



SUMITOMO PRODUCT SPECIFICATION

FutureFLEX®

TC01TBX and TC01TXX NON-FIRE RETARDENT TUBES



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Sumitomo Electric Lightwave reserves the right to improve or modify these specifications without notice.

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1.0 GENERAL

This specification covers the design requirements and performance standards for FutureFLEX® Air-Blown Fiber® (ABF) non-flame-retardant, unjacketed single tubes. These tubes are designed for indoor single tube drops where fire rating is unnecessary. 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 Description

Sumitomo's FutureFLEX® TC01TBX and TC01TXX tubes are designed for use in ABF cabling systems to: 1) interconnect jacketed tube cables, or 2) provide an optical fiber tube infrastructure in indoor ABF applications that do not require fire rating (i.e.: inside rigid steel conduit). The tubes are made of a High Density Polyethylene (HDPE) and have a 6mm inside diameter and 8mm outside diameter. These tubes are pulled or placed in indoor routes for the purpose of individual tube interconnection 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).

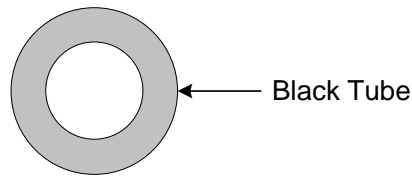
2.0 TUBE DESIGN

2.1 General

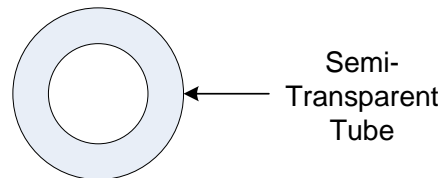
Sumitomo’s FutureFLEX® TBX and TXX tubes provide a small diameter indoor pathway for FutureFLEX® fiber bundle installations. FutureFLEX® ABF fiber bundles are available in Single-mode OS1, 62.5 micron Multimode OM1, 1-Gigabit 50 micron Multimode OM2, Laser Optimized 10-Gigabit 50 micron Multimode OM3, 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.)	Inside Diameter (in.)	Max. Weight (lbs./kft.)	Max. Tensile Load (lbs.)
TC01TBX	Single, black, unjacketed, HDPE tube	0.315 (8mm)	0.236 (6mm)	15	60
TC01TXX	Single, semi-transparent / white, unjacketed, HDPE tube	0.315 (8mm)	0.236 (6mm)	15	60



Single Tube
Non-Flame Retardant
TC01TBX
Drawing Not to Scale



Single Tube
Non-Flame Retardant
TC01TXX
Drawing Not to Scale

3.0 TUBE CHARACTERISTICS

3.1 Performance

Property	Specification
Operation Temperature Range	-40° to +158° F
Minimum Bend Radius (During / After Installation)	9 inches

3.2 Tube Markings

The outside surface of each tube is marked every two (2) feet with the following product identification information:

(Phone Receiver) SEL FutureFLEX® TC01TBX Air-Blown Fiber, A-(Lot #-1, -2, -3, etc.) (Sequential Footage) 1-877-356-FLEX WWW.FUTUREFLEX.COM ←

(Phone Receiver) SEL FutureFLEX® TC01TXX Air-Blown Fiber, A-(Lot #-1, -2, -3, etc.) (Sequential Footage) 1-877-356-FLEX WWW.FUTUREFLEX.COM ←

3.3 Reel Markings

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

3.4 Tube Ends

Both ends of the tube are accessible on the reel. Each tube is sealed with a plastic cap or plug.

3.5 Tube Reel Data

Sumitomo Part No.	Reel Length (ft)	Reel H x W (in)	Minimum Drum Diameter (in)	Reel Weight (lbs) Empty	Reel Weight (lbs) Full
TC01TBX	3300	28 x 22	20	18	66
TC01TXX	500	17 x 8	5	1	8

Notes:

- All Reel Length tolerances are $\pm 5\%$.
- Cut Lengths are available. Contact FutureFLEX® Distributor for additional information.
- If tube cable is re-spoiled, the minimum Drum Diameter of the new reel SHALL be no less than that specified herein to avoid damaging tube cable 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

Suite 100 Raleigh, NC 27610

Attn: Customer Service Department

Phone: 800-358-7378

919- 541-8100

Fax: 919- 541-82265

E-mail: info@sumitomoelectric.com

Sumitomo Electric Lightwave reserves the right to improve, enhance, or modify the cable's features and specifications. For special requirements different than those shown above, please contact our Inside Sales Department. Each Sumitomo Electric Lightwave Corp. optic cable and/or its manufacture may be covered by one or more of the following US Patents: 4,715,677 4,729,629 4,763,983 4,770,489 4,828,349 4,953,945 5,043,037 5,082,347 5,165,003 D331,567 5,247,599 5,410,901 5,471,555 5,642,452.