

#### **Features and Benefits**

Fully waterblocked loose tube gel-free design Simple access and no clean up

#### Single-armored construction

Provides additional crush and rodent protection

#### Medium-density polyethylene jacket

Rugged, durable and easy to strip while providing superior protection against UV radiation, fungus, abrasion and other environmental factors

Available in 62.5  $\mu$ m, 50  $\mu$ m, single-mode (including bend-insensitive and non-zero dispersion shifted fiber (NZ-DSF) options) and hybrid versions Ready for any application including Gigabit Ethernet and 10 Gigabit Ethernet

#### **Standards**

Design and Test Criteria

Common Installations Outdoor lashed aerial, duct

and direct-buried; indoor when installed according to National Electrical Code®

(NEC®) Article 770

ANSI/ICEA S-87-640 Telcordia GR-20 RDUP PE-90 listed Corning Cable Systems ALTOS® Lite™ Gel-Free, Single-Jacket, Single-Armored Cables are designed for campus backbones in direct-buried installations. The loose tube design provides stable and highly reliable transmission parameters for a variety of voice, data, video and imaging applications. These cables also provide high-fiber density within a given cable diameter while allowing flexibility to suit many system configurations.

The single armored construction provides additional crush and rodent protection with a high-strength ripcord under the armor for easy stripping. Gel-free means the cables are fully waterblocked using craft-friendly, waterswellable materials which make cable access simple and require no clean up. The flexible, craft-friendly buffer tubes are easy to route in closures, and the SZ-stranded, loose tube design isolates fibers from installation and environmental rigors while allowing easy midspan access. These cables have a medium density polyethylene jacket that is rugged, durable and easy to strip.

A variety of fiber types are available including 62.5  $\mu$ m, 50  $\mu$ m, single-mode and hybrid versions as well as fibers with Gigabit Ethernet and 10 Gigabit Ethernet performance. These cables are also available with optional extended operating temperature to -50°C (-58°F) in a variety of fiber counts.











### **Specifications**

Temperature Range	
Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Installation	-30 °C to 70 °C (-22 °F to 158 °F)
Operation	-40 °C to 70 °C (-40 °F to 158 °F)

<sup>\*</sup> Corning Cable Systems recommends storing cable in a proper temperature environment prior to installation to allow the cable temperature to meet installation temperature range specifications for best installation results.

Mechanical Characteristics Cable	
Max. Tensile Strengths, Short-Term	2700 N (600 lbf)
Max. Tensile Strengths, Long-Term	890 N (200 lbf)

Fiber Count	Product Type	Maxi- mum Fibers per Tube	Number of Tube Posi- tions	Number of Active Tubes	Weight	Nominal Outer Diam- eter	Min. Bend Radius Installation	Min. Bend Radius Operation
6 - 72	Armored	12	6	1 - 6	129 kg/km (87 lb/1000 ft)	12.1 mm (0.48 in)	182 mm (7.2 in)	121 mm (4.8 in)
96	Armored	12	8	8	162 kg/km (109 lb/1000 ft)	13.8 mm (0.54 in)	207 mm (8.1 in)	138 mm (5.4 in)
144	Armored	12	12	12	245 kg/km (164 lb/1000 ft)	17.5 mm (0.69 in)	263 mm (10.4 in)	175 mm (6.9 in)





F	mum Fibers per Tube	of Tube Posi- tions	of Active Tubes		Outer Diameter	Radius Installation	Radius Operation
192 - 216 Armored 1	12	18	16 - 18	233 kg/km (156 lb/1000 ft)	17.7 mm (0.7 in)	266 mm (10.5 in)	177 mm (7 in)
288 Armored 1	12	24	24	293 kg/km (196 lb/1000 ft)	20 mm (0.79 in)	300 mm (11.8 in)	200 mm (7.9 in)

Chemical Characteristics	
RoHS	Free of hazardous substances according to RoHS 2002/95/ EG

### **Transmission Performance**

Fiber Type	Multimode	Multimode	Multimode	Multimode	Single-mode	Single-mode
Fiber Core Diameter (µm)	62.5	50	50	50	8.2	8.2
Fiber Category	OM1	OM2	OM3	OM4	OS2	OS2
Fiber Code	K	Т	Т	Т	E	Е
Performance Option Code	30	31	80	90	01	00
Wavelengths (nm)	850 / 1300	850 / 1300	850 / 1300	850 / 1300	1310 / 1383 / 1550	1310 / 1383 / 1550
Maximum Attenuation (dB/km)	3.4 / 1.0	3.0 / 1.0	3.0 / 1.0	3.0 / 1.0	0.4 / 0.4 / 0.3	0.35 / 0.35 / 0.25
Serial 1 Gigabit Ethernet (m)	300 / 550	750 / 600	1000 / 600	1100 / 600	5000 /- /-	5000 /- /-
Serial 10 Gigabit Ethernet (m)	33 /-	150 /-	300 /-	550 /-	10000 / - / 40000	10000 /- / 40000
Min. Overfilled Launch (OFL) Bandwidth (MHz*km)	200 / 500	700 / 500	1500 / 500	3500 / 500		
Minimum Effective Modal Bandwidth (EMB) (MHz*km)	220 /-	950 / -	2000 /-	4700 / -		

<sup>\*</sup> Single-mode (OS2) fiber is ITU-T G.652.D compliant.

Notes: 1) Improved attenuation and bandwidth options available.

- 2) Bend-insensitive single-mode fibers available on request.
- 3) 50  $\mu m$  multimode fiber macrobend loss  $\leq$  0.2 dB at 850 nm for two turns around 7.5 mm radius mandrel.
- 4) Contact a Corning Cable Systems Customer Care Representative for additional information.



<sup>\*</sup> OM4 Multimode fiber 10 Gigabit Ethernet distance assumes 1.0 dB maximum total connector/splice loss.



Ordering Information | Contact Customer Care at 1-800-743-2671 for other options.

- Select fiber count.
  Standard offerings:
  006 288
  Increments of 12
- Select fiber code.
  K = 62.5 µm multimode,
  - OM1
    T = 50 µm multimode,
  - OM2
  - E = Single-mode, OS2 SMF-28e+®
- Defines cable type.

  U = ALTOS® Loose Tube Cable
  with 2.5 mm buffer tubes

- 4 Defines outer jacket.
  - C = Single-jacket, singlearmored
- 5 Defines fiber placement.
  - T = 12 fibers/buffer tube (standard)
- 6 Select length markings.
  - 3 = Markings in meters
  - 4 = Markings in feet (standard)
- 7 Defines tensile strength.1 = 2700 N/600 lbf (standard)

- 8 Select performance option code.
  - $30 = 62.5 \mu m \text{ multimode},$  OM1
  - 31 = 50 µm multimode, OM2
  - 01 = Single-mode, OS2 (Max. attenuation 0.4/0.4/0.3 dB/km)
  - 00 = Single-mode, OS2 (Max. attenuation 0.35/0.35/0.25 dB/km)
- 9 Defines cable type.
  - D = Gel-Free Cable
- 10 Defines special requirements.
  - 20 = No special requirements



Corning Cable Systems LLC • PO Box 489 • Hickory, NC 28603-0489 USA 800-743-2675 • FAX: 828-325-5060 • International: +1-828-901-5000 • www.corning.com/cablesystems

A complete listing of the trademarks of Corning Cable Systems is available at www.corning.com/cablesystems/trademarks.

Corning Cable Systems is ISO 9001 certified. © 2012 Corning Cable Systems. All rights reserved.

