

FTTH Deployment Kit Guide







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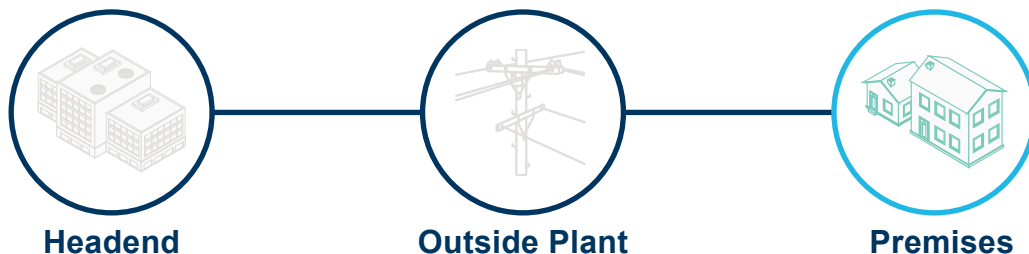
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PPC Overview

PPC is a leading manufacturer and developer of connectivity solutions and network optimization for cable systems, satellite networks and wireless businesses around the world. As the demand for broadband services increases, so does the need for high-end solutions. We offer award-winning xTTx® solutions for coax cable, drop connectors, fiber optics, category cable, construction hardware, ancillary products and more through technical leadership and innovative services.

PPC's design teams have contributed many industry firsts, including pushable fiber, universal crimp and compression connectors, continuity connectors, integrated weather seal connectors, and many others. While holding more patents in connector technology than any other company worldwide, PPC continues to expand its product portfolio to mirror the evolution of international network advancements and satisfy increasingly complex customer demand.

FTTH Deployment Kit



As an end-to-end solutions provider, PPC has built a portfolio containing a broad array of products suitable for applications spanning your broadband network. To enable last mile fiber-to-the-home installs, we've bundled a collection of individual products that work together to create a tech-friendly, comprehensive fiber drop kit for single dwelling units (SDUs).

