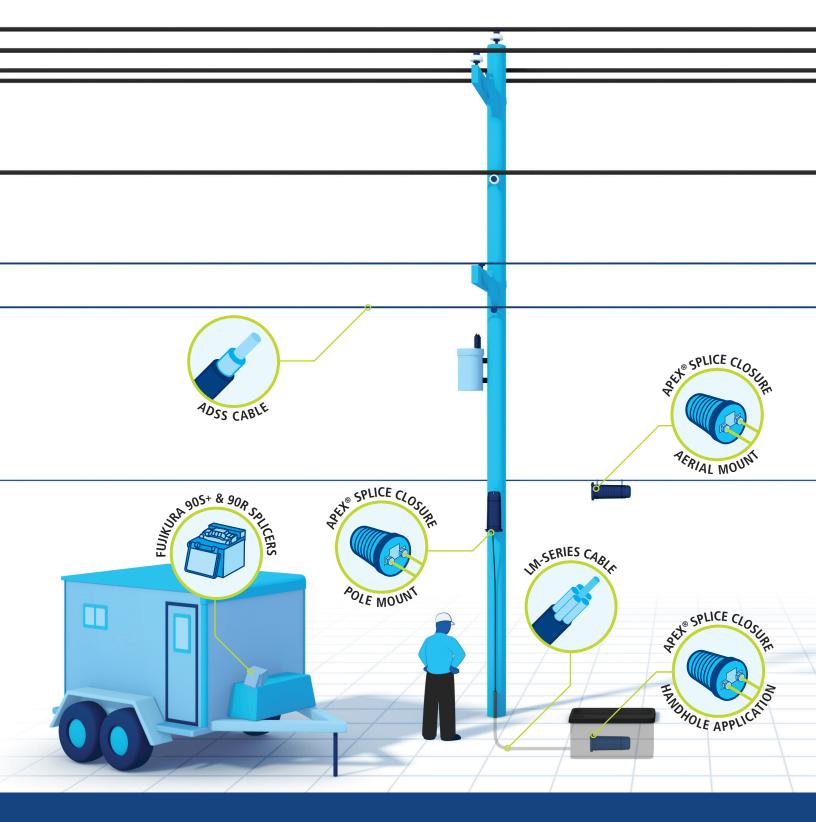


Easier. Faster. Better.







### MAXIMIZE

#### **AVAILABLE SPACE**

Utilize higher fiber counts in smaller handholes, especially with high density cable solutions



#### **GENERATE REVENUE FASTER**

Quick and easy to install, bring customers online faster than ever, while also reducing costs on installation time and labor



# IMPROVE NETWORK RELIABILITY

Individual cable seals ensure later cable installations don't disturb original cable seals and lower potential for water ingress



## FUTURE-PROOF YOUR NETWORK

Capable of low fiber count solutions today, and high splice density allows for higher fiber counts tomorrow



#### **REDUCE COSTS**

Higher splice densities and capabilities than comparatively priced products on the market



# LESS-COMPLEX SUPPLY CHAIN

Fewer specialized parts or materials improve lead time performance

If you've been making closures for over 25 years, you learn a thing or two. You can keep doing what you've been doing, or you can change everything. At AFL, we've listened. Our new Apex closures are smaller, easier and ready for whatever the future brings. Smaller size saves money and can still handle high-density fiber. Cables can be installed in seconds, not minutes. Universal splice holder modules accommodate a wide range of fiber counts. We've improved every aspect of our closures.





#### **Gel Sealing**

Our Apex Fiber Optic Splice Closures feature individual cable sealing ports with tool-less release mechanism and gel sealing. This allows for faster and easier installations.



#### Slack Storage for Wrapping Tube Cable

A molded slack storage basket in the Apex Fiber Optic Splice Closure allows use of the entire cross section of the closure to maximize storage.



#### Splice Modules for Single and Mass Fusion Splicing

The Apex universal splice module eliminates the need for specifying and stocking multiple splice trays for multiple applications.



#### **High Splice Density**

The Apex Fiber Optic Splice Closure allows for higher fiber splice counts in a reduced form factor, especially when paired with AFL's Wrapping Tube Cable.



The Apex X-1 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-1 is capable of up to 144\* single fusion, 432 mass fusion with standard ribbon, or 864 mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to three splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.



