



Installation Guide



Sensor to Wire Connections



Please Note

Go through the entire installation guide before starting the installation. Doing this will give you a picture of your final goal and help you understand the reasoning behind the procedure order.



Introduction

Sensor cables are obviously not long enough to reach from the controller to the collectors and sometimes not even the tank. This guide takes you step by step through a process to wire sensors with connections that will last the life of the system. SunMaxx does not recommend any other method at this time.

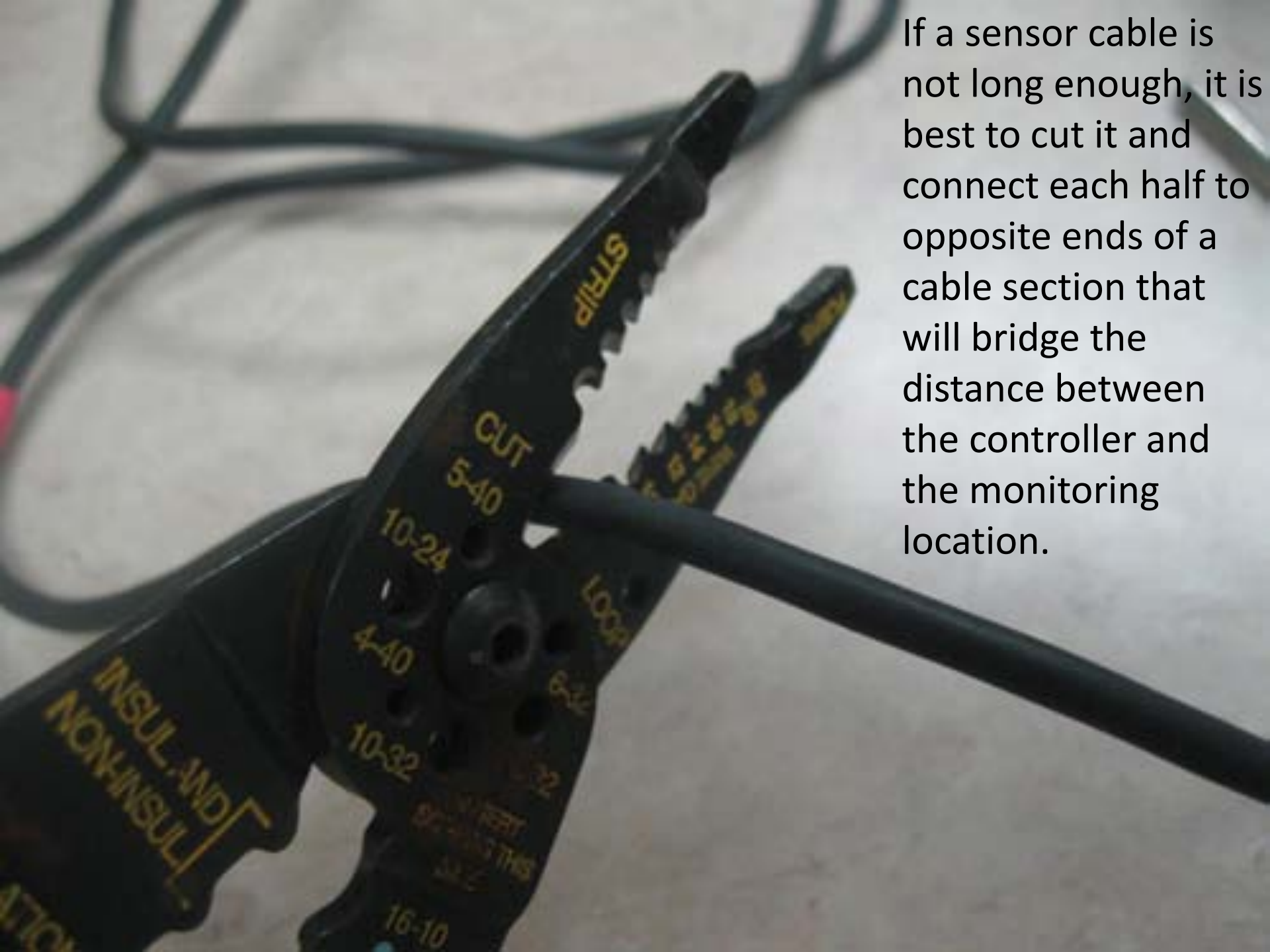


Tools & Supplies

- Wire stripper/cutter
- Heat shrink tubing (approx. 1/8")
- Heat shrink tubing (approx. 1/4")
- Soldering gun or iron
- Solder
- Heat gun/blow dryer



Sensor cables have a thermistor at one end which goes to the collectors, tank, or other monitoring location and, on the other end, wires with crimped ends that fit nicely into controller slots.



