Introduction

Fiber Solutions for Even Faster Performance

Belden IBDN Fiber*Express* systems offer many benefits: high bandwidth and transmission speed, the potential for network growth, extended reach, fault tolerance, greater data security and support for Gigabit and multi-Gigabit protocols and networked applications. Beyond these traditional benefits, however, Belden offers the Fiber*Express* solution, a complete end-to-end cabling system supporting both centralized and fiber-to-the-desk topologies, as well as backbone and campus cabling configurations. Our Fiber*Express* solutions meet or exceed all applicable TIA/EIA, ISO/IEC and IEEE standards and offer:

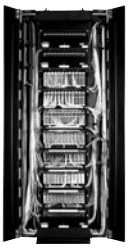
- Reduced design complexities
- Greater deployment facility
- Quick installation
- Increased flexibility
- Cost effective pricing

Primary Fiber*Express* System Components

Key components of the Fiber*Express* systems are summarized below and are found on the catalog pages that follow.

- **Optimax® Connectors**
  Optimax® connectors are a revolutionary field-installable optical fiber connector. The unique design of the patented mechanical splice body of Optimax® incorporates a factory mounted fiber stub and a pre-polished ceramic ferrule. This technology consistently provides a fast, secure and reliable LC, SC or ST compatible optical fiber termination for multimode or single-mode cable. All critical steps are performed in the factory, ensuring a superior quality connection every time.

- **The Fiber*Express* Manager**
  The Fiber*Express* manager makes fiber management easier than ever before. Designed to streamline termination, connection and maintenance activities, the Fiber*Express* manager uses a scalable, modular approach to adapt to a wide variety of situations. The total system provides extra high connection density while facilitating cable routing and patch cord management. The Fiber*Express* manager is adaptable for almost all situations, traditional field termination or pre-terminated modules, which reduces design complexity and increases deployment efficiency.



- **Extended Reach Optical Fiber Cables**
  Extended Reach Optical Fiber Cables propel your network into the future of cable technology with our multimode Fiber*Express* FX300, FX600 or FX2000 series. These series were developed to meet the existing needs of networks at 1 Gb/s (ethernet, 1000Base-SX and 1000Base-LX) and new networks at 10 Gb/s (ethernet, 10GBase-S and 10GBase-LX4). These series offer better reach for laser-based systems. For 1 Gb/s Ethernet at 850 nm (VCSEL), the FX300 and FX600 series provide a range of 984 ft. (300 m) and 1968 ft. (600 m), respectively. For 10 Gb/s ethernet at 850 nm (VCSEL), the FX2000 series provide a range of 984 ft. (300 m) for 10GBase-S where all of multimode series can offer a 984 ft. (300 m) range at 1300 nm (laser) for 10GBase-LX4. All of this while assuring total compatibility with LED systems and FDDI fiber installation cables. Our single-mode cable offering enhances the options for longer distance support up to 40 km – for any of the Gigabit ethernet applications.

- **The Fiber*Express* Bar**
  The Fiber*Express* bar is an extremely compact, modular and resilient linking panel. Resembling a power bar, it offers 6 or 12 fibers, pre-terminated with an SC, SC duplex, ST-compatible, LC, MT-RJ or FC connectors and a cord terminated with a multi-fiber MPO connector – all of which are factory verified. The Fiber*Express* bar can adapt to all kinds of properties or developments, and can serve as a consolidation or linking point. It's available in both single-mode and multimode media.

For the ultimate in quick, easy and reliable optical networking we also offer the Fiber*Express* pre-connectorized system. Based on the concept of building blocks, the complete range of pre-terminated Fiber*Express* components bring flexibility to the design stage. The in-factory fabrication and verification of pre-terminated connections ensures the high-performance and high-quality of the product. These products are "plug and go" and their deployment requires no specialized tools – you can deploy 12 fibers in the same amount of time it takes to connect a power cord to a standard electrical plug. This pre-terminated technology will help to preserve the initial investment by its ability to be re-deployed while always ensuring quality results.

Quality Installation and Service

All Belden IBDN systems are designed, installed and field-tested by fully-trained and certified system contractors and integrators to further assure superior systems performance. They are also backed by a strict system certification and warranty program.

System Certification and Warranty Program

The Belden IBDN Certification Program is a rigorous process that ensures that your Belden IBDN 'Certified' System is composed of Belden IBDN components, designed and installed by a factory-trained Certified System Vendor. Belden IBDN 'certified' systems are supported by a series of warranties that surpass conventional product warranties. Certification adds important end-to-end system performance guarantees and ensures full compliance with cabling industry standard specifications – even after system installation (Installable Performance®). A 25-year product warranty and a lifetime application assurance program accompany each Belden IBDN 'certified' system installation. These warranty programs include coverage for both parts and labor.

Introduction
Fiber Channel Topology

Fiber*Express* System Matrix	Page No.	Fiber-to-the-Desk (FTTD) and Centralized Fiber	Fiber Backbone (In-Building)	Fiber Backbone (Campus)	Fiber*Express* Pre-Terminated Solutions*
Fiber*Express* Cables					
Distribution & Breakout Cable Series Multimode and Single-mode	16.28 – 16.32	●			●
Interconnect Cable Series Multimode and Single-mode	16.25 – 16.27	●			
Loose Tube (Campus) Cable Series MM, SM, Composite MM/SM	16.33 – 16.58			●	●
Cross-Connect Hardware in the Telecom Room					
Fiber*Express* Manager with Fiber*Express* Manager Connector Modules Multimode and Single-mode	16.11	●	●	●	●
Fiber*Express* Rack Mount Patch Panel with Universal Adapter Strips Multimode and Single-mode	16.12	●		●	●
Fiber*Express* Wall Mount Patch Panel with Universal Adapter Strips Multimode and Single-mode	16.13	●		●	●
Fiber*Express* Bar: Multimode and Single-mode	16.8	●	●	●	●
Patch Cords in the Telecom Room and at the Work Area					
Fiber*Express* Patch Cords: Multimode and Single-mode	16.6	●	●	●	●
Outlets at the Work Area					
MDVO® Multimedia Outlets with MDVO Multimedia Modules	16.16	●			
MediaFlex® Outlets with MediaFlex Multimedia Inserts	16.15	●			
Fiber*Express* Bar Multimode and Single-mode (as MUTOA)	16.8	●	●		
Fiber Connectivity					
Optimax® Connectors Multimode and Single-mode	16.4	●		●	●
Epoxy Field Mountable Connectors Multimode and Single-mode	16.5	●		●	●
Fiber Pigtails Multimode and Single-mode	16.9	●		●	●

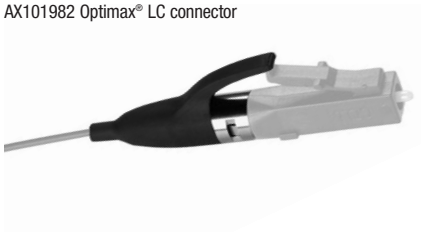
MM = Multimode • SM = Single-mode

* Fiber*Express* pre-terminated solutions provide simple-to-install, high-performance fiber channels through custom length, high precision factory terminated cables and matching optical connectivity components.

Fiber*Express* Connectors

Optimax® Field Installable Connectors and Installation Tool Kits

AX101982 Optimax® LC connector



AX100029 with AX101794 Optimax® SC connector

A0408835 with AX101793 Optimax® ST compatible connector

AX100947 Optimax® tool kit

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

* For 900 µm buffered fiber only. For Optimax® single-mode termination on jacketed fiber, please use the appropriate Accessory Kit.

Optimax® Field Installable Connector

The Optimax® connectors are reliable field installable optical fiber connectors that are easy to install. They do not require epoxy, curing or polishing. Their unique design incorporates a factory polished fiber stub in a splice mechanism which provides a fast, secure, and reliable termination on optical fiber cables. All critical steps are performed in the factory, ensuring a superior-quality connection every time. Only simple tools are required for installation, making Optimax® a cost effective field termination.

Optimax® connectors are high-quality LC, SC and ST compatible connectors that use a ceramic ferrule with a physical contact (PC) polish for multimode and super physical contact (SPC) polish for single-mode that ensures the best possible mating of optical fibers. Connectors are available for 62.5 or 50/125 µm multimode fiber and single-mode fiber installations.

Optimax® Installation Tool Kit

The Optimax® installation tool kit is packaged in a small convenient carrying case and includes an Optimax® LC, SC and ST compatible installation and training video, installation instructions and all the tools required to terminate 900 µm buffered optical fiber and jacketed optical fiber.

The Optimax® installation tool kit has all the tools and supplies required to install both the Optimax® LC, SC or ST compatible multimode and single-mode connectors. Certain tool kit items can be purchased separately to accommodate installers already possessing basic optical fiber installation tools.

Description	Belden Part Number
Fiber*Express* Connectors	
Optimax® Field Installable Connector	
LC 62.5 µm, Multimode*	**AX101981**
LC 50 µm, Multimode*	**AX101982**
LC Single-mode*	**AX101983**
SC 62.5 µm, Multimode*	**AX100029**
SC 50 µm, Multimode*	**AX101077**
SC Single-mode*	**AX101792**
ST Compatible 62.5 µm, Multimode*	**A0408835**
ST Compatible 50 µm, Multimode*	**AX101075**
ST Compatible Single-mode*	**AX101791**
LC Accessory Kit for jacketed fiber (2 mm boot and a crimp sleeve)	**AX101984**
SC Accessory Kit for jacketed fiber (3 mm boot, crimp sleeves, cord adapter)	**AX101794**
ST Accessory Kit for jacketed fiber (3 mm boot, crimp sleeves)	**AX101793**
Optimax® Installation Tool Kit	
LC/SC/ST Compatible (includes installation tools, fiber cleaver, crimping tool, instruction manual, microscope, tweezers, alcohol wipes, marker, scissors, waste bottle, fiber stripper, cable stripper and training video)	**AX100947**
Basic (excludes fiber stripper & cleaver)	**AX100949**
Optimax® LC Tool Kit Upgrade (includes LC installation tool, instructions manual, foam for the case)	**AX102061**
Optimax® Individual Components	
Fiber Cleaver	**A0408829**
Installation Tool LC (does not include tool-clamp)	**AX102062**
Installation Tools ST Compatible and SC (includes tool-clamp)	**A0403634**
Microscope	**AX100910**
Refurbishing Materials (80 alcohol wipes and a black felt tip marker)	**AX100951**
Installation Instruction Manual, LC	**AX102063**
Installation Instruction Manual, SC	**PX101318**
Installation Instruction Manual, ST Compatible	**PX101317**
Installation & Training Video, CD (see literature ordering form on the web)	**NOT0651**
Crimp Tool complete with die	**A0403641**

Fiber*Express* Connectors
Epoxy Field Installable Connectors

A0390851 Optical Fiber Field Installable Epoxy connector, ST compatible

Epoxy Field Installable Connector

Epoxy field installable connectors are available as multimode and single-mode ST compatible and SC field installable connectors. They require heat-cured epoxy and polishing.
Both types have a ceramic ferrule. Each connector comes complete with all the parts necessary for termination of tight-buffered fibers as well as jacketed fibers. Parts include crimp sleeves, boots, cord adapter and dust cap.

Description	Belden Part Number	
	Multimode	Single-Mode
Fiber*Express* Connectors		
Epoxy Field Installable Connector		
ST Compatible	**A0390851**	**AX101412**
SC Simplex	**AX100919**	**AX101411**
SC Duplex	**AX100929**	**–**

These products are in the process of being assessed for RoHS compliance.
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Pre-Connectorized Assemblies

Fiber*Express* Patch Cords

AX200057 Patch Cord Multimode SC Duplex (568SC)

Fiber*Express* Patch Cords

Fiber*Express* duplex patch cord assemblies are of the highest quality available. They are assembled and 100% optically tested in our factory prior to shipment. All patch cords are built with high-quality connectors and cables which guarantees superior performance and excellent reliability.

Description	Belden Part Number			
	Multimode, FX300, 62.5 µm	Multimode, FX600, 50.0 µm	Multimode, FX2000, 50.0 µm	Single-Mode SPC
Fiber*Express* Pre-Connectorized Assemblies				
Duplex Patch Cord				
ST-ST, 2 m (6 ft.)	**70102419**	**AX200341**	**AX200799**	**AX200090**
ST-ST, 3 m (10 ft.)	**70102420**	**AX200459**	**AX200795**	**AX200091**
ST-ST, 5 m (16 ft.)	**70102447**	**AX200413**	**AX200800**	**AX200092**
568SC-568SC, 2 m (6 ft.)	**AX200056**	**AX200084**	**AX200603**	**AX200094**
568SC-568SC, 3 m (10 ft.)	**AX200057**	**AX200082**	**AX200589**	**AX200095**
568SC-568SC, 5 m (16 ft.)	**AX200058**	**AX200280**	**AX200624**	**AX200096**
LC duplex-LC duplex, 2 m (6 ft.)	**AX200517**	**AX200527**	**AX200664**	**AX200507**
LC duplex-LC duplex, 3 m (10 ft.)	**AX200518**	**AX200528**	**AX200665**	**AX200508**
LC duplex-LC duplex, 5 m (16 ft.)	**AX200519**	**AX200529**	**AX200666**	**AX200509**
MTRJ-MTRJ, 2 m (6 ft.)	**AX101122**	**AX101139**	**AX200801**	**AX101157**
MTRJ-MTRJ, 3 m (10 ft.)	**AX101123**	**AX101138**	**AX200802**	**AX101156**
MTRJ-MTRJ, 5 m (16 ft.)	**AX101125**	**AX101137**	**AX200803**	**AX101155**
Hybrid Patch Cord				
568SC-ST, 3 m (10 ft.)	**AX200060**	**AX200196**	**AX200900**	**AX200421**
LC duplex-ST, 3 m (10 ft.)	**AX200699**	**AX200695**	**AX200809**	**AX200698**
LC duplex-568SC, 3 m (10 ft.)	**AX200580**	**AX200581**	**AX200668**	**AX200667**
MTRJ-ST, 3 m (10 ft.)	**AX101133**	**AX101151**	**AX200810**	**AX101166**
MTRJ-568SC, 3 m (10 ft.)	**AX101128**	**AX101143**	**AX200797**	**AX101161**
Single-Ended (pigtails)				
ST-open, 2 m (6 ft.)	**70100390**	**AX200458**	**AX200811**	**AX200097**
SC-open, 2 m (6 ft.)	**70101714**	**AX200192**	**AX200653**	**AX200098**
LC-open, 2 m (6 ft.)	**AX200657**	**AX200658**	**AX200660**	**AX200659**
MTRJ (m)-open, 3 m (10 ft.)	**AX101366**	**AX101367**	**AX200812**	**AX101368**

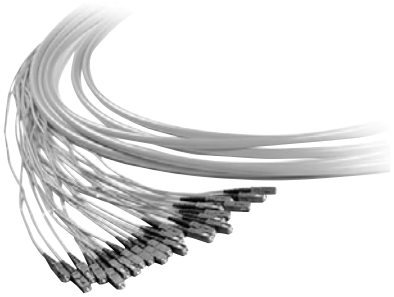
Also available as Simplex Patch Cords or custom assemblies, please contact customer service for more details.
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

Fiber*Express* Pre-Connectorized Assemblies

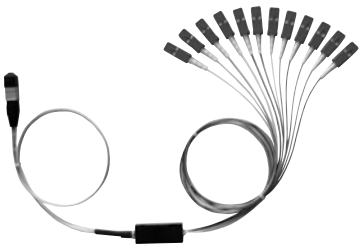
Cable Assemblies

AX250105 MPO Cable Assembly

Multi-fiber Cable Assembly



900 µm Fan-out Assembly



These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

MPO Cable Assembly

MPO cable assemblies are multi-fiber cables using single MPO connectors 6, 8 and 12-fiber that are used to interconnect pre-terminated devices such as Fiber*Express* pre-terminated modules and Fiber*Express* bars. Depending on the application, MPO cable assemblies can use ribbon cables or loose tube cables. MPO cables are available in lengths of up to 500 meters with a pulling-eye for ease of deployment.

Multi-Fiber Cable Assembly

Multi-fiber cable assemblies are factory-terminated fiber cables of various constructions (distribution, breakout or ribbon) using simplex, duplex or multi-fiber connectors. They are available in configurations from 2-fiber up to 144-fiber with various kinds of fan-out constructions, lengths and geometry to suit virtually any application.

Description	Belden Part Number	
	Multimode	Single-Mode
Fiber*Express* Pre-Connectorized Assemblies		
MPO Cable Assembly, FOMC, MPO(f)-MPO(f)		
1 pulling eye, OFNP, 12 fibers, 10 m (33 ft.)	AX250021	AX250345
1 pulling eye, OFNP, 12 fibers, 20 m (66 ft.)	AX250105	AX250376
1 pulling eye, OFNP, 12 fibers, 50 m (164 ft.)	AX250349	AX250065
1 pulling eye, OFNP, 12 fibers, 75 m (246 ft.)	AX250060	AX250066
1 pulling eye, OFNP, 12 fibers, 100 m (328 ft.)	AX250061	AX250067
	Multimode	Single-Mode
1 pulling eye, OFNP, 12 fibers, 10 m (33 ft.)	AX250457	AX250224
1 pulling eye, OFNP, 12 fibers, 20 m (66 ft.)	AX250412	AX250106
1 pulling eye, OFNP, 12 fibers, 50 m (164 ft.)	AX250387	AX250071
1 pulling eye, OFNP, 12 fibers, 75 m (246 ft.)	AX250413	AX250072
1 pulling eye, OFNP, 12 fibers, 100 m (328 ft.)	AX250458	AX250073

Also available in 6 or 8-fiber MPO Cable Assemblies, please contact customer service for more details.

Description	Belden Part Number
Multi-Fiber Cable Assembly, MPO(m)-ST	
Multimode FX300, 62.5 µm, 12 fibers	NXC-RPML-PGPNNN-STPFBN-N-01.5
Multimode FX600, 50 µm, 12 fibers	NXC-RPNL-PGPNNN-STPFBN-N-01.5
Multimode FX2000, 50 µm, 12 fibers	NXC-RPFL-PGPNNN-STPFBN-N-01.5
Single-mode, 12 fibers	NXC-RPSL-PGANNN-STSFBN-N-01.5
Multi-Fiber Cable Assembly, MPO(m)-SC	
Multimode FX300, 62.5 µm, 12 fibers	NXC-RPML-PGPNNN-SCPFBN-N-01.5
Multimode FX600, 50 µm, 12 fibers	NXC-RPNL-PGPNNN-SCPFBN-N-01.5
Multimode FX2000, 50 µm, 12 fibers	NXC-RPFL-PGPNNN-SCPFBN-N-01.5
Single-mode, 12 fibers	NXC-RPSL-PGANNN-SCSFBN-N-01.5
Multi-Fiber Cable Assembly, MPO(m)-LC	
Multimode, FX300, 62.5 µm, 12 fibers	NXC-RPML-PGPNNN-LCPFBN-N-01.5
Multimode FX600, 50 µm, 12 fibers	NXC-RPNL-PGPNNN-LCPFBN-N-01.5
Multimode FX2000, 50 µm, 12 fibers	NXC-RPFL-PGPNNN-LCPFBN-N-01.5
Single-mode, 12 fibers	NXC-RPSL-PGANNN-LCSFBN-N-01.5
Multi-Fiber Cable Assembly, MPO(m)-MTRJ(m)	
Multimode FX300, 62.5 µm, 12 fibers	NXC-RPML-PGPNNN-JBPFBN-N-01.5
Multimode FX600, 50 µm, 12 fibers	NXC-RPNL-PGPNNN-JBPFBN-N-01.5
Multimode FX2000, 50 µm, 12 fibers	NXC-RPFL-PGPNNN-JBPFBN-N-01.5
Single-mode, 12 fibers	NXC-RPSL-PGANNN-JBSFBN-N-01.5

Fiber*Express* Pre-Connectorized Assemblies

Fiber*Express* Bar

AX250001 Fiber*Express* Bar 12ST

MX100154 Fiber*Express* MPO Adapter

Fiber*Express* Bar

The Fiber*Express* bar consists of a custom length fiber cable with, at one end, a factory pre-terminated rugged mini patch panel and, at the other end, a factory installed multi-fiber MPO connector. The very compact fiber patch panel contains 6 or 12 factory-terminated and tested connectors in a variety of styles. The ruggedness of the Fiber*Express* bar makes it an ideal candidate for disaster recovery, industrial applications and other fiber deployment in harsh environment.

Fiber*Express* Bar Accessories

The MPO adapter is the sleeve that provides primary alignment and locking when connecting the two MPO connectors (male to female). It has a flange and a metal clip for panel mounting and it is included with each Fiber*Express* bar (1m with male connector).

The 19″ (0.48 m) rack mount housing is a 1U metal panel that holds one Fiber*Express* bar. It has a live hinge on the left-hand side and swings out giving access to the MPO connection and facilitate cable management and slack storage when used with the slack storage tray.

The front cover is a smoked plexiglas cover that protects the fiber cords connected to the Fiber*Express* bar. It has 2 push rivets for positive locking and easy handling.

The slack storage tray attaches to the back of the 19″ (0.48 m) rack mount housing to facilitate cable management and slack storage. It has a storage capacity of 5 meters of 12-fiber ribbon cable. The wall mount enclosure can contain one Fiber*Express* bar. It is made of heavy gage steel and has a locking cover.

