up to 288 fibers available.

Combining the highest quality materials with rigorous testing to industry standards, this generation builds on the same quality of construction as the previous versions of our Sub-Unitized Premise MicroCore cables. Each stand-alone sub-cable is independently qualified and is suitable for individual routing paths within the rack/panel architecture. This flexibility of design and deployment is not available in comparable high-density designs.

Designed for direct termination and supportive of both single-fiber and multi-fiber architectures, this cable family is capable of serving as the backbone in any deployed system.

SWR technology eliminates many of the challenges that data center networks face today and will face in the future and works to maximize fiber counts, minimize space utilized in ducts and raceways and simplify high-fiber count installations.

Technical Specifications

Jacket Options

NFPA 262 (ONFP)/FT6
LSZH/ONFR-LS (IEC 60332, 60745, 61034)/CE CPR B2ca

Compliant to

EIA/TIA 568/GR-409-CORE
RoHS, Reach/SVHC

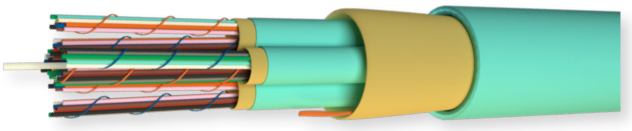
Type	Fiber Count	Nominal Diameter Inches (MM)	Weight LBS/1000 FT (kg/km)	Tension lbs (N)		Bend Radius Inches (CM)	
				Install	Long-term	Install	Long-term
24-Fiber Sub-Units	48	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	72	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	98	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	144	0.50 (12.7)	107 (160)	150 (670)	45 (200)	7.5 (19.1)	5.0 (12.7)
	168	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	192	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	216	0.61 (15.5)	171 (255)	150 (670)	45 (200)	9.2 (23.5)	6.1 (15.5)
	288	0.72 (18.4)	218 (325)	150 (670)	45 (200)	11.0 (27.6)	7.2 (18.4)

Ordering Information

Contact us for ordering information.

View Product Datasheet

Sub-Unitized Premise MicroCore® 3.0 BASE-12 with SWR®



AFL's Sub-Unitized Premise MicroCore 3.0 BASE-12 cables represent the foundation for AFL's MicroCore portfolio with designs available up to 144 fibers for standard 250 µm based fiber and AFL's revolutionary SpiderWeb Ribbon Technology.

Combining the highest quality materials with rigorous testing to industry standards, this generation builds on the same quality of construction as the previous versions of our Sub-Unitized Premise MicroCore cables. Each stand-alone sub-cable is independently qualified and is suitable for individual routing paths within the rack/panel architecture. This flexibility of design and deployment is not available in comparable high-density designs.

Designed for direct termination and supportive of both single-fiber and multi-fiber architectures, this cable family is capable of serving as the backbone in any deployed system.

SWR technology eliminates many of the challenges that data center networks face today and will face in the future and works to maximize fiber counts, minimize space utilized in ducts and raceways and simplify high-fiber count installations.

Technical Specifications

Jacket Options

NFPA 262 (ONFP)/FT6
LSZH/ONFR-LS (IEC 60332, 60745, 61034)/CE CPR B2ca

Compliant to

EIA/TIA 568/GR-409-CORE
RoHS, Reach/SVHC

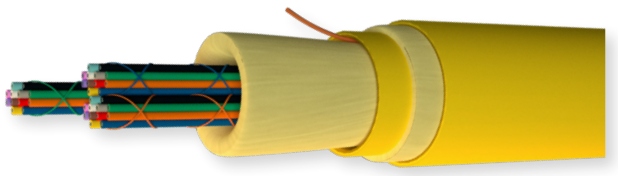
Type	Fiber Count	Nominal Diameter Inches (MM)	Weight LBS/1000 FT (kg/km)	Tension lbs (N)		Bend Radius Inches (CM)	
				Install	Long-term	Install	Long-term
12-Fiber Sub-Units	24	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	36	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	48	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	60	0.40 (10.2)	60 (90)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	72	0.44 (11.1)	77 (115)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	96	0.52 (13.3	120 (175)	150 (670)	45 (200)	6.0 (15.3)	4.0 (10.2)
	144	0.59 (14.9)	125 (185)	150 (670)	45 (200)	7.5 (19.1)	5.0 (12.7)

Ordering Information

Contact us for ordering information.

