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AFL

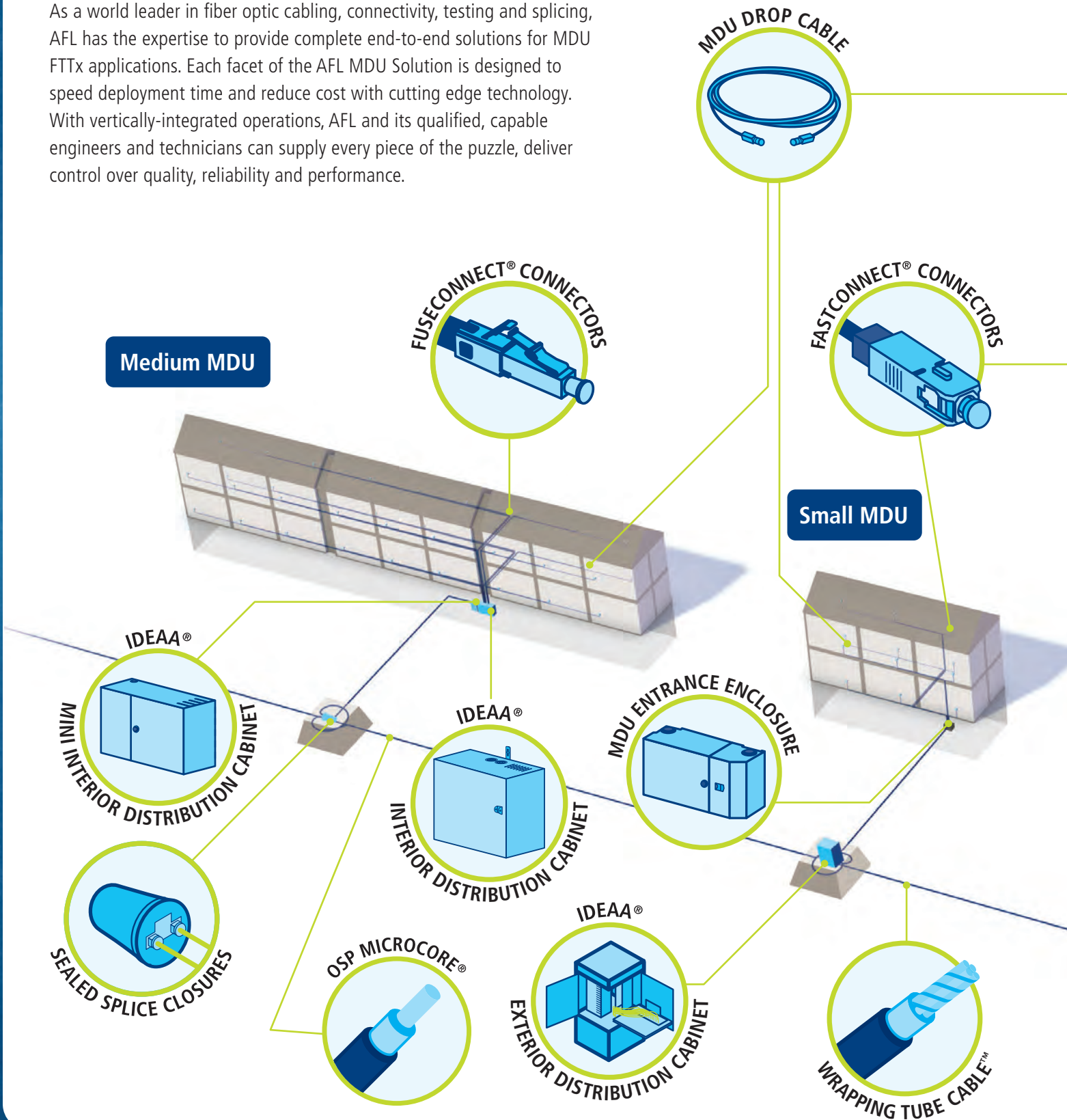
**MULTIDWELLING UNIT
(MDU) SOLUTIONS**

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