



# FutureFLEX<sup>®</sup>

## AIR-BLOWN FIBER<sup>®</sup> SOLUTIONS

### SUMITOMO PRODUCT SPECIFICATION

FutureFLEX<sup>®</sup>

TC01TCX SINGLE NON-FIRE RETARDANT TUBE



**SUMITOMO ELECTRIC  
LIGHTWAVE**

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

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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 TC01TCX 8mm clear tubes. These tubes are designed for indoor single tube drops where no fire rating is necessary. 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® TC01TCX tube is designed for use in ABF cabling systems where no fire rating is required. These tubes are made of clear Fluorinated Ethylene Propylene (FEP) and have a 6mm inside diameter and 8mm outside diameter. This tube can be used in indoor routes to: 1) interconnect jacketed tube cables inside Tube Distribution Unit (TDU) and or run to Fiber Termination Unit (FTU) enclosures 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).

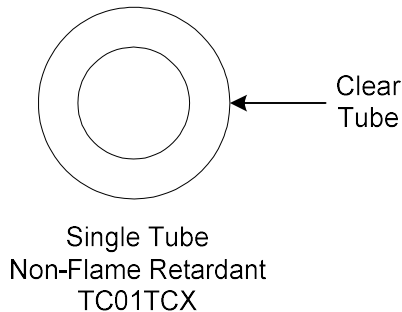
**2.0 TUBE DESIGN**

**2.1 General**

Sumitomo’s FutureFLEX® TC01TCX 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**

<b>SEL Part Number</b>	<b>Product Description</b>	<b>Outside Diameter (in.)</b>	<b>Inside Diameter (in.)</b>	<b>Max. Weight (lbs./kft.)</b>	<b>Max. Tensile Load (lbs.)</b>
TC01TCX	Single, clear Fluorinated Ethylene propylene, FEP tube	0.315 (8mm)	0.236 (6mm)	32	60



Drawing Not to Scale

**3.0 TUBE CHARACTERISTICS**

**3.1 Performance**

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

**3.2 Tube Markings**

The outside surface of this tube does not have any markings.

**3.3 Reel Markings**

A label with the Sumitomo Part Number and tube length will be present on each reel flange.

### 3.4 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
TC01TCX	500 Std	30 x 14	12	27	43
TC01TCX	1000 Max	36 x 13	20	31	63

#### Notes:

- 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 Corp  
 201 South Rogers Lane  
 Suite 100, Raleigh, NC 27610  
 Attn: Customer Service Department  
 Phone: 800-358-7378  
       919-541-8100  
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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.