View Product Datasheet

Ruggedized MicroCore® Cable with SWR®



AFL Ruggedized MicroCore with SWR is the next generation of maximizing fiber density in AFL's line of high-density data center cables. Ruggedized MicroCore is an industry-leading alternative to a traditional inside plant central loose tube ribbon cable with both standard 250 µm based fiber and AFL revolutionary SpiderWeb Ribbon Technology designs available.

Ruggedized MicroCore with bare fiber eliminates concerns associated with edge fiber stresses due to preferential bend of encapsulated ribbons.

These cables consist of an LSZH (including ONFR-LS/FT4) flame-rated outer jacket with an installation tension rating of 150 lbs. qualified to meet and exceed the requirements of the latest Telcordia GR-409-CORE inside plant cabling requirements.

SWR technology eliminates many of the challenges that data center networks face today and will face in the future and works to maximize fiber counts, minimize space utilized in ducts and raceways and simplify high-fiber count installations.

Technical Specifications

Jacket Options

NFPA 262 (ONFP)/FT6
LSZH/ONFR-LS (IEC 60332, 60745, 61034)/CE CPR B2ca

Compliant to

EIA/TIA 568/GR-409-CORE
RoHS, Reach/SVHC

Fiber Count	Nominal Diameter inches (mm)	Nominal Sub-Unit inches (m)	Weight LBS/1000 ft (kg/km)	Tension lbs (N)		Bend Radius inches (cm)	
				Install	Long-term	Install	Long-term
12	0.19 (4.8)	0.12 (3.0)	15 (22)	150 (660)	45 (200)	2.9 (7.2)	1.9 (4.8)
24	0.19 (4.8)	0.12 (3.0)	15 (22)	150 (660)	45 (200)	2.9 (7.2)	1.9 (4.8)
36	0.22 (5.6)	0.15 (3.8)	21 (31)	150 (660)	45 (200)	3.3 (8.4)	2.2 (5.6)
48	0.22 (5.6)	0.15 (3.8)	21 (31)	150 (660)	45 (200)	3.3 (8.4)	2.2 (5.6)
72	0.25 (6.4)	0.19 (4.8)	30 (45)	150 (660)	45 (200)	3.8 (9.6)	2.5 (6.4)

Ordering Information

Contact us for ordering information.

View Product Datasheet

Accessories
Fusion Splicing

Fujikura 90R
Fusion Splicer

The Fujikura 90R is the mass fusion splicer workhorse of the splicing world. As data demand continues to rise, the solution to handle the increased traffic is to increase fiber counts. As a result, fiber counts being utilized in enterprise data centers, campus and metro networks have grown enough to make single fiber splicing too costly and timely. High density cabling made possible by SpiderWeb Ribbon® (SWR®) and others like it are spurring ribbon splicing activity in places that have traditionally used loose fiber. The 90R is the answer to these changes in splicing demand. With automated splice start, tube heater, wind protector, cleave tracking and blade rotations for up to 2 cleavers at a time, this splicer frees up operator time for other fiber preparation steps. New to the 90R, you can keep your splicer in the field longer with field replaceable V-grooves. When V-grooves can no longer be cleaned after extended use, or are accidentally damaged, you can resume splicing in minutes by installing the spare set included with your 90R kit.

