Finishing the Working End of a Plastic Woven Line, Version 1.1

By R. G. Sparber

Cut the end of a plastic, woven line, and you are greeted with a little cloud of fibers.

Ignore the cloud, and it grows.

A common remedy to the little cloud is to roast the end over a flame. This melts the plastic and forms little blobs. The line is sealed, but you may have some sharp ends to contend with. They can hang up on the line while tying knots.

If you cut off these blobs, you have to start over again.

So how do I finish the working end of the line and have a uniform result?

I start with a piece of aluminum foil. The width is about three times the diameter of the line. The length should be enough to wrap around the line a few times.

I tightly wrapped the foil around the end of the line.

Then I take out my butane torch. This torch has a pinpoint flame.

The trick is to heat just the foil while twisting the line. Do this for about five seconds.

Next comes the hard part: let the end cool without touching it.

Peel as much of the aluminum foil off of the line as possible. Expect to find foil that is solidly fused to the line.

You are left with a rigid, uniform cylinder coated with aluminum foil: no sharp edges and no loose ends.

Given how securely the end was finished, I wondered if this technique could be used to form a loop.

Frankly, I had my doubts that this would hold — time to hit it with my torch.

Much to my surprise, the joint felt solid. I pulled “hard” on the loop, and it held. When I pulled harder, it did break. Reflowed plastic is not that strong.

Applying the flame for a longer time would have melted more plastic and made the joint stronger. Yes, the joint is weaker than a knot. But it sure has a nice look and would be acceptable in many of my applications.

Now, obviously, this loop is for light-duty use and should never be relied on where life is in the balance.

Frank S of homemadetools.net suggested using heat shrink instead of foil. This has the advantage of giving a smoother appearance. Shrink also comes in a variety of colors, making it easier to find the end of the line. On the downside, foil is more readily available than shrink tubing and costs next to nothing.

Here are two test samples. I used a heat gun on the left sample. When cool, the heat shrink pulled right off, revealing un-melted line underneath.

The sample on the right was exposed to my butane torch. Scorch marks are evident. As I push on the heat shrink, I can feel that the line is hard. This tells me it did melt. With the same amount of force as applied to the left sample, the heat shrink did not budge.

What about combining the two methods?

I have a piece of ½-inch line. After wrapping it in foil, I heated the end with my butane torch being careful not to burn the exposed line.

After it cooled, I peeled off as much of the foil as possible. The end of the line fully melted. However, this does look ugly.

Notice that I have the hard end with soft line below it.

I slid on a length of heat shrink and applied my heat gun. It solidly compressed the end of the line plus locked in at the transition to soft line. There are no burn marks visible.

I welcome your comments and questions.

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Rick Sparber
Rgsparber.ha@gmail.com
Rick.Sparber.org