

CORNING

MDU SC Connector Termination Procedure

Series: 718-NANN-NNNNN

C	Update address and fax number	10/26/18
B	Update the stripping length	11/24/09
A	Initial Release	4/30/09
Version	Revision History Summary	Issue Date

I INTRODUCTION

This document describes the termination procedure of MDU SC connectors. This connector is assembled with 4.8mm outer diameter cable which has 900um buffered fibers (Mfg: Draka cable). Please read this procedure thoroughly before starting assembly.

II DESCRIPTION

Fig. 1 shows the structure of MDU SC connector, which consists of Subassembly, Dust Cap, Coupling Device, SC Connector, Crimp Tube, Space and Boot. Follow the steps to terminate SC Cable Assembly.

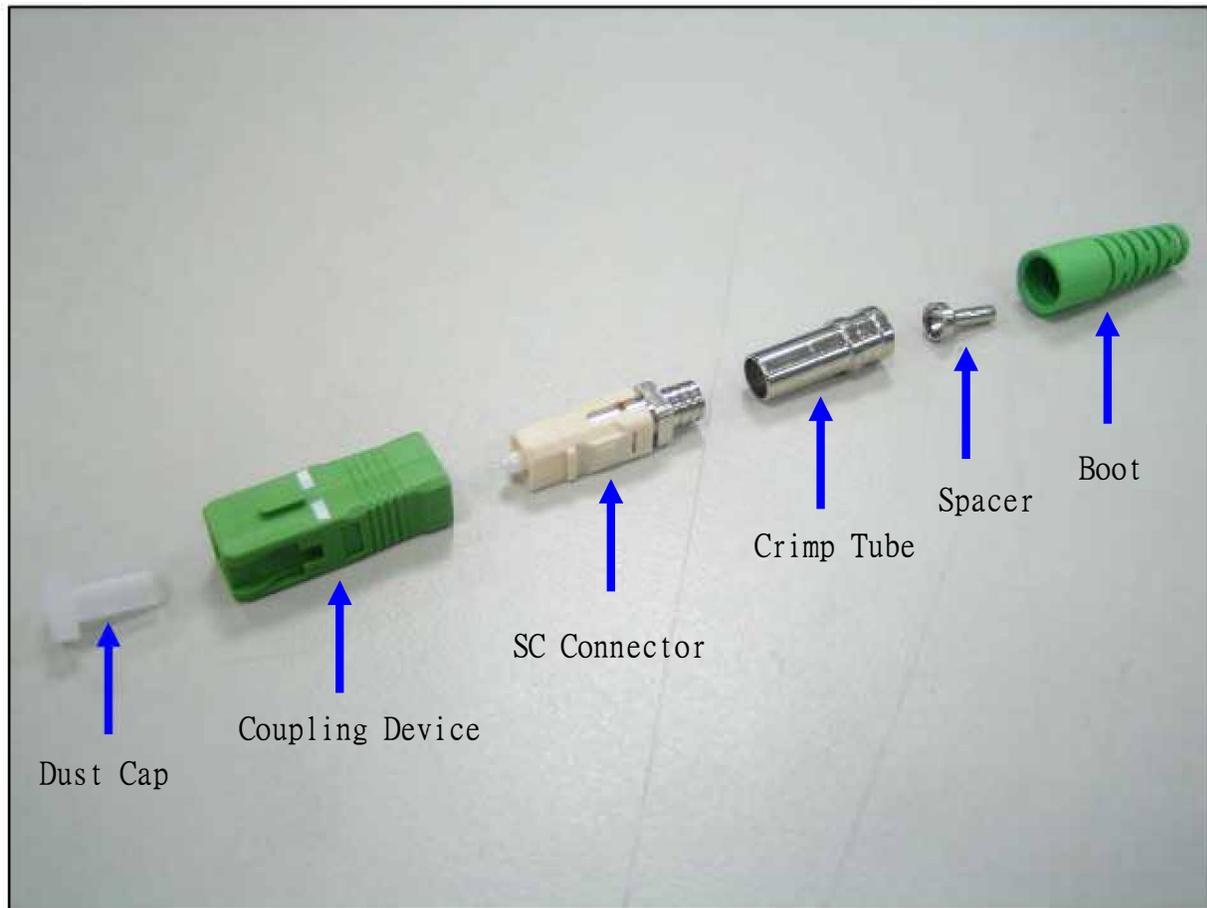


Fig 1

III ASSEMBLY PROCEDURE

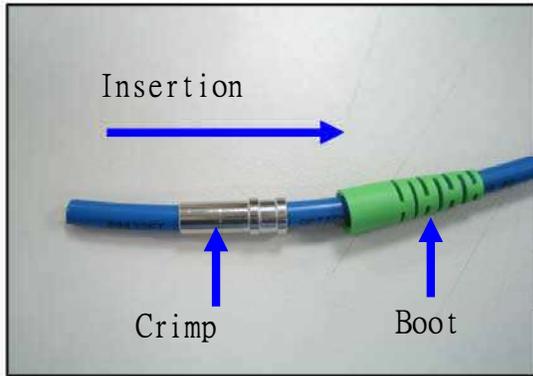


Fig 1

Step 1 Slide the Crimp tube and boot onto the cable in the correct order and direction.