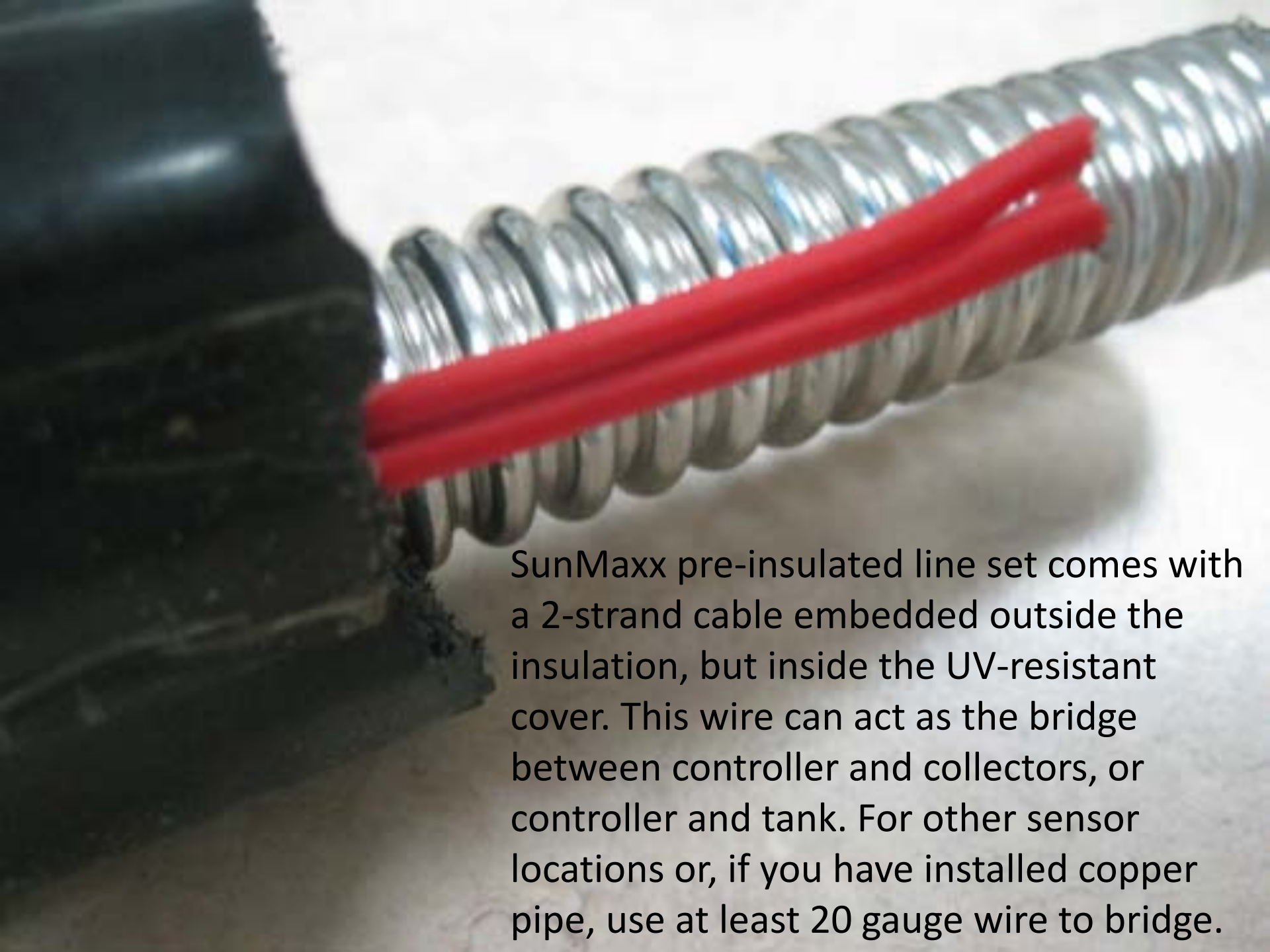
If a sensor cable is not long enough, it is best to cut it and connect each half to opposite ends of a cable section that will bridge the distance between the controller and the monitoring location.



