

# ACCUMAX<sup>®</sup> Distribution Cable Plenum Rated

## The Plenum Cable for Fiber-To-The-Desktop

### Product Description

ACCUMAX distribution cables have the flexibility to handle virtually any application between the building entrance and the desktop — in most environments from office to factory floor. ACCUMAX plenum rated cable is especially suitable for installation in riser shafts, above drop ceilings, under raised floors or in conduits. This robust cable is available in a variety of fiber types and fiber counts and offers all the advantages associated with the ACCUMAX cable product family — including easier, faster, and lower installation cost.

### LaserWave™ 300 Cable

ACCUMAX Cable with LaserWave 300 fiber is designed specifically to support 300-meter link lengths for 10-Gbps applications. LaserWave 300 cable features a DMD controlled core that assures 10-Gbps support with 850-nm serial applications for distances of up to 300 meters. Its 50- $\mu$ m core size is also directly compatible with laser-based applications like Gigabit Ethernet. LaserWave cable is ideal for future high-speed upgrades because it is fully compatible with 50- $\mu$ m core cables powered from LED sources to support legacy applications like Ethernet, Token Ring, FDDI, and Fast Ethernet for virtually all in-building networks and most campus networks.

### LaserWave 150 Cable

ACCUMAX Cable with LaserWave 150 fiber provides similar legacy support but is better suited to extend the distance of 1-Gbps LAN applications at 850-nm and support short reach 10-Gbps interconnects in SANs, Central Offices, and LANs. Like LaserWave 300, LaserWave 150 fiber is a DMD controlled fiber that provides optimum performance with laser sources.

### Features

The OFS quality design and installation features of the ACCUMAX distribution cable offers a choice of fiber, and several different fiber counts:

- ACCUMAX distribution cable is available with OFS' high-quality LaserWave 300 or LaserWave 150 fiber, AllWave<sup>®</sup> fiber, TrueWave<sup>®</sup> fiber, 62.5/125 micron multimode fiber, single-mode depressed clad, or single-mode matched clad.



*ACCUMAX LaserWave Cable*

- Cable fiber counts are 2, 4, 6, 12, 24, 36, 48, and 72.
- Standard jacket colors are aqua for the LaserWave fiber cables, slate for the multi-mode 62.5/125 micron fiber cables, and yellow for single-mode fiber cables. Other colors are available.
- Each 125 micron fiber comes with coating, bringing the diameter to 250 microns, and is proof-tested at 100 kpsi.
- The coated fiber is buffered to 900 microns with high quality low smoke PVC material, and the buffer is color-coded for easy identification.
- The buffered fibers are surrounded by aramid yarn for strength and are over-jacketed with PVDF for protection, forming a plenum-rated unit in cables with more than 12 fibers.
- The 24 and 36 fiber cables are composed of multiple plenum-rated units each containing 6 fibers. The 48 and 72 fiber cables are composed of 12 fiber plenum-rated units. These units are similar to the standard 6 and 12 fiber ACCUMAX plenum cables, and are color-coded for easy identification.

The plenum buffered fibers in ACCUMAX distribution cables have a bending radius of 19 mm (0.75 in), permitting installation in wall or pedestal outlets. Buffered fibers may be bent to a radius of 38 mm (1.5 in) during moderate pull installation without concern for damage.

The guideline for bend radius in cable or unit for permanent placement is 10 times the cable diameter. This allows easier installation in tight places and corners found in office panels.

The fibers contained in ACCUMAX distribution cables meet or exceed all standards established or proposed for LAN, premises, or intrabuilding cables in ISO/IEC 11801, also ANSI-FDDI, EIA/TIA 568A, and IEEE 802. Other advantages include:

- Mechanical and optical attributes meet or exceed industry-accepted requirements ICEA S-83 596 and Telcordia GR-409.
- ACCUMAX distribution cables are tested and qualified in accordance with the industry standard EIA/TIA 455 (IEC60794).
- ACCUMAX distribution cables and unit tubes are UL\* listed and tested per UL 910.
- All ACCUMAX plenum cables and unit tubes carry the OFNP classification as described in the National Electrical Code (NEC†), and are CSA\*\* certified per CSA OFN FT4/FT6.

High-quality materials and ACCUMAX cable's unique ROL manufacturing process are two of the reasons why these cables set the industry standard for quality and reliability.