#### **Features**

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with convenient multiple tie-down points with Velcro or tie wraps
- Four cable ports with up to three ground lugs
- Capable of up to 8 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

#### **Specifications**

PARAMETER	VALUE
Dimensions – L x D, in (cm)	19.0 x 9.0 (48 x 23)
Weight, No Trays – lb (kg)	10 lbs
Splice Capacity – Single, Mass (SWR), Mass (Standard)	144*, 864, 432
Splice Tray Capacity	3
Cable Diameter, Single Port, in (mm)	0.40" - 1.10" (10.0 - 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20" - 0.39" (5.0 - 9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall
Operating Temperature	-40°F to 149°F (-40°C to 65°C)
Testing	20 foot water head

<sup>\*</sup> When using AFL Single Fiber Slim Protection Sleeves





#### **Gel Sealing**

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



#### **Cable Entry Ports and Strain Relief**

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.1" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 4 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



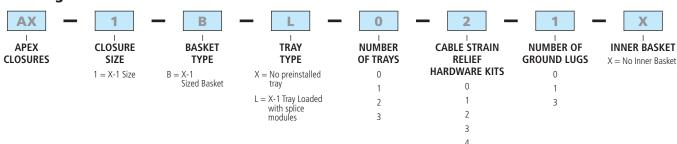
#### **Slack Storage**

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



#### **Splice Trays with Modular Splice Holders**

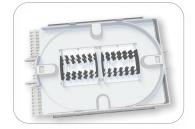
Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters and OADM devices. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.





#### **Splice Trays and Splice Modules**

Apex X-1 closures utilize X-2S size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 24 mass splices, or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for 6 mass splices single-stacked, or 72 fibers. Adapter kits available to install up to four FOSC® A optical trays.



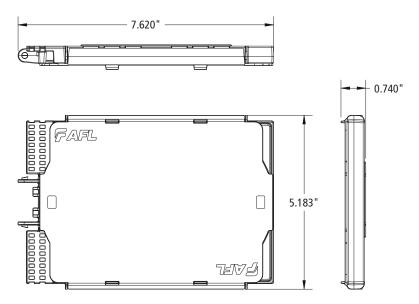


#### **Ordering Information**

	TRAY CAPACITY				
DESCRIPTION	SINGLE	MASS (SWR)	MASS (STANDARD)	AFL NO.	
X-2S Tray Loaded with One Splice Module	18 triple stack 24 quad stack**	144	144	AX-TRAY-2S-1	
X-2S Tray Fully Loaded with Two Splice Modules (288 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	36 triple stack 48 quad stack**	288	144	AX-TRAY-2S-2	
Additional splice module – Pack of 20	18 triple stack 24 quad stack**	144	144	AX-TRAY-MOD-20	
X-2S Tray Empty	_	-	_	AX-TRAY-2S-E	
FP-40 40 mm Single Fiber Slim Protection Sleeve	_	-	_	S018262	
FP-60 60 mm Single Fiber Slim Protection Sleeve	_	_	_	S018263	

<sup>\* 288</sup> fibers per tray with mass fusion double-stacking (864 total closure capacity) only recommended for 200 μm type rollable ribbon. For 250 μm, cut capacity in half with single-stacking.

#### **Dimensions**

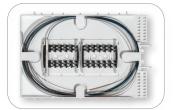




<sup>\*\*</sup> When using AFL's Slim Protection Sleeves

#### X-2S Splitter Splice Trays

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2S splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.





DESCRIPTION	SPLIT RATIO	AFL NO.
SPLITTER MODULES FOR SPLICE TRAYS		
X-2S Tray with Four Splice Modules, (1) 1x2 PLC Splitter	1x2	AX-TRAY-2S-12-1
X-2S Tray with Two Splice Modules, (1) 1x4 PLC Splitter	1x4	AX-TRAY-2S-14-1
X-2S Tray with Two Splice Modules, (1) 1x8 PLC Splitter	1x8	AX-TRAY-2S-18-1
X-2S Tray with Two Splice Modules, (1) 1x16 PLC Splitter	1x16	AX-TRAY-2S-116-1
X-2S Tray with Two Splice Modules, (1) 1x32 PLC Splitter	1x32	AX-TRAY-2S-132-1
X-2S Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x2	AX-TRAY-2S-12-2
X-2S Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x4	AX-TRAY-2S-14-2
X-2S Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x8	AX-TRAY-2S-18-2
X-2S Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x16	AX-TRAY-2S-116-2
X-2S Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x32	AX-TRAY-2S-132-2
X-2S Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x2	AX-TRAY-2S-12-3
X-2S Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x4	AX-TRAY-2S-14-3
X-2S Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x8	AX-TRAY-2S-18-3
X-2S Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x16	AX-TRAY-2S-116-3
X-2S Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x32	AX-TRAY-2S-132-3







The Apex X-2S is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-2S is capable of up to 288 single fusion, 576 mass fusion with standard ribbon, or 1728 (200 µm, 864 max for 250 µm) mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