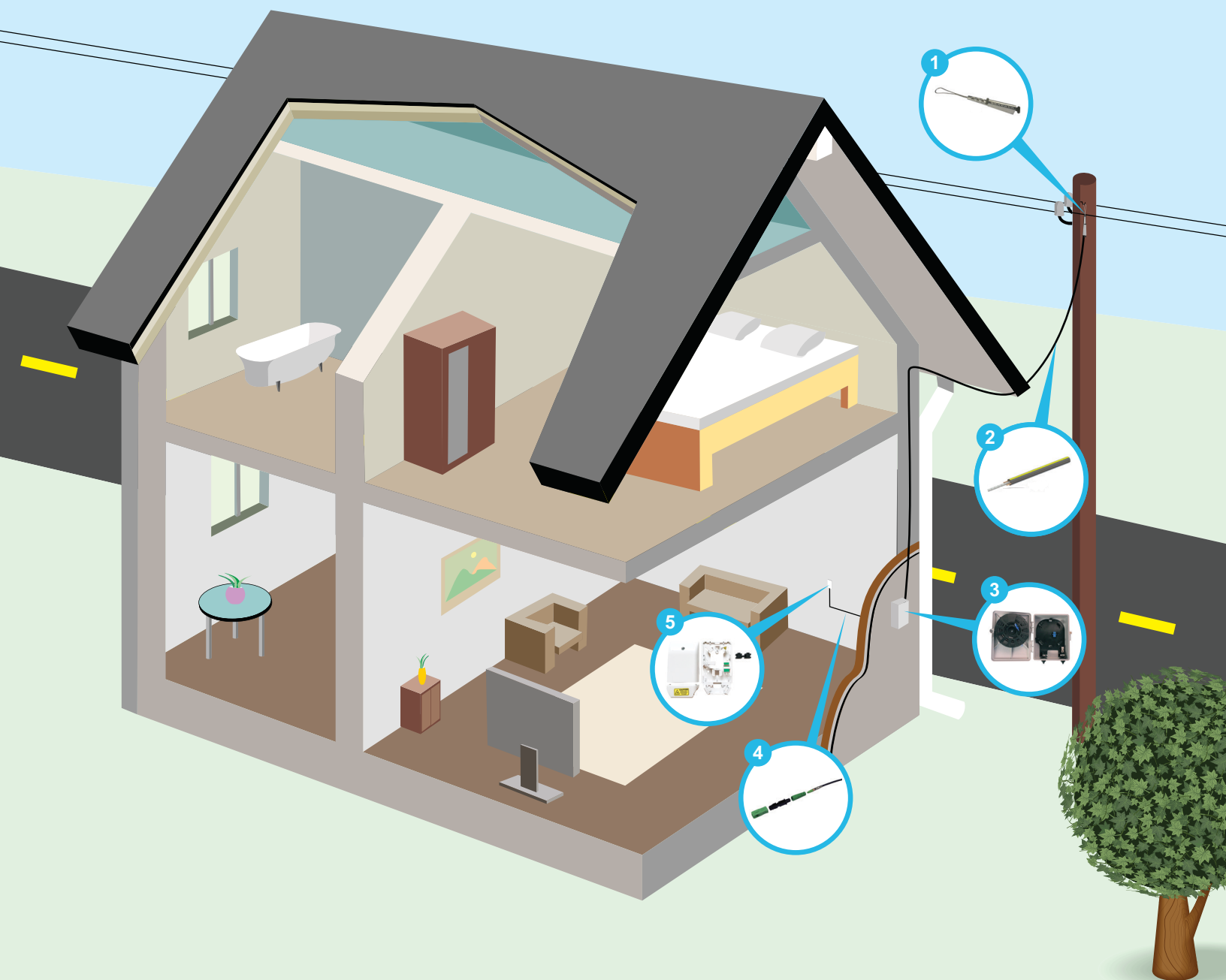
Anchored by our Miniflex® cable options, PPC's FTTH Deployment Kit includes the necessary hardware and cable to facilitate an aerial drop to the external face of an SDU, as well as the necessary components to allow organized entry to the indoor environment. There, our QuikPush® cable assembly and fiber wall plates offer a quick and seamless routing of fiber cable to the customer point of use.

FTTH DEPLOYMENT KIT



Ordering Information

	Kit 1	Kit 2	Kit 3	Kit 4	Kit 5
Miniflex ADSS QuikDrop™	QDP73PB92B5O50100F	QDP73PB92B5O5150F	QDP73PB92B5O5200F	QDP73PB92B5O5250F	QDP73PB92B5O5300F
Drop Hangers	23-99991 (qty 2)	23-99991 (qty 2)	23-99991 (qty 2)	23-99991 (qty 2)	23-99991 (qty 2)
FlexPON®	XPNX-392PBBB5S5150	XPNX-392PBBB5S5150	XPNX-392PBBB5S5150	XPNX-392PBBB5S5150	XPNX-392PBBB5S5150
Fiber Wall Plate	CON-13X5-85	CON-13X5-85	CON-13X5-85	CON-13X5-85	CON-13X5-85
Miniflex SC Balistix™ QuikPush	QP13RIW21S5S50010F	QP13RIW21S5S50010F	QP13RIW21S5S50010F	QP13RIW21S5S50010F	QP13RIW21S5S50010F
Part Number	FKA-QD0100FP150	FKA-QD0150FP150	FKA-QD0200FP150	FKA-QD0250FP150	FKA-QD0300FP150



Reference #	Part Number	Description
1	23-99991	Round Fiber Drop Clamp
2	QDP73PB92B5O5xxxxF	Miniflex® QuikDrop™ Fiber Cable
3	XPNX-392PBBB5S5150	FlexPON® Demarcation Enclosure
4	QP13RIW21S5S50010F	Miniflex QuikPush® Cable Assembly
5	CON-13X5-85	Fiber Wall Plate Dual Cover Internal SC-APC White