Description	Belden Part Number	
	Multimode, FX300, 62.5 µm	Multimode, FX600, 50.0 µm
Fiber*Express* Pre-Connectorized Assemblies		
Fiber*Express* Bar		
12 ST type, MPO (m), 1 m	**AX250001**	**AX250052**
6 SC duplex, MPO (m), 12 fibers, 1 m	**AX250005**	**AX250054**
6 MT-RJ, MPO (m), 12 fibers, 1 m	**AX250178**	**AX250179**
12 LC, MPO (m), 1 m	**AX250539**	**AX250540**
	Multimode, FX2000, 50.0 µm	Single-Mode
12 ST type, MPO (m), 1 m	**AX250459**	**AX250009**
6 SC duplex , MPO (m), 12 fibers, 1 m	**AX250460**	**AX250011**
6 MT-RJ, MPO (m), 12 fibers, 1 m	**AX250461**	**AX250180**
12 LC, MPO (m), 1 m	**AX250541**	**AX250542**

Also available for 6 fibers, please contact customer service for more details.

Description	Belden Part Number
Fiber*Express* Bar Accessories	
MPO Adapter (6 or 12 fibers) included with each Fiber*Express* Bar (1 m - male)	**MX100154**
19″ (0.48 m) Rack Mount Housing for Fiber*Express* Bar, Grey	**AX100331**
19″ (0.48 m) Rack Mount Housing for Fiber*Express* Bar, Black	**AX100330**
Front Cover for Fiber*Express* Rack Mount Housing	**AX100332**
Slack Storage Tray for Fiber*Express* Bar, (capacity: 5 meters) including top cover, Grey	**AX100329**
Slack Storage Tray for Fiber*Express* Bar, (capacity: 5 meters) including top cover, Black	**AX100328**
Wall Mount Enclosure, can contain one bar, Black	**AC200004**

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

Fiber*Express* Secure/Keyed LC System

Optimax® Field Installable Connectors and Patch Cords & Pigtails

AX102197 Secure/keyed LC Optimax®

Secure/keyed LC System

Fiber*Express* Secure/Keyed LC System

The Fiber*Express* secure/keyed LC system allows for physical segregation of network segments in secure fiber cabling infrastructures. All secure/keyed LC products are available with 6 different keying options each carrying a different color to facilitate network administration. The keying detail inside the connector is totally tamper-resistant and cannot be re-produced inside a standard LC connector to violate the network security. All products comply with the FOCIS 10 standard and optical performance exceeds all industry standards for SFF connectors.

The secure/keyed LC Optimax® field installable connectors are available in multimode 50 µm laser-optimized and 62.5 µm fiber versions. They are high-quality connectors that use a ceramic ferrule with a physical contact (PC) polish for multimode connectors.

The secure/keyed LC patch cords and pigtails are offered in multimode 62.5 µm (FX300), 50/125 µm (FX600) and laser-optimized 50/125 µm (FX2000) for the most demanding network performance.

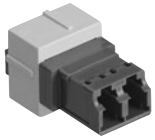
Description	Belden Part Number					
	K1, Red	K2, Green	K3, Yellow	K4, Black	K5, Orange	K6, Blue
Fiber*Express* Secure/Keyed LC System						
Secure/Keyed LC Optimax®*						
Multimode 62.5 µm**	AX102203	AX102204	AX102205	AX102206	AX102207	AX102208
Multimode 50 µm**	AX102197	AX102198	AX102199	AX102200	AX102201	AX102202
Secure/Keyed LC Duplex Patch Cord, KEYx-KEYx*						
2 m (6 ft.), Multimode FX300, 62.5 µm	AX201365	AX201366	AX201367	AX201368	AX201369	AX201370
2 m (6 ft.), Multimode FX600, 50 µm	AX201383	AX201384	AX201385	AX201386	AX201387	AX201388
2 m (6 ft.), Multimode FX2000, 50 µm	AX201401	AX201402	AX201403	AX201404	AX201405	AX201406
3 m (10 ft.), Multimode FX300, 62.5 µm	AX201371	AX201372	AX201373	AX201374	AX201375	AX201376
3 m (10 ft.), Multimode FX600, 50 µm	AX201389	AX201390	AX201391	AX201392	AX201393	AX201394
3 m (10 ft.), Multimode FX2000, 50 µm	AX201407	AX201408	AX201409	AX201410	AX201411	AX201412
5 m (16 ft.), Multimode FX300, 62.5 µm	AX201377	AX201378	AX201379	AX201380	AX201381	AX201382
5 m (16 ft.), Multimode FX600, 50 µm	AX201395	AX201396	AX201397	AX201398	AX201399	AX201400
5 m (16 ft.), Multimode FX2000, 50 µm	AX201413	AX201414	AX201415	AX201416	AX201417	AX201418
Secure/Keyed LC Duplex Hybrid Patch Cord, KEYx-LCD*						
2 m (6 ft.), Multimode FX300, 62.5 µm	AX201419	AX201420	AX201421	AX201422	AX201423	AX201424
2 m (6 ft.), Multimode FX600, 50 µm	AX201437	AX201438	AX201439	AX201440	AX201441	AX201442
2 m (6 ft.), Multimode FX2000, 50 µm	AX201455	AX201456	AX201457	AX201458	AX201459	AX201460
3 m (10 ft.), Multimode FX300, 62.5 µm	AX201425	AX201426	AX201427	AX201428	AX201429	AX201430
3 m (10 ft.), Multimode FX600, 50 µm	AX201443	AX201444	AX201445	AX201446	AX201447	AX201448
3 m (10 ft.), Multimode FX2000, 50 µm	AX201461	AX201462	AX201463	AX201464	AX201465	AX201466
5 m (16 ft.), Multimode FX300, 62.5 µm	AX201431	AX201432	AX201433	AX201434	AX201435	AX201436
5 m (16 ft.), Multimode FX600, 50 µm	AX201449	AX201450	AX201451	AX201452	AX201453	AX201454
5 m (16 ft.), Multimode FX2000, 50 µm	AX201467	AX201468	AX201469	AX201470	AX201471	AX201472
Secure/Keyed LC Duplex Hybrid Patch Cord, KEYx-SCD*						
2 m (6 ft.), Multimode FX300, 62.5 µm	AX201473	AX201474	AX201475	AX201476	AX201477	AX201478
2 m (6 ft.), Multimode FX600, 50 µm	AX201491	AX201492	AX201493	AX201494	AX201495	AX201496
2 m (6 ft.), Multimode FX2000, 50 µm	AX201509	AX201510	AX201511	AX201512	AX201513	AX201514
3 m (10 ft.), Multimode FX300, 62.5 µm	AX201479	AX201480	AX201481	AX201482	AX201483	AX201484
3 m (10 ft.), Multimode FX600, 50 µm	AX201497	AX201498	AX201499	AX201500	AX201501	AX201502
3 m (10 ft.), Multimode FX2000, 50 µm	AX201515	AX201516	AX201517	AX201518	AX201519	AX201520
5 m (16 ft.), Multimode FX300, 62.5 µm	AX201485	AX201486	AX201487	AX201488	AX201489	AX201490
5 m (16 ft.), Multimode FX600, 50 µm	AX201503	AX201504	AX201505	AX201506	AX201507	AX201508
5 m (16 ft.), Multimode FX2000, 50 µm	AX201521	AX201522	AX201523	AX201524	AX201525	AX201526
Secure/Keyed LC Pigtail, KEYx-open*						
2 m (6 ft.), Multimode FX300, 62.5 µm	AX201527	AX201528	AX201529	AX201530	AX201531	AX201532
2 m (6 ft.), Multimode FX600, 50 µm	AX201533	AX201534	AX201535	AX201536	AX201537	AX201538
2 m (6 ft.), Multimode FX2000, 50 µm	AX201539	AX201540	AX201541	AX201542	AX201543	AX201544

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.
* Patent pending. • ** For 900 µm buffered fiber only. The same accessory kit (AX101984) is used for 2 mm jacketed cable connector termination as for our regular Optimax® LC offering.

Fiber*Express* Secure/Keyed LC System

Adapter Modules, Adapter Strips and Fiber*Express* Manager Modules

AX102098 Secure/keyed LC Adapter Module



AX102124 Secure/keyed LC Adapter Strip

AX102114 Secure/keyed LC
Fiber*Express* Manager Module

Fiber*Express* Secure/Keyed LC System

The Fiber*Express* secure/keyed LC System allows for physical segregation of network segments in secure fiber cabling infrastructures. All secure/keyed LC products are available with 6 different keying options each carrying a different color to facilitate network administration. The keying detail inside the connector is totally tamper-resistant and cannot be re-produced inside a standard LC connector to violate the network security. All products comply with the FOCIS 10 standard and optical performance exceeds all industry standards for SFF connectors.

The secure/keyed LC adapter modules and adapter strips can be used in all mounting hardware for workstation area, consolidation point or Telecom room applications.

The secure/keyed LC Fiber*Express* manager modules can be used in 19″ (0.48 m) and 23″ (0.58 m) Fiber*Express* manager shelves to provide a high-density management system of up to 1920 terminated fibers per rack.

Description	Belden Part Number					
	K1, Red	K2, Green	K3, Yellow	K4, Black	K5, Orange	K6, Blue
Fiber*Express* Secure/Keyed LC System						
Secure/Keyed LC Adapter Module*						
Grey holder	AX102089	AX102090	AX102091	AX102092	AX102093	AX102094
Almond holder	AX102095	AX102096	AX102097	AX102098	AX102099	AX102100
White holder	AX102101	AX102102	AX102103	AX102104	AX102105	AX102106
Black holder	AX102107	AX102108	AX102109	AX102110	AX102111	AX102112
Secure/Keyed LC Fiber*Express* Adapter Strip*						
12 fibers	AX102119	AX102120	AX102121	AX102122	AX102123	AX102124
24 fibers	AX102125	AX102126	AX102127	AX102128	AX102129	AX102130
Secure/Keyed LC Fiber*Express* Manager Module*						
12 fibers	AX102113	AX102114	AX102115	AX102116	AX102117	AX102118
24 fibers	AX102310	AX102311	AX102312	AX102313	AX102314	AX102315

* Patent pending.
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

Fiber*Express* Manager
Rack Components and Modules

AX100934
Fiber*Express*
Manager Shelf

Fiber*Express* Manager Shelf

Fiber*Express* modules are rack-mounted using Fiber*Express* manager shelves. The shelves provide the total system with extra high connection density while facilitating cable routing and patch cord management. For 19″ (0.48 m) or 23″ (0.58 m) h rack: 19″ (0.48 m) shelf holds up to 12 modules; 23″ (0.58 m) shelf holds up to 16 modules.

AX101943 Fiber*Express*
Manager 1U Rack Mount
Patch Panel

Fiber*Express* Manager 1U

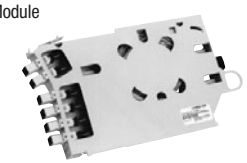
The Fiber*Express* manager 1U rack mount patch panel is a low-cost, compact assembly designed for interconnection or splicing of optical fiber cables, using up to three Fiber*Express* manager modules. The low-profile design minimizes rack space to only 45 mm (1.75″). An optional Fiber*Express* manager 1U cable management accessory is also available.

AX102032 Fiber*Express*
Manager 1U Cable
Management
Accessory

Fiber*Express* Manager Connector Module

The connector module is the basic building block of the Fiber*Express* manager. It is designed with a unique release mechanism that allows it to slide from the shelf like a PC card, easing management of patch cords.

AX101525 Connector Module
Pre-terminated
MPO-MT-RJ



Description	Belden Part Number	
	Grey	Black
Fiber*Express* Manager		
Fiber*Express* Manager		
Shelf, 23″ (0.58 m), 10.9 kg (24 lbs.)	**AX100934**	**AX100935**
Shelf, 19″ (0.48 m), 8.2 kg (18 lbs.)	**AX101084**	**AX101085**
1U, Rack Mount Patch Panel, 19″ (0.48 m), 5 kg (11 lbs.)	**AX101944**	**AX101943**
1U, Cable Management Accessory, 19″ (0.48 m), 1 kg (2 lbs.)	**AX102033**	**AX102032**

Description	Belden Part Number					
	ST Type	SC Simplex	SC Duplex	SC Duplex (ST in)	LC	FC
Fiber*Express* Manager						
Fiber*Express* Manager Connector Module						
Metal Sleeve, Multimode, 6 fibers	**AX101089**	–	**AX101092**	–	–	–
Zirconia Ceramic, Single-mode, 6 fibers	**AX100936**	**AX100943**	**AX100944**	–	–	–
Metal Sleeve, Multimode, 12 fibers	**AX101187**	–	**AX101714**	**AX101120**	**AX101528**	–
Zirconia Ceramic, Single-mode, 12 fibers	**AX101186**	–	**AX101713**	**AX101119**	**AX101527**	–
Zirconia Ceramic, Single-mode, 12 UPC pigtails	–	–	**AX101715**	–	–	–
Metal Sleeve, Multimode, 24 fibers	–	–	–	–	**AX102306**	–
Zirconia Ceramic, Single-mode, 24 fibers	–	–	–	–	**AX102305**	–
Zirconia Ceramic, Single-mode/Multimode, 6 fibers	–	–	–	–	–	**AX100937**

Description	Belden Part Number			
	Multimode 62.5 µm	Multimode 50.0 µm	Single-Mode	–
MPO(m)-ST type, 12 pre-terminated	**AX101189**	**AX101190**	**AX101188**	–
MPO(m)-SC Duplex, 12 pre-terminated	**AX101091**	**AX101114**	**AX101090**	–
MPO(m)-MT-RJ(m), 12 pre-terminated	**AX101525**	**AX101526**	**AX101524**	–
MPO(m)-LC, 12 pre-terminated	**AX101530**	**AX101531**	**AX101529**	–
MPO(m)-LC, 24 pre-terminated	**AX102309**	**AX102308**	**AX102307**	–
MT-RJ, Beige, Multimode, 12 fibers	–	–	–	**AX101096**
MT-RJ, Blue, Single-mode, 12 fibers	–	–	–	**AX101581**

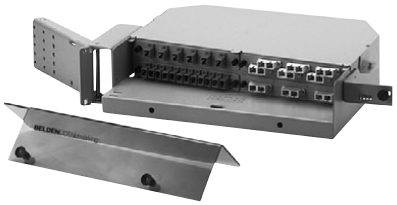
These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

Fiber*Express* Patch Panels

Rack Mount Patch Panels

AX100041 Fiber*Express*, 12/24 Port (1U) Rack Mount Patch Panel

AX100069 Fiber*Express*, 24/48 Port (2U) Rack Mount Patch Panel



AX100078 Fiber*Express* (3U) Rack Mount Patch Panel

AX100115 Fiber*Express*, 48/96 Port (4U) Rack Mount Patch Panel

If single-ended patch cords are to be spliced to the fiber cable, don't forget to order splice organizer trays or kits. Both these, and the universal adapter strips can be ordered in the Fiber*Express* accessories section.

* IMPORTANT: The Fiber*Express* 1U accepts two (2) 203 mm (8″) splice trays. The 2U accepts four (4) 203 mm (8″) splice trays.

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

Fiber*Express* Rack Mount Patch Panel 1U and 2U

The Fiber*Express* 1U and 2U rack mount patch panels are equipped with a special hinge that allows easy access to the rear of the patch panel without disturbing the optical fiber cable. A specially designed front panel allows connector protection and easy routing of optical fiber patch cords. The Fiber*Express* rack mount patch panels are also compatible with our 203 mm (8″) splice organizer trays. This allows the optical fiber cable to be either terminated with fiber single-ended patch cords or field-installable connectors. The patch panels can be used with ST Compatible, SC, 568SC, FC, LC or MT-RJ adapters strips (ordered separately).

The Fiber*Express* 1U rack mount patch panel is a low-cost, compact assembly designed for interconnection or splicing of optical fiber cables, from 12 up to 48 fibers if MT-RJ or LC double density adapter strips are used. The low-profile design minimizes rack space to only 45 mm (1.75″). An optional smoked plexiglass front cover is also available.

The Fiber*Express* 2U rack mount patch panel offers a high fiber capacity, 96 fibers if using double density MT-RJ or LC adapter strips. The Fiber*Express* 2U comes equipped with a smoked plexiglass front cover that protects fiber connections while allowing for quick visual inspection.

Fiber*Express* Rack Mount Patch Panel 3U

The Fiber*Express* 3U rack mount patch panel can accommodate up to 96 optical fiber connections using MT-RJ or LC connectors. The connector panel is mounted on a sliding drawer for easy access to the back side (cable side) of the panel. The Fiber*Express* 3U rack mount patch panel can be used with either optical fiber single-ended patch cords or field-installable connectors. If optical single-ended patch cords are to be used, organizer trays are easily accessible via the removable front access pull-out drawer. (Trays must be ordered separately.)

The Fiber*Express* 3U rack mount patch panel is a compact cross-connect assembly for the termination of optical fiber cables. The low-profile design minimizes required rack space to 127 mm (5″). It is compatible with ST compatible, SC, 568SC, MT-RJ, LC and FC adapters strips (ordered separately).

Fiber*Express* Rack Mount Patch Panel 4U

The Fiber*Express* 4U rack mount patch panel is an economical solution for the protection of optical fiber terminations and splices, up to 192 optical fibers if using MT-RJ or LC connectors. The connector panel, accepting the universal adapter strips, is located inside the enclosure and swings out (left or right) to give easy access to the cable and splices.

The Fiber*Express* 4U rack mount patch panel is a compact cross-connect enclosure for the cross-connection, interconnection or splicing of optical fiber cables. The low-profile design minimizes required rack space to 178 mm (7″). It can be used with ST Compatible, SC, 568SC, MT-RJ, LC and FC adapters strips (ordered separately).

Description	Belden Part Number
Fiber*Express* Patch Panels	
Fiber*Express* Rack Mount Patch Panel 1U*	
Grey	**AX100042**
Black	**AX100041**
Fiber*Express* Rack Mount Patch Panel 2U*	
Grey	**AX100069**
Black	**AX100068**
Fiber*Express* Rack Mount Patch Panel 3U	
Grey	**AX100078**
Black	**AX100077**
Fiber*Express* Rack Mount Patch Panel 4U	
Grey	**AX100115**
Black	**AX100116**

Fiber*Express* Patch Panels

Rack Mount Accessories and Wall Mount Patch Panels

AX101800 127 mm (5″) Universal Offset Bracket Kit, for 19″ (0.48 m) and 23″ (0.58 m) Racks 1U

AX101802 23″ (0.58 m) Rack Universal Extension Bracket for 1U and 2U

AX100047 Right Side Cable Entry Bracket for 1U

AX100045 Front Cover for 1U

AX100543 Large Wall Mount

Fiber*Express* Rack Mount Patch Panels 1U and 2U Accessories

The accessories provide additional panel mounting flexibility for racks, cabinets and cable entry.

Description	Belden Part Number
Fiber*Express* Patch Panels	
Rack Mount Accessories (1U and 2U)	
127 mm (5″) Universal Offset Bracket Kit:	
for 19″ (0.48 m) and 23″ (0.58 m) racks (1U), Black	**AX101799**
for 19″ (0.48 m) and 23″ (0.58 m) racks (1U), Grey	**AX101800**
for 19″ (0.48 m) and 23″ (0.58 m) racks (2U), Black	**AX101797**
for 19″ (0.48 m) and 23″ (0.58 m) racks (2U), Grey	**AX101798**
23″ (0.58 m) Universal extension bracket, Black	**AX101801**
23″ (0.58 m) Universal extension bracket, Grey	**AX101802**
Right side cable entry bracket (1U), Black	**AX100046**
Right side cable entry bracket (1U), Grey	**AX100047**
Right side cable entry bracket (2U), Black	**AX100073**
Right side cable entry bracket (2U), Grey	**AX100074**
Front Cover (1U), Smoked Plexiglass	**AX100045**

Fiber*Express* Wall Mount Patch Panel

The Fiber*Express* wall mount patch panel series is an economical solution for the protection of optical fiber terminations and splices in hostile environments. Using the Fiber*Express* universal adapter strips (ordered separately), the wall mount patch panels allow for flexible and customized patch panel design. They are compatible with most industry standard connections: ST compatible, SC, 568SC, MT-RJ, LC and FC.
Available in grey and black, the Fiber*Express* wall mount patch panels have an ergonomic design, rugged construction and compact assemblies to effectively protect your optical fiber terminations and splices.

Description	Belden Part Number
Fiber*Express* Patch Panels	
Wall Mount	
Small, Grey	**AX100496**
Small, Black	**AX100495**
Medium, Grey	**AX100541**
Medium, Black	**AX100540**
Large, Grey	**AX100543**
Large, Black	**AX100542**

If optical single-ended patch cords are to be spliced to the fiber cable, don't forget to order splice organizer trays or kits in Fiber*Express* accessories section. Universal adapter strips can be ordered in Fiber*Express* patch panels section.
These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

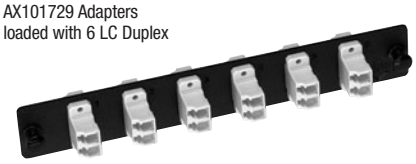
AX100541 Medium Wall Mount

AX100495 Small Wall Mount

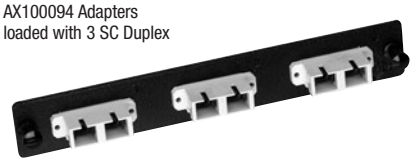
Fiber*Express* Patch Panels Accessories

Universal Optical Fiber Adapter Strips and Accessories

AX101729 Adapters loaded with 6 LC Duplex

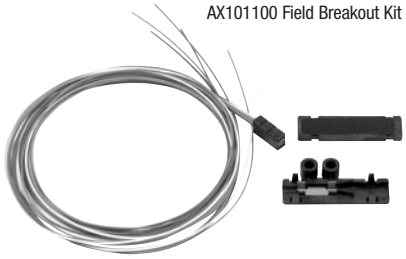


AX100094 Adapters loaded with 3 SC Duplex

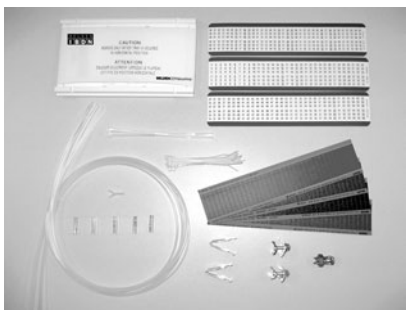


AX100066 Blank Strip

AX101100 Field Breakout Kit

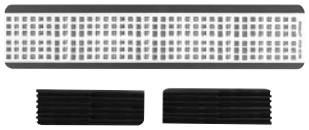


A0649869 Optical Fiber Splice Organizer Kits and Trays



AX100945 Flex Kit

AX101098 Splice Holder Kit



Optical Fiber Adapter Strips

Universal optical fiber adapter strips are pre-loaded with six (single density) or 12 (double density) adapter sleeves. Two types of adapter sleeves are available: phosphor bronze and zirconia ceramic. Adapter sleeves are used as the connecting interface between two optical fiber connectors. A blank adapter strip is also available and can be used with any Fiber*Express* patch panel to fill in unused adapter strip openings.

