



## SUMITOMO PRODUCT SPECIFICATION

**FutureFLEX®**

**TC01T5M SINGLE NON-FIRE RETARDANT TUBE**



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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 TC01T5M 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® TC01T5M tube is designed for use in routing fiber bundles in Equipment Rack Wire Management Systems to provide for a neat, organized, and protected installation. These tubes are made of a clear Fluorinated Ethylene Propylene (FEP) and have a 3.5mm inside diameter and 5mm outside diameter. The intended use of the TC01T5M tubes is to protect FutureFLEX® fiber bundles for the last few (1 - to - 6) feet prior to entry into a Fiber Termination Unit (FTU). TC01T5M tubes are used with an 8mm-to-5mm Reducing Coupling (SEL P/N DE05RC2). The Reducing Coupling and an appropriate length of TC01T5M tubing are carefully slid over the ABF fiber bundle. Final installation is achieved when the Reducing Coupling is connected to a standard 8mm tube.

### 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).

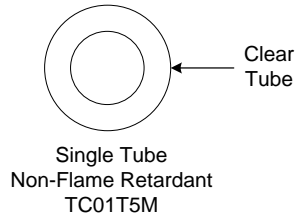
## 2.0 TUBE DESIGN

### 2.1 General

Sumitomo's FutureFLEX® TC01T5M 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.

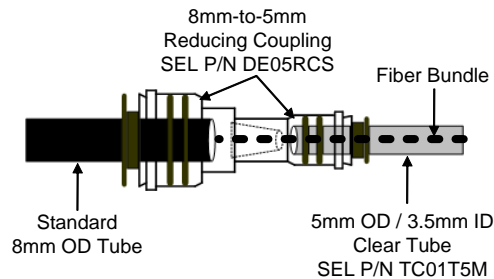
## 2.2 Construction

SEL Part Number	Product Description	Outside Diameter (in.)	Inside Diameter (in.)	Max. Weight (lbs./kft.)	Max. Tensile Load (lbs.)
TC01T5M	Single, clear Fluorinated Ethylene Propylene (FEP) tube	5mm	3.5mm	16	35



Drawing Not to Scale

## 2.3 Drawing of 8mm to 5mm Coupling



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)	1.5 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 F x W (in)	Minimum Drum Diameter (in)	Reel Weight (lbs) Empty	Reel Weight (lbs) Full
TC01T5M	500	30 x 14	12	27	35

#### Notes:

- Reel Length tolerances are  $\pm 5\%$ .
- Cut Lengths are available. Contact FutureFLEX® Distributor for additional information.
- If tube cable is re-spooled, 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 3mm 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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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.