After cutting the cable, take the half with the sensor and strip off about one inch of the cable sheath.



Then strip about $\frac{3}{8}$ " of the insulation off each wire.

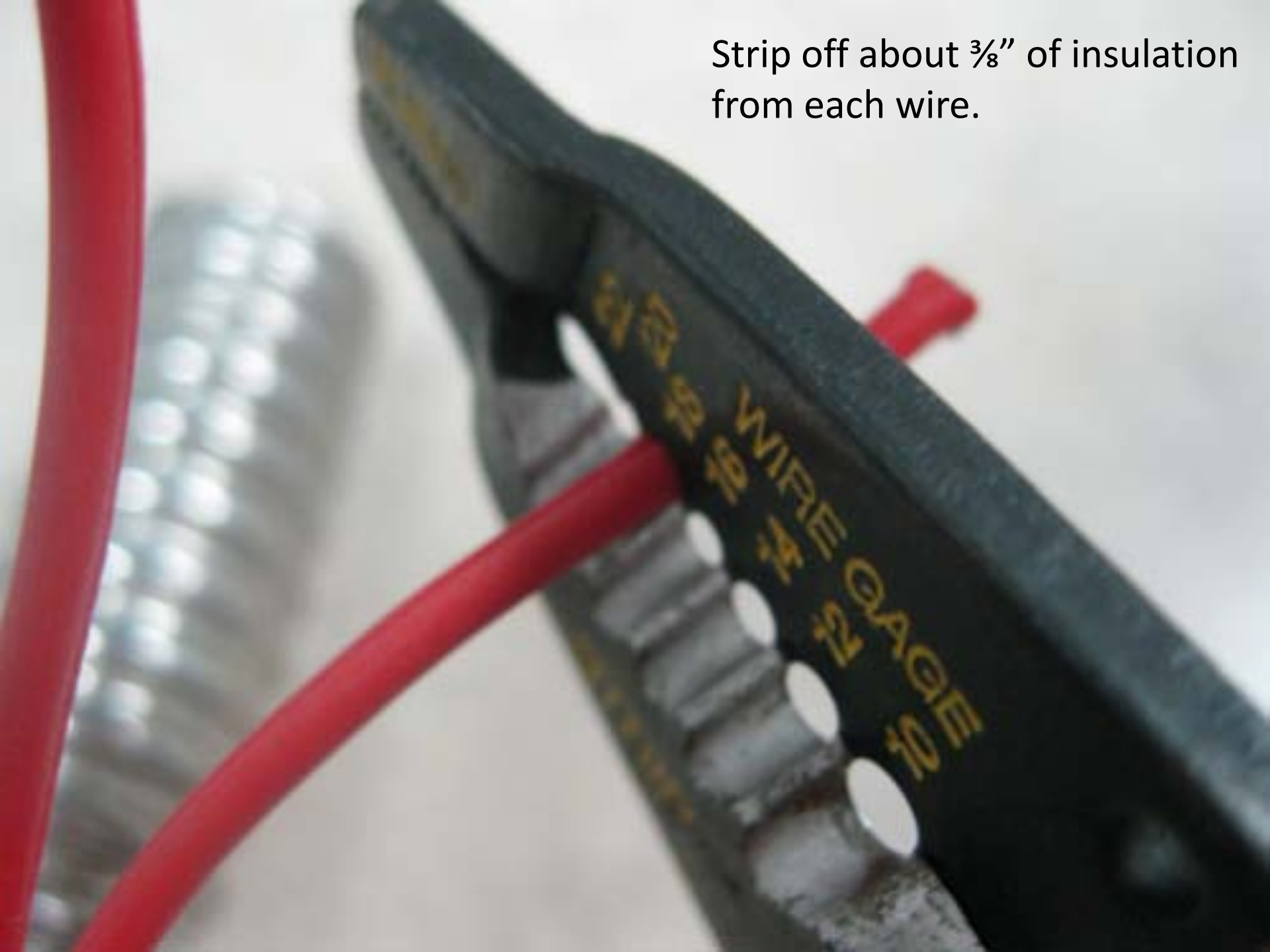


SunMaxx pre-insulated line set comes with a 2-strand cable embedded outside the insulation, but inside the UV-resistant cover. This wire can act as the bridge between controller and collectors, or controller and tank. For other sensor locations or, if you have installed copper pipe, use at least 20 gauge wire to bridge.

