# Sheath Removal for AccuRibbon® DC Toneable Cable



## 1. General

1.1 This document contains sheath preparation instructions for OFS AccuRibbon® DC toneable cable.

1.2 AccuRibbon® DC toneable cable contains either two or four linear dielectric strength members in the cable jacket. For 12 – 216 fiber cables, the cable contains two strength members positioned 180° apart. For higher fiber count cables, the cable contains four strength members (two on each side of the cable). This arrangement of the strength members allows easy access to the central core tube in mid-span splicing applications. In addition, two 15 AWG bare copper wires are included in the cable jacket adjacent to the strength members. The copper wires are provided for cable locating purposes.

1.3 AccuRibbon® DC toneable cable is available with 12 – 432 fibers in a gel-free central core tube. OFS AccuRibbon® is comprised of 12- or 24-fibers bonded together in a matrix material. The 12-fiber ribbons are used in cables containing 12 – 216 fibers. The 24-fiber ribbons are used in cables containing 240 – 432 fibers.

## 2. Precautions

2.1 AccuRibbon® DC toneable cable is designed to meet the rigors of aerial, direct buried, and underground conduit installations. However, care must be exercised during installation to ensure that the maximum rated cable load (MRCL) is not exceeded and the minimum bend diameter is not violated.

2.2 The MRCL for AccuRibbon® DC toneable cable is 600 pounds (2700 N). This is the maximum tensile force that may be applied to the cable during short-term installation conditions, e.g., during an underground installation in conduit or innerduct. For long term conditions, the maximum recommended cable load is 180 pounds (800 N).

2.3 Cable minimum bend diameters are defined for both dynamic and static conditions. The dynamic condition applies to a cable that may be exposed to the MRCL, e.g., pulling the cable around a sheave or capstan. The static condition applies to a cable that is exposed only to low tension, e.g., an installed cable that is racked in a handhole or manhole. The maximum recommended cable tension under static conditions is 180 pounds (800 N).

2.4 Cable minimum bend diameters[1] are dependent on the cable diameter and fiber count and are expressed as a multiple of the cable diameter. For static conditions, the minimum recommended bend diameter for cables containing up to 216 fibers is 20 × cable outside diameter (OD). For dynamic conditions, the minimum recommended bend diameter is 40 × OD. For cables containing 240 – 432 fibers, the minimum recommended bend diameter is 30 × OD for static conditions and 40 × OD for dynamic conditions. The minimum bend diameters for AccuRibbon® DC toneable cables are summarized in Table 1.

2.5 The minimum recommended storage-coil diameter for cables containing up to 216 fibers is 18 inches. For cables containing 240 – 432 fibers, the minimum recommended storage-coil diameter is 40 × OD. Minimum recommended storage-coil diameters are summarized in Table 1.

**Table 1 – Minimum Recommended Bend Diameters and Storage Coil Diameters for AccuRibbon® DC Toneable Cable**

| Fiber Count | Cable Diameter | Minimum Bend Diameter | | Minimum Storage Coil Diameter |
|---|---|---|---|---|
| **12-fiber AccuRibbon®** | | **Unloaded 20 × OD** | **Loaded 40 × OD** | |
| 12 - 48 | 0.51" (13.0 mm) | 11" (26 cm) | 21" (52 cm) | 18" (46 cm) |
| 60 -144 | 0.61" (15.5 mm) | 13" (31 cm) | 25" (62 cm) | 18" (46 cm) |
| 156 - 216 | 0.71" (18.0 mm) | 15" (36 cm) | 29" (72 cm) | 18" (46 cm) |
| **24-fiber AccuRibbon®** | | **Unloaded 30 × OD** | **Loaded 40 × OD** | **Coil Diameter 40 × OD** |
| 240 | 0.71" (18.0 mm) | 22" (54 cm) | 29" (72 cm) | 29" (72 cm) |
| 264 - 432 | 0.78" (19.8 mm) | 24" (60 cm) | 32" (80 cm) | 32" (80 cm) |

## 3. End-Prep Sheath Removal

**3.1** The following instructions describe end-prep jacket removal for AccuRibbon® DC toneable cable. Note that the cable shown in the photographs contains only two dielectric strength members. Cable prep for cables containing four strength members is identical. ***Work gloves and safety glasses are recommended for use during the cable prep operation.***

1. Consult the closure instructions for the length of cable jacket that must be removed. Place a tape mark at the required length from the end of the cable.
2. Ring-cut the outer jacket at the tape mark (Figure 1).


**Figure 1 – Ring cut the outer cable jacket.**

3. At the end of the cable, shave off about 6 inches of the outer jacket to expose the strength members and ripcords (Figure 2).