Diamond® Hardware

Round Drop Clamp



Features & Benefits

- Shell and wedge made of high-grade aluminum alloy
- Shim made of high strength Acetal
- Tail wire made of high-grade stainless steel
- Mechanical strength of 555 lb (251.7 kg) exceeds yield strength of drop wire
- Suitable for 5 mm – 8 mm MASS/ADSS fiber



Overview

PPC's Diamond® Fiber Clamp is used to support both ends of an aerial service drop span at the messenger strand and building. The unique, proprietary approach that we have developed for mechanical galvanizing – and the standards we insist on for our raw materials – ensure our Diamond parts can withstand corrosive environments for decades. A long-lasting product is an important factor since replacement costs are so high.

Ordering Information

PPC Part Number	Box Quantity	Carton Quantity	Weight per 100	Minimum Order Quantity	Order Multiples
23-99991	25	500	6 lb (2.7 kg)	25	25



Miniflex® ADSS QuikDrop™ Fiber Cable



Features & Benefits

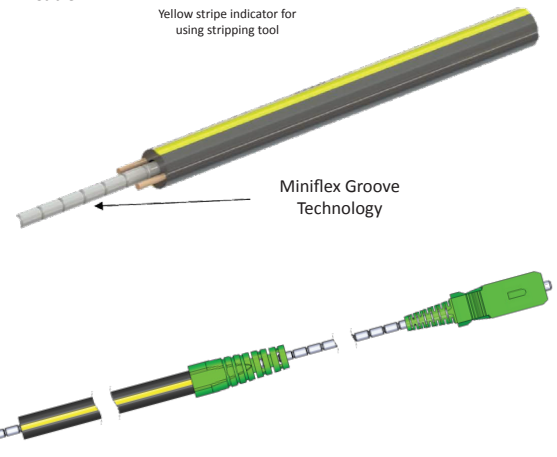
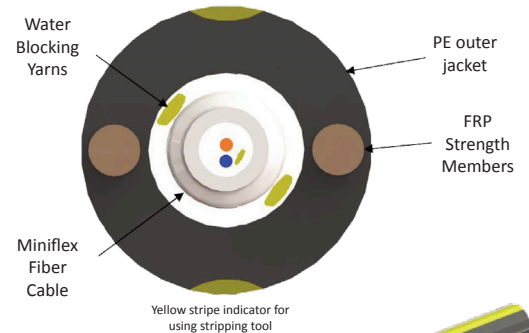
- ITU-T G.657 Optical Fiber (A1 & A2)
- 7 mm ADSS Jacket with 3 mm Miniflex® Inner Cable
- 6 mm ADSS Jacket with 2.2 mm Miniflex Inner Cable also available
- PPC Pushable Connectors (LC/APC and SC/APC)
- Available with Standard LC & SC Connectors
- Optional Hardened Connector Housing

Cable Outer Jacket

- Ultra-lightweight for self supporting spans up to 100 m (328 ft)
- Easy Strip Jacket feature for quick and simple handling
- UV Resistance and full weather range protection:
-40 °C to 70 °C (-40 °F to 158 °F)
- Aerial and Underground installations
- Suitable for use in regions with high lightning activity

Miniflex® Inner Cable

- Pre-connectorized with either the SC/APC or LC/APC Balistix™ connectors
- Ultra-flexible 30 mm (22 mm for 2.2 mm cable) bend radius for compact slack fiber storage
- Pushable fiber for routing into building ducts and conduits
- Small and unobtrusive enough for surface mount applications
- Tough enough for clipping, tacking and gluing
- Flame Retardant material - Cca (Europe) or Riser (North America)
rated white Miniflex and black Standard Miniflex



Overview

QuikDrop® is a combination of aerial fiber jacket used in its ADSS cable and the Miniflex fiber cable, where the Miniflex cable can be connectorized on one or both ends. Various connector combinations are possible including the PPC pushable SC/APC and LC/APC connectors. This makes QuikDrop the aerial equivalent of our tried and tested QuikPush® cable assembly.