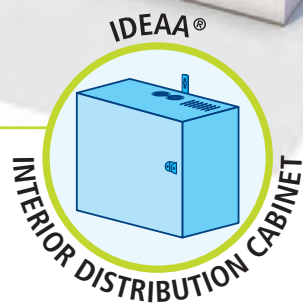
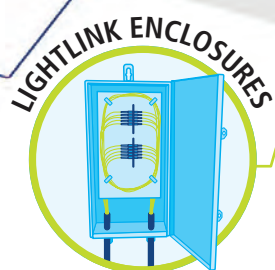
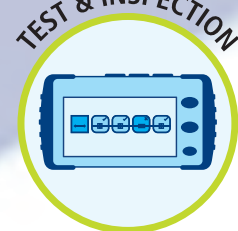
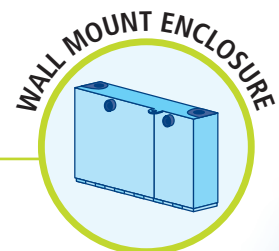
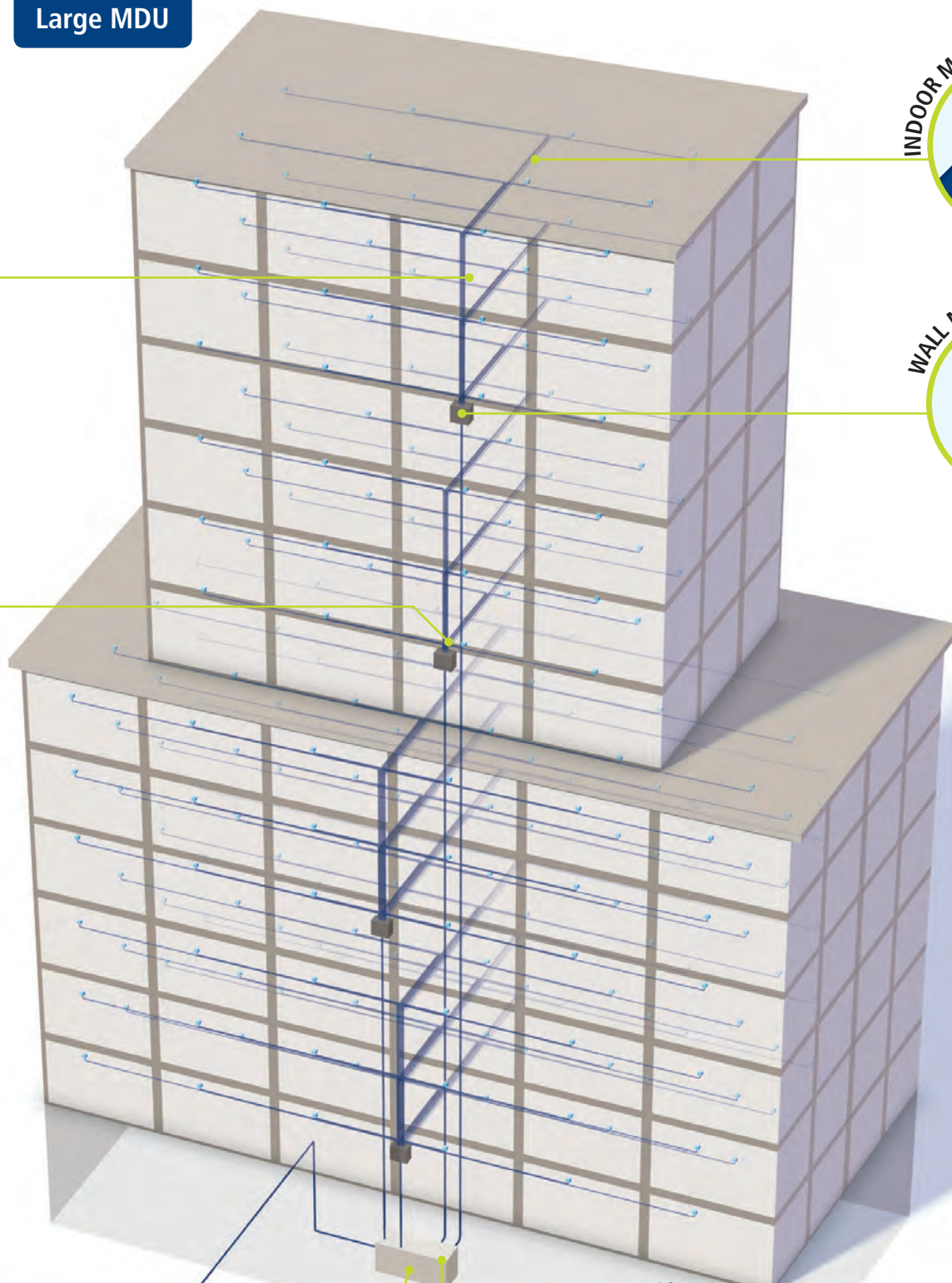