[1] Some cable manufacturers specify minimum bend-radius rather than minimum bend-diameter. Minimum bend-diameter can be converted to minimum bend-radius by dividing the minimum bend-diameter by 2. For example, the minimum recommended bend-radii for OFS cables containing up to 216 fibers are 10 × OD and 20 × OD, respectively, for static and dynamic conditions.

**Figure 2 – Expose the strength members and rip cords.**

4. Grip a ripcord with needle nose pliers and pull it through the outer jacket to the ring cut (Figure 3). Repeat for the second rip cord.

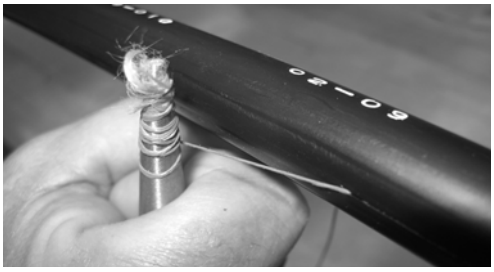

**Figure 3 – Pull the ripcords through the outer jacket.**

5. Flex the two sections of outer jacket at the ring cut to separate and remove from the cable (Figure 4).

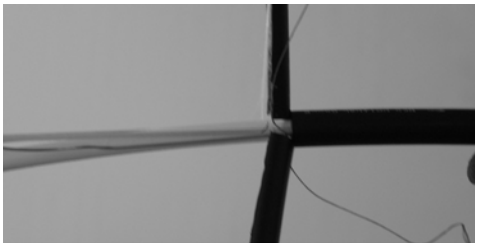

**Figure 4 – Remove the outer jacket.**

6. Cut the ripcords and water blocking tape. Leave a few inches of ripcord if additional jacket may be removed (Figure 5).

**Figure 5 – Cut the rip cords and water blocking tape.**

7. Consult the closure instructions to determine the strength-member length that is required to clamp the cable in the closure. Cut the strength members at the required length (Figure 6). Trim the copper locate wires as required by local practices.

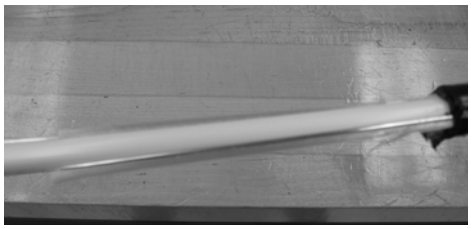

**Figure 6 – Cut the strength members and copper wires as required.**

8. Skip to Section 5 for core tube removal instructions.

## 4. Mid-Span Sheath Removal

**4.1** The following instructions describe mid-span jacket removal for AccuRibbon® DC toneable cable. Note that the cable shown in the photographs contains only two dielectric strength members. Cable prep for cables containing four strength members is identical. ***Work gloves and safety glasses are recommended for use during the cable prep operation.***

1. Consult the closure instructions to determine the length of cable jacket that must be removed for mid-span splicing. Place tape marks on the cable to identify the section of cable jacket that will be removed.
2. Ring-cut the outer jacket at both tape marks (Figure 7).


**Figure 7 – Ring cut the outer jacket at both tape marks.**

3. Shave about 6 inches of the outer jacket at one of the tape marks to expose fiberglass strength member(s) and ripcord (Figure 8). Repeat on the opposite side to expose the remaining strength member(s) and rip cord.

**Figure 8 – Shave the outer jacket to expose the strength members and ripcords.**

4. Cut the rip cords at the ring cut. Pull the rip cord through the outer jacket to the opposite ring cut (Figure 9). Repeat with the second rip cord.

**Figure 9 – Pull the ripcords to the opposite ring cut.**

5. Flex the cable at both ring cuts to separate the outer jacket. If needed, use diagonal pliers to lift an edge of the outer cable jacket. Peel back and remove the two halves of the outer jacket. (Figure 10).

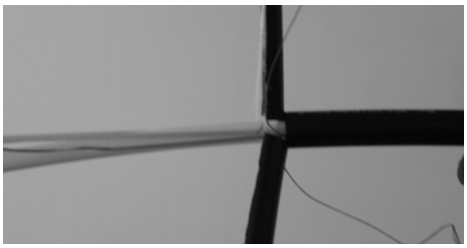

**Figure 10 – Remove the outer jacket.**

9. Cut the ripcords and water blocking tape. Leave a few inches of ripcord if additional jacket may be removed (Figure 11).

**Figure 11 – Cut the rip cords and water blocking tape.**

10. Consult the closure instructions to determine the strength-member length that is required to clamp the cable in the closure. Cut the strength members at the required length (Figure 12). Cut and trim the copper locate wires as required by local practices.