Rip the strands apart to a distance of about 2".



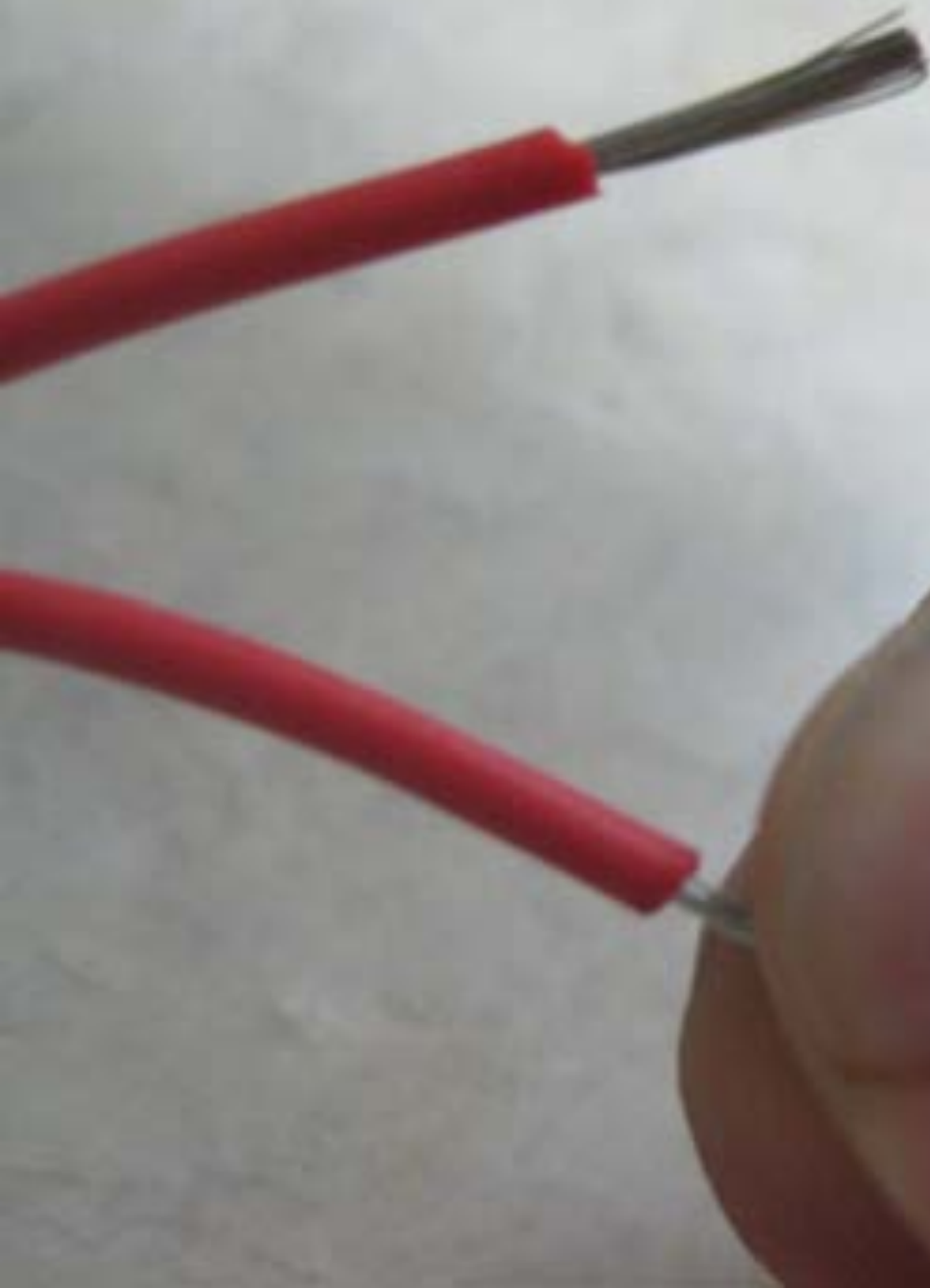
Strip off about $\frac{3}{8}$ " of insulation from each wire.



