

## Scoring Corning Cable Systems Fiber Optic Buffer Tubes with a Coaxial Cable Stripper

### 1. General

**1.1** This procedure describes how to use an Ideal® coaxial cable stripper (Figure 1) to score the buffer tubes found in Corning Cable Systems fiber optic cables. Scoring the circumference of the tube will enable you to make a clean break in the tube with minimal risk to the fibers inside.

**1.2** Two sizes of Ideal coaxial cable strippers are suggested for use with Corning Cable Systems fiber optic cable:

For standard buffer tubes found in *ALTOS*® and *FREEDM*™ cables, use Ideal catalog # 45-163. This tool has a blue body and is suitable for buffer tubes with outside diameters of 2.5 mm to 5.556 mm ( $\frac{3}{32}$  to  $\frac{7}{32}$ -in.).

For *FREEDM*, *Maxi-Bundle*®, and *EST* single-tube cables, use Ideal catalog # 45-165. This stripper has a black body and accommodates tubes with an outside diameter of 4.763 mm to 7.938 mm ( $\frac{3}{16}$  to  $\frac{5}{16}$ -in.).

**1.3** This issue include a new cable handling precaution about filler rods.

### 2. Precautions

#### 2.1 General Precautions



**IMPORTANT:** Read and understand this procedure completely before attempting to ring cut a buffer tube. Practice using this tool on a scrap piece of cable before starting your first job with this tool.

#### 2.2 Fiber Handling Precautions



**CAUTION:** Fiber optic cable is sensitive to excessive pulling, bending and crushing forces. Consult the cable specification sheet for the cable you are installing. Do not bend cable, exposed buffer tubes, or fibers more sharply than the minimum recommended bend radius. Do not apply more pulling force to the cable than specified. Do not crush the cable or allow it to kink. Doing so may cause damage that can alter the transmission characteristics of the cable - the cable may have to be replaced.

SRP-005-007 (402681)

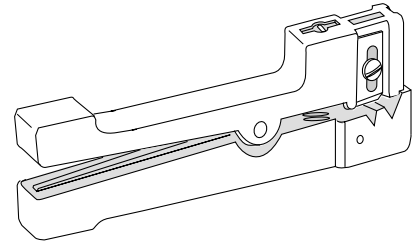


Figure 1

#### 2.3 Filler Rod Precautions



**CAUTION:** Filler rod color may vary from cable to cable. Typical filler rod colors are natural (off-white) and black. Careful attention should be taken to avoid accidental cutting of live buffer tubes; particularly white and black tubes. In mid-span applications, CCS recommends coiling all tubes and filler rods in the slack storage area of the splice closure; especially for cables with fiber counts above 96 fibers. Avoid cutting any filler rods unless necessary for storage space considerations. When in doubt regarding the buffer tube color code and filler rod placement, contact CCS Engineering Services for assistance prior to cutting.

### 3. Tools and Materials

**3.1** In addition to the cable stripper, you will need the following tools:

- Small slotted screwdriver

### 4. Adjusting the Stripper

**4.1** Before using the stripper, make sure that it is properly adjusted. Use a small slotted screwdriver to adjust one of the blades on the side of the buffer tube cutter so that it seats against the lower jaw but does not force the jaw open (Figure 2). Leave the blades on the front and other side of the tool fully retracted so that they do not extend into the grooves of the lower jaw.

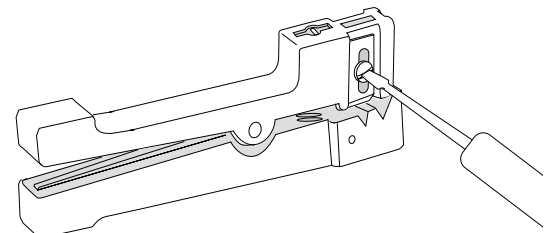


Figure 2

## 4. Scoring an Individual Buffer Tube

**4.1** Strip the cable sheath to the required length as described in the appropriate Corning Cable Systems SRP to access the buffer tubes (Figure 3).

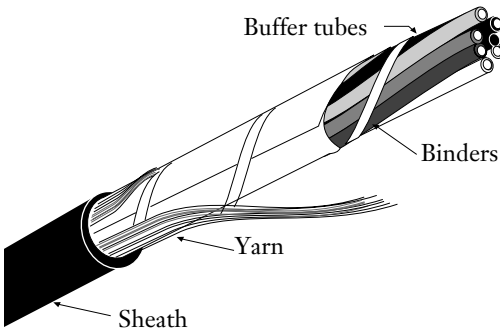


Figure 3

**4.2** Use the last 5 to 7.5 cm (2 to 3 in.) at the end of the cable end to determine the sharpness of the stripper's blade and how many turns of the tool will be required to score the tube. *To minimize damage to the fibers inside the tube, always use the tool to score the tube, **not** ring cut it.*

To score a buffer tube:

- Open the tool by squeezing its handles together and place the stripper's blade on the buffer tube at the desired scoring point.
- Hold the buffer tube steady with one hand to prevent it from twisting.
- Use your other hand to rotate the tool around the buffer tube two to three complete turns to score it (Figure 4). Remove the tool from the buffer tube.

