

Application Engineering Note

HC Cable – Fiber Access Procedure

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Scope:

The scope of this procedure is to describe how to properly access the 245 μ m colored fibers in OCC's HC cable. The HC cable consists of a fiber unit that is buffered up to 2.0 mm, helically stranded, surrounded with aramid yarn, and has an overall outer jacket. Each fiber unit contains twelve 245 μ m colored fibers.

Procedure:

Measure from the end of the cable the distance needed for the tight buffered fiber unit and the bare fiber needed. This distance may vary depending on cabinet, splice enclosure, etc. At this location, ring cut the cable with a round cable stripper (see Figure 1).



Figure 1: Ring Cut in Cable at Marked Distance

At the end of the cable, access the ripcord and use the ripcord to cut through the outer jacket until the ring cut is reached and then remove the outer jacket (see Figures 2, 3, & 4).



Figure 2: Access Ripcord & Strip Outer Jacket

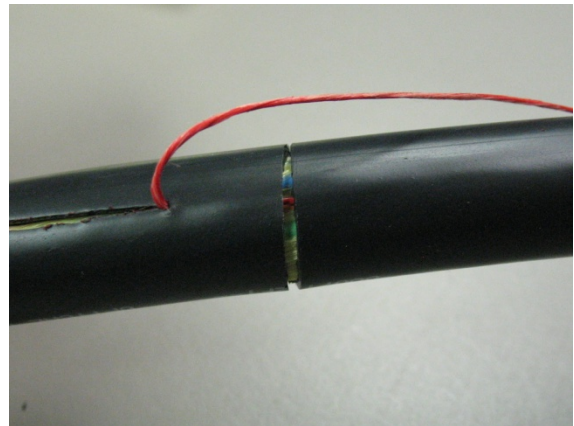


Figure 3: Ripcord Cutting through Outer Jacket



Figure 4: Removing Outer Jacket

Separate the aramid yarn from the tight buffer fiber units and cut the aramid yarn near where the outer jacket ends (see Figures 5 & 6). Be sure to leave some length in the ripcord in case more of the outer jacket needs to be removed.



Figure 5: Separate Aramid Yarn



Figure 6: Cut Aramid Yarn

Cut the strength member near where the outer jacket ends (see figure 7). Actual distance from outer jacket may depend on the enclosure the cable is being routed into. Some enclosures use the central member as a strain relief. Please consult the enclosure's installation instructions for actual distance.

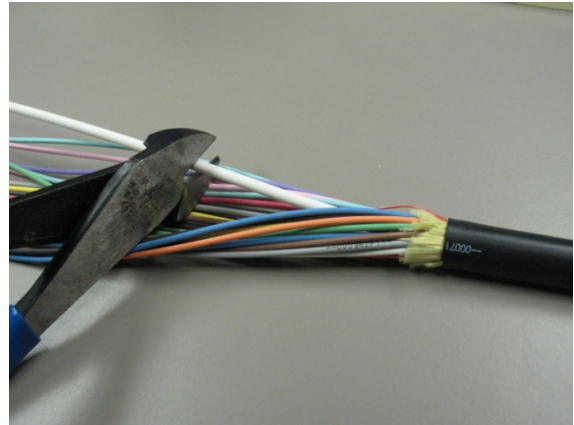


Figure 7: Cut Central Member

Access the correct colored tight buffered fiber unit needed. Measure from the end of the tight buffered fiber unit the length needed to expose the 245 μm fibers. Using an OCC fiber unit buffer slitter with a slitting size of 2.2 mm (part number FOHC-SLT), slit the tight buffer off the fiber unit by placing the tight buffered fiber unit in the grooves of the slitting tool and move the slitting tool down the length of the tight buffered fiber unit (see Figures 8, 9, & 10).