Both the line set wire and
sensor wire are stranded.



Twist the ends of all four wires.





Twisted ends.

Cut two 1" sections of the $\frac{1}{8}$ " shrink wrap tubing, and one 2" section of the $\frac{1}{4}$ " tubing.



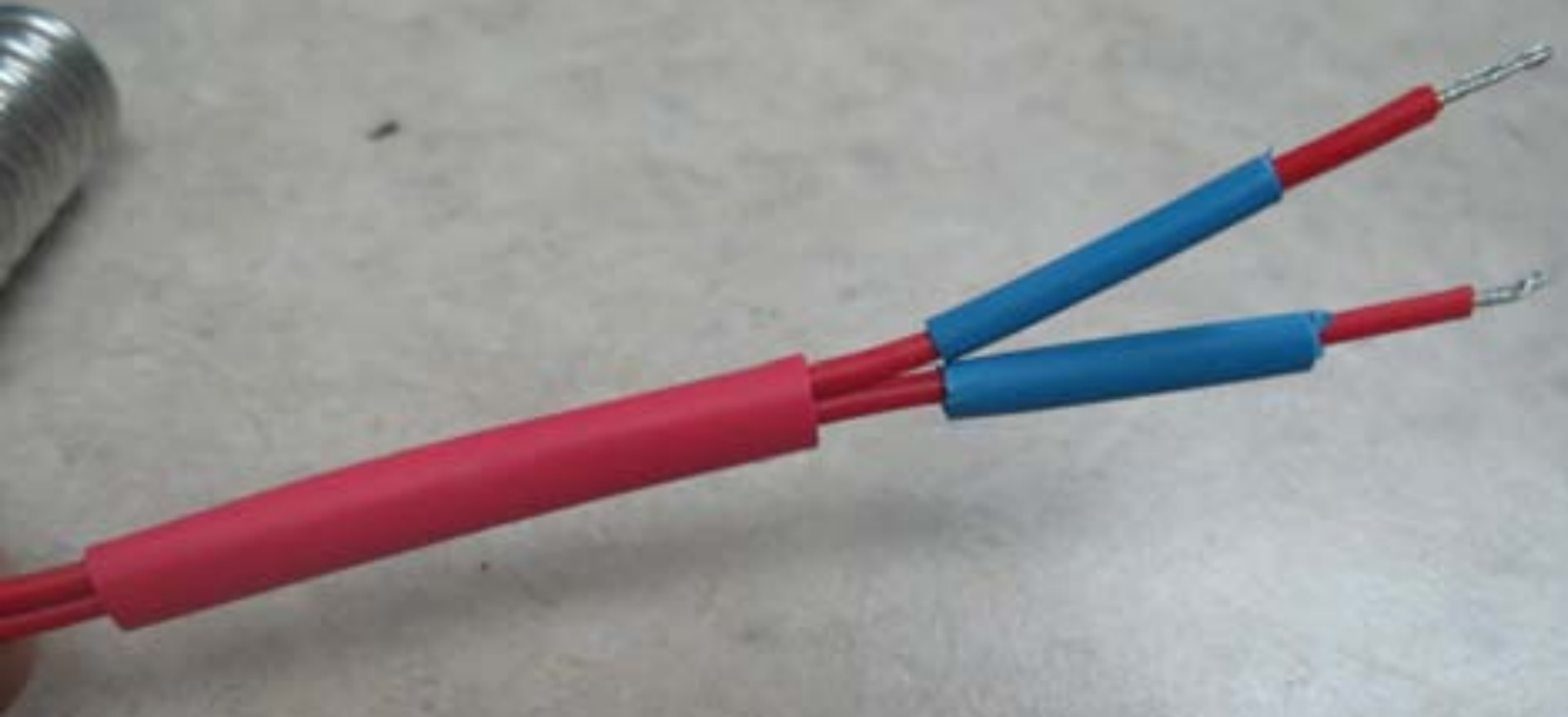
Place the larger tubing over both wires
of the line set cable.