MDU Solutions

As a world leader in fiber optic cabling, connectivity, testing and splicing, AFL has the expertise to provide complete end-to-end solutions for MDU FTTx applications. Each facet of the AFL MDU Solution is designed to speed deployment time and reduce cost with cutting edge technology. With vertically-integrated operations, AFL and its qualified, capable engineers and technicians can supply every piece of the puzzle, deliver control over quality, reliability and performance.



Large MDU



SMALL MDU UNITS

Smaller MDUs or “garden-style” MDU complexes can be serviced by FTTx deployments by either splitting in the unit(s) or servicing the unit(s) from an outdoor splitter cabinet. For outdoor splitting, the IDEAA® EDC provides distribution for up to 864 fibers through the use of the IDEAA splitter module. The input and output stubs of the EDC can then be spliced to a LightGuard® (LG) splice closure with the distribution cable servicing into the MDU. The OSP distribution cable can then be transition spliced into an Poli-MOD® Patch and Splice Module inside an MDU Entrance Enclosure (MEE). Individual indoor MDU drop cables are then run from the MEE to each Individual Living Unit (ILU).

OSP MicroCore®



AFL MicroCore optical cables are available in 12 to 432 fiber counts and provide a unique blown solution to crowded underground ducts where traditional cable designs are not an option. MicroCore cables are smaller than traditional loose tube cables and can be blown into otherwise full ducts, expanding the capacity of existing infrastructure which equates to less expense and faster deployment. The LM-Series offers standard 250 micron buffered fibers, the LM200 Series utilizes 200 micron buffered fibers resulting in even smaller overall cable diameters and the LMHD Series features a 600lb tensile load rating which makes it versatile for nearly any OSP application.

IDEAA Exterior Distribution Cabinet



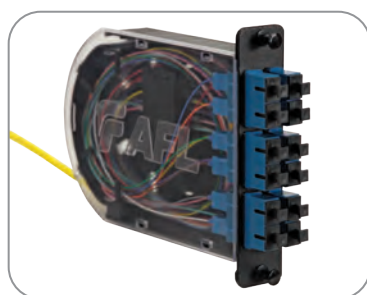
The IDEAA Exterior Distribution Cabinet (EDC) provides a convenient modular approach to centralized fiber distribution. All sizes of the EDC uses the IDEAA Splitter Module to enable versatility across the platform. The EDC utilizes innovative jumper routing to enable efficient fiber management utilizing equal length pigtails for the entire cabinet.

MDU Entrance Enclosure (MEE)



AFL's wall mount MDU Entrance Enclosure (MEE) provides a compact entrance terminal designed for tight spaces such as wiring closets or computer rooms where available wall space can be difficult to find. Dual doors allow for access to subscriber connections while keeping the splice and incoming cables secure. The swing-down door design limits the footprint when the doors are open while still allowing for access to the adapter ports for connection/disconnection and cleaning. The MEE is designed for fiber splicing when used in conjunction with the Poli-MOD Patch and Splice Module or available stubbed with one to two 12-fiber flat drop cables.