#### **Features**

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with convenient multiple tie-down points with Velcro or tie wraps
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

#### **Specifications**

PARAMETER	VALUE
Dimensions – L x D, in (cm)	20.0 x 12.0 (51 x 30)
Weight, No Trays – lb (kg)	22 (10)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	288, 1728, 576
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" - 1.10" (10.0 - 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20" - 0.39" (5.0 - 9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall
Testing	Test to and Passed GR-771-CORE
	20 ft. Waterhead test
Temperature	-40°F to 149°F
Operating	-40°C to 65°C





#### **Gel Sealing**

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



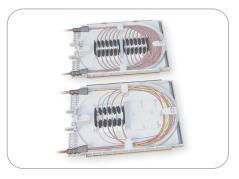
#### **Cable Entry Ports and Strain Relief**

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.1" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



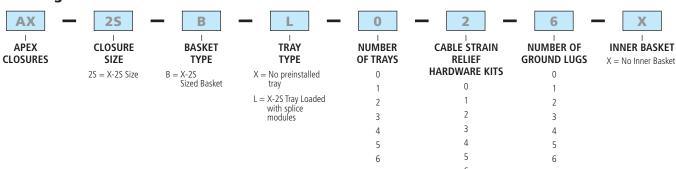
#### **Slack Storage**

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



#### **Splice Trays with Modular Splice Holders**

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters and OADM devices. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.

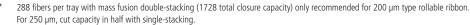




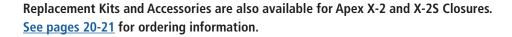
Apex X-2S closures utilize X-2S size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 24 mass splices, or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for 6 mass splices single-stacked, or 72 fibers. Adapter kits available to install up to four FOSC® A optical trays.

#### **Ordering Information**

	TRAY CAPACITY		
DESCRIPTION	SINGLE	MASS	AFL NO.
X-2S Tray Loaded with One Splice Module	24**	72	AX-TRAY-2S-1
X-2S Tray Fully Loaded with Two Splice Modules (288 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	48**	288	AX-TRAY-2S-2
Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20	-	-	AX-TRAY-MOD-20
X-2S Tray Empty	-	-	AX-TRAY-2S-E
FP-40 40 mm Single Fiber Slim Protection Sleeve	_	_	S018262
FP-60 60 mm Single Fiber Slim Protection Sleeve	_	_	S018263



<sup>\*\*</sup> When using AFL's Slim Protection Sleeves

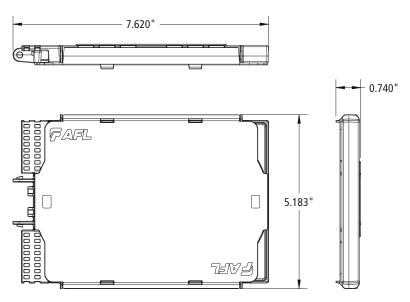








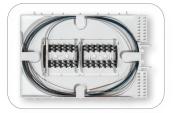
#### **Dimensions**





#### **Splitter Splice Trays**

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2S splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.





DESCRIPTION	SPLIT RATIO	AFL NO.
SPLITTER MODULES FOR SPLICE TRAYS		
X-2S Tray with Four Splice Modules, (1) 1x2 PLC Splitter	1x2	AX-TRAY-2S-12-1
X-2S Tray with Two Splice Modules, (1) 1x4 PLC Splitter	1x4	AX-TRAY-2S-14-1
X-2S Tray with Two Splice Modules, (1) 1x8 PLC Splitter	1x8	AX-TRAY-2S-18-1
X-2S Tray with Two Splice Modules, (1) 1x16 PLC Splitter	1x16	AX-TRAY-2S-116-1
X-2S Tray with Two Splice Modules, (1) 1x32 PLC Splitter	1x32	AX-TRAY-2S-132-1
X-2S Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x2	AX-TRAY-2S-12-2
X-2S Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x4	AX-TRAY-2S-14-2
X-2S Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x8	AX-TRAY-2S-18-2
X-2S Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x16	AX-TRAY-2S-116-2
X-2S Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x32	AX-TRAY-2S-132-2
X-2S Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x2	AX-TRAY-2S-12-3
X-2S Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x4	AX-TRAY-2S-14-3
X-2S Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x8	AX-TRAY-2S-18-3
X-2S Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x16	AX-TRAY-2S-116-3
X-2S Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x32	AX-TRAY-2S-132-3







The Apex X-2 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-2 is capable of up to 576 single fusion, 1152 mass fusion with standard ribbon, or 3456 (200 µm, 1728 max for 250 µm) mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