The OCC tool slits the buffer 180 degrees apart. Once the buffer is slit, peel back the buffer, exposing the fiber unit, and cut the buffer off (see Figures 11, 12, & 13)

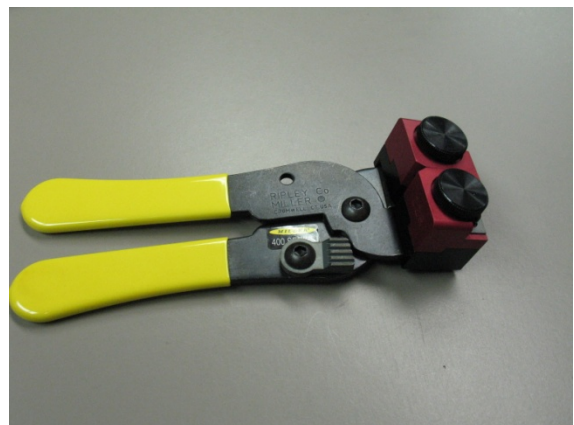


Figure 8: OCC Fiber Unit Buffer Slitter, 2.2 mm slitting size, part number FOHC-SLT

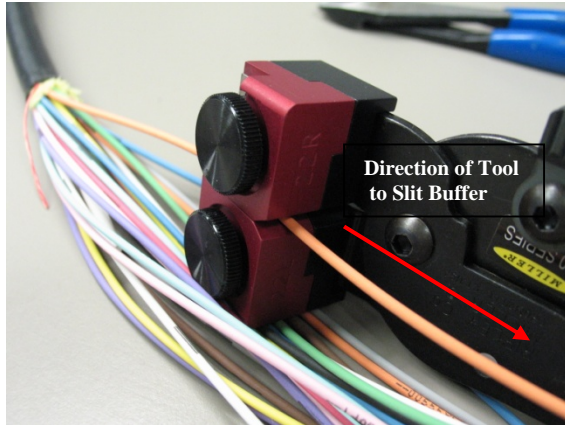


Figure 9: Slit Buffered Fiber Unit

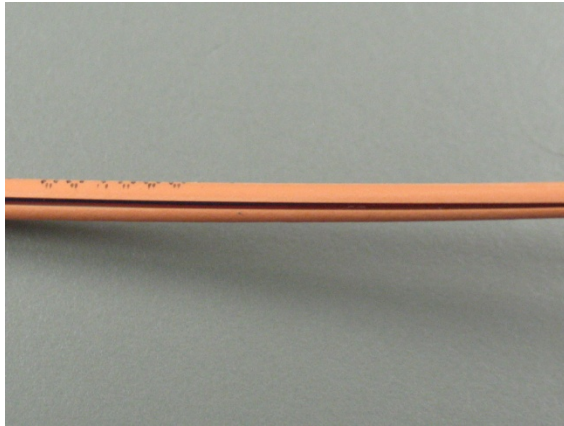


Figure 10: Buffered Fiber Unit Slit 180 degrees apart

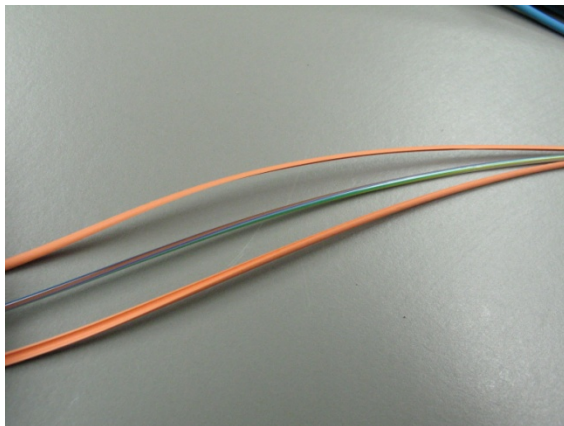


Figure 11: Buffered Fiber Unit Peeled Back

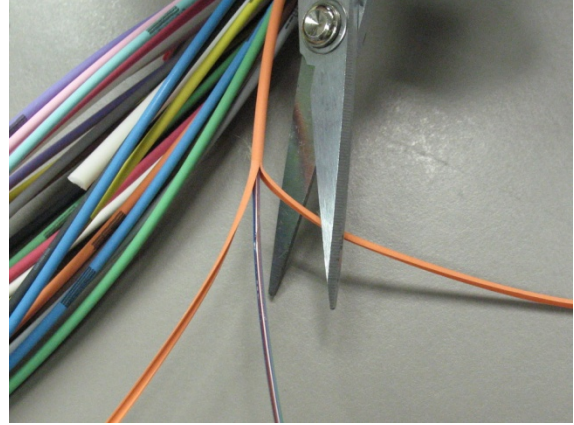


Figure 12: Cut Buffer

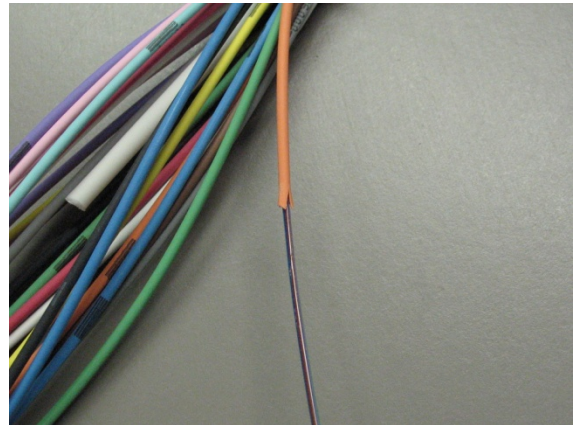


Figure 13: Exposed Fiber Unit

