SUMITOMO RECOMMENDED PROCEDURE

SRP SP-F04-044

FutureFLEX® AIR-BLOWN FIBER® SOLUTIONS

FIELD TERMINATION KIT PROCEDURE FOR FT12FBK 900µm SUB-UNIT KIT

SUMITOMO ELECTRIC LIGHTWAVE CORP.
201 S. Rogers Lane, Suite 100, Raleigh, NC 27610
(919) 541-8100 or 1-800-358-7378
www.sumitomoelectriclightwave.com
SEL is a Member of the Sumitomo Electric Industries, Ltd. Group

1.0 General

1.1 This procedure describes the standard techniques for installing FutureFLEX Air-Blown Fiber (ABF) 12-fiber bundles into a FT12FBK, Field Termination Kit with 900µm sub-units / colored-coded tubes.

1.2 Field Termination Kits are used at locations where fiber bundles containing 250µm fibers are to be terminated and connectorized at fiber optic patch panels, switches, or transmitter / receiver locations with splice on connectors.

2.0 Safety Precautions

2.1 The use of safety glasses is strongly recommended during this procedure.

3.0 Reference Documents

3.1 Sumitomo Recommended Procedure, *FutureFLEX Fiber Bundle Stripping Procedure*, SRP SP-F04-006.

4.0 Equipment / Tools Required

The following equipment, tools, and materials are required to complete this procedure:

4.1 FT12FBK Field Termination Kit with 900µm sub-units

4.2 Adhesive Tape

4.3 measuring tape

4.4 Appropriate clean work surface / table

4.5 cutting tool (scissors or

4.6 wire strippers (10 – 20 AWG positions)

5.0 Preparing the Fiber Bundle

5.1 Provide at least 6" – 10" of additional fiber sub unit strip-length beyond the actual fiber length required. SEL's FT12FBK Field Termination Kit has an approximate 24" buffer tube length. Therefore, the 12-fiber sub units should be stripped back at least 30" – 34".

5.2 Refer to SRP SP-F04-006 for detailed fiber bundle stripping procedures and techniques on how to remove the outer foam jacket, access sub-unit ripcords, and remove inner nylon jackets.

5.3 The latest 12-fiber bundles have one (1) nylon subunit (FB12***S) under the PEF jacket. These FB (fiber bundle) part numbers end in "S" representing 1 nylon subunit.

NOTE: The older legacy style 12-fiber bundle contains three (3) nylon sub-unit of 4 fibers each (FB12*) in the following color-order sequence:**

Sub-unit:#1
Blue, Orange, Green, Brown
Sub-unit:#2
Slate, White, Red, Black
Sub-unit:#3
Yellow, Violet, Rose, Aqua

5.4 Once the fiber bundle nylon(s) has been stripped, install the 2 mm (red) split fiber bushing over the PEF jacket and secure it to work surface with adhesive tape.

NOTE: **If using older style 12 fiber bundle with multiple nylon subunits, use the 3mm black fiber bushing provided with FT12FBK. These older FB part numbers do not end with "S."**

5.5 Separate and organize fiber bundle strands and assemblies. At the point where the strands exit the nylon sub-unit, carefully arrange them so they are not crossed and carefully separate them along their entire length. **(See Fig. 1)**

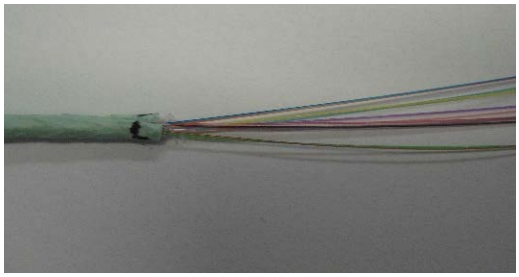


Figure 1
12 Fiber Bundle Stripped and Fiber Fanned out

6.0 FT12FBK Field Termination Kit

6.1 FT12FBK Field Termination Kit consists of a Base Unit, Cover Unit, one (1) Breakout Unit Assembly block, and 3 blank blocks. A 2mm (red) and 3mm (black) bushing are also provided. **See Fig 2.**

6.2 Base Unit cavity holds four (4) stackable Breakout Unit Assemblies.

6.3 Breakout Unit Assemblies consist of four(4) rectangular black plastic break-out blocks, one with 12 color-coded 900µm OD tubing installed and three (3) blank blocks.