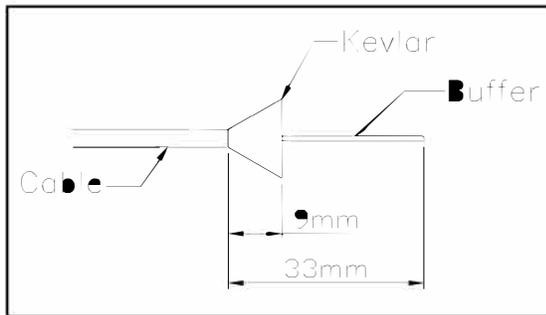


Fig 2

Step 2 Use Jacket Stripper to cut cable jacket and Kevlar to cut the strength member (Kevlar). See Fig.2 for the correct dimensions.

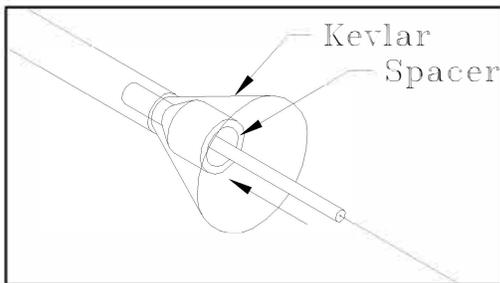


Fig 3

Step 3 Insert the Spacer carefully into the buffer of cable and push the Spacer all the way until it is stopped by the jacket, shown in Fig. 3.

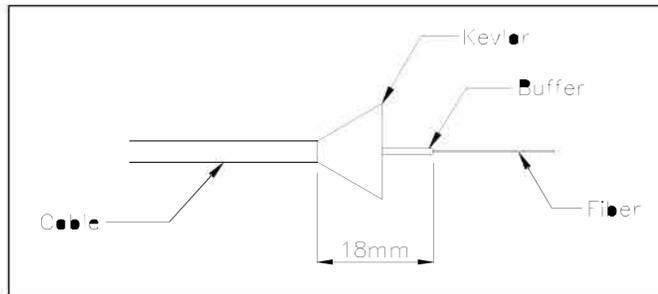


Fig 4

Step 4 Use buffer stripper to remove the required length of buffer and use alcohol and lens wiper to clean the bare fiber.



Fig 5

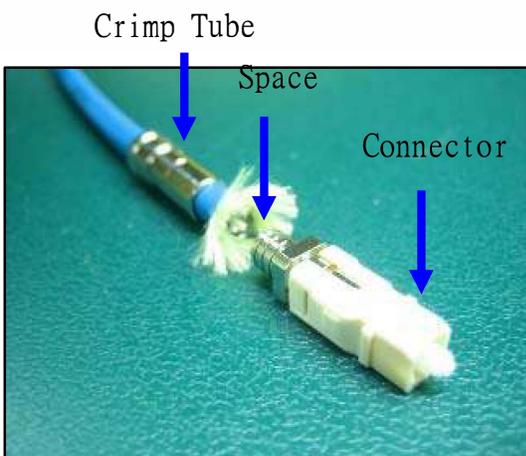


Fig 6



Fig 7

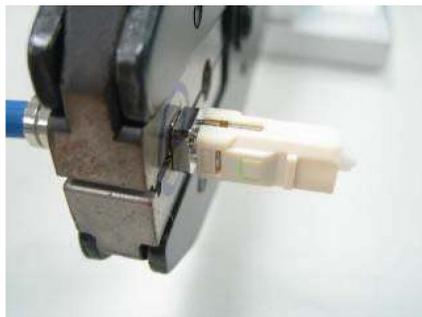


Fig 8

Step 5 Have the epoxy ready according to the manufactures instructions and put part of the mixed epoxy into a small container.

Step 6 Apply a couple of drops of the epoxy to the inside of subassembly by using a syringe.

Step 7 Insert fiber carefully into the epoxy-filled subassembly. Slightly rotate the subassembly will help the fiber to get through the ferrule.

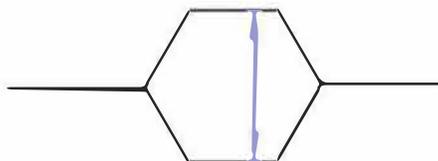
Step 8 Slide the fiber gently in and out of ferrule to form the epoxy bead on the end of ferrule. Or, apply a drop of epoxy on the ferrule end face to form the epoxy bead around fiber.

Step9 Slide crimp tube over Kevlar and connector body. Crimp the crimp tube twice to make sure it is fully crimped.