Poli-MOD Patch and Splice Module



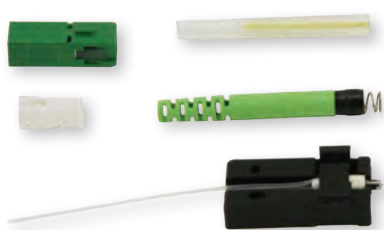
AFL's Poli-MOD is an innovative patch and splice module, which offers an inventive and effective means to accommodate up to 24 fiber interconnections in an industry-standard, single-slot LGX®118 footprint. The Poli-MOD offers a unique and robust way to secure cable without the need for time-wasting, tie-wrap alternatives. Additionally, the module leverages a creative snap-in splice sleeve cradle to securely manage both single and ribbon fiber arrangements. These features provide the capacity to outfit a standard 4RU rack-mount panel with up to 288-fiber interconnections.

MDU Drop Cable Assemblies



AFL's single-mode SC Angled Indoor and Indoor/outdoor MDU Drop Assemblies are designed to meet stringent performance requirements of the latest FTTH (Fiber-to-the Home) applications. Bend-insensitive fiber reduces macro-bending attenuation when routing the drops in tight environments and the SC angled connector guarantees the high performance return loss required of video signals. Availability in both compact 3.0 mm and rugged 4.8 mm varieties allows for multiple installation scenarios. Assemblies are tested and qualified to Telcordia GR-326, Issue 3 requirements and meet all EIA/TIA 455-3 (FOCIS 3) interface standards for SC connectors.

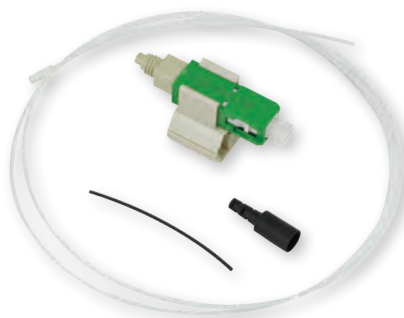
FUSEConnect® Fusion Spliced Field-Terminated Connectors



AFL's FUSEConnect fusion-spliced, field-terminated connectors are uniquely designed and feature just four components. With a factory pre-polished ferrule, its innovative field-termination process eliminates polishing, adhesives and crimping in the field minimizing the potential for operator error and expensive connector scrap.

FUSEConnect utilizes a fusion splicer to terminate the connector in the field, addressing return loss concerns present in analog optical networks. This advanced process yields true APC performance of >65 dB return loss in an SC/APC configuration and SC single-mode is compliant to GR-326-CORE. Designed to work with industry standard splicers utilizing fiber holders, FUSEConnect is compatible with Fujikura fusion splicers and most other fiber holder-based fusion splicing platforms.

FASTConnect® Field-Installable Connectors

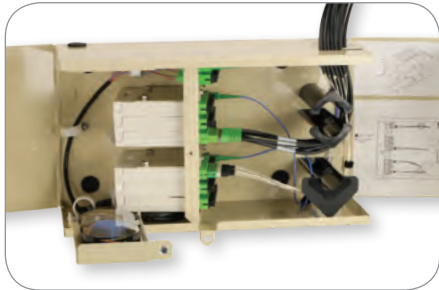


FASTConnect are factory pre-polished, field-installable connectors that completely eliminate the need for hand polishing in the field. Proven mechanical splice technology ensuring precision fiber alignment, a factory pre-cleaved fiber stub and a proprietary index-matching gel combine to offer an immediate low loss termination to either single-mode or multimode optical fibers. FASTConnect are compatible with 250 μm and 900 μm optical fibers, as well as 900 μm , 2 mm and 3 mm cordage. All primary fiber types are supported and each connector is color coded per industry standard requirements to aide in identification during and after installation. A factory-installed wedge clip (included with each connector) is removed and discarded upon completion of the termination. Incorporated into this device is an innovative, translucent wedge enabling the use of a common VFI to provide a "pass/fail" signal once physical contact is achieved.