## Applications

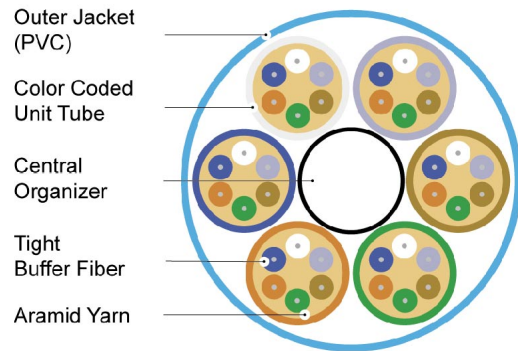
In many applications, splices can be eliminated because ACCUMAX cables are suitable for installation both inside and outside the building (in dry conduits, and below the frost line within operating temperature range).

ACCUMAX plenum cables are a wise choice for most fiber-to-the-workstation applications described in the ANSI or EIA/TIA specification for premises distribution systems.

They are also designed for central office vault to frame installations and prewired shelves, as well as other applications that require fiber optic transmission. There's no need to install any other cable, just select the fiber type and fiber count you need from the ACCUMAX cable product line.

Capabilities include:

- Robust enough to withstand typical abuse that occurs between the wall outlet and desktop equipment.
- Versatile enough to meet the durability needs of harsh and abusive environments like factory and trading floors, the flexibility needs of a business office, the safety standards of a hospital, and the multiple application needs of a college campus.
- Suitable for use in a wide range of systems, including data processing, telecommunications, CAD/CAM, fire alarm, HVAC, security, video, or equipment electronics.



*Typical ACCUMAX HFC Cable Cross Section*

## Benefits:

The unique ACCUMAX HFC cable design features tight buffer fibers inside plenum-rated unit tubes. The design offers these benefits:

- **Faster, easier cable preparation** - The ACCUMAX cable design eliminates both the extra steps required to remove the jacket and the risk of broken fibers. Each flexible plenum rated jacket or unit can be ringed and slipped off with a simple tool, no ripcords or razor blades are required.
- **Lower installation costs** - The dimensional reliability of OFS fiber (e.g., cladding diameter of  $125 \pm 1$  micron) reduces labor and equipment costs by eliminating the need to redo terminations and splices.
- **Faster installation** - The high-quality buffer and high quality coating allow the fibers to be stripped to the glass in a single pass, saving time and eliminating the risk of broken fibers during connector installation.
- **Improved cabling efficiencies** - Small diameter, lightweight cables occupy less space in trays and conduits, reduce loads, and contribute to greater efficiency during installation.

LaserWave 300 and LaserWave 150 cables offer:

- **Seamless Migration** - Supports seamless migration from 10 Mbps to 10 Gbps with no cabling system changes to at least 300 meters.
- **Lower installation costs** - Enables lowest cost for legacy through 10-Gbps applications, reducing total system cost by 25% or more.
- **Improved cabling system administration** - Saves time, using a single cable type which speeds cabling system administration.
- **Lower hardware costs** - Saves specialty hardware costs and administration problems by eliminating cumbersome and expensive mode conditioning patch cords required for 1300-nm laser operation on traditional multimode fibers.

\* UL is a registered trademark of Underwriters Laboratories, Inc.

† NEC is a registered trademark of National Electric Code.

\*\* CSA is a registered trademark of Canadian Standards Association.

## Technical Specifications

Fiber Type	LaserWave 300 and LaserWave 150 Fiber 62.5/125 micron Multimode Depressed Clad Single-mode 8.3 micron Matched Clad Single-mode 8.3 micron AllWave - Zero Water Peak Single-mode fiber
Fiber Dimensions	125 micron Cladding 250 micron coating 900 micron buffering
Fiber Proof Stress	689 N/mn <sup>2</sup> (100 kpsi)
Buffer Material	Low Smoke PVC
Unit Material	Low Smoke PVDF
Jacket Material	Low Smoke PVC
Strength Material	Aramid Yarn
Operating Temperature	-4° F to 158° F (-20° C to 70° C) 0 dB added
Operating Temperature	-40° F to 185° F (-40° C to 85° C) ≤ 1.0 dB added
Installation Temperature	0° F to 122° F (-17° C to 50° C)
Storage Temperature	-40° F to 185° F (-40° C to 85° C)
Normal Reel Length	2 - 12 Fiber - 13,000 ft (4.0 km) approximately 24 and 36 Fiber - 6,000 ft (1.8 km) approximately 48 and 72 Fiber - 4,000 ft (1.2 km) approximately
Maximum Length	2 - 12 Fiber - 29,500 ft (9.0 km) ± 10% 24 and 36 Fiber - 15,000 ft (4.57 km) ± 10% 48 and 72 Fiber - 11,000 ft (3.35 km) ± 10%

