# ALTOS ${ }^{\circledR}$ Double-Jacket, Single-Armored Cables, 12-432 Fibers, Enhanced 

## 12 F, Single-mode (OS2)

ALTOS ${ }^{\circledR}$ double-jacket, single-armored cables are rugged, armored cables designed for direct-buried installation while suitable for duct and aerial (lashed) installation. The loose tube design provides stable performance over a wide temperature range and is compatible with any telecommunications-grade optical fiber.

## Features and Benefits

Flexible, craft-friendly buffer tubes
Facilitate easy routing in closures
Two jacket layers and two steel tape armor layers Provide superior rodent resistance for direct-buried applications

## Innovative waterblocking design

Provides efficient and craft-friendly cable preparation

## Dielectric central strength member

No preferential bend and requires no bonding or grounding

Medium-density polyethylene jacket
Rugged, durable and easy to strip (while providing superior protection against UV radiation, fungus, abrasion and other environmental factors)

## Standards

Approvals and Listings
USDA Rural Development Programs

Design and Test Criteria Telcordia GR-20, ICEA-640


Part Number: 012EU5-T4100A20


Cross Section of Part Number: 012EU5-T4100A20

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Specifications

## General Specifications

| Environment | Outdoor |
| :--- | :--- |
| Application | Aerial, Direct Buried |
| Cable Type | Loose Tube |
| Product Type | Armored |
| Fiber Category | Single-mode (OS2) |

Temperature Range

| Storage | $-40^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{F}\right.$ to $\left.158{ }^{\circ} \mathrm{F}\right)$ |
| :--- | :--- |
| Installation | $-30^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}\left(-22^{\circ} \mathrm{F}\right.$ to $\left.158{ }^{\circ} \mathrm{F}\right)$ |
| Operation | $-40^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{F}\right.$ to $\left.158{ }^{\circ} \mathrm{F}\right)$ |

## Cable Design

| Central Element | Dielectric |
| :--- | :--- |
| Fiber Count | 12 |
| Fiber Coloring | Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, <br> Violet, Rose, Aqua |
| Fibers per Tube | 12 |
| Number of Tube Positions | 6 |
| Number of Active Tubes | 1 |
| Buffer Tube Color Coding | Blue |
| Buffer Tube Diameter | 2.5 mm (0.1 in) |
| Number of Filling Elements | 5 |
| Tape | Water-swellable |
| Inner Jacket Material | Polyethylene (PE) |
| Tape, Layer 2 | Water-swellable |
| Number of Ripcords | 3 |
| Tensile Strength Elements and/or Armoring - Layer 1 | Corrugated steel tape armor |
| Outer Jacket Material | Polyethylene (PE) |
| Outer Jacket Color | Black |
| Maximum Fibers per Tube | 12 |

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Mechanical Characteristics Cable

| Max. Tensile Strength, Short-Term | $2700 \mathrm{~N}(600 \mathrm{lbf})$ |
| :--- | :--- |
| Max. Tensile Strength, Long-Term | $890 \mathrm{~N}(200 \mathrm{lbf})$ |
| Weight | $179 \mathrm{~kg} / \mathrm{km}(120 \mathrm{lb} / 1000 \mathrm{ft})$ |
| Nominal Outer Diameter | $14.3 \mathrm{~mm}(0.56 \mathrm{in})$ |
| Min. Bend Radius Installation | $215 \mathrm{~mm}(8.4 \mathrm{in})$ |
| Min. Bend Radius Operation | $143 \mathrm{~mm}(5.6 \mathrm{in})$ |

## Chemical Characteristics

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

## Fiber Specifications

Optical Characteristics (cabled)

| Fiber Name | Single-mode (OS2) |
| :--- | :--- |
| Fiber Category | G.652.D |
| Fiber Code | E |
| Performance Option Code | 00 |
| Wavelengths | $1310 \mathrm{~nm} / 1383 \mathrm{~nm} / 1550 \mathrm{~nm}$ |
| Maximum Attenuation | $0.35 \mathrm{~dB} / \mathrm{km} / 0.35 \mathrm{~dB} / \mathrm{km} / 0.25 \mathrm{~dB} / \mathrm{km}$ |

## Ordering Information

| Part Number | 012EU5-T4100A20 |
| :--- | :--- |
| Product Description | ALTOS® Loose Tube, Gel-Filled, Double-Jacket, Single- <br> Armored Cable, 12 F, Single-mode (OS2) |
| EAN Code | 4056418185064 |

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