QuikDrop can dramatically reduce installation costs and time by simplifying FTTX deployments and removing the need to splice. Strength members are embedded within the outer jacket for self-supporting spans.

Thanks to its high crush and tensile strength, it can also be direct buried or pulled through sub ducts. Miniflex is ultra tough and flexible so as well as being great for fishing through microducts, it can also be fixed directly to walls.

It offers an ideal solution for both rural single-dwelling and urban multi-dwelling units. The Pushable LC/APC and SC/APC connectors from PPC can be safely pushed/pulled through small conduits, cavities and holes less than 5 mm before being fully 'assembled' as an industry standard connector.

Applications

- FTTH - single dwelling and urban multi-dwelling units
- FTTP - outdoor/indoor point of presence
- FTTC - underground sub-ducts and cabinets
- FTTX - quick and simple fiber-to-the-anywhere solution

Miniflex® ADSS QuikDrop™ Fiber Cable



Technical Data

QuikDrop® Cable

Strength Member	O.D.	Min. Bend Radius	Crush Resistance		Tensile Strength	
	+ / - 0.1mm	<0.05dB at 1550nm	No Damage	<0.05dB at 1550nm	<0.5% Fiber Strain	Ultimate Strength
	mm (in)	mm (in)	N	N	N	N
Dielectric (ADSS)	7.0 (.28)	>70 (>2.8)	2000	3400	1150	4000
Dielectric (ADSS)	6.0 (.24)	>60 (>2.4)	>2000	>5000	>1000	>3000

Strength Member	Impact Resistance	Material	Color	Cable Weight	Temperature Range
	<0.05dB at 1550nm				
	N/m	Polymer		kg/km (lbs/kft)	°C (°F)
Dielectric (ADSS)	>5	PE	Black	25 (16.8)	-40 to 70 (-40 to 158)

Miniflex® Cable

O.D.	Min. Bend Radius	Crush Resistance		Tensile Strength	Impact Resistance	Material	Color	Cable Weight	Temp. Range
+ / - 0.1mm	<0.05dB at 1550nm	No Damage	<0.05dB at 1550nm	<1% Fiber Strain	<0.05dB at 1550nm				
mm (in)	mm (in)	N	N	N	N/m	Polymer		kg/km (lbs/kft)	°C (°F)
3.0 (.12)	>30 (>1.2)	>1500	>2400	>100	>1	PBT	Black	8 (5.4)	-40 to 70 (-40 to 158)
3.0 (.12)	>30 (>1.2)	>1500	>2900	>100	>2	PBIO	White	8 (5.4)	-40 to 70 (-40 to 158)
2.2 (.09)	>22 (>.9)	>1500	>3000	>100	>2	PBIO	White	5 (3.4)	-40 to 70 (-40 to 158)

Connector Performance

Ferrule	IL Max	IL typical	Return Loss
APC	0.5 Db	0.25 dB	> 60 dB

Transmission Performance Specification

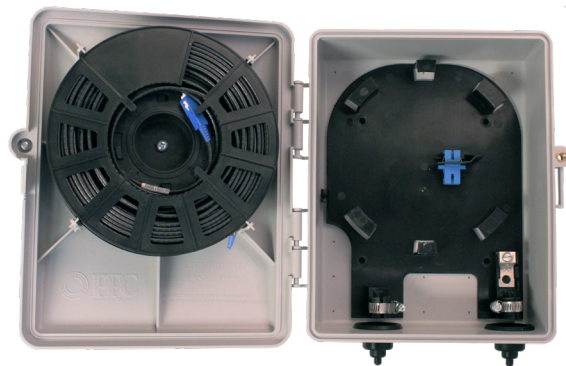
Item	Single-mode	
Specification	G657A1	G657A2
Max. Attenuation 1310 / 1550	0.4 / 0.3 db/km	
10 turns at 15mm	0.20	0.03
1 turn at 20mm	0.20	0.10
1 turn at 15mm	~	0.50