MEDIUM MDU UNITS

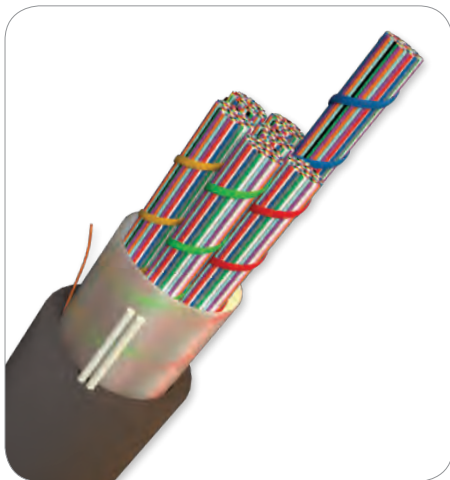
Smaller MDU units may utilize splitters inside the MDU, homerunning drop cables from the splitter cabinet to the ILUs where multiple telco closets do not exist. In these cases, the AFL Mini IDC provides a compact housing for one to two splitters and integrated strain relief for up to 64 indoor drop cables. Entrance feeder cables can be spliced to the inputs of the Mini IDC with its integrated splicing capability.

IDEAA Mini Interior Distribution Cabinet



The IDEAA Mini Interior Distribution Cabinet (Mini IDC) provides a convenient and extremely compact modular approach to centralized fiber distribution in small MDUs. The Mini IDC provides up to 64 home run drop output connections using two 1x32 IDEAA Splitter Modules. The Mini IDC utilizes innovative jumper routing and drop strain relief to enable efficient fiber management. Thanks to the adapter interface of the IDEAA Splitter Module, no additional interconnection is needed between the splitter and drop cables, allowing for MDU splitting and drop fiber distribution in an extremely compact size.

Wrapping Tube Cable with SWR®



Wrapping Tube Cable is an ultra-high density, outside plant cable designed specifically for Fiber-to-the-Home (FTTH) or access markets. It is compliant with the latest outside plant cable standard Telcordia GR-20. With an ultra-high density and a new ribbon technology called SpiderWeb® Ribbon (SWR®) it provides the smallest cable diameter and lowest weight high fiber count ribbon cable in the industry. With fiber counts from 144 fibers to 6,912 fibers, the cable is available in dielectric or double jacket single armor.

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 for ultra-high density packaging in the Wrapping Tube Cable.

RIBBON FIBER FUSION SPLICING

70R+ Fusion Splicer



The Fujikura 70R+ ribbon splicer utilizes precision, fixed v-groove technology for splicing ribbon fiber up to 12 fibers, including single fibers. A user programmable, automated wind protector expedites the splicing process by automatically closing to initiate the splice process, and opening upon splice completion. An auto-start "clamshell design" tube heater applies heat to both sides of the splice protection sleeve resulting in a 40-second shrink time for 12-fiber ribbon. The result is a total splice process time of approximately 55 seconds. In an industry first, the 70R+ is also equipped with Bluetooth® technology, which allows the splicer to actively communicate with Bluetooth enabled accessories making fiber preparation easier than ever.

LARGE MDU UNITS

AFL has cost-effective connectivity solutions for medium-to-large MDUs spanning multiple floors with telco closets every one-to-two floors. The IDEAA Interior Distribution Cabinet (IDC) provides centralized splitting and distribution for up to 432 fibers with a convenient MPO-enabled distribution field for pre-terminated riser cables. Connectivity for each floor is provided by the AFL Fiber Distribution Terminal (FDT) which serves as a cross connect point between the riser distribution cabling and indoor drop cables. MPO terminated MicroCore cables are pulled down from the integrated storage reel of each FDT into the MPO-enabled IDC. Alternatively, unterminated cable tails can be pulled through congested pathways or blown through microducts using AFL's eABF® cable system into the AFL IDC for splicing or MPO termination with the MPO FUSEConnect.

IDEAA® Interior Distribution Cabinet



The IDEAA Interior Distribution Cabinet (IDC) provides a convenient modular approach to centralized fiber distribution in medium-to-large MDUs. All sizes of the IDC utilize the IDEAA splitter module to enable versatility across the platform. The IDC uses innovative jumper routing to enable efficient fiber management utilizing equal length pigtailed for the entire cabinet. The IDEAA IDC provides MDU fiber distribution in an extremely compact size.