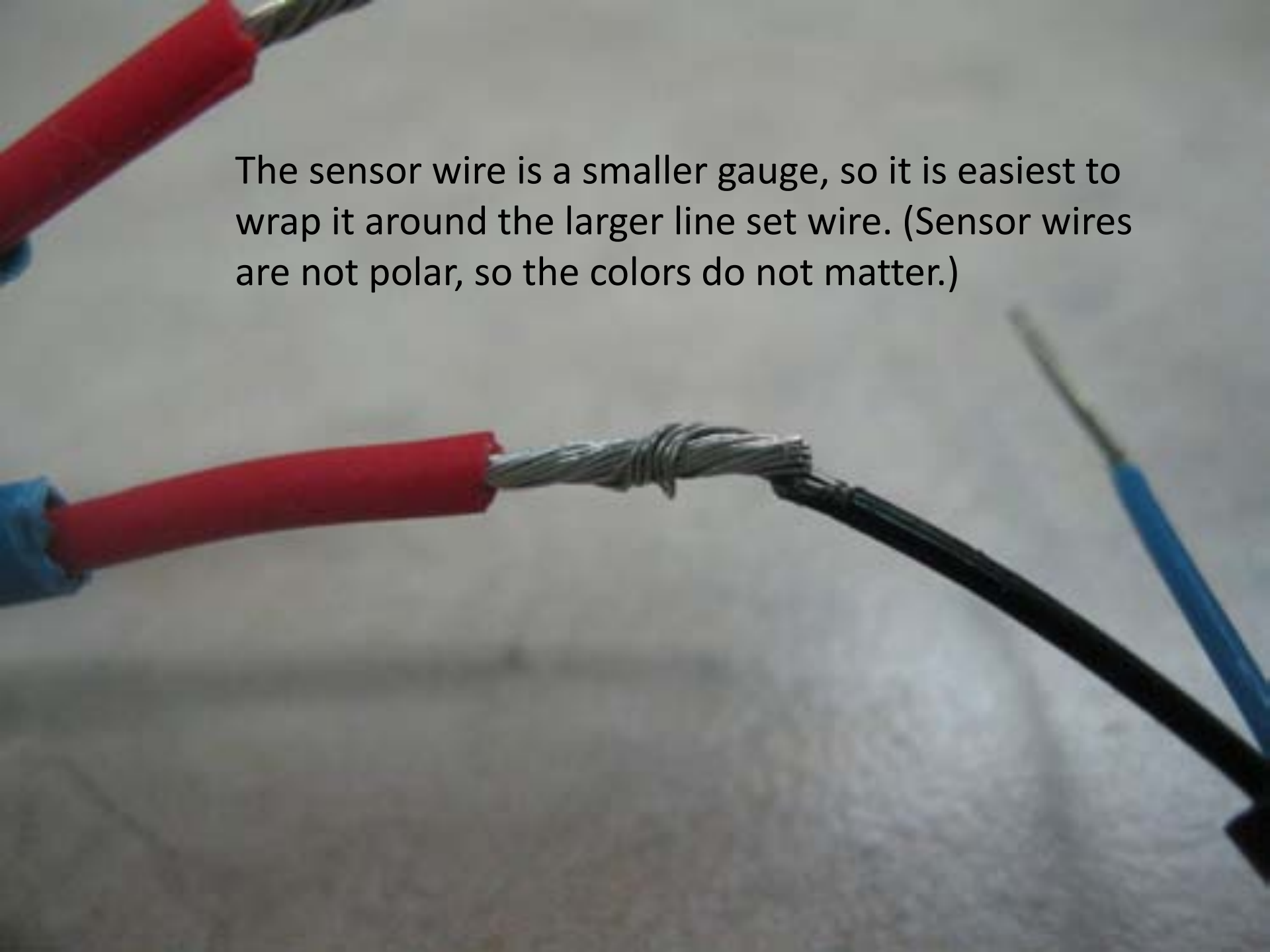
Move the tubing section onto the cable
and out of the way.