#### **Features**

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with optional segmented basket to separate ribbon and loose tube slack storage
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

#### **Specifications**

PARAMETER	VALUE
Dimensions – L x D, in (cm)	25.0 x 12.0 (64 x 30)
Weight, No Trays – lb (kg)	25 (11.3)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	576, 3456, 1152
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" - 1.10" (10.0 - 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20"-0.39" (5.0-9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall
Testing	Test to and Passed GR-771-CORE 20 ft. Waterhead test
Temperature Operating	-40°F to 149°F -40°C to 65°C





#### **Gel Sealing**

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



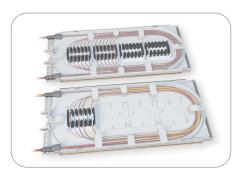
#### **Cable Entry Ports and Strain Relief**

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.1" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



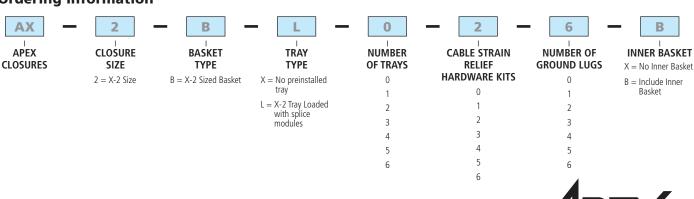
#### **Slack Storage**

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage. An optional segmented hinging basket is available to separate ribbon and loose tube slack, and can be locked in the upward position for access to expressed fibers below.



#### **Splice Trays with Modular Splice Holders**

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters or OADM devices. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.



## **Apex<sup>®</sup> X-2 Sealed Splice Closure**

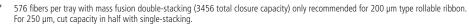
#### **Splice Trays and Splice Modules**

Apex X-2 closures utilize X-2 size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 48 double-stacked mass splices, or 576 fibers total per tray. For standard ribbon, AFL recommends partially loaded for up to 16 mass splices single-stacked, or 192 fibers. Adapter kits available to install FOSC® A-B optical trays.



#### **Ordering Information**

	TRAY CAPACITY		
DESCRIPTION	SINGLE	MASS	AFL NO.
X-2 Tray Loaded with Two Splice Modules	48**	288	AX-TRAY-2-2
X-2 Tray Fully Loaded with Four Splice Modules (576 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	96**	576*	AX-TRAY-2-4
Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20	-	-	AX-TRAY-MOD-20
X-2 Tray Empty	_	-	AX-TRAY-2-E
FP-40 40 mm Single Fiber Slim Protection Sleeve	_	_	S018262
FP-60 60 mm Single Fiber Slim Protection Sleeve	_	_	S018263



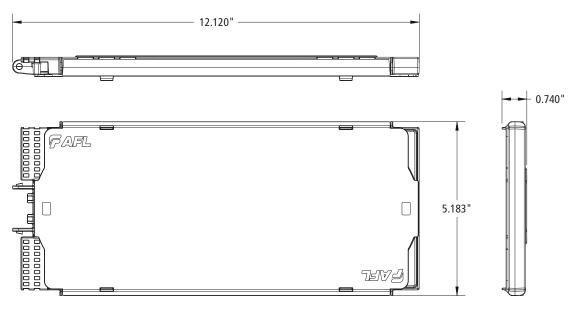
\*\* When using AFL's Slim Protection Sleeves





Replacement Kits and Accessories are also available for Apex X-2 and X-2S Closures. See pages 20-21 for ordering information.

#### **Dimensions**

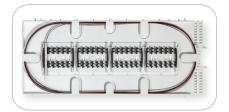




## **Apex<sup>®</sup> X-2 Sealed Splice Closure**

#### **Splitter Splice Trays**

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2 splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.



DESCRIPTION	SPLIT RATIO	AFL NO.
SPLITTER MODULES FOR SPLICE TRAYS		
X-2 Tray with Four Splice Modules, (1) 1x2 PLC Splitter	1x2	AX-TRAY-2-12-1
X-2 Tray with Four Splice Modules, (1) 1x4 PLC Splitter	1x4	AX-TRAY-2-14-1
X-2 Tray with Four Splice Modules, (1) 1x8 PLC Splitter	1x8	AX-TRAY-2-18-1
X-2 Tray with Four Splice Modules, (1) 1x16 PLC Splitter	1x16	AX-TRAY-2-116-1
X-2 Tray with Four Splice Modules, (1) 1x32 PLC Splitter	1x32	AX-TRAY-2-132-1
X-2 Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x2	AX-TRAY-2-12-2
X-2 Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x4	AX-TRAY-2-14-2
X-2 Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x8	AX-TRAY-2-18-2
X-2 Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x16	AX-TRAY-2-116-2
X-2 Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x32	AX-TRAY-2-132-2
X-2 Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x2	AX-TRAY-2-12-3
X-2 Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x4	AX-TRAY-2-14-3
X-2 Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x8	AX-TRAY-2-18-3
X-2 Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x16	AX-TRAY-2-116-3
X-2 Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x32	AX-TRAY-2-132-3



## Replacement Kits and Accessories - Apex® X-1, X-2S, X-2 Closures

#### **Installation Kits and Accessories**

The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.