IDEAA® Modules



The IDEAA Modules come equipped with an internal PLC device which is factory terminated and tested. An integrated hinge provides easy access to the SC or LC adapter interface while reducing space when mounted. The SC and LC Modules use APC connectors to meet the strict back reflection requirements of the latest PON architectures. A wide variety of PLC splitter configurations are available. A dual 1x16 module is available with SC/APC outputs and LC APC inputs. Two SC/APC to LC/APC jumpers are included to connect to the SC/APC input ports in the EDC.

FUSEConnect MPO Fusion-Spliced, Field-Terminated Connectors



AFL's FUSEConnect MPO fusion-spliced, field-terminated connectors are uniquely designed and feature just six components. With a factory pre-polished ferrule, its innovative field-termination process eliminates polishing, adhesives and crimping in the field minimizing the potential for operator error and expensive connector scrap.

Designed to Fiber Optic Connector Intermateability Standard (FOCIS), Type MPO, FOCIS-5, TIA-604-5-C, AFL's FUSEConnect MPO performs as an equivalent to the standard factory terminated MPO/MTP® assemblies. Designed to utilize either ribbon or loose tube cable, this connector helps to minimize the complexity involved in the termination of a multi-fiber connection, allowing for a reliable and repeatable termination in field applications.

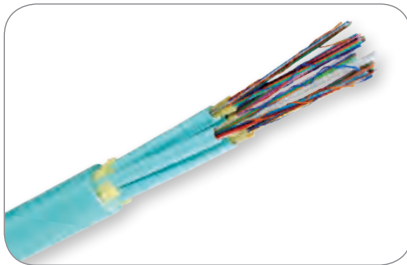
LARGE MDU UNITS

LightLink Series Optical Enclosure



LightLink Series Optical Splicing and Distribution Enclosures provide for organizing, splicing and interconnecting fibers in broadband, distribution and building entrance applications. The splice tray panel is equipped with LGX 118 footprint snaps so various types of connectors may be installed. The NEMA 3 rated enclosures feature a scratch resistant powder coated base and a fully gasketed hinged cover securable with standard padlock. The internal interconnect tray and back-plate may be removed from the enclosure and brought to a splicing table to complete splicing, fiber routing and fiber management. The cable entry base is configurable and allows for the installation of cable through a grommet system, which can be coupled to either a fixed 12 inch slack storage skirt or a telescoping 24 to 36 inch skirt.

Indoor MicroCore with SWR



Indoor MicroCore cables are indoor, (UL) listed, ultra-high density fiber optic cables, which are configured with SpiderWeb Ribbon (SWR). SWR is a bonded fiber design allowing for either a highly efficient ribbonizing application or for individual fiber break-outs. This flexibility allows for the application of a single cable design to cover a diverse set of applications. High-density round designs allow for the most efficient use of space and materials, resulting in a cost effective solution.

SINGLE FIBER FUSION SPLICING

41S Fusion Splicers



The Fujikura 41S is a fully ruggedized, two camera, active cladding alignment fusion splicer. Core sensing loss estimation technology provides the most accurate assessment of splice loss available in any active cladding alignment splicer in the world. Enabled by Warm Splice Imaging (WSI), the 41S can determine the accuracy of core alignment by evaluation of the splice during the heating process. This technology delivers splice loss estimates with a greater level of accuracy as those based on only cladding alignment. State-of-the-art cleaver management via Bluetooth connection with the CT50 Cleaver tracks usage and enables automated blade rotation as needed. The dual-camera, active V-groove alignment system provides consistent splicing performance in the most challenging conditions. A 6-second splice time and 25-second shrink time offers unmatched speed and productivity, while an easy-to-use touchscreen monitor provides simple and intuitive menu navigation. Interchangeable sheath clamps or fiber holders provide versatility for user preference, and compatibility with fusion installable connectors. The extended-life battery is rated for up to 200 splice and heat cycles. Long-life electrodes, lasting 5,000 splices, help minimize downtime for replacement and stabilization. The large 5" monitor provides a crystal clear image, even in the brightest sunlight. Software updates are accomplished via the internet allowing users to quickly update their software as new splice programs become available.