Optical Fiber Accessories

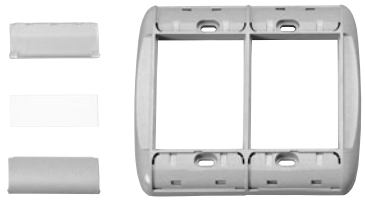
The field breakout kit is designed to attach to one tube of a loose-tube cable. Each kit has either six or twelve 900 µm tubes that hold each of the coated fibers. For each end of the cable, one kit is needed for every tube. For example, a 12-fiber 62.5 µm cable contains two 6-fiber tubes. This cable would require four kits, two for each end. Optical fiber splice organizer kits provide the accessories necessary for installing the Fiber*Express* fiber patch panels, as well as other fiber terminals that accommodate the standard Belden organizer tray. The Flex Kit contains tubes and manifolds designed to split cables into individual fiber strands, and is suitable for 6 fibers up to 12 fibers. It is necessary for use with loose tube cables or when the fiber cable count does not match the number of connections in the Fiber*Express* manager connector module. The Flex Kit tubes help to maintain proper fiber bend radius. One kit is required per 12 modules (one 19″/0.48 m shelf). A splice holder kit can be used to hold fusion or mechanical splices. Each splice holder can handle up to 6 splices.

Description	Belden Part Number	
	Phosphor Bronze, Multimode	Zirconia Ceramic, Single-Mode
Fiber*Express* Optical Fiber Adapter Strips		
Single Density, Black		
Loaded with 6 ST Compatible Adapters	AX100088	AX100534
Loaded with 3 SC Duplex Adapters	AX100094	AX101407
Loaded with 6 SC Simplex Adapters	AX100092	AX100538
Loaded with 6 FC Adapters	AX100090	AX100536
Loaded with 6 LC Duplex Adapters	AX101729	AX101731
MT-RJ, loaded with 6 MT-RJ, Multimode/Single-mode	AX101115	
Double Density, Black		
Loaded with 12 ST Compatible Adapters	AX100080	AX100528
Loaded with 6 SC Duplex Adapters	AX100098	AX101409
Loaded with 12 SC Simplex Adapters	AX100084	AX100532
Loaded with 12 FC Adapters	AX100082	AX100530
Loaded with 12 LC Duplex Adapters	AX101741	AX101743
MT-RJ, loaded with 12 MT-RJ, Multimode/Single-mode	AX101117	
Blank Strip		
Black	AX100066	
Fiber*Express* Accessories		
Optical Fiber Field Breakout Kit		
6 fibers, 1/pack	AX101100	
12 fibers, 1/pack	AX101101	
Optical Fiber Splice Organizer Kit		
Splice kit, tray, 203 mm (8″)	A0649869	
Splice kit, tray, 305 mm (12″)	A0318904	
Optical Fiber Splice Tray		
Fusion, 203 mm (8″)	A0335015	
Fusion, 305 mm (12″)	A0316446	
Universal (mechanical or fusion), 203 mm (8″)	AX100079	
Universal (mechanical or fusion), 305 mm (12″)	A0394328	
Tray cover, 203 mm (8″)	A0394331	
Tray cover, 305 mm (12″)	A0394330	
Flex Kit	AX100945	
Splice Holder Kit	AX101098	

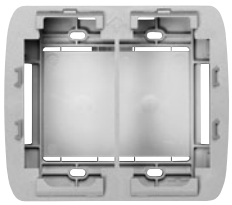
These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

Fiber*Express* Outlets
MediaFlex Plates and Inserts

AX101869 MediaFlex Plate, Double Gang



AX101874 MediaFlex Adapter Box, Double Gang



AX101756 MediaFlex MDVO (style) Insert, 2-port, Angled

AX101937 MediaFlex SC Duplex Insert, Angled

MediaFlex Plate

MediaFlex plates are one part of the comprehensive line of plates and inserts that snap together to create a full line of modular workstation outlets. MediaFlex plates can be mounted over standard NEMA type outlet boxes and rings to provide support for a variety of MediaFlex adapters and inserts. The fully modular construction combined with the front access design provides extensive configuration flexibility for current and future network needs. MediaFlex plates are available in single gang and double gang configurations.

The double gang faceplate comes with a stand-off ring included in the package. This ring allows for easy mounting with virtually any industry electrical box or mud/adapter rings, therefore providing added installation flexibility. Each plate has the capacity of up to 6 ports per single gang and 12 ports per double gang.

MediaFlex Adapter Box

MediaFlex surface adapter boxes are one part of the comprehensive line of plates and inserts that snap together to create a full line of modular workstation outlets.
MediaFlex surface adapter boxes can be mounted over standard NEMA type outlet boxes and rings to provide support for the MediaFlex plates. The MediaFlex surface adapter boxes are available as a double gang configuration. The double gang box allows more room for cable management and bend radius control.

MediaFlex MDVO (style) Insert

MediaFlex MDVO-style Inserts are available in a 2-port configuration in both Flush and Angled versions. They are compatible with all GigaFlex and MDVO modules (EZ-MDVO and multimedia). The inserts are two units high for the flush version and three units high for the angled version. Therefore three flush inserts or two angled inserts are required to fully populate a single gang MediaFlex plate.

MediaFlex Multimedia Insert

MediaFlex multimedia inserts provide optimum flexibility in configuring multimedia workstation outlets that respond to any present or future network needs. MediaFlex multimedia inserts along with other MediaFlex inserts allow for easy configuration of outlets. All inserts are front loaded and easily snapped in and out of the MediaFlex plates for easy installation and maintenance.

MediaFlex multimedia Inserts are available in angled versions only in order to allow for proper management of cable bend radius. The inserts are three units high, therefore two inserts are required to fully populate a single gang faceplate and four inserts will fully populate a double gang faceplate.

Description	Belden Part Number					
	K1, Red	K2, Green	K3, Yellow	K4, Black	K5, Orange	K6, Blue
Fiber*Express* Outlets						
MediaFlex Plate						
Single Gang	AX101745	AX101746	AX101747	AX101748	AX102608	AX102569
Double Gang	AX101869	AX101870	AX101871	AX101872	AX102609	AX102570
MediaFlex Adapter Box						
Single Gang	AX102480	AX102481	AX102482	AX102483	AX102484	AX102485
Double Gang	AX101873	AX101874	AX101875	AX101876	AX102610	AX102571
MediaFlex MDVO (style) Insert						
2-port, Flush, bag of 10 units	AX101749	AX101750	AX101751	AX101752	AX102612	AX102572
2-port, Angled, bag of 10 units	AX101753	AX101754	AX101755	AX101756	AX102613	AX102573
MediaFlex SC Duplex						
SC Duplex Single-mode	AX101935	AX101936	AX101937	AX101938	AX102619	AX102649
SC Duplex Multimode	AX101939	AX101940	AX101941	AX101942	AX102620	AX102650

These products are in the process of being assessed for RoHS compliance. Please check our website for the most current RoHS status.

Fiber*Express* Outlets

MDVO Multimedia Outlet Boxes & Modules and Multi-User Outlet Boxes

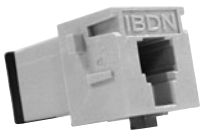
A0643205 MDVO Multimedia Outlet Box, shown here as terminated

A0407005 MDVO SC Fiber Module

A0649254 SC Duplex Adapter

A0407010 MDVO ST Compatible Fiber Module

AX101467 MDVO MT-RJ Fiber Module



AX100222 Multi-User Outlet Box, shown here with modules

MDVO Multimedia Outlet Box

The MDVO multimedia outlet box brings unique versatility for multimedia work area installations. The box design provides cable management and helps maintain cable bend radius. The low-profile design and side-entry of the outlet box offer better protection for patch cords. The outlet box can accept up to six EZ-MDVO, GigaFlex or MDVO multimedia modules or three SC duplex adapters.

The MDVO multimedia outlet box can be mounted directly on the wall or attached to standard electrical boxes. Included with the MDVO multimedia box are three SC duplex mounting bezels and three MDVO adapters.

MDVO Multimedia Modules

MDVO multimedia modules address audio/video and fiber applications. Fiber modules are available for LC duplex, SC simplex, ST compatible multimode and MT-RJ multimode & single-mode connections. The SC duplex adapter is a fiber adapter sleeve with flanges that mounts into the SC duplex mounting bezel (included in the MDVO multimedia outlet box). Audio/video modules are available for SVHS, RCA, BNC and Video F connections.

Multi-User Outlet Box

The multi-user outlet box is a versatile box that can be used in many different applications. The outlet box can accommodate up to 24 connections of any type, UTP, fiber or coax. The outlet box is ideal for use as a multi-user telecommunications assembly, or simply as a high-density multimedia telecommunications outlet. The multi-user outlet box can also be used as a wall mounted patch panel in confined areas, such as shallow rooms and cabinets.

Description	Belden Part Number			
	MOVO-Style	MOVO-Style	MOVO-Style	Keystone-Style
Fiber*Express* Outlets				
MDVO Multimedia Outlet Box				
6-port	**A0643205**	**A0643206**	**A0643207**	**A0643208**

Please note that SC Duplex adapters must be ordered separately (A0649254).

MDVO Multimedia Module				
LC Duplex Multimode	**AX102209**	**AX102210**	**AX102211**	**AX102212**
LC Duplex Single-mode	**AX102213**	**AX102214**	**AX102215**	**AX102216**
SC Simplex, Multimode, Blue insert	**A0407003**	**A0407004**	**A0407005**	**A0407006**
SC Duplex Adapter, Multimode	–	**A0649254**	–	–
ST Compatible, Multimode	**A0407007**	**A0407008**	**A0407009**	**A0407010**
MT-RJ, Multimode	–	**AX101467**	–	–
MT-RJ, Single-mode, Blue	–	**AX101466**	–	–

Custom multimedia connectors are also available, please contact customer service for more details.

Multi-User Outlet Box				
24-port	**AX100219**	**AX100220**	**AX100221**	**AX100222**

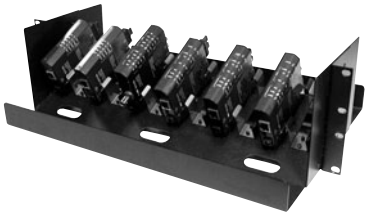
These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

Network Connectivity Products

Media Converters, Transceivers & Hubs and Network Tester

Media Converters

AX-1912 Media Converter Rack



AX050, 70 and 80 Transceivers and AX-509 Ethernet Hub

AX-110BT Realtime 10/100 Base-TX Ethernet Network Test Unit

Media Converters for Ethernet and Fast Ethernet

Media converters enable the connection of dissimilar network cabling types, while maintaining the same network speed. A legacy thinnet segment can be connected to a 10Base-T Hub or switch port with an AX-200 Converter or, link two different 10Base-T networks together over a multimode fiber optic link with a pair of AX-270s. Connect a legacy thinnet segment over fiber with the AX-280 converter. The AX-5270 can be used for interbuilding links or attached to a fiber backbone.

Transceivers and Ethernet Hubs

The AX-50, 70 and 80 transceivers enable the connection of a legacy AUI port to 10Base-T, Thinnet, or Fiber Optic media. The transceiver is powered from the host and requires no external power supply. The AX-509 Ethernet Hub has an AUI port which accepts UTP, Fiber Optic or BNC transceivers. Specified for use by many U.S. Government Agencies. Includes a 110v/12v power supply.

Realtime 10/100 Base-TX Ethernet Network Test Unit

The AX-110BT realtime 10/100 Base-TX ethernet network test unit is a cost effective way to quickly determine a network's operating condition. Plug the unit's patch cord into the tester, then into any open RJ-45 jack in an office, cubicle or conference room. Immediately see if the jack is a live network node capable of either 100 Mb/s or 10 Mb/s. Next check patch cord continuity and polarity. Connect the downlink to a PC to check NIC card link, speed and full or half duplex capabilities. Connect the uplink to a hub or switch port to verify link and speed.

Description	Belden Part Number
Network Connectivity Products	
Media Converter	
10Base-T/10Base2, RJ-45 to BNC	**AX-200**
10Base-T/10Base-FL, RJ-45 to ST-Compatible fiber connectors	**AX-270**
10Base2/10Base-FL, BNC to ST-Compatible fiber connectors	**AX-280**
100Base-TX/100Base-FX, SC-Compatible fiber connectors	**AX-5270SC**
100Base-TX/100Base-FX, ST-Compatible fiber connectors	**AX-5270ST**
Media Converter Rack	
Holds up to 12 converters and multi lead power supplies, 19″ (0.48 m) rack-mount ready	**AX-1912-MCR**
Power Supply, 4-lead 110v/12v, powers up to 4 converters	**AX-270P4U**
Power Supply, 8-lead 110v/12v, powers up to 8 converters	**AX-270P8U**
Transceivers and Ethernet Hubs	
UTP Transceiver, 10Base-T, AUI to RJ-45, side port	**AX-50**
UTP Transceiver, 10Base-T, AUI to RJ-45, rear port	**AX-50R**
Fiber Transceiver, 10Base-FL, AUI to ST-Compatible	**AX-70**
Thinnet Transceiver, 10Base2, AUI to BNC	**AX-80**
Ethernet Hub with 8 RJ-45 10Base-T ports and 1 AUI port	**AX-509**
Network Tester	
Realtime 10/100 Base-TX Ethernet Network Test Unit	**AX-110BT**

These products are in the process of being assessed for RoHS compliance.
Please check our website for the most current RoHS status.

Introduction Cables

Advanced Networks Need Advanced Technology

Today's advanced networks are diverse and very varied and almost always complex. The right way ahead is to future-proof these networks and take precautions to protect them against anything that will create problems, damage or disrupt. That means matching the right hardware with the right cabling to guarantee performance – and that means choosing fiber optic cable. This type of cable has become essential for bringing light-speed communication to hospitals, corporate campuses, educational facilities and other projects.

Key Applications

- Closed circuit television
- Network circuitry
- Factory automation
- Major commercial networks
- Video conferencing
- Medical imaging
- CAD/CAM

Special Features

- **Interconnect Cables**
  Featuring semi-tight buffer and tight buffer technology for easy cable preparation during termination.
  - Semi-tight buffered fiber cables are available in dry or jelly-filled constructions; both have excellent strippablility properties (≤ 100 cm).
  - Tight-buffered fiber cables are dry constructions and designed for easy stripping in cable preparation (≤ 10 cm).

- **Breakout Cables (BO)**
  Breakout cables are the preferred choice for direct termination methods. Each numbered fiber subunit is protected by a layer of aramid yarn and encased in a FRNC/LSNH jacket. The individual subunits are cabled and then jacketed with a flame resistant FRNC/LSNH compound. Each fiber uses either the tight buffer technology or semi-tight buffer technology for excellent fiber stripping.

- **Belden's Mini-Breakout**
  This cables offer dry constructions with semi-tight or tight buffer technology for easier fiber stripping during cable preparation. They are perfect for both indoor and indoor/outdoor use.

- **Mobile Fiber Cables**
  Mobile fiber cable is a special cable in the range is Belden's mobile fiber cable. The semi-tight buffer technology is designed for rugged field applications and will withstand temperature extremes and vehicle traffic. Repeating bending is > 500000 times according to IEC 60794-1-2-E6. For indoor use, it has flame retardancy acc. IEC 60332-2.

- **Central Loose Tube Cables (CLT)**
  Central loose tube cables are designed either for indoor/outdoor application or outdoor use only as direct burial, duct and outside tray. For better performance, Belden only uses (non-dripping and silicone-free) jelly-filled loose tubes. The central loose tube series has a polyethylene or halogen-free jacket. These cables have been updated with a longitudinal watertightness swellable yarn for weather-resistance.
  - Standard and improved rodent protection designs are available with up to 24 fiber counts.
  - Central loose tube cables are also available with Corrugated Steel Tape (CST), Steel Wire Armor (SWA) or Fiber Reinforced Plastic armor (FRP) to protect the whole cable from mechanical damage and rodents.

- **Multi Loose Tube Cables (MLT)**
  Multi loose tube cables, with no aquagel between the tubes (dry core) or with jelly-filled cable core, are designed for direct burial, duct, outside tray and aerial applications. For better performance, Belden only uses (non dripping and silicone-free) jelly-filled loose tubes. Tubes and (when necessary) blind elements are S-Z stranded around the central element. The multi loose tube series has a High-Density-Polyethylene (HDPE) or halogen-free jacket. These cables have been updated with water-blocking aramid or glass yarn. Standard and improved rodent protection designs are available with high fiber counts up to 432 fibers.
  - The multi loose tube cables are also available either with Corrugated Steel Tape armor (CST) or with galvanized Steel Wire Armor (SWA) for total protection.
  - Longitudinal watertightness: to guarantee longitudinal watertightness acc. to IEC 60793-1-2-F5, Belden uses swellable yarns and/or tapes or filling compound.

  Options:
  - All loose tube cables with additional PA (nylon) jacket for termite/rodent protection, improved chemical resistance and reduced friction.
  - Replace PE jacket by Orgalloy to improve chemical resistance.

Introduction Cables

- **Belden's Universal Cables**
  Belden's universal cables provide a unique combination of construction and performance characteristics that make them ideal for both outdoor and indoor use. The advantage is that splicing is not necessary when running cable from outside to inside.
  - Because all fibers show surface imperfections, Belden exclusively uses fibers with proof test-level ≥ 8.8 N/≥ 1% (≥ 100 kpsi). This means the expected life of the optical fiber cable is > 30 years.

- **Belden Halogen-Free Optical Fiber Cables**
  This cables meet the most important international standards. The jacketing material is suitable for outdoor use, such as direct burial. Compared with other products containing halogens (such as PVC), Belden halogen-free materials offer considerable advantages in the event of a fire:
  - Better vision
  - Minimal poisonous gases
  - No release of highly caustic acids
  - Greater safety for people, materials and the environment

  Belden's halogen-free optical fiber cables are both FRNC (Flame-Retardant, Non-Corrosive) and LSNH (Low-Smoke, Non-Halogen) according to recognized standards.

- **Direct Burial Cables**
  In general loose tube cables are suitable for direct burial. However, in case of rocky soil armored cables are recommended.

- **Belden Optical Fiber Cables**
  All cable constructions are in accordance with IEC 60793, and have been tested according to IEC 60794.

Rodent Protection

The Belden fiber optic cable line offers two different kind of rodent protection:

- Standard Rodent Protection
  Optical fiber cables with glass reinforced yarns for strength also provide normal protection against rodents.

- Improved Rodent Protection
  Belden offers cables with improved rodent protection. These have extra glass reinforced yarns or an extra layer of nylon (polyamide). The idea behind this is that rodents will look for the easiest route. Rodents will bite anything in order to keep their teeth in proper shape but will only continue if they feel comfortable. With the nylon layer or "glass" yarns they will normally stop and move elsewhere.

It is important to note that non-armored cable never guarantees a 100% protection against rodents.

Armored cables (CST, SWA, FRP) are heavy rodent protected.

Introduction Cables
Guide to Installation and Handling

General

When laying and installing optical fiber cables it is vitally important not to exceed the specified values set for pulling tension, bending radii and temperature. The installation methods have to be in accordance with the common standards.

If a cable needs to be fastened, constrictions ≥ 1 mm (multi-tube cable) or ≥ 0.3 mm (central-tube cable, distribution cable) must be prevented.

Outdoor / Universal Cables

It is advisable to cap the cable-ends during outdoor storage.

- **Outdoor / Universal Loose Tube Cables**
  - To ease insertion into tubes by means of compressed air or pulling wire, certified lubricants (e.g. paraffin) may be used. The use of soap or similar substances as lubricants is strictly prohibited.
  - The jelly-filling inside the tubes can be removed using a tissue soaked in turpentine.

Indoor Cables

Indoor optical fiber cables have been designed for use inside buildings. Consequently they are not longitudinally watertight.