#### **Replacement Kits**







X-1 Wedge Replacement Kit



X-2 and X-2S CAU Kit



X-2 and X-2S Wedge Replacement Kit



Ring Clamp Replacement Kit



Foam Retention



O-Ring Grease Kit

#### **Accessories**



Apex Aerial Hanger Bracket



Apex Pole/Wall Mount



Adjustable Aerial Hanger Bracket X-2 and X-2S Installation Stand





Universal Installation Stand



Mesh Transition Tubing



Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2



A-B Tray Adapter Kit



SC Bulkhead Adapter Kit



Replacement Slack Storage Basket Tabs

## Replacement Kits and Accessories - Apex® X-1, X-2S, X-2 Closures

Installation Accessories (cont.)

#### **Ordering Information — Replacement Kits**

DESCRIPTION	AFL NO.
REPLACEMENT KITS	
X-1 Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit	AX-KIT-CBLSTRN-1
X-1 Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-1
X-1 Dome to Base Locking Ring Clamp Replacement Kit	AX-KIT-CLAMP-1
X-1 Wedge Replacement Kit	AX-KIT-WEDGE-2
X-1 Inner Base Gel Replacement Kit	AX-KIT-GEL-1
X-1 Basket and Yoke Assembly Kit. Can be used in combination with the basket cover.	AX-KIT-BASKET-1
X-1 Dome Replacement Kit	AX-KIT-DOME-1
X-2 and X-2S Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit	AX-KIT-CBLSTRN
X-2 and X-2S Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-2
Apex O-Ring Grease, Pack of 10	AX-KIT-GREASE-10
X-2 and X-2S Dome to Base Locking Ring Clamp Replacement Kit	AX-KIT-CLAMP-2
X-2 and X-2S Wedge Replacement Kit	AX-KIT-WEDGE-2
X-2 and X-2S Inner Base Gel Replacement Kit	AX-KIT-GEL-2
X-2 Basket and Yoke Assembly Kit. Can be used in combination with the basket cover.	AX-KIT-BASKET-2
X-2 Inner Basket Kit	AX-KIT-SBASKET-2
X-2 Dome Replacement Kit	AX-KIT-DOME-2
X-2S Dome Replacement Kit	AX-KIT-DOME-2S
X-2S Basket and Yoke Assembly Kit. Can be used in combination with the basket cover.	AX-KIT-BASKET-2S
WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays	HW000406
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759

#### **Ordering Information — Accessories**

DESCRIPTION	AFL NO.
ACCESSORIES	
Aerial strand mount hanger kit	AX-KIT-AERIAL-1
Pole/wall mount kit	AX-BR30
Adjustable Aerial Strand Mount Hanger kit	AX-KIT-AERIAL-ADJ
ADSS Aerial hanger brackets	AX-KIT-AERIAL-ADSS
Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4
X-2 and X-2S Installation Stand (not for use with X-1)	FC104649
Apex Universal Installation Stand for use with all Apex models (X-1, X-2, X-2S, X-3, X-3H)	AX-KIT-U-STAND
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10
Apex Internal Multiple Ground Bonding Kit	AX-KIT-GNDLD-5
1/4" Colored Mesh Transition Tubing, 250' Spool	AX-KIT-TUBE-014-XX*
(*Replace "XX" with color per TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ)	
Silicone Spiral Wrap, 5.5 Foot Length	FC001657
Apex Advanced Fiber Retention System (AFRS) Kit 1 — Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.).	AX-KIT-AFRSRBN
Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads)	AX-KIT-AFRSLT
Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.)	AX-KIT-AFRSVC-120
Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.)	AX-KIT-AFRSMESH-100FT
Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.)	AX-KIT-AFRSAH-10
Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.)	AX-KIT-AFRSA-10
Apex Restoration Kit, 1000' of 144F Non-Armored Wrapping Tube Cable (Apex X-2S is in Restoration Kit)	AX-2S-B-L-4-4-4-X-1R1000F
X-2 and X-2S Apex A-B Tray Adapter Kit, 1 Kit of 6 pieces (not for use with X-1)	AX-ADPTR-ABTRAY-6
X-2 and X-2S Apex A-B Tray Adapter Kit, 10 Kits of 6 pieces (not for use with X-1)	AX-ADPTR-ABTRAY-60
Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit	AX-TRAY-ASC
Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit	AX-TRAY-USC
Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit	AX-TRAY-ASC-6
Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit	AX-TRAY-USC-6
X-2 and X-2S Apex Replacement Slack Storage Basket Tabs — Pack of 25 (not for use with X-1)	AX-KIT-BTAB-25