Approximately $\frac{1}{2}$ inch from the end of the fiber unit, score the outer protective covering with a knife, razor blade, etc. After scoring the protective covering, slightly bend the fiber unit until the protective covering snaps or breaks. While holding the $\frac{1}{2}$ inch section with one hand, pull the fibers through the protective covering like a ripcord (see Figures 14, 15, & 16).

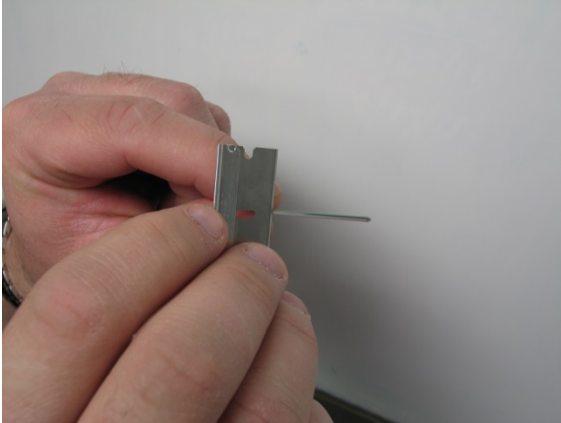


Figure 14: Score Fiber Unit Protective Covering

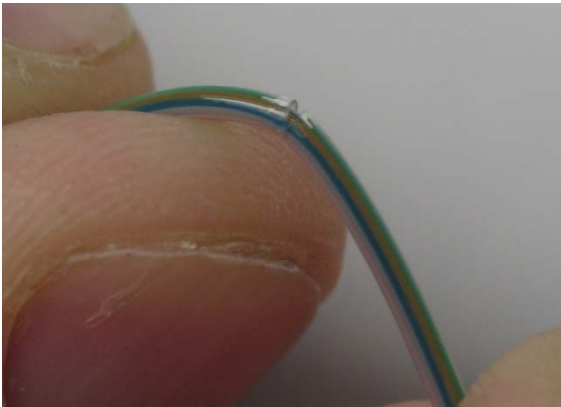


Figure 15: Slightly Bend Fiber Unit

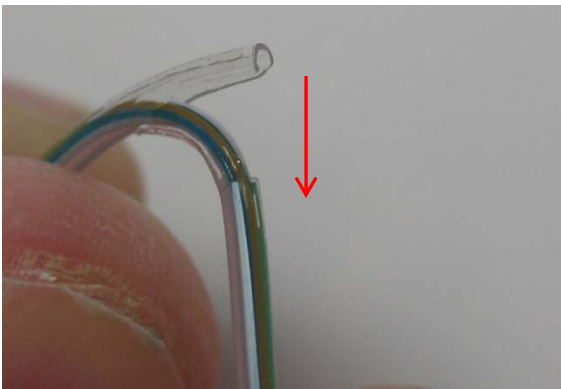


Figure 16: While holding 1/2 inch section, pull fibers through the other protective covering section.