## Cable Performance Summary

Test	Reference
Impact	EIA-RS-455,FOTP-25 (IEC60794-1-E4)
Compression	EIA-RS-455,FOTP-41 (IEC60794-1-E3)
Flexure	EIA-RS-455,FOTP-104 (IEC60794-1-E6)
Tensile Bending	EIA-RS-455,FOTP-33 (IEC60794-1-E1)
Temperature Bending	EIA-RS-455,FOTP-37 (IEC60794-1-E11)
Twist Testing	EIA-RS-455,FOTP-85 (IEC60794-1-E7)
Plenum Rating (OFNP)	UL 910, CSA FT4/FT6, IEEE 383 (Tray rated test)
Low Lead Test	EPA -TCLP

## Transmission Characteristics

Fiber Type	Operating Wavelength	Maximum Attenuation	Minimum Bandwidth
LaserWave 300 Fiber	850 nm	3.5 dB/km	2,000 MHz-km
	1300 nm	1.5 dB/km	500 MHz-km
LaserWave 150 Fiber	850 nm	3.5 dB/km	950 MHz-km
	1300 nm	1.5 dB/km	500 MHz-km
Multimode 62.5/125 microns	850 nm	3.4 dB/km	200 MHz-km
	1300 nm	1.0 dB/km	500 MHz-km
Fiber Type	Operating Wavelength	Maximum Attenuation	Minimum Dispersion
Depressed Clad Single-Mode 8.3/125 microns	1310 nm	0.4 dB/km	2.8 ps/nm-km
	1550 nm	0.4 dB/km	18.0 ps/nm-km
(Mode Field Diameter - 8.8 microns)		Cut-off Wavelength - 1260 nm Max.	
Fiber Type	Operating Wavelength	Maximum Attenuation	Minimum Dispersion
Matched Clad Single-Mode	1310 nm	0.5 dB/km	3.5 ps/nm-km
	1550 nm	0.5 dB/km	18.0 ps/nm-km
(Mode Field Diameter - 9.3 microns)		Cut-off Wavelength - 1280 nm Max.	
Fiber Type	Operating Wavelength	Maximum Attenuation	Minimum Dispersion
AllWave Fiber Zero Water Peak Single-mode	1310 nm	0.50 dB/km	3.5 ps/nm-km
	1385 nm	0.50 dB/km	-
	1550 nm	0.50 dB/km	18.0 ps/nm-km
	1625 nm	0.50 dB/km	-
Mode Field Diameter	9.2 microns @ 1310	Cut-off Wavelength - 1260 nm Max.	
	10.4 microns @ 1550		
Fiber Type	Operating Wavelength	Maximum Attenuation	Minimum Dispersion
TrueWave Fiber	1550	0.30 dB/km	-

## Fiber and Unit Identification

Color Code	Buffer Fiber Position	Unit Position
Blue	1	1
Orange	2	2
Green	3	3
Brown	4	4
Slate	5	5
White	6	6
Red	7	
Black	8	
Yellow	9	
Violet	10	
Rose	11	
Aqua	12	

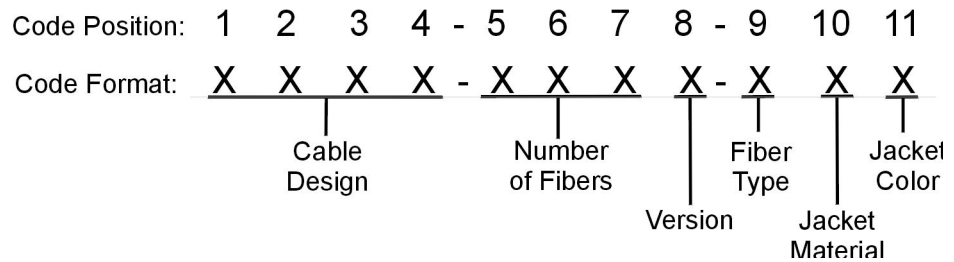
## Cable Color Identification

Jacket Color Code	
Color	Type of Fiber
Slate	62.5/125 micron Multimode
Yellow	Single-mode
Aqua	LaserWave Fiber
Violet	AllWave Fiber
Green	TrueWave Fiber
Other colors are available upon request.	

## How to Order

A special ACCUMAX plenum cable code is needed when this type of cable is ordered.