FlexPON® Demarcation Enclosure



Features & Benefits

- Miniflex® QuikPush® preloaded into the enclosure
- Two-position payout and storage design provides maximum access for installation and service
- Drop fiber slack storage separate from the Quikpush
- Provides an outdoor demarcation and test point for FTTH installs
- Tamper-resistant lock



Overview

The innovative enclosure design provides ample space to store slack for the incoming fiber drop, while also accommodating a preloaded Miniflex® QuikPush® assembly ready to deploy deeper into the network for FTTX installs. PPC's FlexPON® demarcation enclosures are designed to efficiently provide a demarcation point between the outdoor drop fiber and the indoor fiber run.

The unique door hinge self-locks into the optimum position for paying out the Miniflex QuikPush. When closed, the Miniflex QuikPush self-locks into position, preventing unwanted payout of fiber. The fiber entry ports are configured to provide secure mounting of a variety of fibers, ducts, drop cables and conduit up to 1", making for modular capability. A can wrench lock provides standard access security.

Applications

- FTTH
- Multi-Dwelling Units
- Premise Installations
- Telecommunications

Technical Data

Specification	Parameter
Cavity Dimensions	8.85 in x 6.85 in x 2.65 in (224.8 mm x 174 mm x 67.3 mm)
Outside Dimensions	10 in x 8 in x 4.25 in (254 mm x 203.2 mm x 108 mm)
Material	Copolymer Impact Polypropylene
UV Resistance per UL 746C	
Water Resistance per UL 746C	
IP54 Ingress Protection	

QuikPush® Cable Assembly SC Balistix Connector



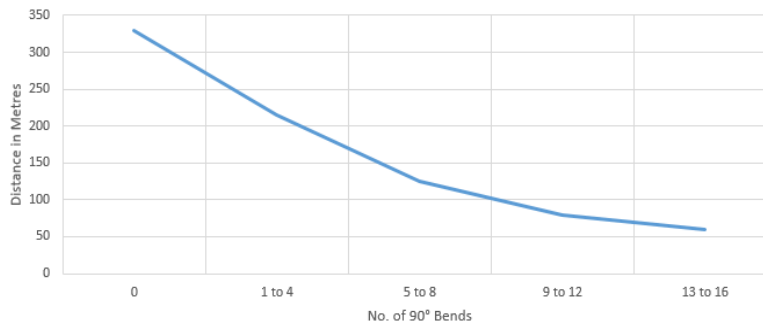
Features & Benefits

- ITU-T: G657A1 & A2
- UL Riser rated and CPR certified
- Complies with IEC 60794-1-2
- REACH & RoHS compliant
- Pre-terminated – so no field splicing/mechanical termination
- Guaranteed Insertion loss/return loss with certification
- Installs inside microducts with bores as small as 5.5 mm (9/64 in) I.D.
- Industry-standard SC Balistix™ connector (LC also available)
- Single-mode UPC, APC or multi-mode options
- Features Miniflex® bend limiting technology
- Ultra light-weight
- High crush resistance
- Low friction outer sheath
- Inherent kink resistance
- Small round concentric design



Overview

PPC's QuikPush® cable assembly is a flexible, pushable pre-terminated fiber optic drop solution that utilizes our Miniflex fiber cable and allows for connectorization on one or both ends. QuikPush has a number of advantages over alternative last-drop solutions for fast and reliable FTTX deployments: Miniflex fiber cable and Balistix connectors. At just 3 mm outer diameter, the Miniflex fiber cable is one of the smallest cables in the industry. Miniflex cable can be installed easily and quickly by pushing, pulling or blowing. PPC's Balistix pushable connectors enable the pre-connectorized fiber cable to be installed through microducts and small holes that are typical of most FTTX scenarios. PPC's connector options are unlimited, including SC; LC; FC; Balistix LC and SC; and no connector.