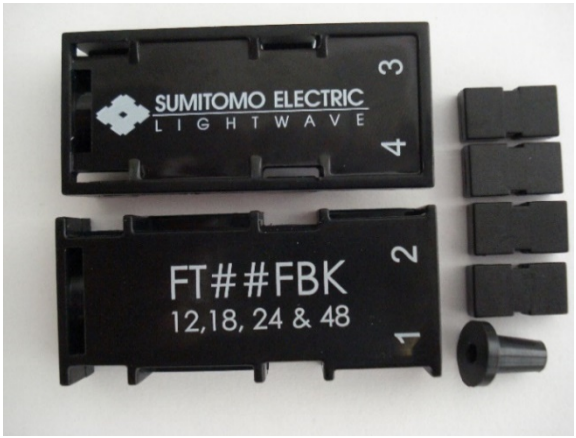


Figure 2
FTFLD12 Field Termination Kit Components
Only the black 3mm fiber bushing is shown.

6.3.1 In the appropriate holes for each of the 12 colors, the fiber strands are threaded through the block into the buffer tubes, by color. **See Figures 3 and 4.**

6.4 The 2mm (red) bushing secures the 12-fiber bundle in the Base Unit to avoid pullout. This is for the FB12SXS fiber bundles only. Each FB12SXS has a single sub-unit with 12 fibers.

Note: **The 3mm (black) fiber bushing provided is only used with the older style 12 fiber bundle that has 3 sub units of 4 fibers.**

6.5 Cover Unit snaps onto Base Unit to secure Breakout Unit Assembly and bushing and protect exposed bare fibers.

Base Unit Specifications
Dimensions (in.): 2.25" L x 1.0" W x 0.6" H
Material: ABS Plastic
Color: Black
Logo: FTFLD48

Cover Unit Specifications
Dimensions (in.): 2.25" L x 1.0" W x 0.6" H
Material: ABS Plastic
Color: Black
Logo: Sumitomo Electric

Tubing Specifications
Dimensions: mm / (in.):
ID: 0.50mm +/- 0.05mm (0.020 +/- 0.002)
OD: 0.90mm +/- 0.05mm (0.035 +/- 0.002)
Length: Approximately 24 inches

Mechanical:
Max. Tensile Load: 45 Newtons / 10 lbs.
Min. Bend Radius: 1.3 cm / 0.5 inch
Crush Resistance: 52 N/cm Max. / 0.03 lbs/in
Temp. Rating: -40°C - +85°C (-40°F - +175°F)
Material: Thermoplastic Elastomer

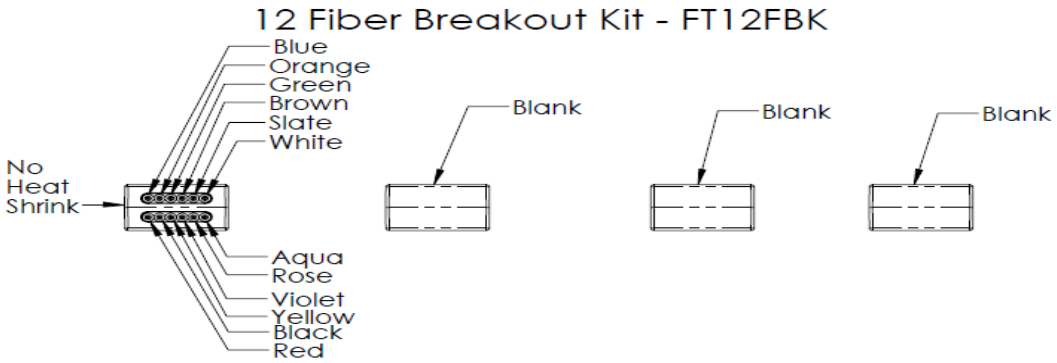


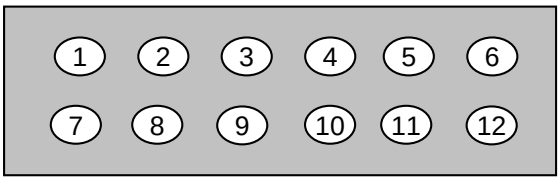
Figure 3
Fiber Breakout Sub Unit Organization

6.6 Breakout Unit Assembly tube colors and arrangement matches the ABF fiber bundle strand colors and arrangement. (**See Fig. 3 or 4)**