The Apex X-3 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-3 is capable of up to 864 single fusion, 1296 mass fusion with standard ribbon, or 5184 (200 µm, 2592 max for 250 µm) mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.



#### **Features**

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with optional segmented basket to separate ribbon and loose tube slack storage
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary





Open to access Apex X-3 splice trays and lock at 72 degrees

PARAMETER	VALUE
Dimensions – L x D, in (cm)	32.0 x 14 (81.3 x 35.6)
Weight, No Trays – lb (kg)	30 lbs. (13.61 kg)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	864, 5184, 1296
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" - 1.38" (10.16 - 35.052)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20" - 0.39" (5.0 - 9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall
Designed in accordance with Telcordia GR-771	Up to 10 ft. water-head





#### **Gel Sealing**

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



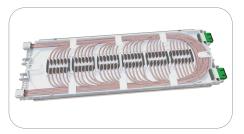
#### Cable Entry Ports and Cable Attachment Unit (CAU)

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.38" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough CAU kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



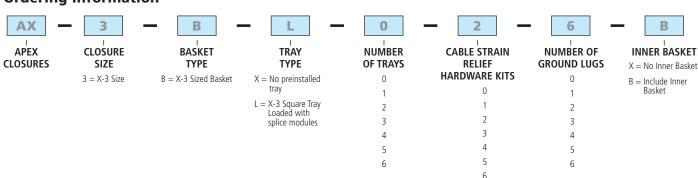
#### **Slack Storage**

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage. An optional segmented hinging basket is available to separate ribbon and loose tube slack, and can be locked in the upward position for access to expressed fibers below.



#### Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion quad-stacked, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters. This eliminates the need for specifying and stocking multiple splice trays for multiple applications such as WDM and PLC Splitters, (photo at left shown with ASC bulkhead test ports installed). This can be mix-and-match.





#### **Splice Trays and Splice Modules**

Apex X-3 closures utilize X-3 square splice trays. Trays can be ordered empty or fully loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, closures can be fully loaded with 6 splice trays for 5184 SWR or 864 quad-stacked single fiber splices or 144 fibers per tray. For standard ribbon, AFL recommends half loaded for 18 mass splices single-stacked, or 216 fibers per tray.



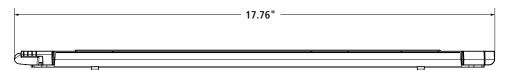
#### **Ordering Information**

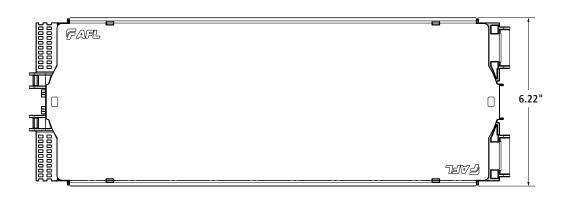
	TRAY CAPACITY		
DESCRIPTION	SINGLE	MASS	AFL NO.
X-3 Tray Fully Loaded with Six (6) Splice Modules (864 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	108 triple stacked 144 quad stacked**	864**	AX-TRAY-3-S-6
Additional splice module (18 single fusion double/quad stacked, 12 mass fusion double stacked, 6 mechanical) Pack of 20	_	-	AX-TRAY-MOD-20
X-3 Square Tray Empty	-	-	AX-TRAY-3-S-E
FP-40 40 mm Single Fiber Slim Protection Sleeve	_	_	S018262
FP-60 60 mm Single Fiber Slim Protection Sleeve	_	-	S018263

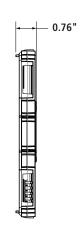


Replacement Kits and Accessories are also available for Apex X-3 and X-3H Closures. See pages 10-11 for ordering information.

#### **Dimensions**









<sup>864</sup> fibers per tray with mass fusion (5184 total closure capacity) only recommended for 200 µm type rollable ribbon. For 250 µm, cut capacity in half with single-stacking. When using AFL's Slim Protection Sleeves



The Apex X-3H is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-3H is capable of up to 1728 mass fusion with standard ribbon or 6912 (200  $\mu$ m, 3456 max for 250  $\mu$ m) mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 8 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.



