SUMITOMO PRODUCT SPECIFICATION

FutureFLEX®

TC01TOX OSP SINGLE DIELECTRIC TUBE

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SEL is a Member of the Sumitomo Electric Industries, Ltd. Group

CONTENTS

1.0 GENERAL

This specification covers the design requirements and performance standards for FutureFLEX® Air-Blown Fiber® (ABF) dielectric outside plant single tubes. This tube is designed for outdoor infrastructures. The features described in this document are intended to provide information on the performance of Sumitomo Electric's FutureFLEX® tubes and aid in handling and use.

1.1 Tube Cable Description

Sumitomo's FutureFLEX® TC01TOX series tube cable is designed for use as an optical fiber cabling infrastructure in ABF applications that may or may not require non-conductive elements. This dielectric outside plant tube is ideal for duct installations or any Outside Plant (OSP) environment, including flooded environments. It may also be used in indoor applications where: 1) the tube cable is installed in rigid steel conduit or 2) no fire ratings apply. The tube is made of a black polyethylene and has a 6mm inside diameter and 8mm outside diameter. The tube is wrapped with a non-conductive water-blocking tape. The outer jacket is made of a black polyethylene and is UV resistant. The OD of the outer jacket is 9mm or .53 inches. A ripcord is provided to aid in outer jacket removal. This tube is pulled or placed in routes for the purpose of individual tube connections to establish pathways for FutureFLEX® fiber bundle installation.

1.2 Quality

Sumitomo ensures a continuing high level of quality through ISO / TL9000 registered Quality Management Systems and our commitment to continuous improvement. Guaranteed, high quality products have been manufactured at Sumitomo's facility in Research Triangle Park, North Carolina since 1984.

1.3 Reliability

Sumitomo ensures product reliability through rigorous qualification testing of each product family to meet or exceed industry standards. Both initial and periodic qualification testing are performed to assure the tube cables' performance and durability in a field environment.

Sumitomo supports industry standards organizations such as Bell Communications Research (Bellcore), Telecommunications Industry Association (TIA), International Telecommunications Union (ITU), International Electrotechnical Commission (IEC), American Society for Testing and Materials (ASTM), Rural Utilities Service (RUS), The Institute of Electrical and Electronics Engineers (IEEE), and Insulated Cable Engineers Association (ICEA).

2.0 TUBE CABLE DESIGN

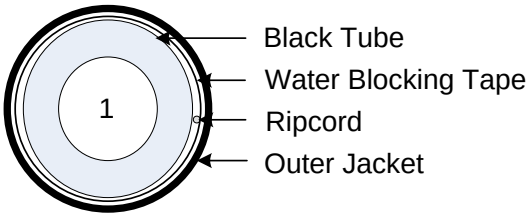
2.1 General

Sumitomo's FutureFLEX® TC01TOX tubes provide a small diameter, lightweight, outdoor pathway for FutureFLEX® fiber bundle installations. FutureFLEX® ABF fiber bundles are available in Single-mode OS1, 62.5 micron Multimode OM1, 1-Gigabit 50 micron Multimode OM2, Laser Optimized 10-Gigabit 50 micron Multimode OM3, and Laser Optimized 10-Gigabit 50 micron Multimode OM4 versions with 2, 4, 6, 12, 18, or 24 fiber strand counts. One fiber bundle can be field-installed in each tube.

2.2 Construction

SEL Part Number	Product Description	Outside Diameter (in.)	Max. Weight (lbs./kft.)	Max. Tensile Load (lbs.)
TC01TOX	Single tube, black, wrapped with water-blocking tape, ripcord, and black outer polyethylene jacket	0.53	58.86	130

Drawing Not To Scale



1-Tube
Dielectric OSP Cable
TC01TOX

3.0 TUBE CABLE CHARACTERISTICS

3.1 Performance

Property	Specification
Operation Temperature Range	-65° to +158° F
Minimum Bend Radius (During / After Installation)	20 / 10 x tube outside diameter

3.2 Tube Markings

The outside surface of each jacketed cable is marked every two (2) feet with the following information:

(Phone Receiver) SEL FutureFLEX® (SEL Part No.) (#)-Tube Dielectric OSP Optical Fiber Cable, A-(Lot #-1, -2, -3, etc.) (Seq. Ftg.) 1-877-356-FLEX WWW.FUTUREFLEX.COM →

3.3 Reel Markings

The outside of each flange is marked with the Sumitomo Electric Lightwave Corp. product part number, the tube cable manufactured length in feet, and the text “Do Not Lay Flat.”

3.4 Tube Cable Ends

Both ends of the tube cable are accessible on the reel. Each tube is sealed with a plastic cap or plug. Tube cable ends are sealed with a heat shrink end cap.

3.5 Tube Cable Reel Data

Sumitomo Part No.	Reel Length (ft)	Reel F x W (in)	Minimum Drum Diameter (in)	Reel Weight (lbs) Empty	Reel Weight (lbs) Full
TC01TOX	1000	54 x 20	40	116	175

Notes:

- Standard Reel Length is 1,000-feet.
- All Reel Length tolerances are ±5%.
- Cut Lengths are available. Contact FutureFLEX® Distributor for additional information.
- If tube is re-spooled, the minimum Drum Diameter of the new reel SHALL be no less than that specified herein to avoid damaging tube product.
- All Reel Widths shown are approximate values only and measured from outside-of-flange to outside-of-flange plus an allowance for fastener hardware protrusions.
- All Empty and Full Reel Weights shown are approximate values only.

4.0 TESTING

Each finished tube is required to pass a 5mm diameter steel ball from end to end using 70 psi (+/-10 psi) gas pressure.

5.0 INSTALLATION / HANDLING PRACTICES

Sumitomo has incorporated a wide range of technical support and training services for our tube cable products into our Technical Support Services (TSS) program. TSS offers training in the areas of cable installation, sheath entry, splicing, testing, and system troubleshooting. The services are available in a variety of media formats and can be customized to better accommodate individual training needs. The TSS program consists of an extensive series of recommended procedure documents, training courses with classroom and hands-on instruction. Please contact Sumitomo's Customer Service department for more information.

6.0 ORDERING INFORMATION

To learn more about Sumitomo's cables or to place an order, call, fax, e-mail, or write us at:

SUMITOMO ELECTRIC LIGHTWAVE CORPORATION
201 South Rogers Lane
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