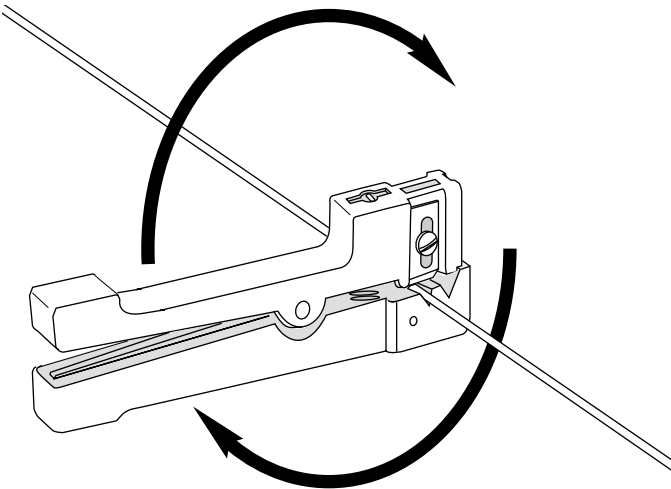


Figure 4

*If the stripper completely cuts through the tube during this trial step, move the tool to a new trial area at the end of the buffer tube and repeat a) through c) with **fewer** rotations in step c). If the blade cuts completely through the tube, damage to the fibers inside can result.*

- Carefully flex the tube to break it at the score point. The break should be clean and free of rough edges (Figure 5).

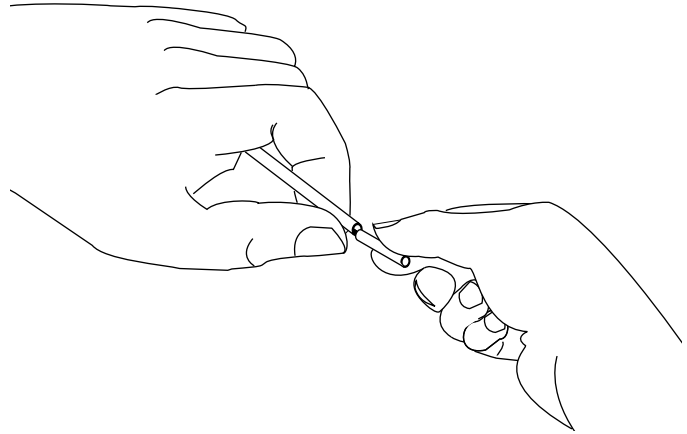


Figure 5

*If the break is not clean, repeat the trial at a new location at the end of the tube with an additional rotation or two.*

**4.2** Once you have determined the number of rotations needed to score the tube, place the tool at the actual score point and carefully repeat steps a) through d).

**4.3** Slide the scored section of buffer tube off of the fibers. The fibers are now ready to be cleaned and terminated.

## 5. Scoring Single-tube Cables

**5.1** Strip the outer sheath of the single tube cable to the required length as described in the appropriate Corning Cable Systems SRP.

**5.2** Use the 10 cm (4 in.) section at the end of the cable which will be cut off and discarded to determine the sharpness of the stripper's blade and how many turns of the tool will be required to score the tube. *To minimize damage to the fibers inside the tube, always use the tool to score the tube, **not** ring cut it.*

**5.2** To score single-tube cable tube:

- Open the tool by squeezing its handles together and place the stripper's blade on the tube at the desired cutting point
- Hold the tube with one hand to prevent it from twisting.

- c) Make enough turns with the cutter to cut the outer layer of the tube, but only *score* the clear layer underneath (Figure 6).

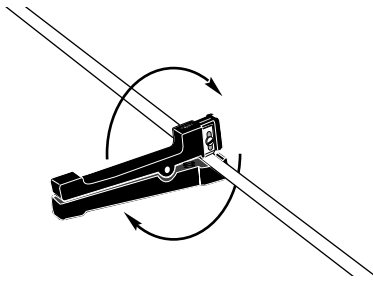


Figure 6

- d) Remove the cutter from the tube.
- e) Snap the tube at the scored area (Figure 7). Pull off the severed tube. **USE CARE TO AVOID DAMAGING THE FIBERS.**

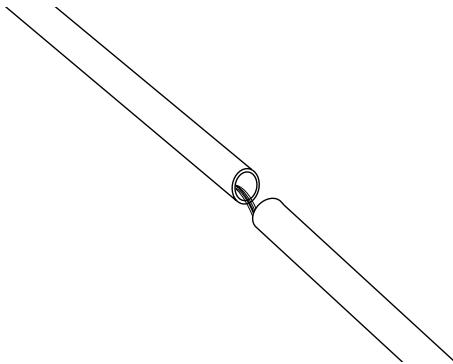


Figure 7

## 6. Blade Replacement

**6.1** When the blade becomes dull, replace it with one of the two unused blades mounted in the tool or a new one available from Ideal.

**6.2** To replace a blade:

- a) Remove the adjusting screw and washer securing the old blade.
- b) Slide the old blade out of the tool. Properly dispose of the old blade.
- c) Slide in a new blade and secure it with the screw and washer removed in step a).
- d) Adjust the blade as described in 4.1.

*Special Note:  
Fiber Optic  
Training  
Program*



*Corning Cable Systems offers comprehensive, integrated training programs. Courses are structured for: Telephony, CATV, LAN, Intelligent Transportation Systems and Power Utilities.*

*For information on Engineering Services Training call: 800-743-2671.*

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