

Berk-Tek's Composite Copper/Fiber cables incorporate high bandwidth optical fibers with insulated copper conductors. A wide variety of design options are available including; up to four #12 AWG solid conductors, up to 2 tight buffered fibers, and interlock armoring. These cables are listed as CMP-OF and CL3P-OF/PLTC-OF. A key application of these cables is to extend the distance that powered devices can be installed from the power source in Power over Ethernet (PoE) installations. Proper conductor size selection can increase this distance from 328 feet to several thousand feet. The powered device could be an IP camera, a wireless access point, or other building automation device located in an area where an electrical outlet is not readily available.

DESCRIPTION

Construction

Each cable consists of multiple plenum insulated copper conductors and multiple fibers cabled together within an outer jacket. Cable design accommodates from 2 to 4 conductors.

- Two tight buffered fibers in 1-fiber subunits
- Plenum-rated cable is dry waterblocked for indoor/outdoor installations
- Aluminum interlock armored cables available

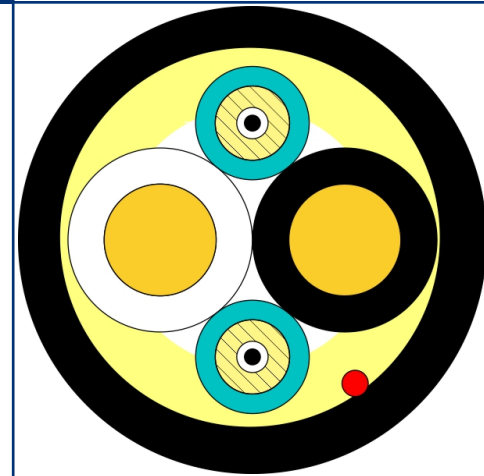
Applications

Berk-Tek's Composite cables are suitable for all power limited applications where optical fibers are needed. Specific applications include (but not limited to):

- Power over Ethernet (PoE) length extension
- Distributed Antenna Systems (DAS) connections
- Combining control and communication in industrial pathways
- Common pathway for fiber backbone and Class 3 power supply
- ETHERNET: 10BASE – 40GBASE (10BASE, 100BASE, 1000BASE, 10GBASE, 40GBASE, 100GBASE, 400GBASE)
- Fibre Channel: 1G-FC – 128GFC (1, 2, 4, 8, 16, 32, 128 GFC)
- SONET: OC-1 – OC-768 (OC -1, 3, 12, 24, 48, 192, 768)
- SDH: STM-0 – STM-256 (STM-0, 1, 4, 16, 64, 256)
- OTN: OTU-1 – OTU4 (OTU1, 2, 2e, 2f, 3, 3e2, 4)
- CPRI: CPRI-1 – CPRI-9 (CPRI-1, 2, 3, 4, 5, 6, 7, 7a, 8, 9)
- PON (SMF only): RFoG, APON, BPON, EPON, GPON, WDM-PON, NG-PON

Features

- Multimode, Single-mode, and GIGAlite™ fibers
- CMP-OF and CL3P-OF/PLTC-OF, wet and dry rated
- Aluminum interlock armored designs available



STANDARDS

International EN 50173;
ISO/IEC 11801

National ANSI/ICEA S-104-696;
ANSI/TIA-568-C.3; NFPA 130;
Telcordia GR-409; UL 13; UL 444

Benefits

- Enables PoE equipment to be located more than 100 meters from the switch when used in a OneReach PoE Extender System
- CMP-OF and CL3P-OF/PLTC-OF allows cable to be installed in communication pathways
- Ease of installation
- Broad design selection allows for mix and match of copper and fiber components to specific networking applications
- Armor option adds crush resistance and is a cost effective alternative to plenum innerduct.

Country of Origin: U.S.A.

CONDUCTOR COLOR SEQUENCE - CL3P

1	2	3	4
Black	White	Blue	Yellow

Green is also available for use as a ground. Custom color sequences chosen from the colors above are available upon request.

SHEATH COLORS - CL3R(K) & CL3P(K)

Fiber Type	Core Size (µm)	ISO-TIA Standard	Effective Modal BW @ 850 nm	Overfilled Launch BW @ 850 nm	Attenuation @ 850 nm	Attenuation @ 1300 nm	Attenuation @ 1550 nm	Sheath Color
						Loose Tube		
AB	8.3	OS2	NS	NS	NS	0.4 dB/km	0.3 dB/km	Black
						Tight Buffer		
AB	8.3	OS2	NS	NS	NS	0.5 dB/km	0.5 dB/km	Black
CB	62.5	OM1	200 MHz·km	200 MHz·km	3.5 dB/km	1.0 dB/km	NS	Black
EB	50	OM3	2000 MHz·km	1500 MHz·km	3.0 dB/km	1.0 dB/km	NS	Black
FB	50	OM4	4700 MHz·km	3500 MHz·km	3.0 dB/km	1.0 dB/km	NS	Black
XB	50	OM4+	4900 MHz·km	3675 MHz·km	3.0 dB/km	1.0 dB/km	NS	Black
WB	50	OM5	4700 MHz·km	3500 MHz·km	3.0 dB/km	1.0 dB/km	NS	Black

NS = Not Specified

MANUFACTURING RELEASE

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TECHNICAL DATA - PHYSICAL						Install		Long Term		Install		Long Term	
Fibers	Part Number Prefix	Diameter		Weight		Min. Bend Radius				Max. Loading			
		in.	mm	lb./kft	kg/km	in.	cm	in.	cm	lbf.	N	lbf.	N
2	HDPC002-002X12AWG	0.314	8.0	93	138	4.7	12.0	3.1	8.0	150	668	45	200

TECHNICAL DATA										
Fiber Type	Part Number Suffix	Berk-Tek Fiber	Core Size	Wavelength (nm)	Maximum Attenuation (dB/km)	Effective Modal Bandwidth @ 850 nm (MHz*km)	Distance (meters)			
Multimode - Bend Insensitive							1 GbE	10 GbE	40 GbE	100 GbE
OM1	CB3510/25	GIGAlite	62.5 μm	850/1300	3.5/1.0	200	300	33	N/A	N/A
OM3	EB3010/25	GIGAlite-10	50 μm	850/1300	3.0/1.0	2000	1000	300	100	70
OM4	FB3010/F5	GIGAlite-10FB	50 μm	850/1300	3.0/1.0	4700	1040	550	150	100
OM4+	XB3010/X5	GIGAlite-10XB	50 μm	850/1300	3.0/1.0	4900	1210	600	300	150
WideBand Multimode - Bend Insensitive							1 GbE	10 GbE	40 GbE	100 GbE
OM5	WB3010/W5	GIGAlite-10WB	50 μm	850-953/1300	3.0/1.0	4700	1040	550	190	100
Single-Mode - Bend Insensitive - ITU-T G.652.D and G.657.A1 Compliant							1 GbE	10 GbE	40 GbE	100 GbE
OS2	AB0707	Standard for Tight Buffer	SMF	1300/1550	0.5/0.5	N/A	≥ 5000	≥ 10000	≥ 10000	≥ 10000