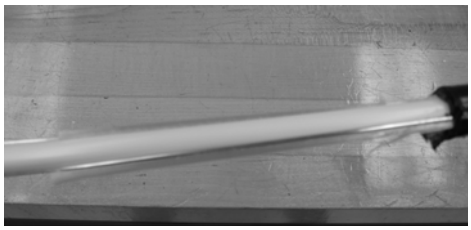

**Figure 12 – Cut the strength members and copper wires as required.**

## 5. Core Tube Removal

5.1 **End Prep:** This section describes the core tube removal procedure for end prep access. Additional information can be found in OFS practice IP-054, *1050 Series Core Tube Entry Tools*.

1. Consult the closure instructions to determine the length of central core tube that is needed inside the closure. Measure and mark the core tube as required.
2. Use the appropriate 1050-type tool to ring-cut the core tube at the required length (Figure 13). If more than 5-feet of tube is removed, cut and remove the tube in several shorter sections.

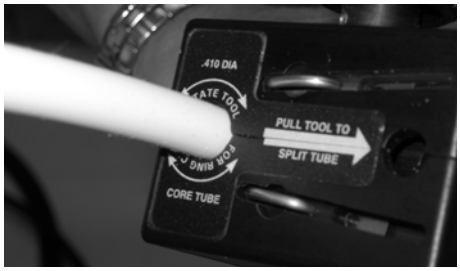


**Figure 13 - Ring cut the core tube at the required length**

3. Flex the core tube at the ring cut to separate and remove the core tube. Cut and remove the water blocking tape (Figure 14).

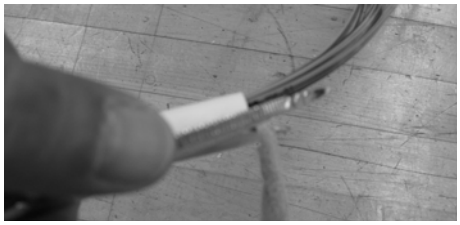

**Figure 14 – Cut and remove the water blocking tape.**

4. Proceed to Section 6 for ribbon cleaning and handling instructions.

5.2 **Mid-Span Access:** This section describes the core tube removal procedure for mid-span access applications. Additional information can be found in OFS practice IP-054, *1050 Series Core Tube Entry Tools*.

1. Consult the closure instructions to determine the length of core tube that is recommended inside the closure. Mark the section of tube that will be removed.
2. Use the appropriate 1050-type tool to split the core tube between the two marks (Figure 15).

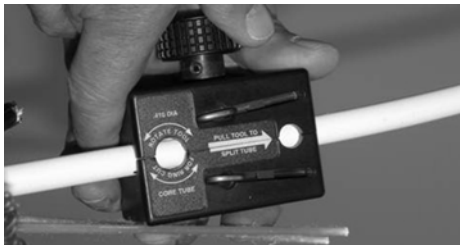

**Figure 15 - Split the core tube between the two marks.**

3. Use the 1050 tool to ring-cut the core tube at both marks (Figure 16).


**Figure 16 – Ring cut the core tube at both marks.**

4. Remove the core tube to expose the fibers. Cut and remove the water blocking tape (Figure 17).

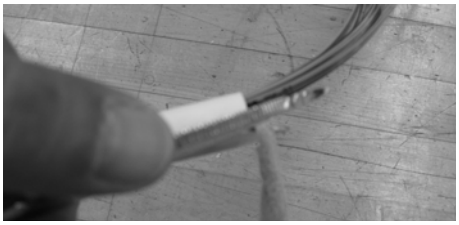

**Figure 17 – Remove the water blocking tape.**

## 6. Cleaning Fibers and Ribbons

**6.1** AccuRibbon® DC toneable cable is a totally dry cable and does not contain any cable-gel material. Consequently, no ribbon cleaning procedure is required. At most, the end of the ribbon may need to be wiped with an alcohol soaked towel prior to splicing to remove dust and/or residual water blocking powder.

**6.2** Exercise caution when handling the fiber ribbons. Apply uniform pressure along the ribbon surface as shown in Figure 18 when cleaning the ribbons. ***Caution: Excessive squeezing pressure and/or excessive twisting may cause ribbon splitting. Handle the ribbons with care!***

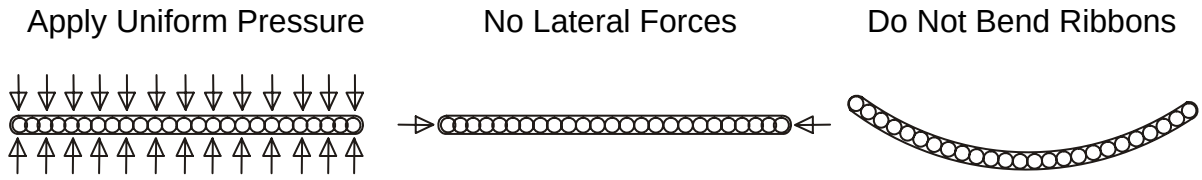


**Figure 18 – AccuRibbon® handling precautions.**

***If you have any questions or need additional information, please contact OFS at 888-FIBER-HELP (888-342-3743).***