#### **Features**

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket designed for high count WTC with SWR and other rollable ribbon cable
- Six cable ports with up to six ground lugs
- Optimized for 6912 200 µm fiber end splice
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

#### **Specifications**

PARAMETER	VALUE
Dimensions – L x D, in (cm)	32.0 x 14 (81.3 x 35.6)
Weight, No Trays – lb (kg)	30 (13.6)
Splice Capacity – Mass (SWR), Mass (Standard)	6912, 1728
Splice Tray Capacity	8
Cable Diameter, Single Port, in (mm)	0.40" - 1.38" (10.16 - 35.052)
Application	Handhole, Aerial, Pole/Wall, Direct Bury





#### **Gel Sealing**

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



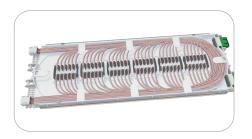
#### Cable Entry Ports and Cable Attachment Unit (CAU)

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.38" in diameter. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



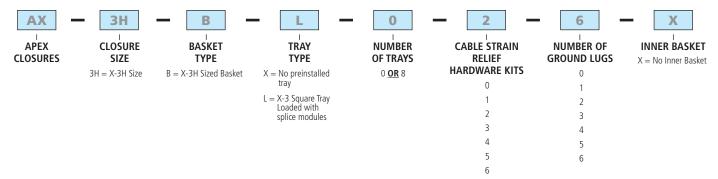
#### Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



#### **Splice Trays with Modular Splice Holders**

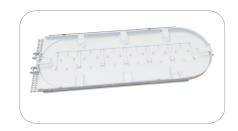
Apex X-3H round splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The Apex X-3H round splice trays are only compatible with the X-3H closure. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.





#### **Splice Trays and Splice Modules**

Apex X-3H closures utilize X-3H round splice trays. Trays can be ordered empty or fully loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 72 double-stacked mass splices, or 864 fibers per tray. For standard ribbon, AFL recommends half loaded for 18 mass splices single-stacked, or 216 fibers.



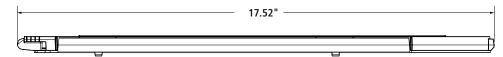
#### **Ordering Information**

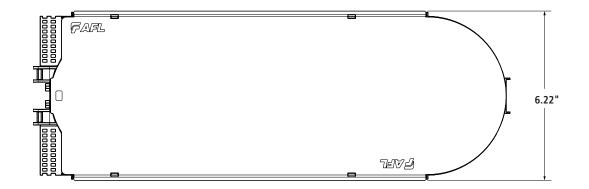
DESCRIPTION	MASS	AFL NO.
X-3H Tray Fully Loaded with Six (6) Splice Modules (864 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	864**	AX-TRAY-3-R-6
Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20	_	AX-TRAY-MOD-20
X-3H Round Tray Empty	-	AX-TRAY-3-R-E
FP-40 40 mm Single Fiber Slim Protection Sleeve	_	S018262
FP-60 60 mm Single Fiber Slim Protection Sleeve	-	S018263

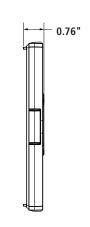


Replacement Kits and Accessories are also available for Apex X-3 and X-3H Closures. See pages 10-11 for ordering information.

#### **Dimensions**









<sup>\* 864</sup> fibers per tray with mass fusion (6912 total closure capacity) only recommended for 200 μm type rollable ribbon For 250 μm, cut capacity in half with single-stacking.

<sup>\*\*</sup> When using AFL's Slim Protection Sleeves

## Replacement Kits and Accessories - Apex® X-3 and X-3H Closures

#### **Installation Kits and Accessories**

The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.











CAU Kit

Ring Clamp Replacement Kit

O-Ring Grease Kit Wed

Wedge Replacement Kit

Foam Retention

#### **Ordering Information — Replacement Kits**

DESCRIPTION	AFL NO.	
REPLACEMENT KITS		
X-3 and X-3H Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit	AX-KIT-CBLSTRN-3	
X-3 and X-3H Dome-to-Base Locking Ring Clamp Replacement Kit	AX-KIT-CLAMP-3	
X-3 and X-3H Dome Replacement Kit	AX-KIT-DOME-3	
X-3 and X-3H Inner Base Gel Replacement Kit	AX-KIT-GEL-3	
X-3 Inner Basket Kit	AX-KIT-SBASKET-3	
Apex O-Ring Grease, Pack of 10	AX-KIT-GREASE-10	
X-3 and X-3H Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-3	
X-3 and X-3H Wedge Replacement Kit	AX-KIT-WEDGE-3	
WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays	HW000406	
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759	