- **Indoor Interconnection (Simplex, Duplex) Cables**
  - In cable with jelly-filled semi-tight buffered optical fibers the primary and secondary coating are separated by means of a very thin layer of jelly. Consequently the strippability is very good. If necessary the jelly can be removed using a tissue soaked in turpentine, for example.
  - Interconnection optical fiber cables have been designed for short distance applications (tens of meters) inside buildings.
- **Pigtails**
  (Semi-) Tight-buffered optical fibers have been designed for short distance (≤ 10 m) applications

Introduction Cables

Part Number Coding (exept Plenum Optical Fiber)

1	2	Product	3	Type	4	Construction	5	Quality	6	Fiber Count (mm)	7	Fiber Count
G	A	Messenger figure 8	A	Aramid	A	CLT T12 [1x12]	1	62.5/125-OM1	A	Simplex Duplex 1.6 mm		
	B	Outdoor Dry MLT	B	Breakout	B	CLT T24 [1x24]	2	50/125-OM2	B	Simplex Duplex 1.8 mm		
	C	Universal Dry MLT	C	CST Single sheath	C	MLT T48 [6x8] (helical)	3	50/125-OM3	C	Simplex Duplex 2.0 mm		
	D	Outdoor Filled MLT	D	CST Double Sheath	D	MLT T72 [6x12]	4	50/125-OM2e	D	Simplex Duplex 2.4 mm		
	E	Universal Filled MLT	F	FRP	E	MLT T96 [8x12]	5	50/125-OM2	E	Simplex Duplex 2.8 mm		
	I	Indoor	L	AL/PE Sheath	F	MLT T144 [12x12]	6	50/125-OM3+	F	Simplex Duplex 3.0 mm		
	M	Mobile	M	Mini-Breakout	G	MLT T36 [6x6]	7	9/125-G655	0-9	Part of Fibercount	0-9	Part of Fibercount
	O	Outdoor Dry	O	Pigtail	H	MLT T24 [6x4]	8	9/125-G652D				
	U	Universal Dry	P	Patchcord	I	MLT T192 [8x24]	9	9/125-G652B				
			R	Improved RP	J	MLT T288 [12x24]	0	No Fiber, APF				
			S	Standard RP	K	Semi-Tight (dry)						
			X	Mini-BO+RP	L	MLT T432 [18x24]						
			W	SWA	M	MLT T216 [18x12]						
					S	Semi-Tight (Jelly-Filled)						
					T	Tight						

RP = Rodent Protection • SWA = Galvanised Steel Wire Armor • CST = Corrugated Steel Tape • FRP = Fiber Reinforced Plastic Armor

To specify Part Number

1. Example: GIBT412

1	2	3	4	5	6	7
G	I	B	T	4	1	2
Fiber	Indoor	Breakout	Tight Buffer	50/125-OM2e	12	

2. Example: GDDF744

1	2	3	4	5	6	7
G	D	D	F	7	4	4
Fiber	MLT Outdoor Filled SZ	CST Double Sheat	MLT144 (12x12)	9/125-G655	144	

Optical Characteristics

European Part Number Coding (position 5)	Fiber-Type	Mode-Field Diameter/Cladding Diameter (µm)	Wavelength (nm)	Dispersion (ps/(nm•km))	PMD (ps/√km)	Cable Cut-off Wavelength (nm)	Refractive Index	Attenuation	
								Loose Tube Cables average/max. (dB/km)	(Semi-) Tight average/max. (dB/km)
Characteristics (Cabled) Single-Mode – Matched-Cladded Optical Fibers according to ITU-G.652									
9	9/125-OS1 ITU-G.652B	9.2 ± 0.4 125 ± 1	1310 1550	≤ 3.5 ≤ 18	≤ 0.2	≤ 1260	1.467 1.467	0.32/0.4 0.21/0.3	0.35/0.5 0.21/0.3
8	9/125-OS1 ITU-G.652D	9.2 ± 0.4 125 ± 0.7	1310 1550	≤ 3.5 ≤ 18	≤ 0.2	≤ 1260	1.467 1.467	0.32/0.4 0.21/0.3	0.35/0.5 0.21/0.3
Characteristics (Cabled) Single-Mode – Matched-Cladded Optical Fibers According to ITU-G.655									
7	9/125	8.4 ± 0.6/125 ± 1	1550	3.5 - 8.5	≤ 0.1[A]	≤ 1260	1.470	0.25/0.3	0.25/0.28

Note A: Link design value

European Part Number Coding (position 5)	Fiber-Type	Core/Cladding Diameter (µm)	Wavelength (nm)	Bandwidth (MHz•km)	Ethernet Performance (m)		Numerical Aperture (µm)	Refractive Index	Attenuation	
					1GbE	10GbE			Loose Tube Cables average/max. (dB/km)	(Semi-) Tight average/max. (dB/km)
Characteristics (Cabled) Multimode – Graded-Index Optical Fibers According to IEC 60793										
1	62.5/125 OM1	62.5 ± 2.5 125 ± 1	850 1300	≤ 200 ≤ 600	275 550	33 N.A.	0.275 ± 0.015	1.495 1.490	2.7/3.2 0.6/1.1	3.0/3.2 0.7/0.9
5	50.0/125 OM2	50.0 ± 2.5 125 ± 1	850 1300	≤ 500 ≤ 500	600 600	82 N.A.	0.200 ± 0.015	1.481 1.476	2.4/3.0 0.7/1.0	2.6/2.8 0.6/0.9
2	50.0/125 OM2	50.0 ± 2.5 125 ± 1	850 1300	≤ 600 ≤ 1200	600 600	82 N.A.	0.200 ± 0.015	1.481 1.476	2.3/2.8 0.6/0.9	2.6/2.8 0.6/0.9
4	50.0/125 OM2e	50.0 ± 2.5 125 ± 1	850 1300	≤ 600 ≤ 1200	750 2000	110 N.A.	0.200 ± 0.015	1.481 1.476	2.3/2.8 0.6/0.9	2.6/2.8 0.6/0.9
3	50.0/125 OM3	50.0 ± 2.5 125 ± 1	850 1300	≤ 1500 ≤ 500	900 550	300 N.A.	0.200 ± 0.015	1.482 1.477	2.5/3.0 0.5/1.0	2.6/2.8 0.6/0.9
6	50.0/125 OM3+	50.0 ± 2.5 125 ± 1	850 1300	≤ 3500 ≤ 500	900 550	550 N.A.	0.200 ± 0.015	1.482 1.477	2.5/3.0 0.5/1.0	2.6/2.8 0.6/0.9

Introduction Cables

Cable Finder Guide Optical Fibers

Part No.	Description	Buffer	Con-struction	Remarks	Fiber Size µm	Application	VDE	Page
Intex, Indoor and Mobile Cables with (Semi-) Tight-Buffered Optical Fibers								
Interconnect Cables								
GIOK	Pigtails	Semi-Tight	Dry	Excellent Strippability, LSNH	245	Indoor	I-K	16.25
GIPS	Simplex	Semi-Tight	Jelly-Filled	Excellent Strippability, FRNC/LSNH	245	Indoor	I-W(ZN)H	16.25
GIPS	Simplex, furcation tube	–	Dry	Empty Tube, PUR	–	Indoor	–	16.32
GIPS	Duplex	Semi-Tight	Jelly-Filled	Excellent Strippability, FRNC/LSNH, Figure 8	245	Indoor	I-W(ZN)H	16.26
GIPK	Heavy Duplex	Semi-Tight	Dry	Excellent Strippability, FRNC/LSNH, flat	245	Indoor	I-K(ZN)HH	16.26
GIPT	Mini-Zip	Tight	Dry	FRNC/LSNH, Figure 8	280	Indoor	I-V(ZN)H	16.27
Breakout Cables								
GIBT	2-24 Fibers	Tight	Dry	FRNC/LSNH	280	Indoor	I-V(ZN)HH	16.28
GIBK	2-12 Fibers	Semi-Tight	Dry	FRNC/LSNH	245	Indoor	I-K(ZN)HH	16.28
Mini-Breakout Cables (Distribution)								
GIMT	2-24 Fibers	Tight	Dry	FRNC/LSNH	280	Indoor	I-V(ZN)H	16.29
GIMK	2-8 Fibers	Semi-Tight	Dry	FRNC/LSNH	245	Indoor	I-K(ZN)H	16.29
GUMT	4-24 Fibers	Tight	Dry	FRNC/LSNH	280	In/Outdoor	A/I-VQ(ZN)H	16.30
GUXT	4-24 Fibers	Tight	Dry	FRNC/LSNH, Improved Rodent Protection	280	In/Outdoor	A/I-VQ(ZN)BH	16.31
GMMT	4-8 Fibers	Tight	Dry	Intex Mobile, PUR	280	In/Outdoor	A/I-VQ(ZN)11Y	16.32
Universal and Outdoor Cables with Loose Tubes								
Central Loose Tube Cables (CLT)								
GOSA	2-12 Fibers	–	Dry	PE, Standard Rodent Protection	250	Outdoor	A-DQ(ZN)2Y	16.33
GOSB	2-24 Fibers	–	Dry	PE, Standard Rodent Protection	250	Outdoor	A-DQ(ZN)2Y	16.33
GORA	2-12 Fibers	–	Dry	PE, Improved Rodent Protection	250	Outdoor	A-DQ(ZN)B2Y	16.34
GORB	2-24 Fibers	–	Dry	PE, Improved Rodent Protection	250	Outdoor	A-DQ(ZN)B2Y	16.34
GOFB	2-24 Fibers	–	Dry	PE, Full Rodent Protection, Armored (FRP)	250	Outdoor	A-DQB2Y (FRP1.0)	16.35
GOWB	2-24 Fibers	–	Dry	Double PE, Full Rodent Protection, Armored (SWA)	250	Outdoor	A-DQ(ZN)2YB2Y (R0.63vzk)	16.35
GOCB	2-24 Fibers	–	Dry	PE, Full Rodent Protection, Armored (CST)	250	Outdoor	A-DQ(ZN)(SR)2Y	16.36
GODA	2-12 Fibers	–	Dry	Double PE, Full Rodent Protection, Armored (CST)	250	Outdoor	A-DQ(ZN)2Y(SR)2Y	16.36
GODB	2-24 Fibers	–	Dry	Double PE, Full Rodent Protection, Armored (CST)	250	Outdoor	A-DQ(ZN)2Y(SR)2Y	16.36
GUSA	2-12 Fibers	–	Dry	FRNC/LSNH, Standard Rodent Protection	250	In/Outdoor	A/I-DQ(ZN)H	16.37
GUSB	2-24 Fibers	–	Dry	FRNC/LSNH, Standard Rodent Protection	250	In/Outdoor	A/I-DQ(ZN)H	16.37
GURA	2-12 Fibers	–	Dry	FRNC/LSNH, Improved Rodent Protection	250	In/Outdoor	A/I-DQ(ZN)BH	16.38
GURB	2-24 Fibers	–	Dry	FRNC/LSNH, Improved Rodent Protection	250	In/Outdoor	A/I-DQ(ZN)BH	16.38
GUCB	2-24 Fibers	–	Dry	FRNC/LSNH, Full Rodent Protection, Armored (CST)	250	In/Outdoor	A/I-DQ(ZN)(SR)H	16.39
GUWB	2-24 Fibers	–	Dry	Double FRNC/LSNH, Full RP, Armored (SWA)	250	In/Outdoor	A/I-DQ(ZN)HBH (R0.63vzk)	16.40
GUDA	2-12 Fibers	–	Dry	Double FRNC/LSNH, Full RP, Armored (CST)	250	In/Outdoor	A/I-DQ(ZN)H(SR)H	16.39
GUDB	2-24 Fibers	–	Dry	Double FRNC/LSNH, Full RP, Armored (CST)	250	In/Outdoor	A/I-DQ(ZN)H(SR)H	16.39
Multi Loose Tube Cables (MLT)								
GBA	4-432 Fibers	–	Dry	HDPE	250	Outdoor	A-DQ(ZN)2Y	16.41
GDA	4-432 Fibers	–	Filled	HDPE	250	Outdoor	A-DF(ZN)2Y	16.42
GBR	4-432 Fibers	–	Dry	HDPE, Improved Rodent Protection	250	Outdoor	A-DQ(ZN)B2Y	16.43
GDR	4-432 Fibers	–	Filled	HDPE, Improved Rodent Protection	250	Outdoor	A-DF(ZN)B2Y	16.44
GBD	4-432 Fibers	–	Dry	HDPE, Full Rodent Protection, Armored (CST)	250	Outdoor	A-DQ(ZN)2Y(SR)2Y	16.45
GDD	4-432 Fibers	–	Filled	HDPE, Full Rodent Protection, Armored (CST)	250	Outdoor	A-DF(ZN)2Y(SR)2Y	16.46
GBW	4-432 Fibers	–	Dry	HDPE, Full Rodent Protection, Armored (SWA)	250	Outdoor	A-DQ2YB2Y (R1.0vzk)	16.47
GDW	4-432 Fibers	–	Filled	HDPE, Full Rodent Protection, Armored (SWA)	250	Outdoor	A-DF2YB2Y (R1.0vzk)	16.48
GALH	4-24 Fibers	–	Filled	PE, Steel Wire Messenger, Figure 8	250	Aerial-Outdoor	A-DSF(L)2YT	16.49
GALD	12-72 Fibers	–	Filled	PE, Steel Wire Messenger, Figure 8	250	Aerial-Outdoor	A-DSF(L)2YT	16.49
GAAD	12-72 Fibers	–	Filled	PE, Dielectric Messenger, Figure 8	250	Aerial-Outdoor	A-DF(ZN)2YT	16.50
GCA	4-432 Fibers	–	Dry	LSZH	250	In/Outdoor	A/I-DQ(ZN)H	16.51
GEA	4-432 Fibers	–	Filled	LSZH	250	In/Outdoor	A/I-DF(ZN)H	16.52
GCR	4-432 Fibers	–	Dry	LSZH, Improved Rodent Protection	250	In/Outdoor	A/I-DQ(ZN)BH	16.53
GER	4-432 Fibers	–	Filled	LSZH, Improved Rodent Protection	250	In/Outdoor	A/I-DF(ZN)BH	16.54
GCD	4-432 Fibers	–	Dry	LSZH, Full Rodent Protection, Armored (CST)	250	In/Outdoor	A/I-DQ(ZN)H(SR)H	16.55
GED	4-432 Fibers	–	Filled	LSZH, Full Rodent Protection, Armored (CST)	250	In/Outdoor	A/I-DF(ZN)H(SR)H	16.56
GCW	4-432 Fibers	–	Dry	LSZH, Full Rodent Protection, Armored (SWA)	250	In/Outdoor	A/I-DQHBH (R1.0vzk)	16.57
GEW	4-432 Fibers	–	Filled	LSZH, Full Rodent Protection, Armored (SWA)	250	In/Outdoor	A/I-DFHBH (R1.0vzk)	16.58

Introduction Cables
Color Codes

Interconnect Cables

Fiber No.	Color (Sec. Coating)
SM 9/125	Yellow
MM 50/125	Green
MM 62.5/125	Blue

Breakout Cables

Fiber No.	Color (Sub-unit Jacket)
1-24 (MM)	Orange
1-24 (SM)	Yellow

Mini-Breakout Cables

Fiber No.	Color (Sec. Coating)
1	White
2	Red
3	Blue
4	Yellow
5	Green
6	Violet
7	Brown
8	Black
9	Orange
10	Turquoise
11	Pink
12	Grey

Fiber No.	Color (Prim. Coating*)
13	White
14	Red
15	Blue
16	Yellow
17	Green
18	Violet
19	Brown
20	Black
21	Orange
22	Turquoise
23	Pink
24	Grey

* secondary coating is transparent

Central Loose Tube Cables*

Fiber No.	Color
1	Red
2	Green
3	Blue
4	Yellow
5	White
6	Grey
7	Brown
8	Violet
9	Turquoise
10	Black
11	Orange
12	Pink

Fiber No.	Color
13	Red/Black
14	Green/Black
15	Blue/Black
16	Yellow/Black
17	White/Black
18	Grey/Black
19	Brown/Black
20	Violet/Black
21	Turquoise/Black
22	Natural/Black
23	Orange/Black
24	Pink/Black

* fiber color code according to IEC 60304; different color coding available on request

Multi Loose Tube Cables*

Fiber No.	Color
1	Red
2	Green
3	Blue
4	Yellow
5	White
6	Grey
7	Brown
8	Violet
9	Turquoise
10	Black
11	Orange
12	Pink

Fiber No.	Color
13	Red/Black
14	Green/Black
15	Blue/Black
16	Yellow/Black
17	White/Black
18	Grey/Black
19	Brown/Black
20	Violet/Black
21	Turquoise/Black
22	Natural/Black
23	Orange/Black
24	Pink/Black

* fiber color code according to IEC 60304; different color coding available on request

Color Code Tubes

Tube No.	Color
1	Red
2	Green
Rest	White

Introduction Cables
Cable Selection Guide Plenum

Optical Fiber Selection

Type	Grade	Fiber Size (µ)	Standards Compliance	Link Length (m)	Data Rate (Gb)
Multimode	6	50/125	exceeds TIA/EIA-568-B.3-1 ISO 11801 OM3	500	10
	5	50/125	TIA/EIA-568-B.3-1 ISO 11801 OM3	300	10
	4	50/125	TIA/EIA-568-B.3	600	1
	3	62.5/125	TIA/EIA-568-B.3	1000	1
	2	62.5/125	TIA/EIA-568-B.3	550	1
	1*	62.5/125	FDDI grade †	–	–
Single-mode	–	–	ITU G.652.c/d ††	–	–

* Grade 1 fibers are available upon request.
† Used in most current cable plants, but not recommended for future installations, except as patch cordage.
†† Low water peak fiber with advantages for CWDM applications.

Color Code Charts

Jacket Color Chart

Cable Type	Jacket Color
Loose Tube & Outside Plant Cables	Black
Industrial Tray Cables	Orange
Tight-Buffered Cables	
Grades 2, 3, 4	Orange
Grades 5, 6	Aqua
Single-mode	Yellow

Nonstandard jacket colors are available upon request.

Fiber Sub-Unit Color Code Chart*

Fiber/Tube No.	Color	Fiber/Tube No.	Color
1	Blue	**7**	Red
2	Orange	**8**	Black
3	Green	**9**	Yellow
4	Brown	**10**	Violet
5	Slate	**11**	Rose
6	White	**12**	Aqua

* Per EIA/TIA 598-A

Optical Specifications

Grade:	2	3	4	5	6	Single-Mode Enhanced[6]
Glass Type:	62.5/125 µ	62.5/125 µ	50/125 µ	50/125 µ	50/125µ	
Operating Wavelength (nm)	850/1300	850/1300	850/1300	850/1300	850/1300	1310/1550
Min. OFL[1] Bandwidth (MHz-km)	200/500	200/500	500/500	1500/500	3000/500	–
Min. Laser[2] Bandwidth (MHz-km)	220/500	385/500	510/500	2000/500	4000/500	–
Max. Attenuation Loose Tube (dB/km)	3.25/1.0	3.25/1.0	3.0/1.0	3.0/1.0	3.0/1.0	0.40/0.30
Max. Attenuation Tight-Buffered[3] (dB/km)	3.50/1.25	3.50/1.25	3.50/1.25	3.50/1.25	3.50/1.25	0.80/0.50
100 Mb Fast Ethernet Min. Link Length (meters S/L[4])	300/2000	300/2000	300/2000	300/2000	300/2000	–/5000
1 Gb Ethernet Min. Link Length (meters S/L[4])	300/550	500/1000	600/600	1000[5]/600	1000[5]/600	–/5000
10 Gb Ethernet Min. Link Length (meters S/L[4])	35/300	35/300	85/300	300/300	500/300	–/10000

[1] OFL = Overfilled launch
[2] Effective modal bandwidth, determined by RML or DMD performance specifications
[3] Max. attenuation for tight-buffered, ribbon, micro-loose tube and loose tube plenum cables
[4] S/L = Short wavelength (850 nm)/Long wavelength (1310 nm)
[5] > 2000 meters for engineered links
[6] Low water peak single-mode suitable for CWDM use complies with ITU G.652.c/d

Availability

Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a fiber cable in this catalog section that meets your technical requirements contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

Interconnect Cables

Indoor

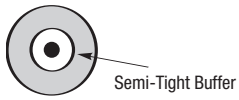
Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending radii cable (mm) static	Bending radii cable (mm) dynamic

GIOK • Pigtails • Semi-Tight Buffer • Excellent Strippability • **I-K**

Dry Construction • Halogen-Free Jacket (Blue, Green, Green with Black Rings or Yellow)

-30/70°C	IEC 60332-2	6888	2100	3.1	1.4	Ø 245 ± 10			–			no	3	4	19		

GIOK101	1	62.5/125 OM1 in Blue	0.04	0.9		25	35
GIOK201	1	50/125 OM2 in Green	0.04	0.9		25	35
GIOK301	1	50/125 OM3 in Green with Black rings	0.04	0.9		25	35
GIOK401	1	50/125 OM2e in Green	0.04	0.9		25	35
GIOK901	1	9/125 OS1 in Yellow	0.04	0.9		25	35



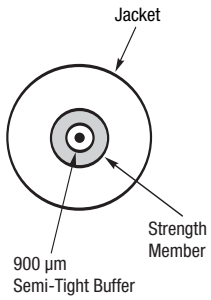
Strippability secondary coating = 100 cm

GIPS • Simplex • Semi-Tight Buffer • Excellent Strippability • **I-W(ZN)H**

Jelly-Filled Construction • Orange FRNC/LSNH Jacket

-5/55°C	IEC 60332-1	6888	2100	32.9	14.9	Ø 245 ± 10			Reinforced Aramid Yarn			no	200	10	128		

GIPSxA1			0.06	1.6		24	32
GIPSxB1			0.07	1.8		27	36
GIPSxC1			0.08	2.0		30	40
GIPSxD1			0.09	2.4		36	48
GIPSxE1			0.11	2.8		42	56
GIPSxF1			0.12	3.0		45	60



Strippability secondary coating = 100 cm
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Interconnect Cables

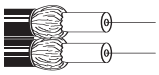
Indoor

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic

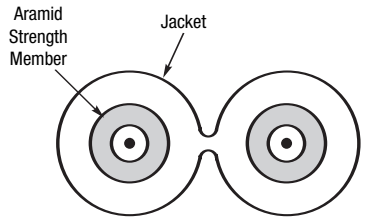
GIPS • Duplex • Figure 8 • Semi-Tight Buffer • Excellent Strippability • **I-W(ZN)H**