- Cleaver tracking and upkeep with wireless communication
- Automated wind protector, tube heater and splice operation
- User replaceable v-grooves
- 200 µm and 250 µm SWR universal ribbon prep accessories
- Graphical User Interface with 5.0" Touchscreen
- PC software and 90R manual downloaded from splicer
- Multi-function transit case with integrated workstation

Technical Specifications

Fiber Alignment
Self cladding alignment with melting surface tension

Applicable Protection Sleeve
Sleeve Type:
Heat-shrinkable sleeve
Sleeve Length: Max. 66 mm
Sleeve Dia.: Max. 6.0 mm before shrinking

Electrode Life
Approx. 1,500 splices

Fiber count
Up to 16 fiber ribbon

Sleeve Heat Performance
Heat time:
40 mm FP-04T mode :
Avg. 17 to 19 sec.

40 mm FP-04T mode :
Avg. 17 to 19 sec.

Fiber Tensile Test Force
Approx. 2.0 N

Applicable Ribbon Coating Diameter
200 µm – 400 µm

Applicable fiber
Single mode optical fiber
Multi mode optical fiber

Cladding Diameter:
Approx. 125 µm

Environmental Condition
Temperature:
Operate : -10 to 50°C
Storage : -40 to 80°C
Humidity:
Operate : 0 to 95% RH non-condensing
Storage : 0 to 95% RH non-condensing
Altitude:
Max. 3,700 m

Ordering Information

Refer to product datasheet for ordering information.

View Product Datasheet

Accessories

Test, Inspection and Cleaning

FOCIS

Flex

- Liquid lens camera technology
- Auto-focus, auto-centering, PASS/FAIL analysis and save
- A wide range of cross-compatible adapter tips
- Bluetooth pairing to smart device apps and integration with aeRos®

Part Number	Description
FOCIS-FLX-P4XUA	FOCIS Flex Kit with 4 user-selected UPC & APC adapter tips (ferrule and bulkhead)

FlexScan®

FS200 OTDR

- High-resolution, dual-wavelength single-mode testing
- Easy-to-understand LinkMap® results with PASS/FAIL
- FleXpress® mode completes OTDR test in <5 seconds
- 12F MPO testing with optional Multi-Fiber Switch
- Bluetooth, WiFi and USB enabled
- TRM® Reporting Software

Part Number	Description
FS200-100-BAS-P1-W1	FlexScan® FS200 1310/1550nm OTDR with OPM/OLS/VFI

OFI-BIPMe

Optical Fiber Identifier

- World-class signal detection sensitivity
- Positive-stop trigger lock for optimum detection
- Integrated optical power meter
- 2.4" color touchscreen with backlight
- Up to 4 Tones detection (OFI-BIPMe only)

Part Number	Description
OFI-BIPMe	BI Enhanced Optical Fiber Identifier with integrated Optical Power Meter. The kit includes one 2.5 mm Universal Power Meter Port Adapter, BIPM-00-25.

One-Click® Cleaners

LC/MU/SC/ST/FC/MPO

- One-Click Cleaner D-LC, Duplex LC
- One-Click Cleaner MU/LC
- One-Click Cleaner SC/ST/FC
- One-Click Cleaner MPO

Part Number	Description
8500-05-0008MZ	One-Click® Cleaner D-LC, Duplex LC (2 x 500+ cleans)
8500-05-0002MZ	One-Click® Cleaner MU/LC (500 cleans)
8500-05-0001MZ	One-Click® Cleaner SC/ST/FC (500 cleans)
8500-05-0030MZ	One-Click® Cleaner MPO (500 cleans)

Data Center Cabling and Connectivity Experts

Hyperscale, colocation and enterprise data centers are united in their pursuit to connect the unconnected, yet their infrastructure, performance and operational challenges are totally unique.

AFL works collaboratively with our customers to create connectivity solutions tailored to their current needs and to the requirements of future networks. We then use our responsive, global operational capabilities and distribution network for fast delivery.

This approach has transformed how many data centers grow worldwide and is built on 70 years of combined experience in the design and manufacture of high-performance optical fiber networks, a global presence and the backing and innovation sharing of our parent company Fujikura, the pioneer in optical technology. AFL is your dependable partner to build a more connected world.

www.AFLglobal.com

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