Note: Due to the crimp die area is smaller than crimp tube, it is highly recommended to crimp both front and back section of the crimp area.

1. First crimp near the end of tube. Fig 7
2. Second crimp near rear body. Fig 8

5.2mm (0.205in)



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Fig 9

Step 10 Carefully mount the connector subassembly onto the curing fixture, and cure it. The heating temperature is 120°C for 20 minutes or following epoxy manufacturer's curing instructions.

Note: During the curing, the cable should maintain vertically to avoid any bending which can cause micro-bending loss after assembly.

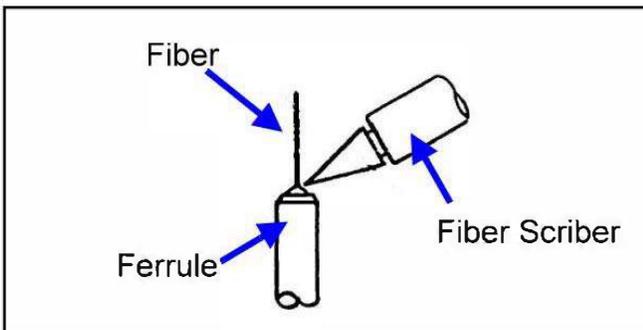


Fig 10

Step 11 Remove the fixture from the connector subassembly after epoxy is fully cured. Use a fiber scriber to score the protruded fiber slightly at the point where the fiber and epoxy bead meet. Gently push the tip of fiber until the fiber separates.

Note: Do not break the fiber directly when the fiber is scored. Fiber shall be scored again if fiber is not broken by light push on the tip of fiber.

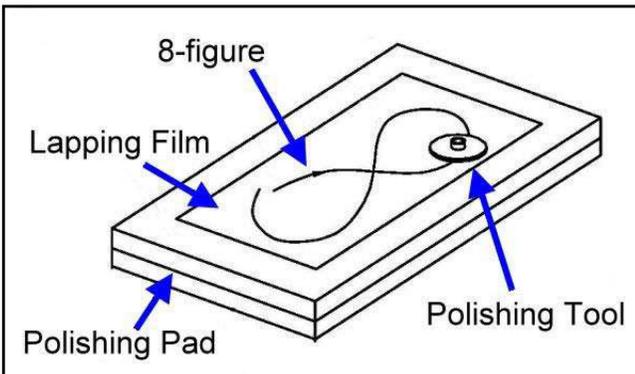


Fig 11

Step 12 Use alcohol and lens wiper to clean the polishing pad and polishing tool and place a 16 µm lapping film on the polishing pad and mount the connector onto suitable polishing fixture.

Note: Polishing Machine manufacturers offer different polishing procedures. Please refer to the polisher manuals for proper polishing process. Also, this polishing procedure is for reference only. Cable assembly makers should develop their own polishing process.

Step 13 Polish the end of connector by applying light pressure on the connector and move the polishing jig by an 8-figure motion until the polishing traces caused by protruded fiber disappear.

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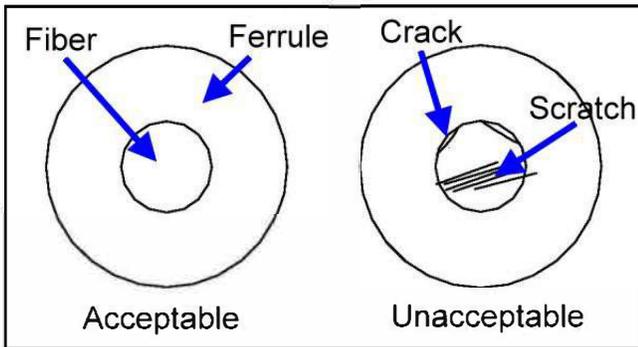


Fig 12



Fig 13

Step 14 Repeat the previous step with a 9 μ m, 3 μ m, 1 μ m and 0.3 μ m lapping film respectively.

Step 15 Clean connector end and use a X200 microscope to inspect the end surface of the connector. No adhesive, crack and scratch should be visible.

Step 16 Pull the coupling device over the front outer shell and make sure snaps in place.

Step 17 Slide the boot over the crimped tube as shown in Fig. 13.

Step 16 After passing the visual inspection, place dust cap over the end of connector ferrule.

IV Required Tools and Materials

Note: Most Tools and Consumable material are standard and can be purchased through its own manufacturers or distributors.

TOOLS
JACKET STRIPPER
KEVLAR CUTTER
BUFFER STRIPPER
FIBER SCRIBER
MICROSCOPE X200
CRIMPING TOOL
POLISHING TOOL(LC)
POLISHING PAD
DIMENSION TEMPLATES
CONSUMABLE ITEMS
EPOXY (EPO-TEK 353ND)
LAPPING FILM 5 μm
LAPPING FILM 1 μm
LAPPING FILM 0.3 μm
LENS WIPER
SYRINGE