Jelly-Filled Construction • Orange FRNC/LSNH Jacket

-5/55°C	IEC 60332-1	6888	2100	65.3	29.6	Ø 245 ± 10			Reinforced Aramid Yarn			no	400	20	256		



GIPSxA2			33	50
GIPSxB2	0.15	3.7	37	56
GIPSxC2	0.16	4.1	41	62
GIPSxD2	0.19	4.9	49	74
GIPSxE2	0.22	5.7	57	86
GIPSxF2	0.24	6.1	61	92

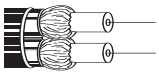


Strippability secondary coating = 100 cm
Color Code: see chart page 16.23

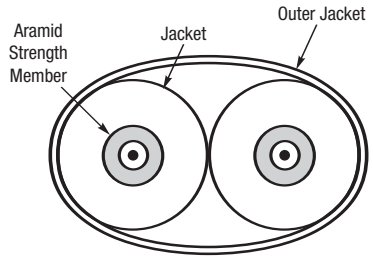
GIPK • Heavy Duplex • Semi-Tight Buffer • Excellent Strippability • **I-K(ZN)HH**

Dry Construction • Orange FRNC/LSNH Jacket

-5/55°C	IEC 60332-1	6888	2100	115.3	52.3	Ø 245 ± 10			Reinforced Aramid Yarn			no	400	20	256		



GIPKxA2	0.17	4.3	43	65
GIPKxB2	0.19	4.7	47	71
GIPKxC2	0.20	5.1	51	77
GIPKxD2	0.23	5.9	59	89
GIPKxE2	0.26	6.7	67	101
GIPKxF2	0.28	7.1	71	107



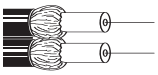
Strippability secondary coating = 100 cm
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

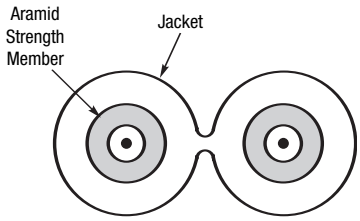
Interconnect Cables

Indoor

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GIPT • Mini-Zip • Figure 8 • Tight Buffer • **I-V(ZN)H**																		
Dry Construction • Orange FRNC/LSNH Jacket																		
-30/70°C IEC 60332-1			6888	2100	26.4	12.0	Ø 280 ± 15			Reinforced Aramid Yarn			no	400	20	19		



GIPTxA2				0.13	3.4	34 51
GIPTxB2				0.15	3.9	39 58



Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Breakout Cables

Indoor

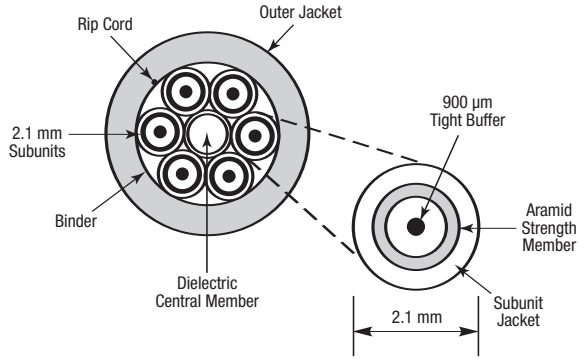
Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic

GIBT • Tight Buffer • With Rip Cord • **I-V(ZN)HH**

Dry Construction • Orange FRNC/LSNH Jacket

-5/55°C	IEC 60332-1		6888	2100			Ø 280 ± 15			Reinforced Aramid Yarn	0.08	2.1	Filler					

GIBTx02	2			115.7	52.5					2 + 2 BE	0.21	5.3		400	7.5	379	53	80
GIBTx04	4			143.5	65.1					CE + 4	0.24	6.2		400	7.5	507	62	93
GIBTx06	6			273.1	123.9					CE + 6	0.31	8.0		600	7.5	928	80	120
GIBTx08	8			356.5	161.7					CE + 8	0.37	9.4		800	7.5	1235	94	141
GIBTx12	12			402.8	182.7					3 + 9	0.41	10.5		1200	7.5	1424	105	158
GIBTx24	24			810.2	367.5					2 + 8 + 14	0.56	14.3		2400	7.5	2677	143	215



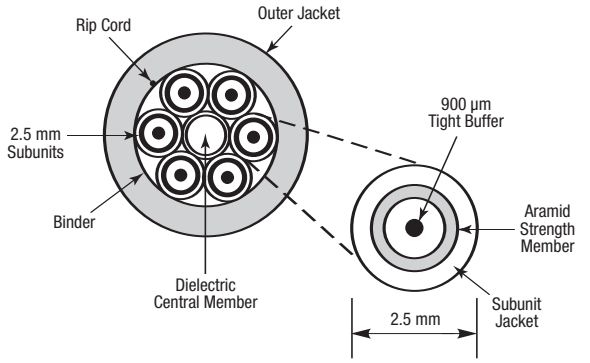
Color Code: see chart page 16.23

GIBK • Semi-Tight Buffer • With Rip Cord • Excellent Strippability • **I-K(ZN)HH**

Dry Construction • Orange FRNC/LSNH Jacket

-5/55°C	IEC 60332-1		6888	2100	115.3	52.3	Ø 245 ± 10			Reinforced Aramid Yarn	0.10	2.5	Filler					

GIBKx02	2			120.4	54.6					Flat		6.30 x 3.8		400	7.5	382	–	–
GIBKx04	4			185.2	84.0					CE + 4	0.28	7.2		400	7.5	607	72	108
GIBKx06	6			338.0	153.3					CE + 6	0.37	9.4		600	7.5	1124	94	141
GIBKx08	8			430.6	195.3					CE + 8	0.43	10.9		800	7.5	1450	109	164
GIBKx12	12			513.9	233.1					3 + 9	0.46	11.8		1200	7.5	1675	118	177



Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Mini-Breakout Cables (Distribution)

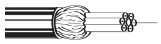
Indoor

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic

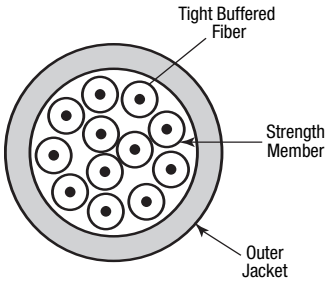
GIMT • Tight Buffer • **I-V(ZN)H**

Dry Construction • Orange FRNC/LSNH Jacket

-5/55°C	IEC 60332-2		6888	2100			Ø 280 ± 15			Reinforced Aramid Yarn			no	4				



GIMTx02	2			74.1	33.5			0.16	4.0		400		227	40	60			
GIMTx04	4			88.0	39.9			0.19	4.8		400		294	48	72			
GIMTx06	6			106.5	48.3			0.21	5.3		450		339	53	80			
GIMTx08	8			115.7	52.5			0.21	5.3		450		351	53	80			
GIMTx12	12			185.2	84.0			0.28	7.0		500		619	70	105			
GIMTx16	16			226.9	102.9			0.31	8.0		500		886	80	120			
GIMTx24	24			263.9	119.7			0.35	9.0		600		1044	90	135			

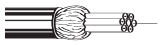


Available in multimode only.
Color Code: see chart page 16.23

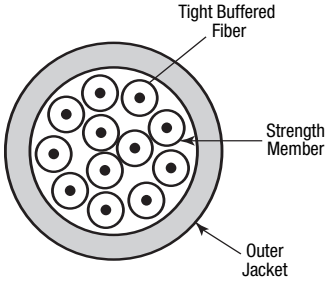
GIMK • Semi-Tight Buffer • **I-K(ZN)H**

Dry Construction • Orange FRNC/LSNH Jacket

-5/55°C	IEC 60332-2		6888	2100			Ø 245 ± 10			Reinforced Aramid Yarn			no	4				



GIMKx02	2			88.0	39.9			0.16	4.0		400		235	40	60			
GIMKx04	4			92.6	42.0			0.19	4.8		400		310	48	72			
GIMKx06	6			106.5	48.3			0.21	5.3		450		339	53	80			
GIMKx08	8			120.4	54.6			0.21	5.3		450		381	53	80			



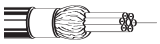
Available in multimode only.
Color Code: see chart page 16.23

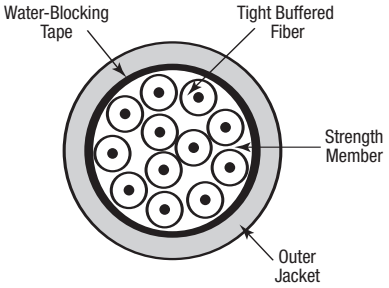
Optical characteristics see page 16.21.

Mini-Breakout Cables (Distribution)

Universal – Indoor/Outdoor, Standard Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GUMT • Tight Buffer • **A/I-VQ(ZN)H**																		
Dry Construction • Orange FRNC/LSNH Jacket																		
-30/70°C IEC 60332-2		6888		2100			Ø 280 ± 15			Longitudinal watertightness Swellable Glass Yarn (6)			no		4			
GUMTx04	4			120.4		54.6					0.21	5.4		400		296	54	81
GUMTx06	6			138.0		63.0					0.23	5.9		450		347	59	89
GUMTx08	8			148.1		67.2					0.23	5.9		450		371	59	89
GUMTx12	12			208.3		94.5					0.30	7.6		500		622	76	114
GUMTx16	16			245.4		111.3					0.34	8.6		500		845	86	129
GUMTx24	24			300.9		136.5					0.38	9.6		600		1082	96	144





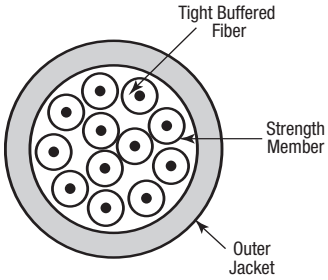
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Mini-Breakout Cables (Distribution)

Universal – Indoor/Outdoor, Improved Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GUXT • Tight Buffer • **A/I-VQ(ZN)BH**																		
Dry Construction • Orange FRNC/LSNH Jacket																		
-30/70°C IEC 60332-2			6888	2100			Ø 280 ± 15			Longitudinal watertightness Swellable Glass Yarn			no		4			
	GUXTx04	4			203.7	92.4					0.28	7.0		2000		375	70	105
	GUXTx06	6			236.1	107.1					0.29	7.3		2000		445	73	110
	GUXTx08	8			259.3	117.6					0.29	7.3		2000		472	73	110
	GUXTx12	12			351.9	159.6					0.37	9.4		3000		801	94	141
	GUXTx24	24			560.2	254.1					0.42	10.6		4000		1243	106	159



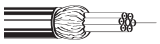
Color Code: see chart page 16.23

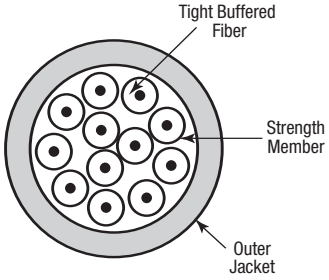
Optical characteristics see page 16.21.

Mini-Breakout Cables (Distribution)

Special – Indoor/Outdoor

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GMMT • Intex Mobile • Tight Buffer • Designed for Despooling and Respooling • **A/I-VQ(ZN)11Y**																		
Dry Construction • PUR Jacket (Orange or Black)																		
-30/70°C IEC 60332-1			6888	2100			Ø 280 ± 15			Longitudinal watertightness Swellable Glass Yarn			no					
	GMMTx04	4			143.5	65.1					0.23	5.8		800	4	580	58	87
	GMMTx06	6			175.9	79.8					0.25	6.3		950	4	725	63	95
	GMMTx08	8			217.6	98.7					0.28	7.0		1100	4	890	70	105





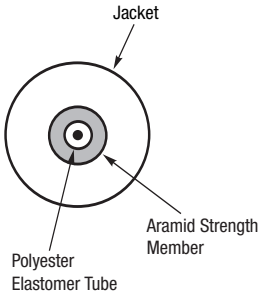
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Breakout Kit Cables

Universal – Indoor/Outdoor

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending radii cable (mm) static	Bending radii cable (mm) dynamic
GIPS • Simplex • With Furcation Tube (no Fiber)																		
Dry Construction • Orange PUR Jacket																		
-5/55°C IEC 60332-2			6888	2100	42.5	19.3				Reinforced Aramid Yarn	0.11	2.8	no	110	–	128	28	42



Color Code: see chart page 16.23

Central Loose Tube Cables

Outdoor – Standard Rodent Protection

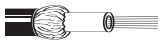
Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GOSA • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A-DQ(ZN)2Y**																		
Dry Construction • Black PE (UV-resistant) Jacket																		
-30/70°C		13448	4100	334.4	151.7	Ø 250 ± 15	0.13	3.2	Longitudinal watertightness Swellable Glass Yarn (6)	0.23	5.8	no	700	10	–	58	87

GOSAx02 2
GOSAx04 4
GOSAx06 6
GOSAx08 8
GOSAx12 12

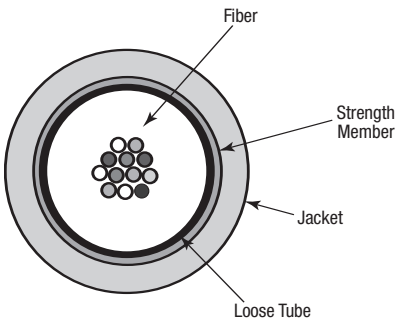
Color Code: see chart page 16.23

GOSB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A-DQ(ZN)2Y**

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
Dry Construction • Black PE (UV-resistant) Jacket																		
-30/70°C		6888	2100	305.6	138.6	Ø 250 ± 15	0.17	4.2	Longitudinal watertightness Swellable Glass Yarn (6)	0.34	8.7	no	1400	15	–	87	131



GOSBx02 2
GOSBx04 4
GOSBx06 6
GOSBx08 8
GOSBx12 12
GOSBx16 16
GOSBx24 24



Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Central Loose Tube Cables

Outdoor – Improved Rodent Protection

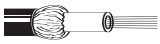
Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GORA • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A-DQ(ZN)B2Y**																		
Dry Construction • Black PE (UV-resistant) Jacket																		
-30/70°C		13448	4100	497.1	225.5	Ø 250 ± 15	0.13	3.2	Longitudinal watertightness Swellable Glass Yarn (14)	0.28	7.1	no	1400	10	755	71	107

GORAx02 2
GORAx04 4
GORAx06 6
GORAx08 8
GORAx12 12

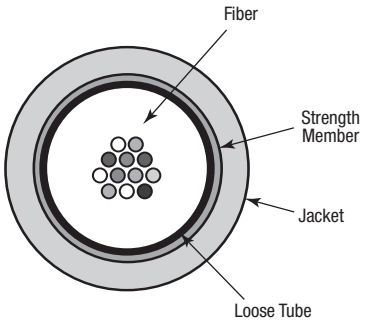
Color Code: see chart page 16.23

GORB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A-DQ(ZN)B2Y**

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
Dry Construction • Black PE (UV-resistant) Jacket																		
-30/70°C		6888	2100	444.4	201.6	Ø 250 ± 15	0.17	4.2	Longitudinal watertightness Swellable Glass Yarn (14)	0.40	10.2	no	4000	15	2200	102	153



GORBx02 2
GORBx04 4
GORBx06 6
GORBx08 8
GORBx12 12
GORBx16 16
GORBx24 24



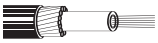
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

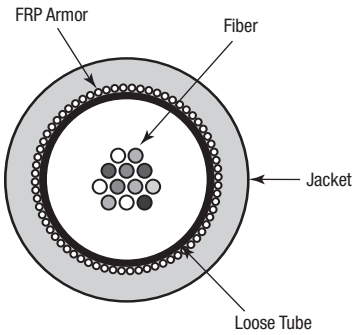
Central Loose Tube Cables

Outdoor – Fiber Reinforced Plastic Armor (FRP), Full Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GOFB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Water-Blocked • FRP • **A-DQB2Y (FRP1.0)**																		
Dry Construction • Single Black PE Jacket																		
-30/70°C		6888	2100	352.7	160.0	Ø 250 ± 15	0.16	4.0	FRP Rods	0.354	9.0	no	4000	40	–	90	180



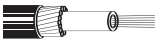
GOFBx02 2
GOFBx04 4
GOFBx06 6
GOFBx08 8
GOFBx12 12
GOFBx16 16
GOFBx24 24



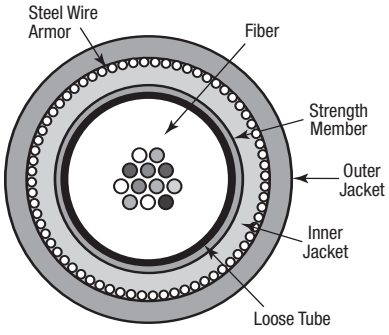
Color Code: see chart page 16.23

Outdoor – Steel Wire Armor (SWA), Full Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending radii cable (mm) static	Bending radii cable (mm) dynamic
GOWB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • SWA • **A-DQ(ZN)2YB2Y (R0.63vzk)**																		
Dry Construction • Double Black PE Jacket																		
-30/70°C		6888	2100	1029.7	467.0	Ø 250 ± 15	0.16	4.0	Longitudinal watertightness Swellable Glass Yarn	0.512	13.0	no	6500	50	–	130	260



GOWBx02 2
GOWBx04 4
GOWBx06 6
GOWBx08 8
GOWBx12 12
GOWBx16 16
GOWBx24 24



Color Code: see chart page 16.23

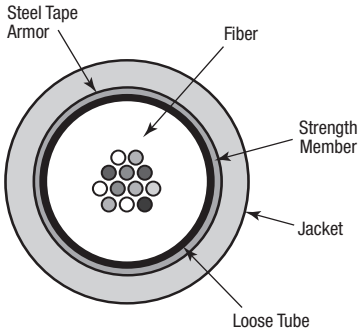
Optical characteristics see page 16.21.

Central Loose Tube Cables

Outdoor – Corrugated Steel Tape Armor (CST), Full Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GOCB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • CST • **A-DQ(ZN)(SR)2Y**																		
Dry Construction • Single Black PE Jacket																		
-30/70°C			6888	2100	518.5	235.2	Ø 250 ± 15	0.16	4.0	Longitudinal watertightness Swellable Glass Yarn	0.42	10.6	no	2000	40	–	106	212

GOCBx02	2
GOCBx04	4
GOCBx06	6
GOCBx08	8
GOCBx12	12
GOCBx16	16
GOCBx24	24

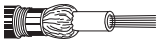


Color Code: see chart page 16.23

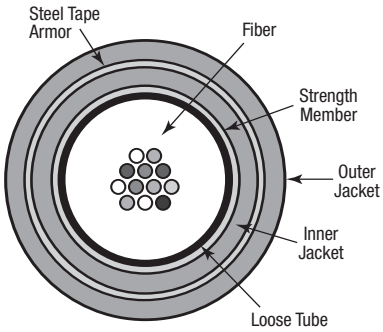
GOD • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • CST • **A-DQ(ZN)2Y(SR)2Y**

Dry Construction • Double Black PE Jacket

-30/70°C			6888	2100			Ø 250 ± 15			Longitudinal watertightness Swellable Glass Yarn							



GODAx02	2			666.7	302.4		0.11	2.8		0.43	11.0	no	2000	40	–	110	220
GODAx04	4																
GODAx06	6																
GODAx08	8																
GODAx12	12																
GODBx16	16			822.3	373.0		0.16	4.0		0.496	12.6	no	2000	40	–	126	232
GODBx24	24																



Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Central Loose Tube Cables

Universal – Indoor/Outdoor, Standard Rodent Protection

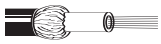
Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GUSA • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A/I-DQ(ZN)H**																		
Dry Construction • Orange FRNC/LSNH Jacket																		
-30/70°C	IEC 60332-3C		13448	4100	334.4	151.7	Ø 250 ± 15	0.13	3.2	Longitudinal watertightness Swellable Glass Yarn (6)	0.23	5.8	no	700	10	550	58	87

GUSAx02 2
GUSAx04 4
GUSAx06 6
GUSAx08 8
GUSAx12 12

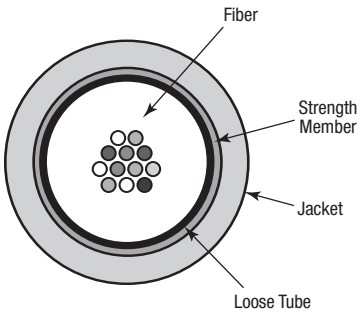
Color Code: see chart page 16.23

GUSB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A/I-DQ(ZN)H**

Dry Construction • Orange FRNC/LSNH Jacket																		
-30/70°C	IEC 60332-3C		6888	2100	333.3	151.2	Ø 250 ± 15	0.17	4.2	Longitudinal watertightness Swellable Glass Yarn (6)	0.34	8.7	no	1400	15	1370	87	131



GUSBx02 2
GUSBx04 4
GUSBx06 6
GUSBx08 8
GUSBx12 12
GUSBx16 16
GUSBx24 24



Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Central Loose Tube Cables

Universal – Indoor/Outdoor, Improved Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GURA • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A/I-DQ(ZN)BH**																		
Dry Construction • Orange FRNC/LSNH Jacket																		
-30/70°C	IEC 60332-3C	13448	4100	497.1	225.5	Ø 250 ± 15	0.13	3.2	Longitudinal watertightness Swellable Glass Yarn (14)	0.28	7.1	no	1400	10	755	71	107

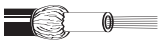
GURAx02	2
GURAx04	4
GURAx06	6
GURAx08	8
GURAx12	12