90S Fusion Splicer



The 90S is designed to give you high quality splices and to stay in the field. The 90S can be utilized in any field splicing application seen today: bend-insensitive fibers in drop cables, long-haul terrestrial and submarine LEAF fibers, loose buffer fiber, splice on connectors, and the list goes on. The speed and accuracy of the 90S even make it suitable for certain production and specialty environments, where high output, tight packaging, and low loss requirements are needed. Regardless your scenario, the 90S is designed to keep you going with an extended battery life of 300 splice and heat cycles, and by alleviating the need for traditional operation tasks such as; frequent arc calibrations, cleaver blade rotations, cleaver usage tracking, and manual splicing operations with its multiple automated and ease-of-use features.

FUSION SPLICING ACCESSORIES

CT50 Fiber Cleaver



The CT50 features automated blade rotation, unprecedented durability, and simplistic maintenance unseen with any other cleaver. Paired with a Bluetooth enabled Fujikura splicer, cleaver blade positions can be automatically advanced when needed based on cleave count or cleave quality. If automated rotation is not desired, the blade position can be advanced at the touch of a button, no tools required. The easy to read blade position indicator clearly displays the selected position. The Bluetooth feature, along with simplified mechanical operation, increases overall productivity and reliability. The fiber clamp opens beyond 90 degrees and readies the blade for cleaving in the same motion. This allows easy viewing of the distance scale used to gauge cleave length. The 16-position blade yields 60,000 single-fiber cleaves, or 5,000 12-fiber ribbon cleaves. The built-in scrap collector conveniently stores fiber shards until they can be safely discarded.

TEST, INSPECTION AND TRAINING

FlexScan® FS200 OTDRs with SmartAuto®, FleXpress® and LinkMap®



AFL's FLEXSCAN FS200 OTDRs enable both novice and expert technicians to quickly and reliably troubleshoot faults or fully characterize single-mode networks. Using FLEXSCAN's innovative SmartAuto mode, multi-pulse OTDR scans quickly and accurately detect, locate, identify and measure network components and faults. After applying industry-standard or user-set pass/fail criteria, the characterized network is displayed using FLEXSCAN's intuitive, icon-based LinkMap view. FlexScan models support both point-to-point and PON testing, including live PON troubleshooting.

FOCIS Flex Fiber Optic Connector Inspection System



With the press of a single button, FOCIS Flex auto-focuses, captures, centers, analyzes, displays and saves the entire single-fiber connector end-face image. Up to 10,000 pass/fail results can be saved internally or easily shared to a smart device or AFL's FlexScan OTDR. Compact and tether-free, FOCIS Flex's ergonomic design is sized for inspecting tight spaces without damaging delicate connectors. AFL offers a broad selection of interchangeable adapter tips that support a wide range of patch cords and bulkhead-mounted connectors.

MFIS Multi-Fiber Identification System



AFL's Multi-Fiber Identification System (MFIS) can provide 100% multi-fiber network continuity assurance and prevent network outages due to mislabeling, misconnecting or excessive loss. MFIS is an innovative, easy-to-use solution that verifies network continuity and link loss quickly, accurately and efficiently. Built for the real world, the MFIS components are rugged, lightweight, and easily operated with one hand enabling a single person to test up to 12 fibers at a time.

OFI-BIPM Series Optical Fiber Identifiers



The OFI-BIPM are easy to use tools that determine if a fiber is live, the transmission direction and the relative core power on standard and bend-insensitive single-mode fibers. Its positive stop-plunger mechanism provides the right pressure to ensure proper detection while keeping loss to a minimum. The design ensures traffic will not be interrupted and fibers will not be damaged.

