

SOLO® ADSS Loose Tube, Gel-Filled, Dual-Jacket Cable 24 F, Single-mode (OS2)

CORNING

Part Number:
024EAE-T4501A20

Corning SOLO® ADSS optical cables are all-dielectric, self-supporting (ADSS) cables designed for easy and economical one-step installation in campus backbones with self-supporting installations where metallic messengers cannot be used. The loose tube design provides stable performance over a wide temperature range and is compatible with any telecommunications-grade optical fiber. The cable design can span distances in excess of 500 m (1650 ft) in NESC heavy conditions. This cable incorporates innovative waterblocking materials, eliminating the need for traditional flooding compound and providing efficient and craft-friendly cable preparation. While the concentric, self-supporting cable design allows easy, one-step installation using standard hardware and installation methods, the SZ-stranded, loose tube design isolates optical fibers from installation and environmental rigors and facilitates mid-span access. The ADSS optical cables are also available with a proprietary track-resistant polyethylene (TRPE) jacket suitable for installation in electric field potentials up to 25 kV.

Features and Benefits

Loose tube design

Stable performance and compatibility with all common fiber types

Self-supporting

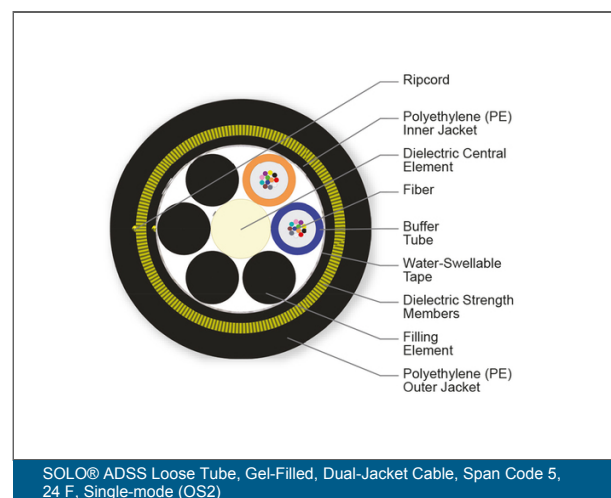
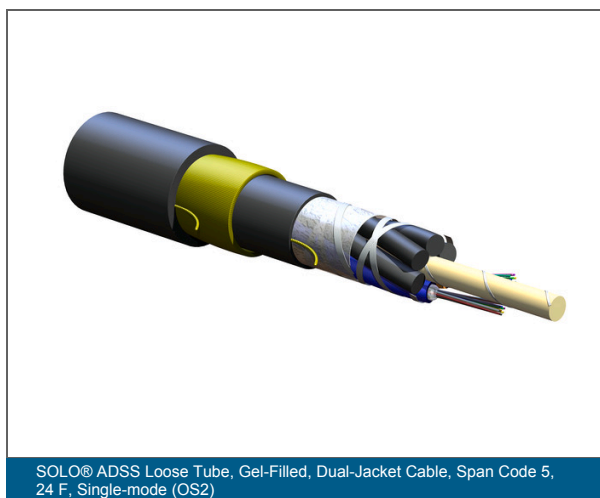
Easy, one-step installation

Track-resistant jacket available

Suitable for installations up to 25 kV electric field potential

Innovative waterblocking cable core

Provides efficient and craft-friendly cable preparation



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Specifications

General Specifications

| | |
|----------------|-----------------------|
| Cable Type | Loose Tube |
| Environment | Outdoor |
| Product Type | Self-Supporting, ADSS |
| Fiber Category | Single-mode (OS2) |
| Cable geometry | Other |

Standards

| | |
|--------------------------|---|
| RoHS | Free of hazardous substances according to RoHS 2011/65/EU |
| Approvals and Listings | USDA Rural Development Programs |
| Common Installations | Outdoor self-supporting aerial |
| Design and Test Criteria | ANSI/ICEA S-87-640 |

Environmental Conditions

| | |
|---------------------------------|-------------------------------------|
| Temperature Range, Installation | -30 °C to 70 °C (-22 °F to 158 °F) |
| Temperature Range, Operation | -40 °C to 70 °C (-40 °F to 158 °F) |
| Temperature Range, Storage | -40 °C to 75 °C (-40 °F to 167 °F) |