Color Code: see chart page 16.23

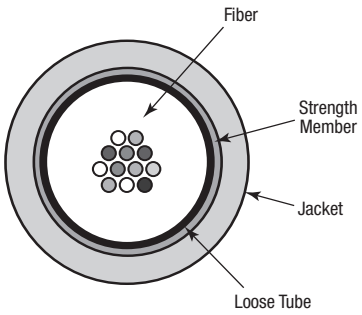
GURB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • **A/I-DQ(ZN)BH**

Dry Construction • Orange FRNC/LSNH Jacket

-30/70°C	IEC 60332-3C	6888	2100	481.5	218.4	Ø 250 ± 15	0.17	4.2	Longitudinal watertightness Swellable Glass Yarn (14)	0.40	10.2	no	4000	15	1680	102	153



GURBx04	4
GURBx06	6
GURBx08	8
GURBx12	12
GURBx16	16
GURBx24	24



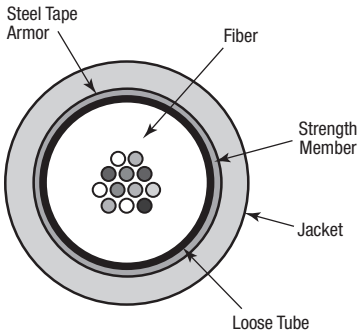
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

Central Loose Tube Cables

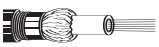
Universal – Indoor/Outdoor, Corrugated Steel Tape Armor (CST), Full Rodent Protection

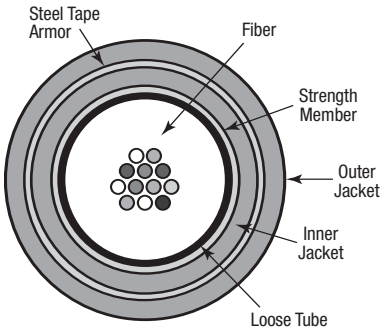
Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending radii cable (mm) static	Bending radii cable (mm) dynamic
GUCB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • CST • **A/I-DQ(ZN)(SR)H**																		
Dry Construction • Single Black FRNC/LSNH Jacket																		
-30/70°C	EN 50266-2-2 EN 50267-2-2 EN 50268-2, EN 60331-25	6888	2100	685.2	310.8	Ø 250 ± 15	0.16	4.0	Longitudinal watertightness Swellable Glass Yarn	0.42	10.6	no	2000	40	–	106	212
GUCBx02	2																	
GUCBx04	4																	
GUCBx06	6																	
GUCBx08	8																	
GUCBx12	12																	
GUCBx16	16																	
GUCBx24	24																	



Color Code: see chart page 16.23

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending radii cable (mm) static	Bending radii cable (mm) dynamic
GUD • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • CST • **A/I-DQ(ZN)H(SR)H**																		
Dry Construction • Double Black FRNC/LSNH Jacket																		
-30/70°C	EN 50266-2-2 EN 50267-2-2 EN 50268-2	6888	2100			Ø 250 ± 15			Longitudinal watertightness Swellable Glass Yarn									
GUDAx02	2			833.3	378.0		0.11	2.8		0.43	11.0	no	2000	40	–	110	220
GUDAx04	4																	
GUDAx06	6																	
GUDAx08	8																	
GUDAx10	10																	
GUDAx12	12																	
GUDBx16	16			1078.7	489.3		0.16	4.0		0.51	13.0	no	2000	40	–	130	260
GUDBx24	24																	





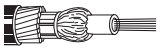
Color Code: see chart page 16.23

Optical characteristics see page 16.21.

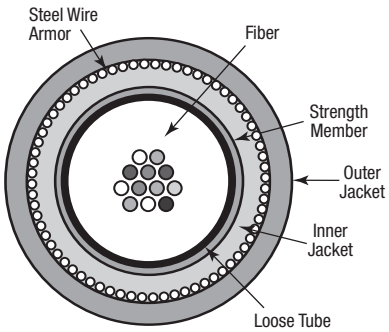
Central Loose Tube Cables

Universal – Indoor/Outdoor, Steel Wire Armor (SWA), Full Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GUWB • Loose Tube (Jelly-Filled, Non-Dripping and Silicone-Free) • Longitudinal Watertightness • SWA • **A/I-DQ(ZN)HBH (R0.63vzk)**																		
Dry Construction • Double Black FRNC/LSNH Jacket																		
-30/70°C		6888	2100	1263.8	561.0	Ø 250 ± 15	0.16	4.0	Longitudinal watertightness Swellable Glass Yarn	0.51	13.0	no	6500	50	–	130	260



GUWBx02 2
GUWBx04 4
GUWBx06 6
GUWBx08 8
GUWBx12 12
GUWBx16 16
GUWBx24 24



Color Code: see chart page 16.23

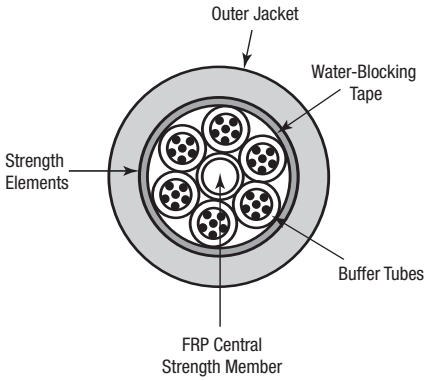
Optical characteristics see page 16.21.

Multi Loose Tube Cables

Outdoor

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GBA • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DQ(ZN)2Y**																		
Dry Construction • Black PE (HDPE) Jacket																		
-30/70°C																		
GBAGx04 **GBA**Gx06 **GBA**Gx08 **GBA**Gx12 **GBA**Gx18 **GBA**Gx24 **GBA**Gx30 **GBA**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	333.3 650.8	151.2 295.2	Ø 250 ± 15	0.07	1.9	Water-blocking Aramid Yarn	0.41	10.3	2.0	3000	20	–	155	206
GBADx24 **GBA**Dx36 **GBA**Dx48 **GBA**Dx60 **GBA**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888 13448	2100 4100	458.3 894.8	207.9 405.9	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.48	12.2	2.7	3500	20	–	183	244
GBAEx84 **GBA**Ex96	84 (7x12) 96 (8x12)	6888 13448	2100 4100	588.0 1147.9	266.7 520.7	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.54	13.8	3.0/4.3	4000	20	–	207	276
GBAFx08 **GBA**Fx20 **GBA**Fx32 **GBA**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888 13448	2100 4100	888.9 1735.5	403.2 787.2	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.67	17.0	3.0/7.5	4000	20	–	255	340
GBAMx16	216 (18x12)	6888 13448	2100 4100	1041.7 2033.7	472.5 922.5	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.72	18.2	2.7	4000	20	–	273	364
GBAIx92	192 (8x24)	6888 13448	2100 4100	1064.8 2078.9	483.0 943.0	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.71	18.0	3.0/6.0	4000	20	–	270	360
GBAJx88	288 (12x24)	6888	2100	1643.5	745.5	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.88	22.4	3.0/10.5	4000	20	–	336	448
GBALx32	432 (18x24)	6888	2100	1643.5	745.5	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.91	23.2	2.7/3.7	4000	20	–	348	464

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Outdoor

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic

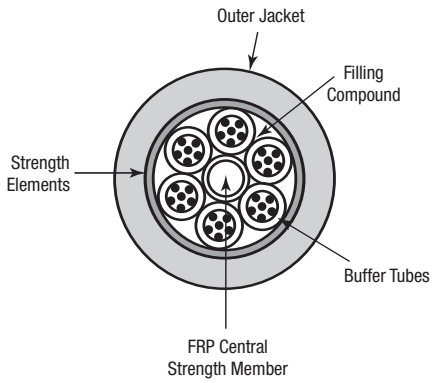
GDA • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DF(ZN)2Y**

Filled Construction • Black PE (HDPE) Jacket

-30/70°C

GDAGx04 **GDA**Gx06 **GDA**Gx08 **GDA**Gx12 **GDA**Gx18 **GDA**Gx24 **GDA**Gx30 **GDA**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	342.6 668.9	155.4 303.4	Ø 250 ± 15	0.07	1.9	Water-blocking Aramid Yarn	0.39	10.0	2.0	3000	20	–	150	200
GDADx24 **GDA**Dx36 **GDA**Dx48 **GDA**Dx60 **GDA**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888 13448	2100 4100	490.7 958.1	222.6 434.6	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.47	12.0	2.7	3500	20	–	180	240
GDAEx84 **GDA**Ex96	84 (7x12) 96 (8x12)	6888 13448	2100 4100	629.6 1229.3	285.6 557.6	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.54	13.6	3.0/4.3	4000	20	–	204	272
GDAFx08 **GDA**Fx20 **GDA**Fx32 **GDA**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888 13448	2100 4100	949.1 1853.0	430.5 840.5	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.66	16.8	3.0/7.5	4000	20	–	252	336
GDAMx16	216 (18x12)	6888 13448	2100 4100	1134.3 2214.5	514.5 1004.5	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.69	17.5	2.7	4000	20	–	263	350
GDAIx92	192 (8x24)	6888 13448	2100 4100	1041.7 2033.7	472.5 922.5	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.69	17.6	3.0/6.0	4000	20	–	264	352
GDAJx88	288 (12x24)	6888	2100	1736.1	787.5	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.87	22.1	3.0/10.5	4000	20	–	332	442
GDALx32	432 (18x24)	6888	2100	1851.9	840.0	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.89	22.5	2.7/3.7	4000	20	–	338	450

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



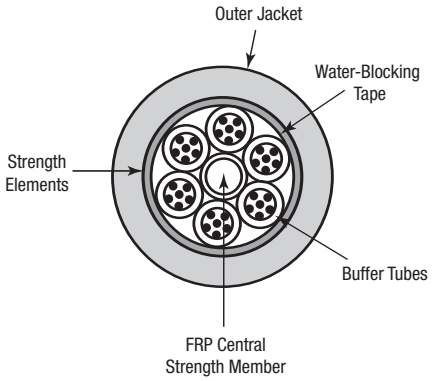
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Outdoor – Improved Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer / Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dyna-mic
GBR • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DQ(ZN)B2Y**																		
Dry Construction • Black PE (HDPE) Jacket																		
-30/70°C																		
GBRGx04 **GBR**Gx06 **GBR**Gx08 **GBR**Gx12 **GBR**Gx18 **GBR**Gx24 **GBR**Gx30 **GBR**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	486.1 949.1	220.5 430.5	Ø 250 ± 15	0.07	1.9	Water-blocking Glass Yarn	0.46	11.8	2.0	3000	20	–	177	236
GBRDx24 **GBR**Dx36 **GBR**Dx48 **GBR**Dx60 **GBR**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888 13448	2100 4100	625.0 1220.2	283.5 553.5	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.54	13.7	2.7	3500	20	–	206	274
GBREx84 **GBR**Ex96	84 (7x12) 96 (8x12)	6888 13448	2100 4100	787.0 1536.6	357.0 697.0	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.60	15.3	3.0/4.3	4000	20	–	230	306
GBRFx08 **GBR**Fx20 **GBR**Fx32 **GBR**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888 13448	2100 4100	1088.0 2124.1	493.5 963.5	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.73	18.5	3.0/7.5	4000	20	–	278	370
GBRMx16	216 (18x12)	6888 13448	2100 4100	1250.0 2440.5	567.0 1107.0	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.78	19.7	2.7	4000	20	–	296	394
GBRIx92	192 (8x24)	6888 13448	2100 4100	1296.3 2530.9	588.0 1148.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.77	19.5	3.0/6.0	4000	20	–	293	390
GBRJx88	288 (12x24)	6888	2100	1898.2	861.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.94	23.9	3.0/10.5	4000	20	–	359	478
GBRLx32	432 (18x24)	6888	2100	1898.2	861.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.97	24.7	2.7/3.7	4000	20	–	371	494

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



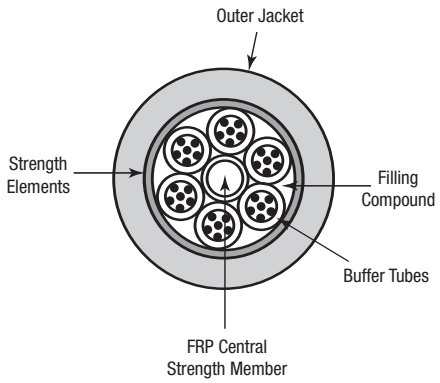
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Outdoor – Improved Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GDR • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DF(ZN)B2Y**																		
Filled Construction • Black PE (HDPE) Jacket																		
-30/70°C																		
GDRGx04	4 (1x4)		6888	2100	476.9	216.3	Ø 250 ± 15	0.07	1.9	Water-blocking Glass Yarn	0.45	11.5	2.0	3000	20	–	173	230
GDRGx06	6 (1x6)		13448	4100	931.0	422.3												
GDRGx08	8 (2x4)																	
GDRGx12	12 (2x6)																	
GDRGx18	18 (3x6)																	
GDRGx24	24 (4x6)																	
GDRGx30	30 (5x6)																	
GDRGx36	36 (6x6)																	
GDRDx24	24 (2x12)		6888	2100	629.6	285.6	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.53	13.4	2.7	3500	20	–	201	268
GDRDx36	36 (3x12)		13448	4100	1229.3	557.6												
GDRDx48	48 (4x12)																	
GDRDx60	60 (5x12)																	
GDRDx72	72 (6x12)																	
GDREx84	84 (7x12)		6888	2100	805.6	365.4	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.59	15.0	3.0/4.3	4000	20	–	225	300
GDREx96	96 (8x12)		13448	4100	1572.8	713.4												
GDRFx08	108 (9x12)		6888	2100	1134.3	514.5	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.72	18.2	3.0/7.5	4000	20	–	273	364
GDRFx20	120 (10x12)		13448	4100	2214.5	1004.5												
GDRFx32	132 (11x12)																	
GDRFx44	144 (12x12)																	
GDRMx16	216 (18x12)		6888	2100	1319.5	598.5	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.75	19.0	2.7	4000	20	–	285	380
			13448	4100	2576.1	1168.5												
GDRIx92	192 (8x24)		6888	2100	1226.9	556.5	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.75	19.0	3.0/6.0	4000	20	–	285	380
			13448	4100	2395.3	1086.5												
GDRJx88	288 (12x24)		6888	2100	1944.5	882.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.93	23.5	3.0/10.5	4000	20	–	353	470
			13448	4100	3796.3	1722.0												
GDRLx32	432 (18x24)		6888	2100	2037.1	924.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.94	24.0	2.7/3.7	4000	20	–	360	480
			13448	4100	3977.1	1804.0												

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

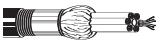
Outdoor – Full Rodent Protection, Corrugated Steel Tape Armor (CST)

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer / Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic

GBD • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • CST • **A-DQ(ZN)2Y(SR)2Y**

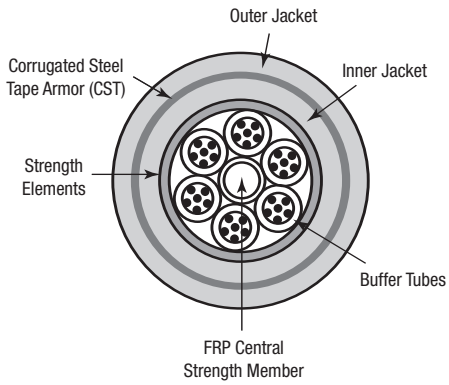
Dry Construction • Double Black PE (HDPE) Jacket

-30/70°C



GBDGx04 **GBD**Gx06 **GBD**Gx08 **GBD**Gx12 **GBD**Gx18 **GBD**Gx24 **GBD**Gx30 **GBD**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	838.0 1636.0	380.1 742.1	Ø 250 ± 15	0.07	1.9	Water-blocking Aramid Yarn	0.52	13.2	2.0	3000	50	–	198	264
GBDDx24 **GBD**Dx36 **GBD**Dx48 **GBD**Dx60 **GBD**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888	2100	1046.3	474.6	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.60	15.2	2.7	3500	50	–	228	304
GBDEx84 **GBD**Ex96	84 (7x12) 96 (8x12)	6888	2100	1273.2	577.5	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.69	17.4	3.0/4.3	4000	50	–	261	348
GBDFx08 **GBD**Fx20 **GBD**Fx32 **GBD**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888	2100	1555.6	705.6	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.81	20.5	3.0/7.5	4000	50	–	308	410
GBDMx16	216 (18x12)	6888	2100	1759.3	798.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.85	21.5	2.7	4000	50	–	323	430
GBDIx92	192 (8x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.85	21.5	3.0/6.0	4000	50	–	323	430
GBDJx88	288 (12x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	1.02	26.0	3.0/10.5	4000	50	–	390	520
GBDLx32	432 (18x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	1.04	26.5	2.7/3.7	4000	50	–	398	530

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



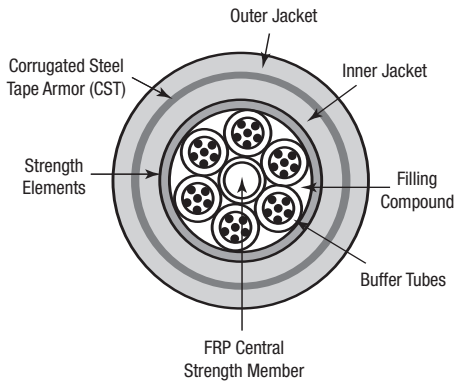
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Outdoor – Full Rodent Protection, Corrugated Steel Tape Armor (CST)

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GDD • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • CST • **A-DF(ZN)2Y(SR)2Y**																		
Filled Construction • Double Black PE (HDPE) Jacket																		
-30/70°C																		
GDDGx04 **GDD**Gx06 **GDD**Gx08 **GDD**Gx12 **GDD**Gx18 **GDD**Gx24 **GDD**Gx30 **GDD**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	851.9 1663.2	386.4 754.4	Ø 250 ± 15	0.07	1.9	Water-blocking Aramid Yarn	0.51	13.0	2.0	3000	50	–	195	260
GDDDx24 **GDD**Dx36 **GDD**Dx48 **GDD**Dx60 **GDD**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888	2100	1083.3	491.4	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.59	15.0	2.7	3500	50	–	225	300
GDDEx84 **GDD**Ex96	84 (7x12) 96 (8x12)	6888	2100	1319.5	598.5	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.67	17.1	3.0/4.3	4000	50	–	257	342
GDDFx08 **GDD**Fx20 **GDD**Fx32 **GDD**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888	2100	1745.4	791.7	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.81	20.5	3.0/7.5	4000	50	–	308	410
GDDMx16	216 (18x12)	6888	2100	1990.8	903.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.83	21.0	2.7	4000	50	–	315	420
GDDIx92	192 (8x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.83	21.0	3.0/6.0	4000	50	–	315	420
GDDJx88	288 (12x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	1.00	25.5	3.0/10.5	4000	50	–	383	510
GDDLx32	432 (18x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	1.02	26.0	2.7/3.7	4000	50	–	390	520

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



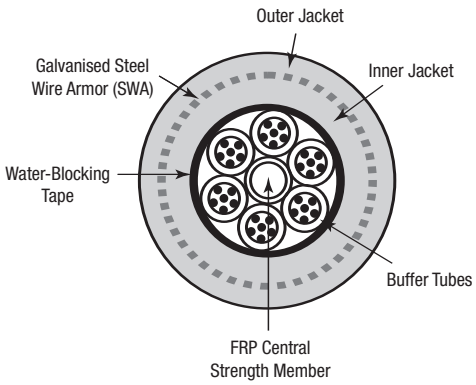
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Outdoor – Full Rodent Protection, Galvanised Steel Wire Armor (SWA)

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GBW • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • SWA • **A-DQ2YB2Y (R1.0vzk)**																		
Dry Construction • Double Black PE Jacket																		
-30/70°C																		
	GBWGx04	4 (1x4)	6888	2100	1342.6	609.0	Ø 250 ± 15	0.07	1.9	–	0.53	13.5	2.0	8000	50	–	203	270
	GBWGx06	6 (1x6)	13448	4100	2621.3	1189.0												
	GBWGx08	8 (2x4)																
	GBWGx12	12 (2x6)																
	GBWGx18	18 (3x6)																
	GBWGx24	24 (4x6)																
	GBWGx30	30 (5x6)																
	GBWGx36	36 (6x6)																
	GBWDx24	24 (2x12)	6888	2100	1666.7	756.0	Ø 250 ± 15	0.10	2.5	–	0.61	15.5	2.7	8000	50	–	233	310
	GBWDx36	36 (3x12)	13448	4100	3254.0	1476.0												
	GBWDx48	48 (4x12)																
	GBWDx60	60 (5x12)																
	GBWDx72	72 (6x12)																
	GBWEx84	84 (7x12)	6888	2100	1875.0	850.5	Ø 250 ± 15	0.10	2.5	–	0.67	17.0	3.0/4.3	8000	50	–	255	340
	GBWEx96	96 (8x12)	13448	4100	3660.7	1660.5												
	GBWFx08	108 (9x12)	6888	2100	2592.6	1176.0	Ø 250 ± 15	0.10	2.5	–	0.80	20.2	3.0/7.5	8000	50	–	303	404
	GBWFx20	120 (10x12)	13448	4100	5061.8	2296.0												
	GBWFx32	132 (11x12)																
	GBWFx44	144 (12x12)																
	GBWMx16	216 (18x12)	6888	2100	2777.8	1260.0	Ø 250 ± 15	0.10	2.5	–	0.83	21.0	2.7	8000	50	–	315	420
	GBWIx92	192 (8x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	0.83	21.0	3.0/6.0	8000	50	–	315	420
	GBWJx88	288 (12x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	1.00	25.5	3.0/10.5	8000	50	–	383	510
	GBWLx32	432 (18x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	1.02	26.0	2.7/3.7	8000	50	–	390	520