QuikPush cable assemblies can be successfully pushed through 5 mm (0.2 in) holes and microduct bores as small as 5.5 mm (9/64 in). Hand push distances vary according to bend frequency and duct quality. For example, QuikPush, combined with PPC microduct, exceeds 100 m (328 ft) in a route with 8 x 90° bends. With air assistance, the route can extend to 12 x bends and up to 1 km (3,280 ft). The rugged nature of the QuikPush cable assembly reduces the cost of fiber deployments as well as the skill and difficulty of handling and connecting customer drop cables.

Applications

- FTTH / FTTX – Indoor & outdoor drops
- Single and multi-dwelling units
- FTTP and campus networks
- Telecoms
- Rural broadband
- DAS / FTTA

QuikPush® Cable Assembly SC Balistix Connector



Technical Data

Mechanical Performance

Fiber Count	Weight	O.D.	Sheath Thickness	Tension Strength	Crush	Minimum Bend Radius	
						Installation	Operation
250µm	kg/km (lbs/km)	mm (in)	mm (in)	N (lb)	N (lb)	mm (in)	mm (in)
1, 2 & 4*	~4 (~8.8)	2.2** (.09)	0.5 (.02)	100 (22)	1500 (337)	11 (.4)	22 (0.9)
1 (900 µm)	8.1 (5.4)	3.0 (.1)	0.8 (.03)	100 (22)	1500 (337)	15 (.6)	30 (1.2)
1, 2, 4*	7-8 (15.4-17.6)	3.0 (.1)	0.8 (.03)	100 (22)	1500 (337)	15 (.6)	30 (1.2)

*Only the first fiber is terminated, all other fibers remain dark. **Not available in the PBT material.

Material	Applications	Fire Rating	Color	Operating Temp
		EN / UL		°C (°F)
PBT	Indoor-Outdoor	Eca / General	Black*	-40 to 80 (-40 to 176)
PBIO	Indoor-Outdoor	Cca / Riser	White*	-30 to 70 (-22 to 158)

*Other colors available upon request

Transmission Performance Specification

Item	Single-mode	Single-mode 900µm
Specification	G657 A1	G657 A2
Attenuation (850 / 1300 nm)	n/a	n/a
Attenuation (1310 / 1550 nm)	0.4/0.3 dB/km	0.4/0.3 dB/km
Attenuation at 1383nm	≤ 0.32 dB/km	n/a
Attenuation at 1625 nm	< 0.24 dB/km	< 0.24 dB/km
Refractive Index at 1310nm, 1550nm	1.467, 1.468	1.467, 1.468
Refractive Index at 850nm, 1300nm	n/a	n/a
Proof test	0.69 GPa (100 kpsi), 1% min.	0.69 GPa (100 kpsi), 1% min.
Cladding diameter	125 ± 0.7µm	125 ± 0.7 µm
Coated diameter	235µm to 245µm	235µm to 245µm
Core/Cladding concentricity error	≤ 0.5µm	≤ 0.5 µm
Coating concentricity error	≤ 12µm	≤ 12µm
Macro bend loss	(1550 nm)	(1550 nm)
10 turns at 50mm diameter	≤ 0.01 dB	n/a
10 turns at 15 mm diameter	≤ 0.2 dB	≤ 0.03 dB
1 turn at 10mm diameter	≤ 0.2 dB	≤ 0.10 dB
1 turn at 7.5mm diameter	n/a	≤ 0.50 dB
Temp. range (operation)	max attenuation change	
-60°C to 85°C (-76°F to 185°F)	≤ 0.05 dB/km	
Coating Strip Force	1.3 to 8.9 N	

PPC Fiber Interface Wall Plate



Features & Benefits

- Single-gang junction box mounting
- Knockout ports at upper corners allow surface mounting
- Design keeps exiting fiber jumper close to wall for protection
- SC-APC and SC-UPC adapters
- Choice of adapter position: internal (for protection) or external (for easy access)
- External adapters have spring-loaded shutters for safety
- Integrated splice tube holder for use with raw drop cables and pigtails
- Slack storage spool holds up to 5 ft (1.5 m) of 3mm cable
- Snap-on cover with security screw



Overview

The PPC Fiber Interface Wall Plates provide in-unit fiber interconnect points in three convenient sizes. These wall plates allow flexibility with internal (protected) connections or external (easy access) connections and 5 ft (1.5 m) of 3mm cable storage.