Cable Design

| | |
|---|-----------------------------|
| Central Element | Dielectric |
| Fiber Count | 24 |
| Number of Ripcords | 3 |
| Outer Jacket Color | Black |
| Outer Jacket Material | Polyethylene (PE) |
| Tensile Strength Elements and/or Armoring - Layer 1 | Dielectric strength members |
| Buffer Tube Color | Blue, Orange |
| Buffer Tube Diameter | 2.85 mm (0.11 in) |

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Cable Design

| | |
|----------------------------|--|
| Inner Jacket Material | Polyethylene (PE) |
| Number of Active Tubes | 2 |
| Number of Filling Elements | 4 |
| Number of Tube Positions | 6 |
| Tape | Water-swellable |
| Fiber Coloring | Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua |
| Fibers per Tube | 12 |
| Color Code Standards | Telcordia |

Mechanical Specifications

| | |
|---------------------------------|-------------------|
| Nominal Outer Diameter | 14 mm (0.55 in) |
| Span Code | 5 |
| Min. Bend Diameter Installation | 420 mm (16.54 in) |
| Min. Bend Diameter Operation | 280 mm (11.02 in) |

Optical Characteristics

| | |
|-------------------------|-----------------------------------|
| Fiber Code | E |
| Performance Option Code | 01 |
| Fiber Category | OS2 |
| Fiber Type | Single-mode (OS2) / 250 µm |
| Fiber Name | Single-mode (OS2) |
| Maximum Attenuation | 0.4 dB/km / 0.4 dB/km / 0.3 dB/km |
| Wavelengths | 1310 nm / 1383 nm / 1550 nm |
| Fiber Compliance | ITU-T G.652.D |

Dimensions

| | |
|--------------|------------------------------|
| Cable Weight | 148 kg/km (99.45 lb/1000 ft) |
|--------------|------------------------------|

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| Installation Characteristics | | | | | | | | |
|------------------------------|----------------------|---------------------|------------|-----------------------|-------------|-----------------------|------------|-----------------------|
| | Initial Installation | | NESC Light | | NESC Medium | | NESC Heavy | |
| Span | SAG | Tension | SAG | Tension | SAG | Tension | SAG | Tension |
| Fiber Count 24 | | | | | | | | |
| 15 m (49.2 ft) | 1 % | 275 N (61.8 lbf) | 0.5 % | 615 N (138.3 lbf) | 1.6 % | 851 N (191.3 lbf) | 2.1 % | 1,317 N (296.1 lbf) |
| 30 m (98.4 ft) | 1 % | 550 N (123.6 lbf) | 0.5 % | 1,153 N (259.2 lbf) | 1.8 % | 1,555 N (349.6 lbf) | 2.4 % | 2,331 N (524 lbf) |
| 46 m (150.9 ft) | 1 % | 825 N (185.5 lbf) | 0.6 % | 1,648 N (370.5 lbf) | 1.9 % | 2,187 N (491.7 lbf) | 2.6 % | 3,220 N (723.9 lbf) |
| 61 m (200.1 ft) | 1 % | 1,100 N (247.3 lbf) | 0.6 % | 2,114 N (475.2 lbf) | 2 % | 2,774 N (623.6 lbf) | 2.7 % | 4,034 N (906.9 lbf) |
| 76 m (249.3 ft) | 1 % | 1,375 N (309.1 lbf) | 0.6 % | 2,560 N (575.5 lbf) | 2.1 % | 3,329 N (748.4 lbf) | 2.9 % | 4,797 N (1,078.4 lbf) |
| 91 m (298.5 ft) | 1 % | 1,650 N (370.9 lbf) | 0.6 % | 2,990 N (672.2 lbf) | 2.2 % | 3,860 N (867.8 lbf) | 3 % | 5,521 N (1,241.2 lbf) |
| 107 m (351 ft) | 1 % | 1,925 N (432.8 lbf) | 0.6 % | 3,407 N (765.9 lbf) | 2.2 % | 4,372 N (982.9 lbf) | 3.1 % | 6,215 N (1,397.2 lbf) |
| 122 m (400.2 ft) | 1 % | 2,200 N (494.6 lbf) | 0.6 % | 3,813 N (857.2 lbf) | 2.3 % | 4,868 N (1,094.4 lbf) | 3.2 % | 6,884 N (1,547.6 lbf) |
| 137 m (449.4 ft) | 1 % | 2,475 N (556.4 lbf) | 0.7 % | 4,211 N (946.7 lbf) | 2.3 % | 5,350 N (1,202.7 lbf) | 3.3 % | 7,532 N (1,693.3 lbf) |
| 152 m (498.6 ft) | 1 % | 2,750 N (618.2 lbf) | 0.7 % | 4,601 N (1,034.3 lbf) | 2.4 % | 5,821 N (1,308.6 lbf) | 3.4 % | 8,162 N (1,834.9 lbf) |
| 168 m (551 ft) | 1 % | 3,025 N (680 lbf) | 0.7 % | 4,984 N (1,120.5 lbf) | 2.4 % | 6,283 N (1,412.5 lbf) | 3.5 % | 8,777 N (1,973.2 lbf) |
| 183 m (600.2 ft) | 1 % | 3,300 N (741.9 lbf) | 0.7 % | 5,362 N (1,205.4 lbf) | 2.5 % | 6,735 N (1,514.1 lbf) | 3.6 % | 9,379 N (2,108.5 lbf) |
| 198 m (649.4 ft) | 1 % | 3,575 N (803.7 lbf) | 0.7 % | 5,734 N (1,289 lbf) | 2.5 % | 7,180 N (1,614.1 lbf) | 3.6 % | 9,968 N (2,240.9 lbf) |