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



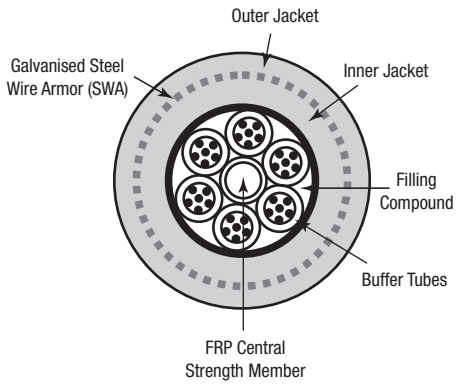
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Outdoor – Full Rodent Protection, Galvanised Steel Wire Armor (SWA)

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GDW • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • SWA • **A-DF2YB2Y (R1.0vzk)**																		
Filled Construction • Double Black PE Jacket																		
-30/70°C																		
GDWGx04 **GDW**Gx06 **GDW**Gx08 **GDW**Gx12 **GDW**Gx18 **GDW**Gx24 **GDW**Gx30 **GDW**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	1388.9 2711.7	630.0 1230.0	Ø 250 ± 15	0.07	1.9	–	0.53	13.5	2.0	8000	50	–	203	270
GDWDx24 **GDW**Dx36 **GDW**Dx48 **GDW**Dx60 **GDW**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888 13448	2100 4100	1713.0 3344.4	777.0 1517.0	Ø 250 ± 15	0.10	2.5	–	0.61	15.5	2.7	8000	50	–	233	310
GDWEx84 **GDW**Ex96	84 (7x12) 96 (8x12)	6888 13448	2100 4100	1921.3 3751.1	871.5 1701.5	Ø 250 ± 15	0.10	2.5	–	0.66	16.8	3.0/4.3	8000	50	–	252	336
GDWFx08 **GDW**Fx20 **GDW**Fx32 **GDW**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888 13448	2100 4100	2638.9 5152.2	1197.0 2337.0	Ø 250 ± 15	0.10	2.5	–	0.80	20.2	3.0/7.5	8000	50	–	303	404
GDWMx16	216 (18x12)	6888	2100	2824.1	1281.0	Ø 250 ± 15	0.10	2.5	–	0.81	20.5	2.7	8000	50	–	308	410
GDWIx92	192 (8x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	0.81	20.5	3.0/6.0	8000	50	–	308	410
GDWJx88	288 (12x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	0.98	25.0	3.0/10.5	8000	50	–	375	500
GDWLx32	432 (18x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	1.00	25.5	2.7/3.7	8000	50	–	383	510

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear

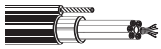


Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Aerial – Outdoor

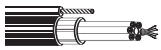
Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GALH • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DSF(L)2YT (Span = 50 m)**																		
Filled Construction • Black PE (HDPE) Jacket • Figure 8, Steel Messenger																		
-30/70°C		6888	2100	793.7	360.0	Ø 250 ± 15	0.059	1.5	Steel Messenger	0.380 0.790	9.8 20.0	1.7	4000	20	–	147	196



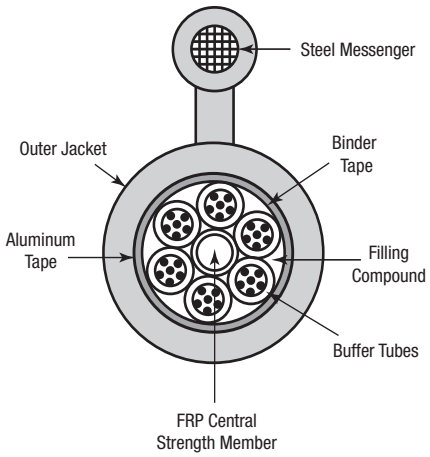
GALHx04 4 (1x4)
GALHx08 8 (2x4)
GALHx12 12 (3x4)
GALHx16 16 (4x4)
GALHx20 20 (5x4)
GALHx24 24 (6x4)

Color Code: see chart page 16.23
Optional: higher pulling tension available upon request.

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer / Tube OD inch	Nom. Buffer / Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GALD • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DSF(L)2YT (Span = 50 m)**																		
Filled Construction • Black PE (HDPE) Jacket • Figure 8, Steel Messenger																		
-30/70°C		6888	2100	1091.3	495.0	Ø 250 ± 15	0.098	2.5	Steel Messenger	0.500 0.914	12.8 23.0	2.7	4000	20	–	192	256



GALDx12 12 (1x12)
GALDx24 24 (2x12)
GALDx36 36 (3x12)
GALDx48 48 (4x12)
GALDx60 60 (5x12)
GALDx72 72 (6x12)



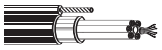
Color Code: see chart page 16.23
Optional: higher pulling tension available upon request.

Optical characteristics see page 16.21.

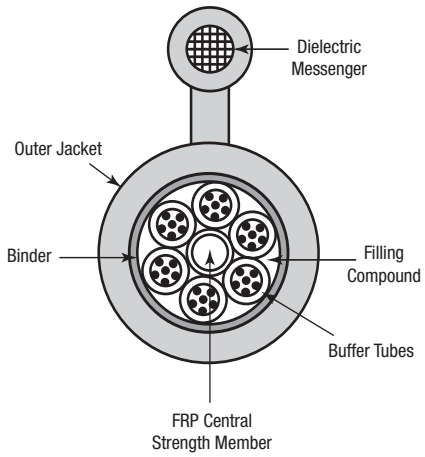
Multi Loose Tube Cables

Aerial – Outdoor, All Dielectric

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GAAD • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A-DF(ZN)2YT (Span = 50 m)**																		
Filled Construction • Black PE (HDPE) Jacket • Figure 8, Dielectric Messenger																		
-30/70°C		6888	2100	910.5	413.0	Ø 250 ± 15	0.098	2.5	FRP Rod Messenger	0.50 0.95	12.7 24.0	2.7	4000	20	–	192	256



GAADx12 12 (1x12)
GAADx24 24 (2x12)
GAADx36 36 (3x12)
GAADx48 48 (4x12)
GAADx60 60 (5x12)
GAADx72 72 (6x12)



Color Code: see chart page 16.23
Optional: higher pulling tension available upon request.

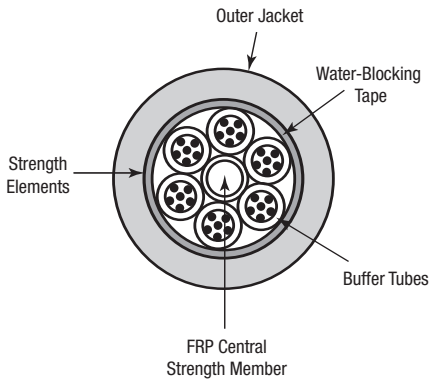
Optical characteristics see page 16.21.

Multi Loose Tube Cables

Universal – Indoor/Outdoor

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dyna-mic
GCA • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A/I-DQ(ZN)H**																		
Dry Construction • Black LSZH Jacket																		
-30/70°C EN 50266-2-2 EN 50267-2-2 EN 50628-2																		
																		
GCAGx04	4 (1x4)		6888	2100	439.8	199.5	Ø 250 ± 15	0.07	1.9	Water-blocking Aramid Yarn	0.41	10.3	2.0	3000	20	–	155	206
GCAGx06	6 (1x6)		13448	4100	858.7	389.5												
GCAGx08	8 (2x4)																	
GCAGx12	12 (2x6)																	
GCAGx18	18 (3x6)																	
GCAGx24	24 (4x6)																	
GCAGx30	30 (5x6)																	
GCAGx36	36 (6x6)																	
GCADx24	24 (2x12)		6888	2100	588.0	266.7	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.48	12.2	2.7	3500	20	–	183	244
GCADx36	36 (3x12)		13448	4100	1147.9	520.7												
GCADx48	48 (4x12)																	
GCADx60	60 (5x12)																	
GCADx72	72 (6x12)																	
GCAEx84	84 (7x12)		6888	2100	736.1	333.9	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.54	13.8	3.0/4.3	4000	20	–	207	276
GCAEx96	96 (8x12)		13448	4100	1437.2	651.9												
GCAFx08	108 (9x12)		6888	2100	1074.1	487.2	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.67	17.0	3.0/7.5	4000	20	–	255	340
GCAFx20	120 (10x12)		13448	4100	2097.0	951.2												
GCAFx32	132 (11x12)																	
GCAFx44	144 (12x12)																	
GCAMx16	216 (18x12)		6888	2100	1250.0	567.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.72	18.2	2.7	4000	20	–	273	364
			13448	4100	2440.5	1107.0												
GCAIx92	192 (8x24)		6888	2100	1273.2	577.5	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.71	18.0	3.0/6.0	4000	20	–	270	360
			13448	4100	2485.7	1127.5												
GCAJx88	288 (12x24)		6888	2100	1921.3	871.5	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.88	22.4	3.0/10.5	4000	20	–	336	448
GCALx32	432 (18x24)		6888	2100	1944.5	882.0	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.91	23.2	2.7/3.7	4000	20	–	348	464

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



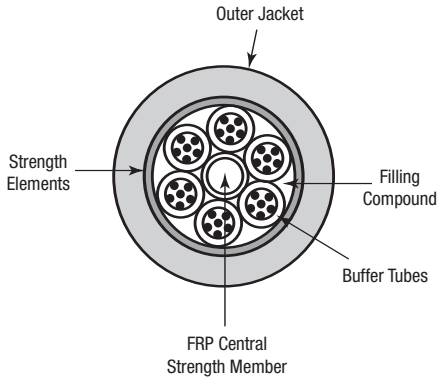
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Universal – Indoor/Outdoor

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GEA • Loose Tubes*/PE Blind Elements are S-Z stranded Around the Central Element • Water-Blocked • **A/I-DF(ZN)H**																		
Filled Construction • Black LSZH Jacket																		
-30/70°C EN 50266-2-2 EN 50267-2-2 EN 50628-2																		
																		
GEAGx04	4 (1x4)		6888	2100	449.1	203.7	Ø 250 ± 15	0.07	1.9	Water-blocking Aramid Yarn	0.39	10.0	2.0	3000	20	–	150	200
GEAGx06	6 (1x6)		13448	4100	876.8	397.7												
GEAGx08	8 (2x4)																	
GEAGx12	12 (2x6)																	
GEAGx18	18 (3x6)																	
GEAGx24	24 (4x6)																	
GEAGx30	30 (5x6)																	
GEAGx36	36 (6x6)																	
GEADx24	24 (2x12)		6888	2100	620.4	281.4	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.47	12.0	2.7	3500	20	–	180	240
GEADx36	36 (3x12)		13448	4100	1211.2	549.4												
GEADx48	48 (4x12)																	
GEADx60	60 (5x12)																	
GEADx72	72 (6x12)																	
GEAEx84	84 (7x12)		6888	2100	787.0	357.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.54	13.6	3.0/4.3	4000	20	–	204	272
GEAEx96	96 (8x12)		13448	4100	1536.6	697.0												
GEAFx08	108 (9x12)		6888	2100	1157.4	525.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.66	16.8	3.0/7.5	4000	20	–	252	336
GEAFx20	120 (10x12)		13448	4100	2259.7	1025.0												
GEAFx32	132 (11x12)																	
GEAFx44	144 (12x12)																	
GEAMx16	216 (18x12)		6888	2100	1342.6	609.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.69	17.5	2.7	4000	20	–	263	350
			13448	4100	2621.3	1189.0												
GEAIx92	192 (8x24)		6888	2100	1250.0	567.0	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.69	17.6	3.0/6.0	4000	20	–	264	352
			13448	4100	2440.5	1107.0												
GEAJx88	288 (12x24)		6888	2100	2013.9	913.5	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.87	22.1	3.0/10.5	4000	20	–	332	442
GEALx32	432 (18x24)		6888	2100	2129.6	966.0	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.89	22.5	2.7/3.7	4000	20	–	338	450

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



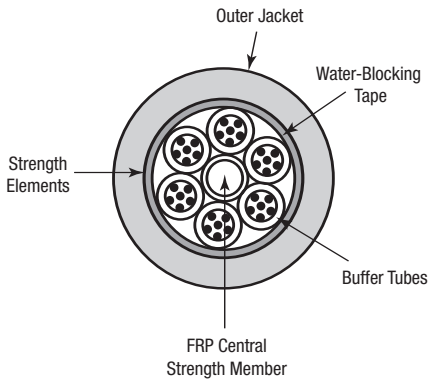
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Universal – Indoor/Outdoor, Improved Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GCR • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A/I-DQ(ZN)BH**																		
Dry Construction • Black LSZH Jacket																		
-30/70°C EN 50266-2-2 EN 50267-2-2 EN 50268-2																		
GCRGx04 **GCR**Gx06 **GCR**Gx08 **GCR**Gx12 **GCR**Gx18 **GCR**Gx24 **GCR**Gx30 **GCR**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	597.2 1166.0	270.9 528.9	Ø 250 ± 15	0.07	1.9	Water-blocking Glass Yarn	0.46	11.8	2.0	3000	20	–	177	236
GCRDx24 **GCR**Dx36 **GCR**Dx48 **GCR**Dx60 **GCR**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888 13448	2100 4100	750.0 1464.3	340.2 664.2	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.54	13.7	2.7	3500	20	–	206	274
GCREx84 **GCR**Ex96	84 (7x12) 96 (8x12)	6888 13448	2100 4100	930.6 1816.8	422.1 824.1	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.60	15.3	3.0/4.3	4000	20	–	230	306
GCRFx08 **GCR**Fx20 **GCR**Fx32 **GCR**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888 13448	2100 4100	1277.8 2494.7	579.6 1131.6	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.73	18.5	3.0/7.5	4000	20	–	278	370
GCRMx16	216 (18x12)	6888 13448	2100 4100	1481.5 2892.4	672.0 1312.0	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.78	19.7	2.7	4000	20	–	296	394
GCRIx92	192 (8x24)	6888 13448	2100 4100	1481.5 2892.4	672.0 1312.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.77	19.5	3.0/6.0	4000	20	–	293	390
GCRJx88	288 (12x24)	6888	2100	2129.6	966.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.94	23.9	3.0/10.5	4000	20	–	359	478
GCRLx32	432 (18x24)	6888	2100	2129.6	966.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.97	24.7	2.7/3.7	4000	20	–	371	494

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



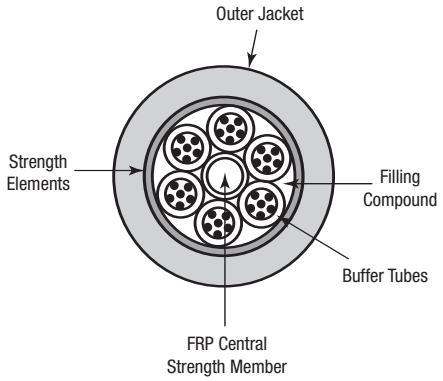
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Universal – Indoor/Outdoor, Improved Rodent Protection

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GER • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • **A/I-DF(ZN)BH**																		
Filled Construction • Black LSZH Jacket																		
-30/70°C EN 50266-2-2 EN 50267-2-2 EN 50268-2																		
																		
GERGx04 **GER**Gx06 **GER**Gx08 **GER**Gx12 **GER**Gx18 **GER**Gx24 **GER**Gx30 **GER**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	601.9 1175.1	273.0 533.0	Ø 250 ± 15	0.07	1.9	Water-blocking Glass Yarn	0.45	11.5	2.0	3000	20	–	173	230
GERDx24 **GER**Dx36 **GER**Dx48 **GER**Dx60 **GER**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888 13448	2100 4100	777.8 1518.5	352.8 688.8	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.53	13.4	2.7	3500	20	–	201	268
GEREx84 **GER**Ex96	84 (7x12) 96 (8x12)	6888 13448	2100 4100	967.6 1889.1	438.9 856.9	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.59	15.0	3.0/4.3	4000	20	–	225	300
GERFx08 **GER**Fx20 **GER**Fx32 **GER**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888 13448	2100 4100	1333.3 2603.2	604.8 1180.8	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.72	18.2	3.0/7.5	4000	20	–	273	364
GERMx16	216 (18x12)	6888 13448	2100 4100	1527.8 2982.8	693.0 1353.0	Ø 250 ± 15	0.10	2.5	Water-blocking Glass Yarn	0.75	19.0	2.7	4000	20	–	285	380
GERIx92	192 (8x24)	6888 13448	2100 4100	1435.2 2802.0	651.0 1271.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.75	19.0	3.0/6.0	4000	20	–	285	380
GERJx88	288 (12x24)	6888	2100	2222.2	1008.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.93	23.5	3.0/10.5	4000	20	–	353	470
GERLx32	432 (18x24)	6888	2100	2314.8	1050.0	Ø 250 ± 15	0.14	3.5	Water-blocking Glass Yarn	0.94	24.0	2.7/3.7	4000	20	–	360	480

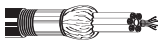
Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



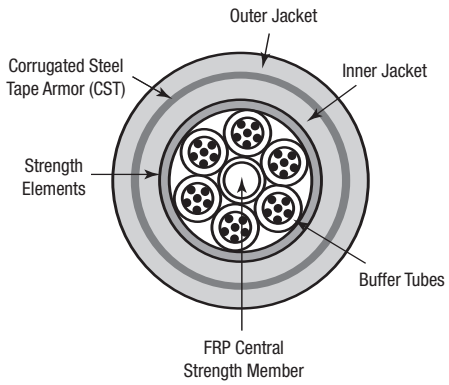
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Universal – Indoor/Outdoor, Full Rodent Protection, Corrugated Steel Tape Armor (CST)

Description	Part No.	No. of Fibers	Standard Lengths ft.	Standard Lengths m	Standard Unit Weight lbs.	Standard Unit Weight kg	Fiber Size µm	Nom. Buffer/Tube OD inch	Nom. Buffer/Tube OD mm	Strength Members	Nominal OD inch	Nominal OD mm	Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm) static	Bending Radii Cable (mm) dynamic
GCD • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • CST • **A/I-DQ(ZN)H(SR)H**																		
Dry Construction • Double Black LSZH Jacket																		
-30/70°C EN 50266-2-2 EN 50267-2-2 EN 50268-2																		
																		
GCDGx04	4 (1x4)	6888	2100	1041.7	472.5	Ø 250 ± 15	0.07	1.9	Water-blocking Aramid Yarn	0.52	13.2	2.0	3000	50	–	198	264
GCDGx06	6 (1x6)	13448	4100	2033.7	922.5													
GCDGx08	8 (2x4)																	
GCDGx12	12 (2x6)																	
GCDGx18	18 (3x6)																	
GCDGx24	24 (4x6)																	
GCDGx30	30 (5x6)																	
GCDGx36	36 (6x6)																	
GCDDx24	24 (2x12)	6888	2100	1296.3	588.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.60	15.2	2.7	3500	50	–	228	304
GCDDx36	36 (3x12)																	
GCDDx48	48 (4x12)																	
GCDDx60	60 (5x12)																	
GCDDx72	72 (6x12)																	
GCDEx84	84 (7x12)	6888	2100	1574.1	714.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.69	17.4	3.0/4.3	4000	50	–	261	348
GCDEx96	96 (8x12)																	
GCDFx08	108 (9x12)	6888	2100	2055.6	932.4	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.81	20.5	3.0/7.5	4000	50	–	308	410
GCDFx20	120 (10x12)																	
GCDFx32	132 (11x12)																	
GCDFx44	144 (12x12)																	
GCDMx16	216 (18x12)	6888	2100	2268.5	1029.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.85	21.5	2.7	4000	50	–	323	430
GCDIx92	192 (8x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.85	21.5	3.0/6.0	4000	50	–	323	430
GCDJx88	288 (12x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	1.02	26.0	3.0/10.5	4000	50	–	390	520
GCDLx32	432 (18x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	1.04	26.5	2.7/3.7	4000	50	–	398	530

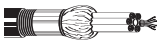
Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



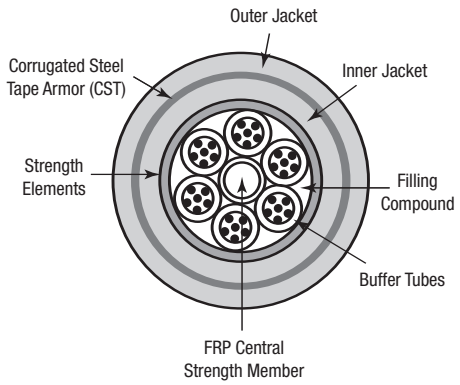
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Universal – Indoor/Outdoor, Full Rodent Protection, Corrugated Steel Tape Armor (CST)

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GED • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • CST • **A/I-DF(ZN)H(SR)H**																		
Filled Construction • Double Black LSZH Jacket																		
-30/70°C EN 50266-2-2 EN 50267-2-2 EN 50268-2																		
																		
GEDGx04 **GED**Gx06 **GED**Gx08 **GED**Gx12 **GED**Gx18 **GED**Gx24 **GED**Gx30 **GED**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	1050.9 2051.8	476.7 930.7	Ø 250 ± 15	0.07	1.9	Water-blocking Aramid Yarn	0.51	13.0	2.0	3000	50	–	195	260
GEDDx24 **GED**Dx36 **GED**Dx48 **GED**Dx60 **GED**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888	2100	1324.1	600.6	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.59	15.0	2.7	3500	50	–	225	300
GEDEx84 **GED**Ex96	84 (7x12) 96 (8x12)	6888	2100	1606.5	728.7	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.67	17.1	3.0/4.3	4000	50	–	257	342
GEDFx08 **GED**Fx20 **GED**Fx32 **GED**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888	2100	2101.9	953.4	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.81	20.5	3.0/7.5	4000	50	–	308	410
GEDMx16	216 (18x12)	6888	2100	2361.1	1071.0	Ø 250 ± 15	0.10	2.5	Water-blocking Aramid Yarn	0.83	21.0	2.7	4000	50	–	315	420
GEDIx92	192 (8x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	0.83	21.0	3.0/6.0	4000	50	–	315	420
GEDJx88	288 (12x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	1.00	25.5	3.0/10.5	4000	50	–	383	510
GEDLx32	432 (18x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	Water-blocking Aramid Yarn	1.02	26.0	2.7/3.7	4000	50	–	390	520