A customer specifies a particular design and fiber count by an 11-character cable code. The general format and description of the code are as follows:



### Example: LGBC-002D-LRX

Position	Description	Options
1-2	Cable Design	Lightguide (LG) - Position 1 - 2 (LG) to be eliminated from future codes
3-4	Cable Design	Building Cable (BC) for ACCUMAX Cable
5-7	Number of Fibers	002, 004, 006, 012, 024, 036, 048, 072
8	Cable Version	A - Original - DA'd B - Enhanced - DA'd D - Fiber-to-the-Desktop design - ACCUMAX Cable
9	Fiber Type	L - Multimode 62.5/125 micron core S - Single-mode 8.3 micron core - depressed clad V - Single-mode 8.3 micron core - matched clad A - AllWave® Fiber T - TrueWave® Fiber H - LaserWave™ 150 Fiber Z - LaserWave 300 Fiber
10	Jacket Material and Safety Performance	R - (Riser Type) - Flame retardant PVC P - (Plenum Type) - Low-smoke PVC H - Non-Halogen material
11	Jacket Color	X - Default color - Slate - 62.5/125 microns - Yellow - Single-mode - Violet - AllWave Fiber - Green - TrueWave Fiber - Aqua - LaserWave 300 and 150 Fiber O - Orange B - Blue

**Note:**

Other fiber type combinations are available upon request.

## Ordering Information

Comcode	Product Code	Fiber Count	Cable Diameter mm (in)	Unit Fibers	Tensile Rating N (lbs)	Cable Weight kg/km (lb/100 ft)
<b>LaserWave 300 Fiber</b>						
108 619 867	BC-002D-ZPX	2	3.8 (0.150)	-	1223 (275)	12.6 (0.85)
108 619 875	BC-004D-ZPX	4	4.6 (0.180)	-	1223 (275)	16.1 (1.08)
108 619 883	BC-006D-ZPX	6	4.7 (0.185)	-	1223 (275)	18.1 (1.21)
108 619 891	BC-012D-ZPX	12	5.6 (0.220)	-	1334 (300)	26.4 (1.77)
108 744 863	BC-024D-ZPX	24	15.7 (0.620)	6	2224 (500)	215 (14.4)
108 744 871	BC-036D-ZPX	36	15.7 (0.620)	6	2224 (500)	217 (14.5)
109 166 389	BC-048D-ZPX	48	18.5 (0.730)	12	2669 (600)	273 (18.3)
109 166 397	BC-072D-ZPX	72	18.5 (0.730)	12	2669 (600)	282 (18.9)
<b>LaserWave 150 Fiber</b>						
108 791 419	BC-002D-HPX	2	3.8 (0.150)	-	1223 (275)	12.6 (0.85)
108 791 427	BC-004D-HPX	4	4.6 (0.180)	-	1223 (275)	16.1 (1.08)
108 791 435	BC-006D-HPX	6	4.7 (0.185)	-	1223 (275)	18.1 (1.21)
108 791 443	BC-012D-HPX	12	5.6 (0.220)	-	1334 (300)	26.4 (1.77)
108 791 450	BC-024D-HPX	24	15.7 (0.620)	6	2224 (500)	215 (14.4)
109 063 313	BC-036D-HPX	36	15.7 (0.620)	6	2224 (500)	217 (14.5)
109 166 405	BC-048D-HPX	48	18.5 (0.730)	12	2669 (600)	273 (18.3)
109 166 413	BC-072D-HPX	72	18.5 (0.730)	12	2669 (600)	282 (18.9)
<b>62.5/125 Multimode Fiber</b>						
106 914 963	LGBC-002D-LPX	2	3.8 (0.150)	-	1223 (275)	12.6 (0.85)
106 914 971	LGBC-004D-LPX	4	4.6 (0.180)	-	1223 (275)	16.1 (1.08)
106 914 989	LGBC-006D-LPX	6	4.7 (0.185)	-	1223 (275)	18.1 (1.21)
106 915 127	LGBC-008D-LPX	8	5.1 (0.200)	-	1223 (275)	25.6 (1.70)
106 914 997	LGBC-012D-LPX	12	5.6 (0.220)	-	1334 (300)	26.4 (1.77)
107 754 772	LGBC-024D-LPX	24	15.7 (0.620)	6	2224 (500)	215 (14.4)
107 754 798	LGBC-036D-LPX	36	15.7 (0.620)	6	2224 (500)	217 (14.5)
107 752 982	LGBC-048D-LPX	48	18.5 (0.730)	12	2669 (600)	273 (18.3)
107 753 048	LGBC-072D-LPX	72	18.5 (0.730)	12	2669 (600)	282 (18.9)
<b>Single-Mode Depressed Clad Fiber</b>						
106 914 906	LGBC-002D-SPX	2	3.8 (0.150)	-	1223 (275)	12.6 (0.85)
106 914 914	LGBC-004D-SPX	4	4.6 (0.180)	-	1223 (275)	16.1 (1.08)
106 914 922	LGBC-006D-SPX	6	4.7 (0.185)	-	1223 (275)	18.1 (1.21)
106 914 948	LGBC-012D-SPX	12	5.6 (0.220)	-	1334 (300)	26.4 (1.77)
107 754 780	LGBC-024D-SPX	24	15.7 (0.620)	6	2224 (500)	215 (14.4)
107 754 806	LGBC-036D-SPX	36	15.7 (0.620)	6	2224 (500)	217 (14.5)
107 753 006	LGBC-048D-SPX	48	18.5 (0.730)	12	2669 (600)	273 (18.3)
107 753 063	LGBC-072D-SPX	72	18.5 (0.730)	12	2669 (600)	282 (18.9)
108 256 496	LGBC-006D-LPO	6	4.7 (0.185)	-	1223 (275)	18.1 (1.21)
108 256 504	LGBC-012D-LPO	12	5.6 (0.220)	-	1334 (300)	26.4 (1.77)
108 256 512	LGBC-024D-LPO	24	15.7 (0.620)	6	2224 (500)	215 (14.4)
108 630 344	LGBC-048D-LPO	48	18.5 (0.730)	12	2669 (600)	273 (18.3)