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| Installation Characteristics | | | | | | | | |
|------------------------------|----------------------|-----------------------|------------|-----------------------|-------------|------------------------|------------|------------------------|
| | Initial Installation | | NESC Light | | NESC Medium | | NESC Heavy | |
| Span | SAG | Tension | SAG | Tension | SAG | Tension | SAG | Tension |
| 213 m (698.6 ft) | 1 % | 3,850 N (865.5 lbf) | 0.7 % | 6,102 N (1,371.8 lbf) | 2.6 % | 7,618 N (1,712.6 lbf) | 3.7 % | 10,547 N (2,371.1 lbf) |
| 229 m (751.1 ft) | 1 % | 4,125 N (927.3 lbf) | 0.7 % | 6,466 N (1,453.6 lbf) | 2.6 % | 8,050 N (1,809.7 lbf) | 3.8 % | 11,116 N (2,499 lbf) |
| 244 m (800.3 ft) | 1 % | 4,400 N (989.2 lbf) | 0.7 % | 6,825 N (1,534.3 lbf) | 2.6 % | 8,475 N (1,905.3 lbf) | 3.8 % | 11,675 N (2,624.7 lbf) |
| 259 m (849.5 ft) | 1 % | 4,674 N (1,050.8 lbf) | 0.7 % | 7,182 N (1,614.6 lbf) | 2.7 % | 8,896 N (1,999.9 lbf) | 3.9 % | 12,227 N (2,748.7 lbf) |
| 274 m (898.7 ft) | 1 % | 4,949 N (1,112.6 lbf) | 0.7 % | 7,535 N (1,693.9 lbf) | 2.7 % | 9,312 N (2,093.4 lbf) | 3.9 % | 12,771 N (2,871 lbf) |
| 290 m (951.2 ft) | 1 % | 5,224 N (1,174.4 lbf) | 0.7 % | 7,885 N (1,772.6 lbf) | 2.7 % | 9,724 N (2,186 lbf) | 4 % | 13,309 N (2,992 lbf) |
| 305 m (1,000.4 ft) | 1 % | 5,499 N (1,236.2 lbf) | 0.8 % | 8,233 N (1,850.8 lbf) | 2.8 % | 10,131 N (2,277.5 lbf) | 4 % | 13,839 N (3,111.1 lbf) |
| 320 m (1,049.6 ft) | 1 % | 5,774 N (1,298 lbf) | 0.8 % | 8,578 N (1,928.4 lbf) | 2.8 % | 10,535 N (2,368.4 lbf) | 4.1 % | 14,364 N (3,229.2 lbf) |
| 335 m (1,098.8 ft) | 1 % | 6,049 N (1,359.9 lbf) | 0.8 % | 8,920 N (2,005.3 lbf) | 2.8 % | 10,935 N (2,458.3 lbf) | 4.1 % | 14,884 N (3,346.1 lbf) |
| 351 m (1,151.3 ft) | 1 % | 6,324 N (1,421.7 lbf) | 0.8 % | 9,261 N (2,082 lbf) | 2.8 % | 11,331 N (2,547.3 lbf) | 4.2 % | 15,397 N (3,461.4 lbf) |
| 366 m (1,200.5 ft) | 1 % | 6,599 N (1,483.5 lbf) | 0.8 % | 9,599 N (2,157.9 lbf) | 2.9 % | 11,725 N (2,635.9 lbf) | 4.2 % | 15,906 N (3,575.8 lbf) |
| 381 m (1,249.7 ft) | 1 % | 6,874 N (1,545.3 lbf) | 0.8 % | 9,936 N (2,233.7 lbf) | 2.9 % | 12,115 N (2,723.6 lbf) | | |
| 396 m (1,298.9 ft) | 1 % | 7,149 N (1,607.2 lbf) | 0.8 % | 10,271 N (2,309 lbf) | 2.9 % | 12,503 N (2,810.8 lbf) | | |