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

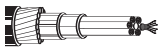
Universal – Indoor/Outdoor, Full Rodent Protection, Galvanised Steel Wire Armor (SWA)

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dyna-mic

GCW • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • SWA • **A/I-DQHBH (R1.0vzk)**

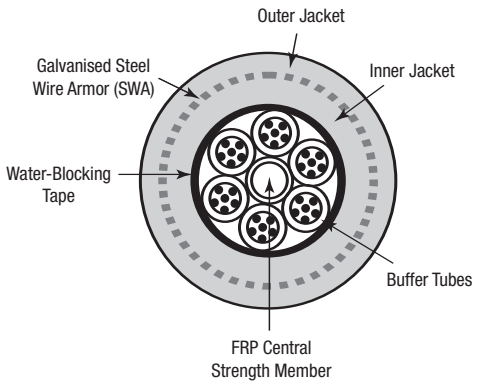
Dry Construction • Double Black LSZH Jacket

-30/70°C EN 50266-2-2
EN 50267-2-2
EN 50268-2



GCWGx04 **GCW**Gx06 **GCW**Gx08 **GCW**Gx12 **GCW**Gx18 **GCW**Gx24 **GCW**Gx30 **GCW**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	1574.1 3073.2	714.0 1394.0	Ø 250 ± 15	0.07	1.9	–	0.54	13.6	2.0	8000	50	–	204	272
GCWDx24 **GCW**Dx36 **GCW**Dx48 **GCW**Dx60 **GCW**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888 13448	2100 4100	1912.0 3733.0	867.3 1693.3	Ø 250 ± 15	0.10	2.5	–	0.61	15.5	2.7	8000	50	–	233	310
GCWEx84 **GCW**Ex96	84 (7x12) 96 (8x12)	6888 13448	2100 4100	2152.8 4203.1	976.5 1906.5	Ø 250 ± 15	0.10	2.5	–	0.67	17.0	3.0/4.3	8000	50	–	255	340
GCWFx08 **GCW**Fx20 **GCW**Fx32 **GCW**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888 13448	2100 4100	2916.7 5694.5	1323.0 2583.0	Ø 250 ± 15	0.10	2.5	–	0.80	20.2	3.0/7.5	8000	50	–	303	404
GCWMx16	216 (18x12)	6888	2100	3101.9	1407.0	Ø 250 ± 15	0.10	2.5	–	0.83	21.0	2.7	8000	50	–	315	420
GCWIx92	192 (8x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	0.83	21.0	3.0/6.0	8000	50	–	315	420
GCWJx88	288 (12x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	1.00	25.5	3.0/10.5	8000	50	–	383	510
GCWLx32	432 (18x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	1.02	26.0	2.7/3.7	8000	50	–	390	520

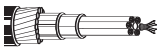
Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



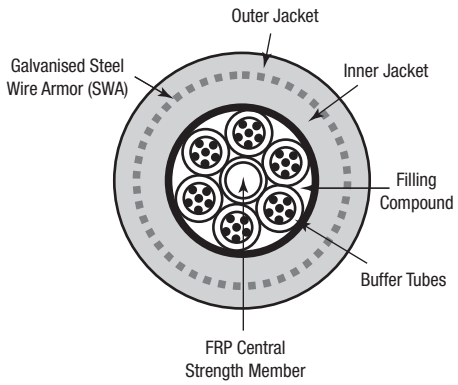
Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Multi Loose Tube Cables

Universal – Indoor/Outdoor, Full Rodent Protection, Galvanised Steel Wire Armor (SWA)

Description	Part No.	No. of Fibers	Standard Lengths		Standard Unit Weight		Fiber Size µm	Nom. Buffer/Tube OD		Strength Members	Nominal OD		Central Element mm	Pulling Tension N	Crush Resistance kN/m	Energy kJ/m	Bending Radii Cable (mm)	
			ft.	m	lbs.	kg		inch	mm		inch	mm					static	dynamic
GEW • Loose Tubes*/PE Blind Elements are S-Z Stranded Around the Central Element • Water-Blocked • SWA • **A/I-DFHBH (R1.0vzk)**																		
Filled Construction • Double Black LSZH Jacket																		
-30/70°C EN 50266-2-2 EN 50267-2-2 EN 50268-2																		
																		
GEWGx04 **GEW**Gx06 **GEW**Gx08 **GEW**Gx12 **GEW**Gx18 **GEW**Gx24 **GEW**Gx30 **GEW**Gx36	4 (1x4) 6 (1x6) 8 (2x4) 12 (2x6) 18 (3x6) 24 (4x6) 30 (5x6) 36 (6x6)	6888 13448	2100 4100	1574.1 3073.2	714.0 1394.0	Ø 250 ± 15	0.07	1.9	–	0.53	13.5	2.0	8000	50	–	203	270
GEWDx24 **GEW**Dx36 **GEW**Dx48 **GEW**Dx60 **GEW**Dx72	24 (2x12) 36 (3x12) 48 (4x12) 60 (5x12) 72 (6x12)	6888 13448	2100 4100	1944.5 3796.3	882.0 1722.0	Ø 250 ± 15	0.10	2.5	–	0.61	15.5	2.7	8000	50	–	233	310
GEWEx84 **GEW**Ex96	84 (7x12) 96 (8x12)	6888 13448	2100 4100	2199.1 4293.5	997.5 1947.5	Ø 250 ± 15	0.10	2.5	–	0.66	16.8	3.0/4.3	8000	50	–	252	336
GEWFx08 **GEW**Fx20 **GEW**Fx32 **GEW**Fx44	108 (9x12) 120 (10x12) 132 (11x12) 144 (12x12)	6888 13448	2100 4100	2963.0 5784.9	1344.0 2624.0	Ø 250 ± 15	0.10	2.5	–	0.80	20.2	3.0/7.5	8000	50	–	303	404
GEWMx16	216 (18x12)	6888	2100	3101.9	1407.0	Ø 250 ± 15	0.10	2.5	–	0.81	20.6	2.7	8000	50	–	309	412
GEWIx92	192 (8x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	0.81	20.5	3.0/6.0	8000	50	–	308	410
GEWJx88	288 (12x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	0.98	25.0	3.0/10.5	8000	50	–	375	500
GEWLx32	432 (18x24)	6888	2100	–	–	Ø 250 ± 15	0.14	3.5	–	1.00	25.5	2.7/3.7	8000	50	–	383	510

Color Code: see chart page 16.23
Loose tubes: 1. Red, 2. Green, rest of tubes White
Blind elements: Clear



Optical characteristics see page 16.21.
* jelly-filled, non-dripping and silicone-free

Interconnect Cables – Simplex and Duplex

Tight Buffer – Plenum Rated

Applications

- Patch panels
- Workstation equipment connections
- Horizontal distribution in open office environments

Product Description

Interconnect cables are designed for low fiber-count premises environments. They are small and very flexible, making them ideal for confined spaces. Their aesthetic appearance makes these cables suitable for use in open office environments. Available in 1 or 2 fibers. One sub-unit is marked to permit easy identification of transmit and receive fibers. Length markings to facilitate installation.

Jacket Material	PVC
Tight Buffer	PVC
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per EIA/TIA 598-A, see page 16.24
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange
50/125 µm/1 Gbe	Orange
50/125 µm/10 Gbe	Aqua

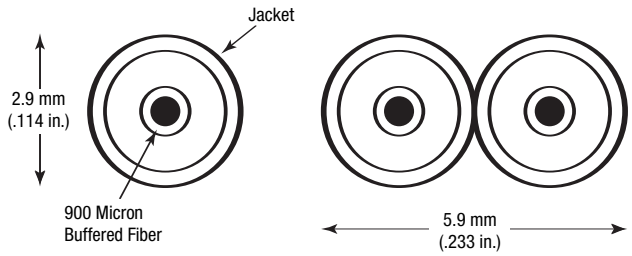
Ratings

Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	200 N/cm
Impact Resistance (EIA-455-25)	20 Impacts @ 1.0 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15xOD
Long term	10xOD
Optical Specifications	see page 16.24

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5/125 µm Std./1 Gbe	50.0/125 µm Std./1 Gbe	50.0/125 µm 10 Gbe - 300M	Single-Mode Enhanced	inch	mm	lbs./1000′	kg/km	lbs.	N
Interconnect Cable Series										
Plenum (NEC/CEC OFNP/OFN FT6)										
1	**M98086**	**M9A003**	**M9C003**	**M9W003**	0.114	2.9	6	9	90	400
2	**M96919**	**M9A004**	**M9C004**	**M9W004**	0.11 x 0.23	2.9 x 5.9	13	19	180	801

Distribution Cables

Tight Buffer – Indoor Plenum Rated

Applications

- Low to high fiber count requirements
- In-building backbone
- Fiber-to-the-desk applications
- Computer room

Product Description

Flexible thermoplastic jacket provides excellent handling characteristics. Fibers and cable sub-units are color coded for easy identification. Length markings in meters for easy determination of cable length. Full dielectric construction, no grounding required. For Riser offering, MSHA approved cables are available.

Jacket Material	
Non-unitized Plenum	PVC
Unitized Plenum	PVDF
Tight Buffer	
Plenum	PVC
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per EIA/TIA 598-A, see page 16.24
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange (Green for LSZH only)
50/125 µm/1 Gbe	Orange
50/125 µm/10 Gbe	Aqua

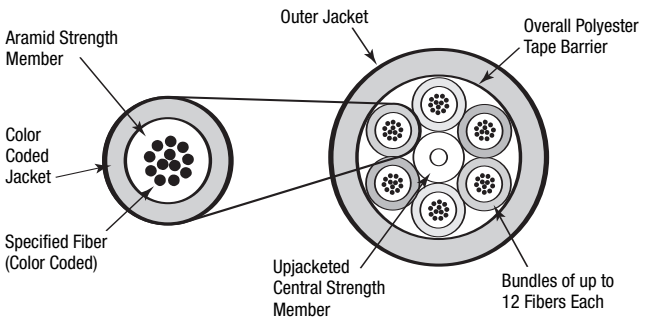
Ratings

Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15xOD
Long term	10xOD
Optical Specifications	see page 16.24

Fiber Bundle Detail



2 – 12 FIBERS **>12 – 144 FIBERS**

Distribution Cables

Tight Buffer – Indoor Plenum Rated *(continued)*

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5/125 µm Std./1 Gbe	50.0/125 µm Std./1 Gbe	50.0/125 µm 10 Gbe - 300M	Single-Mode Enhanced	inch	mm	lbs./1000′	kg/km	lbs.	N
Distribution Cable Series										
Plenum (NEC/CEC OFNP/OFN FT6)										
2	**M9B043**	**M9A043**	**M9C043**	**M9W043**	0.184	4.67	14	21	180	801
4	**M9B044**	**M9A044**	**M9C044**	**M9W044**	0.174	4.42	13	19	195	867
6	**M9B045**	**M9A045**	**M9C045**	**M9W045**	0.190	4.83	16	24	270	1201
8	**M9B046**	**M9A046**	**M9C046**	**M9W046**	0.222	5.64	19	28	270	1201
12	**M9B048**	**M9A048**	**M9C048**	**M9W048**	0.225	5.72	22	33	300	1334
24	**M9B611***	**M9A611***	**M9C611***	**M9W611***	0.330	8.38	40	60	390	1735
24	**M9B612**	**M9A612**	**M9C612**	**M9W612**	0.493	12.52	89	132	1263	5618
36	**M9B614**	**M9A614**	**M9C614**	**M9W614**	0.594	15.09	134	199	1913	8509
48	**M9B616**	**M9A616**	**M9C616**	**M9W616**	0.599	15.21	131	195	1245	5538
72	**M9B620**	**M9A620**	**M9C620**	**M9W620**	0.754	19.15	197	293	2093	9310
96	**M9B623**	**M9A623**	**M9C623**	**M9W623**	0.904	22.96	268	399	2160	9608
144	**M9B621**	**M9A621**	**M9C621**	**M9W621**	1.047	26.59	365	543	3645	16213
Composite Plenum Cables										
6xSM/ 6x62.5	**M97174**									
6xSM/ 12x62.5	**M97041**									
12xSM/ 12x62.5	**M97219**									
6xSM/ 6x50	**M97412**									
6xSM/ 12x50	**M97411**									
12xSM/ 12x50	**M96780**									

Construction for LSZH cables differs from the drawing. Alternative fiber counts are available.
* Single jacket design.

Breakout Style Cables

Tight Buffer — Indoor Plenum Rated

Applications

- Low to medium fiber count requirements
- In-building backbone or horizontal deployment
- Office wiring
- Factory floor automation and harsh environment installations

Product Description

Full dielectric construction, no grounding required. Available with 2 to 36 fibers. Fiber subunits are color coded for easy identification. Length markings in meters for easy determination of cable length. For riser offering, MSHA approved cables are available.

Outer Jacket Material	
Riser & Plenum	PVC
Plenum	PVDF
Sub-unit Jacket Material	
Riser & Plenum	PVC
Tight Buffer	
Riser & Plenum	PVC
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per EIA/TIA 598-A, see page 16.24
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange (Green for LSZH only)
50/125 µm/1 Gbe	Orange
50/125 µm/10 Gbe	Aqua

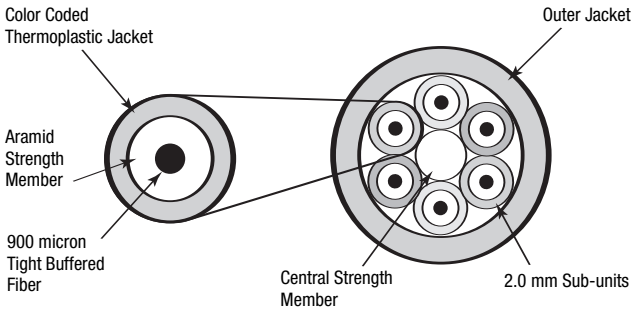
Ratings

Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15xOD
Long term	10xOD
Optical Specifications	see page 16.24

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5/125 µm Std./1 Gbe	50.0/125 µm Std./1 Gbe	50.0/125 µm 10 Gbe - 300M	Single-Mode Enhanced	inch	mm	lbs./1000′	kg/km	lbs.	N
Breakout Cable Series										
Plenum (NEC/CEC OFNP/OFN FT6)										
2	**M9B013**	**M9A013**	**M9C013**	**M9W013**	0.230	5.84	20	30	180	801
4	**M9B014**	**M9A014**	**M9C014**	**M9W014**	0.263	6.68	30	45	345	1535
6	**M9B015**	**M9A015**	**M9C015**	**M9W015**	0.309	7.85	41	61	465	2068
8	**M9B016**	**M9A016**	**M9C016**	**M9W016**	0.336	8.53	55	82	600	2700
10	**M9B017**	**M9A017**	**M9C017**	**M9W017**	0.385	9.78	73	109	600	2700
12	**M9B018**	**M9A018**	**M9C018**	**M9W018**	0.391	9.93	65	97	600	2700
18	**M9B019**	**M9A019**	**M9C019**	**M9W019**	0.456	11.58	89	132	600	2700
24	**M9B020**	**M9A020**	**M9C020**	**M9W020**	0.544	13.82	117	174	600	2700
36	**M9B082**	**M9A082**	**M9C082**	**M9W082**	0.612	15.54	154	229	600	2700

2.5 mm Breakout Cables are also available.

Industrial Armored Cables

Tight Buffer — Indoor Plenum Rated *(continued)*

Applications

- Industrial environments
- Rugged installations
- Manufacturing plants
- Mining operations
- Telecommunications and data trunk
- Inter- and intra-building installations

Product Description

Heavy duty construction with interlocking aluminum armor (steel available on request) provides excellent mechanical protection from cutting or crushing and eliminates need for innerduct. Rodent resistant. Also available for outside plant. Loose tube design available on request.

Jacket Material	
Plenum	PVC
Buffer Tube	PVC
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Armor	Aluminum
Color Code (Buffer)	Per EIA/TIA 598-A, see page 16.24
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange
50/125 µm/1 Gbe	Orange
50/125 µm/10 Gbe	Aqua

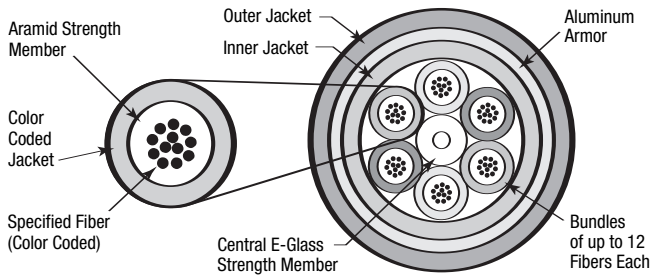
Ratings

Plenum	
UL Type	OFCP
cUL Type	OFC FT6
Flame resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 3.0 N-m
Min. Bend Radius	
Installation	20xOD
Long term	15xOD
Optical Specifications	see page 16.24

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5/125 µm Std./1 Gbe	50.0/125 µm Std./1 Gbe	50.0/125 µm 10 Gbe - 300M	Single-Mode Enhanced	inch	mm	lbs./1000′	kg/km	lbs.	N
Industrial Armored Series										
Plenum (NEC/CEC OFCP/OFC FT6)										
6	**M9B240**	**M9A240**	**M9C240**	**M9W240**	0.471	12.00	87	129	270	1201
12	**M9B241**	**M9A241**	**M9C241**	**M9W241**	0.506	12.90	103	153	300	1334
24	**M9B242***	**M9A242***	**M9C242***	**M9W242***	0.631	16.00	151	225	390	1735
24	**M9B243**	**M9A243**	**M9C243**	**M9W243**	0.781	19.84	289	430	600	2700
36	**M9B244**	**M9A244**	**M9C244**	**M9W244**	0.881	22.38	309	460	600	2700
48	**M9B245**	**M9A245**	**M9C245**	**M9W245**	0.906	23.01	320	476	600	2700
72	**M9B246**	**M9A246**	**M9C246**	**M9W246**	1.056	26.82	451	671	600	2700
96	**M9B247**	**M9A247**	**M9C247**	**M9W247**	1.256	31.90	608	905	600	2700
144	**M9B248**	**M9A248**	**M9C248**	**M9W248**	1.331	33.81	687	1022	600	2700

All optical fiber products can be supplied in compliance with RoHS regulations.
*Single jacket design.

Single Jacket, All Dielectric Cable

Loose Tube – Indoor/Outdoor Plenum Rated

Applications

- Medium to high fiber count requirements
- Inter-building duct installations
- Lashed aerial
- Indoor/outdoor
- Campus backbones
- Data centers
- High-density cable trays

Product Description

Dry water-blocking technology used within tubes and under jacket. Available as plenum rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Small diameter and bend radius facilitate installation in tight spaces. Full dielectric construction, no grounding required. Available with up to 144 fibers. Fibers grouped into sets of 12 for maximum density. Length markings in meters for easy determination of cable length.

Jacket Material	
Non-unitized	PVC
Unitized	PVDF
Buffer Tube	PVC
Strength Member	E-Glass and Aramid Yarn
Central Strength Member	Upjacketed
Color Code (Buffer)	Per EIA/TIA 598-A, see page 16.24
Jacket Color	Black

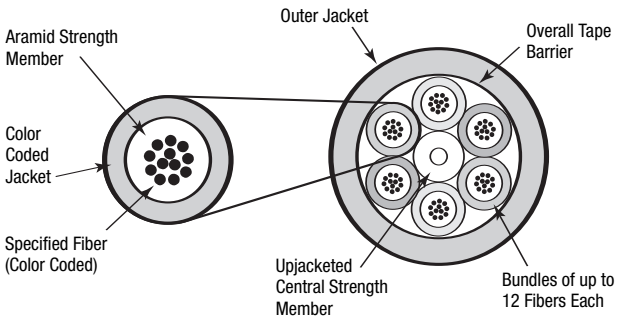
Ratings

Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-40 to +70°C
Installation	0 to +60°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	20xOD
Long term	15xOD
Optical Specifications	see page 16.24

Fiber Bundle Detail



2 – 12 FIBERS **>12 – 144 FIBERS**

No. of Fibers	Fibers per tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5/125 µm Std./1 Gbe	50.0/125 µm Std./1 Gbe	50.0/125 µm 10 Gbe - 300M	Single-Mode Enhanced	inch	mm	lbs./1000′	kg/km	lbs.	N
Loose Tube Series											
Plenum (NEC/CEC OFNP/OFN FT6)											
6	6	**M9B202**	**M9A202**	**M9C202**	**M9W202**	0.265	6.70	33	49	320	1423
12	12	**M9B204**	**M9A204**	**M9C204**	**M9W204**	0.265	6.70	33	49	320	1423
24	12	**M9B205**	**M9A205**	**M9C205**	**M9W205**	0.359	9.12	47	70	405	1801
36	12	**M9B206**	**M9A206**	**M9C206**	**M9W206**	0.359	9.12	47	70	405	1801
48	12	**M9B207**	**M9A207**	**M9C207**	**M9W207**	0.359	9.12	48	71	405	1801
72	12	**M9B209**	**M9A209**	**M9C209**	**M9W209**	0.429	10.90	71	106	585	2602
96	12	**M9B211**	**M9A211**	**M9C211**	**M9W211**	0.501	12.73	105	156	903	4017
144	12	**M9B215**	**M9A215**	**M9C215**	**M9W215**	0.665	16.89	189	281	1263	5618

Alternative fiber counts and hybrid constructions are available.