Training and Education



AFL offers technology and applications training through our training division, Light Brigade. Founded in 1987, Light Brigade has trained over 60,000 technicians, installers, engineers, designers and other support staff worldwide in a variety of industries. Light Brigade's instructor-led, online and custom classes focus on fiber optic installation, testing, and troubleshooting as well as engineering design courses.



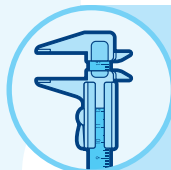
THE SOLUTION PUZZLE

The term “solution” has become a popular buzz word throughout the telecom industry. FTTx network architects are frequently approached by manufacturers, touting their latest and greatest, but what does “solution” really mean? To some, it’s an answer to the single deployment hurdle in front of them. To others, it answers a series of demanding questions or issues which could comprise an entire system or infrastructure. In many cases, it may be a combination of both.

Network architecture is a puzzle. To ensure maximum connectivity and revenue efficiency, each piece must fit perfectly with the piece next to it. With each proposed solution, questions arise.... Is this just one piece of the infrastructure puzzle or is it many? If only a single piece, will it fit correctly to make the whole puzzle work as it should?

Today, we continue to see aggressive network expansion as well as the development of new networks to satisfy the insatiable appetites of consumers who desire voice, video and data on demand. Whether at work, at home or on vacation, consumers’ expectations for access to high data speeds and reliability is exponentially increasing. Staying ahead of the bandwidth boom requires confident expertise and consistent attention to network growth and the continued adoption of new fiber optic technologies.

At AFL, we are experts in the entire network solution puzzle and have the right capabilities to bring all aspects of design, engineering, construction, maintenance and training together for our customers. With both quality products and specialized services, we can help maximize the deployment and reliability of any FTTx network both now and in the future.



ENGINEERING AND DESIGN

Design, engineering and proposal capabilities for efficient FTTx network layouts and deployments



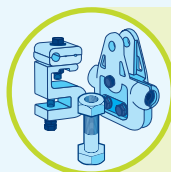
CONSTRUCTION AND MAINTENANCE

AFL offers 17 different services including project management, construction/installation and maintenance



EDUCATION/TRAINING

Light Brigade® leads the telecom industry in fiber optic training with tools and resources to fully equip contractors and other industry personnel



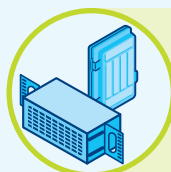
HARDWARE AND ACCESSORIES

AFL offers a complete line of conductor accessories and fiber optic hardware including dead ends, trunnions, clamps, vibration dampers and snowshoes



FIBER CABLE AND ASSEMBLIES

AFL produces a vast portfolio of fiber optic cable and cable assemblies including OPGW, ADSS, Wrapping Tube Cable (WTC), simplex and duplex assemblies and MicroCore cable



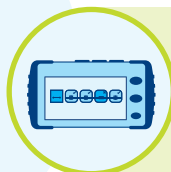
CONNECTIVITY PRODUCTS

AFL provides a complete line of inside plant and outside plant connectivity products including rack mount panels, patch and splitter modules, demarcation enclosures and splice closures



FUSION SPLICERS

AFL proudly supplies and services the world’s premier fusion splicing product line: Fujikura’s fusion splicing solutions



TEST, INSPECTION & CLEANING EQUIPMENT

AFL offers a complete line of test and inspection equipment including OTDRs, optical loss test sets (OLTS), xWDM test sets, cleaning equipment, fiber identifiers and fault locators



MILLENNIUM[®]

Our vision supplies yours[™]



LOCAL INVENTORY



FLEXIBLE FINANCING



PERSONALIZED SERVICE

END-TO-END **SOLUTIONS.**

From Development to Deployment...
we've got you covered.



FEASIBILITY STUDIES & ANALYSIS GEOSPATIAL DESIGN & ENGINEERING



CONSTRUCTION SUPERVISION CONTRACTOR REFERRAL SERVICES



MATERIALS & MATERIAL MANAGEMENT FLEXIBLE FINANCING



MANAGING NETWORK ASSETS CAPITAL EQUIPMENT & LEASING OPTIONS

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