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|------------------------------|----------------------|---------------------------|------------|---------------------------|-------------|---------------------------|------------|---------|
| | Initial Installation | | NESC Light | | NESC Medium | | NESC Heavy | |
| Span | SAG | Tension | SAG | Tension | SAG | Tension | SAG | Tension |
| 411 m (1,348.1 ft) | 1 % | 7,424 N (1,669 lbf) | 0.8 % | 10,604 N (2,383.9 lbf) | 2.9 % | 12,888 N (2,897.3 lbf) | | |
| 427 m (1,400.6 ft) | 1 % | 7,699 N (1,730.8 lbf) | 0.8 % | 10,935 N (2,458.3 lbf) | 3 % | 13,271 N (2,983.4 lbf) | | |
| 442 m (1,449.8 ft) | 1 % | 7,974 N (1,792.6 lbf) | 0.8 % | 11,265 N (2,532.5 lbf) | 3 % | 13,651 N (3,068.9 lbf) | | |
| 457 m (1,499 ft) | 1 % | 8,249 N (1,854.5 lbf) | 0.8 % | 11,594 N (2,606.4 lbf) | 3 % | 14,030 N (3,154.1 lbf) | | |
| 472 m (1,548.2 ft) | 1 % | 8,524 N (1,916.3 lbf) | 0.8 % | 11,921 N (2,679.9 lbf) | 3 % | 14,406 N (3,238.6 lbf) | | |
| 488 m (1,600.6 ft) | 1 % | 8,799 N (1,978.1 lbf) | 0.8 % | 12,247 N (2,753.2 lbf) | 3 % | 14,779 N (3,322.4 lbf) | | |
| 503 m (1,649.8 ft) | 1 % | 9,074 N (2,039.9 lbf) | 0.8 % | 12,571 N (2,826.1 lbf) | 3.1 % | 15,151 N (3,406.1 lbf) | | |
| 518 m (1,699 ft) | 1 % | 9,349 N (2,101.7 lbf) | 0.8 % | 12,895 N (2,898.9 lbf) | 3.1 % | 15,522 N (3,489.5 lbf) | | |
| 533 m (1,748.2 ft) | 1 % | 9,624 N (2,163.6 lbf) | 0.8 % | 13,217 N (2,971.3 lbf) | 3.1 % | 15,890 N (3,572.2 lbf) | | |
| 549 m (1,800.7 ft) | 1 % | 9,899 N (2,225.4 lbf) | 0.8 % | 13,539 N (3,043.7 lbf) | | | | |
| 564 m (1,849.9 ft) | 1 % | 10,174 N (2,287.2 lbf) | 0.8 % | 13,859 N (3,115.6 lbf) | | | | |
| 579 m (1,899.1 ft) | 1 % | 10,449 N (2,349 lbf) | 0.8 % | 14,178 N (3,187.3 lbf) | | | | |
| 594 m (1,948.3 ft) | 1 % | 10,724 N (2,410.8 lbf) | 0.8 % | 14,497 N (3,259.1 lbf) | | | | |
| 610 m (2,000.8 ft) | 1 % | 10,999 N (2,472.7 lbf) | 0.8 % | 14,814 N (3,330.3 lbf) | | | | |

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| Installation Characteristics | | | | | | | | |
|------------------------------|----------------------|------------------------|------------|------------------------|-------------|---------|------------|---------|
| | Initial Installation | | NESC Light | | NESC Medium | | NESC Heavy | |
| Span | SAG | Tension | SAG | Tension | SAG | Tension | SAG | Tension |
| 625 m (2,050 ft) | 1 % | 11,274 N (2,534.5 lbf) | 0.8 % | 15,131 N (3,401.6 lbf) | | | | |
| 640 m (2,099.2 ft) | 1 % | 11,549 N (2,596.3 lbf) | 0.8 % | 15,447 N (3,472.6 lbf) | | | | |
| 655 m (2,148.4 ft) | 1 % | 11,824 N (2,658.1 lbf) | 0.8 % | 15,762 N (3,543.4 lbf) | | | | |



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