Apex Pole/Wall Mount



Adjustable Aerial Hanger Bracket



Mesh Transition Tubing



Universal Installation Stand

#### **Ordering Information — Accessories**

DESCRIPTION	AFL NO.
ACCESSORIES	
X-3 and X-3H Pole/wall mount kit	AX-BR33
Aerial strand mount hanger kit	AX-KIT-AERIAL-1
Adjustable Aerial Strand Mount Hanger kit	AX-KIT-AERIAL-ADJ
ADSS Aerial hanger brackets	AX-KIT-AERIAL-ADSS
X-3 and X-3H Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4-3
Apex Internal Multiple Ground Bonding Kit	AX-KIT-GNDLD-5
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10
1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GR, BR, SL, WH, RD, BK, YL, VI, RS or AQ)	AX-KIT-TUBE-014-XX*
Apex Universal Installation Stand	AX-KIT-U-STAND



# Replacement Kits and Accessories – Apex® X-3 and X-3H Closures

#### Installation Accessories (cont.)











Silicone Spiral Wrap

AFRS Kit 1

AFRS Kit 2

SC Bulkhead Adapter Kit

Replacement Slack Storage Basket Tabs

#### **Ordering Information — Accessories**

DESCRIPTION	AFL NO.	
ACCESSORIES		
Silicone Spiral Wrap, 5.5 Foot Length	FC001657	
Apex Advanced Fiber Retention System (AFRS) Kit 1 — Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core).  Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.).	AX-KIT-AFRSRBN	
Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads)	AX-KIT-AFRSLT	
Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.)	AX-KIT-AFRSVC-120	
Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.)	AX-KIT-AFRSMESH-100FT	
Apex AFRS Kit 5 — Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.)	AX-KIT-AFRSAH-10	
Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.)	AX-KIT-AFRSA-10	
Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit	AX-TRAY-ASC	
Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit	AX-TRAY-USC	
Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit	AX-TRAY-ASC-6	
Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit	AX-TRAY-USC-6	
Apex Replacement Slack Storage Basket Tabs — Pack of 25	AX-KIT-BTAB-25	



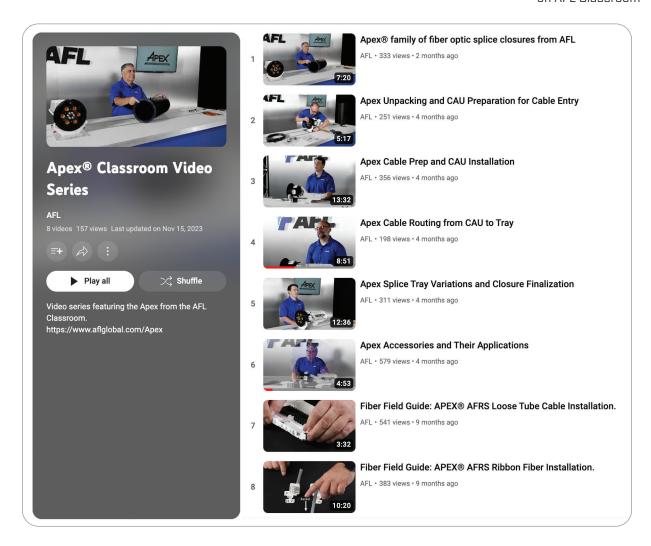
## Resources for Apex® Sealed Splice Closures

AFL provides resources and training for all Apex models. Digital installation instructions are available on the corresponding Apex Closure model web page.



Apex instructional videos can be found on our YouTube page. The AFL Classroom video series features eight Apex installation demonstrations and instructions for installing various types of fiber optic cable, basket routing options, splice trays, final assembly, mounting, accessories, troubleshooting, and more.





#### **AFL Products and Solutions**

Customers around the world have relied on AFL's quality and proven products and solutions since our founding in 1984. We engineer each product to deliver exactly as promised, and we have a culture of constantly creating new products to better meet the needs of our customers.

When you choose AFL, you will be working closely with our team of dedicated professionals that are ready to assist you at every step in the process. Their knowledge and expertise will help you build a true end-to-end solution for your particular application.

FIBER OPTIC CABLE (OPGW, ADSS, Loose Tube)



TEST, INSPECTION AND CLEANING EQUIPMENT



FUSION SPLICING SYSTEMS AND ACCESSORIES



**FIBER INSIDE PLANT** 



FIBER OUTSIDE PLANT



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