Using a thumb as guide roller, pull down on the fibers that contain the 1/2 inch protective covering section. If the 1/2 inch protective covering section slides off, grab all 12 fibers and continue pulling down. Please note not to run the fibers over the fingernails (see Figure 17).

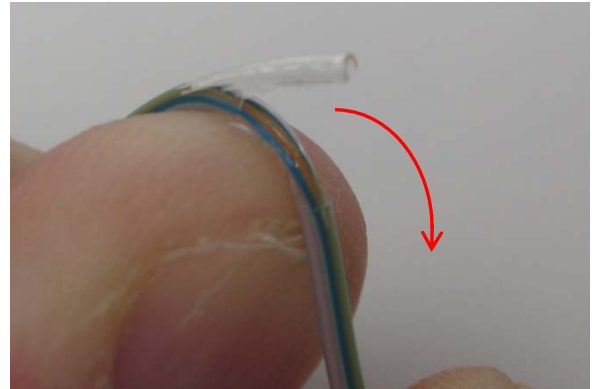


Figure 17: Pull all fibers through protective covering using the thumb as a guide roller (over the thumb method)

If long fingernails are present, then slide the fibers over the side of the thumb (see Figure 18).

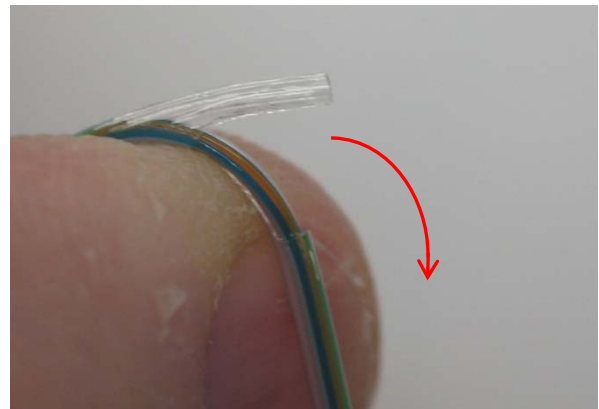


Figure 18: Pull all fibers through protective covering using the thumb as a guide roller (side of thumb method)

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Continue pulling fibers through the protective covering for the required distance or until the buffer is reached (see Figure 19).

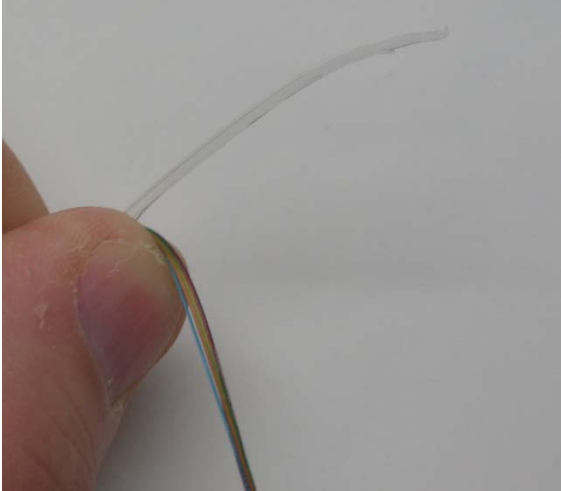


Figure 19: Pull Fibers over thumb until desired length is met

After removing the protective covering, take a dry or alcohol wipe and clear away any release agent present on the 245 μ m fibers.

If you have any questions, please contact OCC at (800) 622-7711.