Technical Data

Dimensions (H x W x D)	Materials	Safety	Performance
Single cover: 4.9 x 3.5 x 1.2 in (124.5 x 89 x 30.5 mm) Dual cover: 6.1 x 3.5 x 1.2 in (155 x 89 x 30.5 mm) Double wide: 5.5 x 6.7 x 1.5 in (140 x 170 x 38 mm)	High impact, UL 94V-0 rated thermoplastic	UL1863	Adapters meet or exceed GR-326-CORE

Accessories



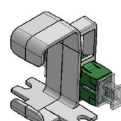
STAR500SCGR-T-85K



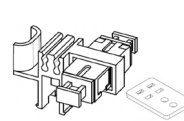
STAR500SCBL-T-85K



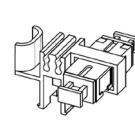
ASACPC-03-N
ASUPC-03-N
ADPSCA6



SFIT-ADP-KIT-1 (APC)
SFIT-ADP-KIT-2 (UPC)



ADPMTNSCA
ADPMTNSCU

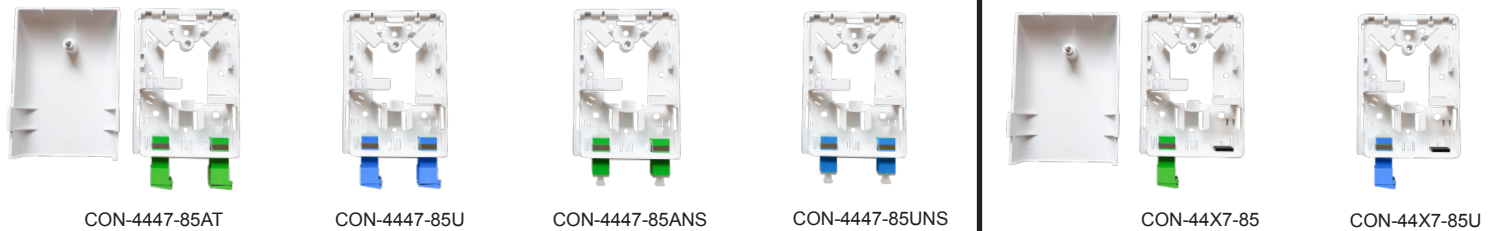
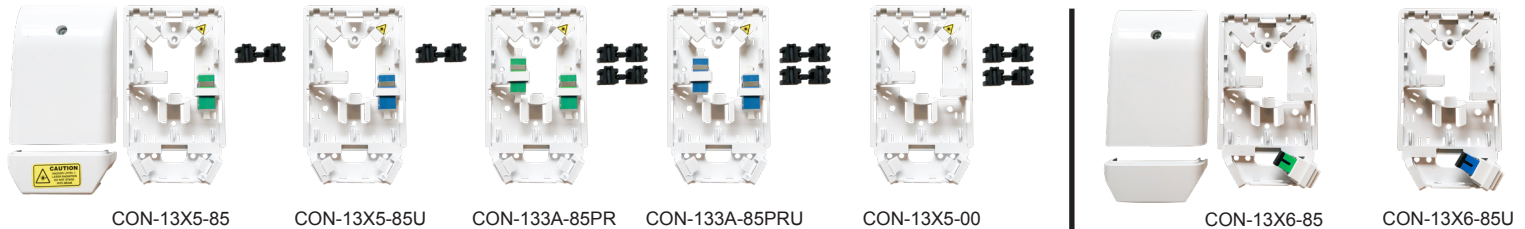


ADPSCAKIT6
ADPSCUKIT6

PPC Fiber Interface Wall Plate



PPC Fiber Interface Wall Plates



Notes:

Notes:



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