Figure 4 (Below)
Breakout Kit Subunit Organization with 3 blank subunits

Sub-unit Fibers and Block Position 1

Tube	Color	Tube	
1	Blue	7	Red
2	Orange	8	Black
3	Green	9	Yellow
4	Brown	10	Violet
5	Slate	11	Rose
6	White	12	Aqua



Blank Block Position 2

Blank Block Position 3

Blank Block Position 4

7.0 Assembling the Field Termination Kit

7.1 Install the 2mm or 3mm bushing onto the end of the stripped back PEF jacket (if not done already)

7.2 Insert each fiber into its colored-coded tube in the 1st breakout kit subunit. Begin with the blue strand first, followed by the orange, and so on until all 12 fibers are started into the Breakout Unit Assembly 900µm tubes. Work carefully, comb the fibers, and ensure strands are not crossed or twisted. **See Fig. 3 and 4.**

7.3 Once all fibers are inserted into Breakout Unit Assemblies re-confirm that fiber strands are not crossed or twisted over each other between the end of the nylon jackets and the Breakout Unit Assembly block. Crossed fibers may cause additional optical attenuation due to macro-bending. (Our new units are longer than our previous units to allow more length between the PEF jacket and the assembly blocks which makes it less likely to cause attenuation issues.) If fibers are crossed, they should be carefully removed from the Breakout Unit Assembly tubes, straightened out, and re-installed. See Figure 5.

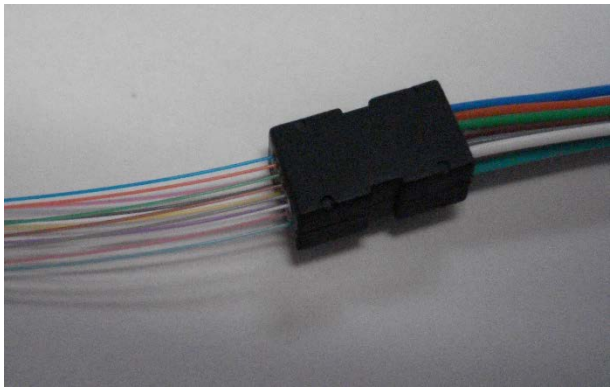


Figure 5
Fiber Strands in Color-Order inserted into Breakout Unit Block

7.4 Once all the strands of the sub-unit are inserted into the tubing, carefully grasp and push all fibers through each Breakout Unit Assembly tubing as a group. Push until ends of the PEF jacket and inner nylon jackets are even with or just past the inside of the 2(or 3 mm) bushing. (**See Fig. 6**)

7.5 Install the 1st subunit block in position # 1 and the 3 blank blocks in positions 2 – 4. Install the bushing in the slot of the base unit.(**see Fig. 6 and 7**)

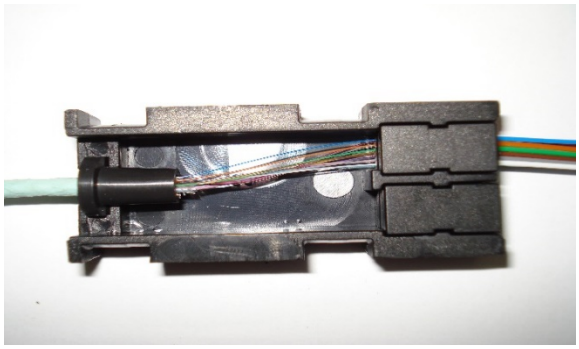


Figure 6
1st Subunit placed in and all 4 Subunits Assembled in Base Unit of Breakout Kit

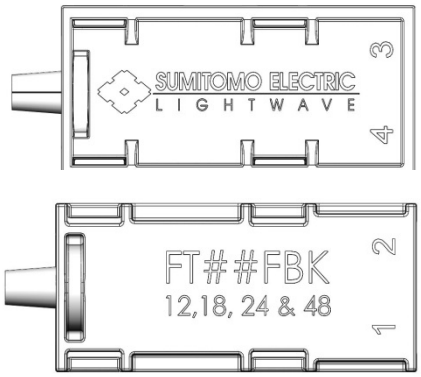


Figure 7
Top: Breakout Assembly Base Unit print
Bottom: Breakout Assembly Cover

7.6 Complete the FT12FBK Field Termination Kit assembly by snapping Cover Unit onto Base Unit. (**see Fig. 8)**

Figure 8
Fiber Bundle Foam & Nylon Jackets
Even With or Just Forward of 3 mm bushing