**Note:**

Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances. Performance specifications are measured in accordance with EIA Fiber Optic Test Procedures.

## Ordering Information (cont'd)

Comcode	Product Code	Fiber Count	Cable Diameter mm (in)	Unit Fibers	Tensile Rating N (lbs)	Cable Weight kg/km (lb/100 ft)
<b>Single-Mode Matched Clad Fiber</b>						
107 560 252	LGBC-002D-VPX	2	3.8 (0.150)	-	1223 (275)	12.6 (0.85)
107 560 260	LGBC-004D-VPX	4	4.6 (0.180)	-	1223 (275)	16.1 (1.08)
107 560 278	LGBC-006D-VPX	6	4.7 (0.185)	-	1223 (275)	18.1 (1.21)
107 560 294	LGBC-012D-VPX	12	5.6 (0.220)	-	1334 (300)	26.4 (1.77)
107 755 076	LGBC-024D-VPX	24	15.7 (0.620)	6	2224 (500)	215 (14.4)
107 755 118	LGBC-036D-VPX	36	15.7 (0.620)	6	2224 (500)	215 (14.4)
107 753 022	LGBC-048D-VPX	48	18.5 (0.730)	12	2669 (600)	273 (18.3)
107 753 089	LGBC-072D-VPX	72	18.5 (0.730)	12	2669 (600)	282 (18.9)
<b>AllWave Zero Water Peak Single-Mode Fiber</b>						
108 526 187	LGBC-006D-APX	6	4.7 (0.185)	-	1223 (275)	18.1 (1.21)
108 526 179	LGBC-012D-APX	12	5.6 (0.220)	-	1334 (300)	26.4 (1.77)
108 521 873	LGBC-024D-APX	24	15.7 (0.620)	6	2224 (500)	215 (14.4)
108 521 881	LGBC-036D-APX	36	15.7 (0.620)	6	2224 (500)	217 (14.5)
108 521 899	LGBC-048D-APX	48	18.5 (0.730)	12	2669 (600)	273 (18.3)
108 521 907	LGBC-072D-APX	72	18.5 (0.730)	12	2669 (600)	282 (18.9)
<b>TrueWave Non Zero Dispersion Optical Fiber</b>						
107 755 050	LGBC-024D-TPX	24	15.7 (0.620)	6	2224 (500)	215 (14.4)
107 755 100	LGBC-036D-TPX	36	15.7 (0.620)	6	2224 (500)	217 (14.5)
107 753 014	LGBC-048D-TPX	48	18.5 (0.730)	12	2669 (600)	273 (18.3)
107 753 071	LGBC-072D-TPX	72	18.5 (0.730)	12	2669 (600)	282 (18.9)

**Note:**

Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances. Performance specifications are measured in accordance with EIA Fiber Optic Test Procedures.

For additional information please contact your OFS sales representative. You can also visit our website at <http://www.ofsoptics.com> or call 1-888-fiberhelp.

You can also visit the Optical Connectivity website at <http://ocdstore.ofsoptics.com>

Copyright © 2002 Fitel USA Corp.  
All rights reserved, printed in USA.

ACCUMAX, AllWave, and TrueWave are registered trademark of Fitel USA Corp.

LaserWave is a trademark of Fitel USA Corp.

OFS  
Marketing Communications  
prem-101-0802



*Leading Optical Innovations*