Place the two shorter sections onto each of the two wire strands.



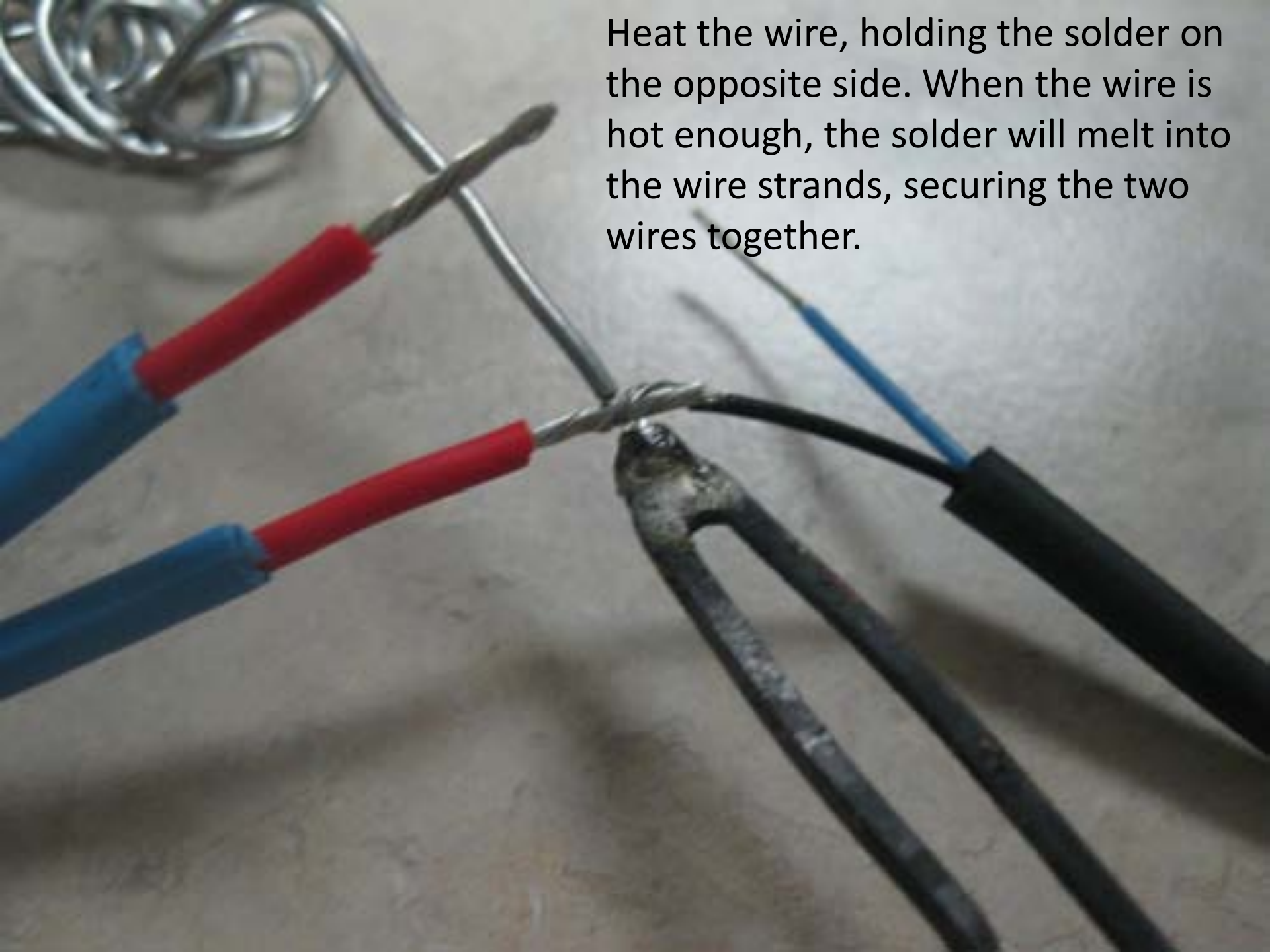
The sensor wire is a smaller gauge, so it is easiest to wrap it around the larger line set wire. (Sensor wires are not polar, so the colors do not matter.)



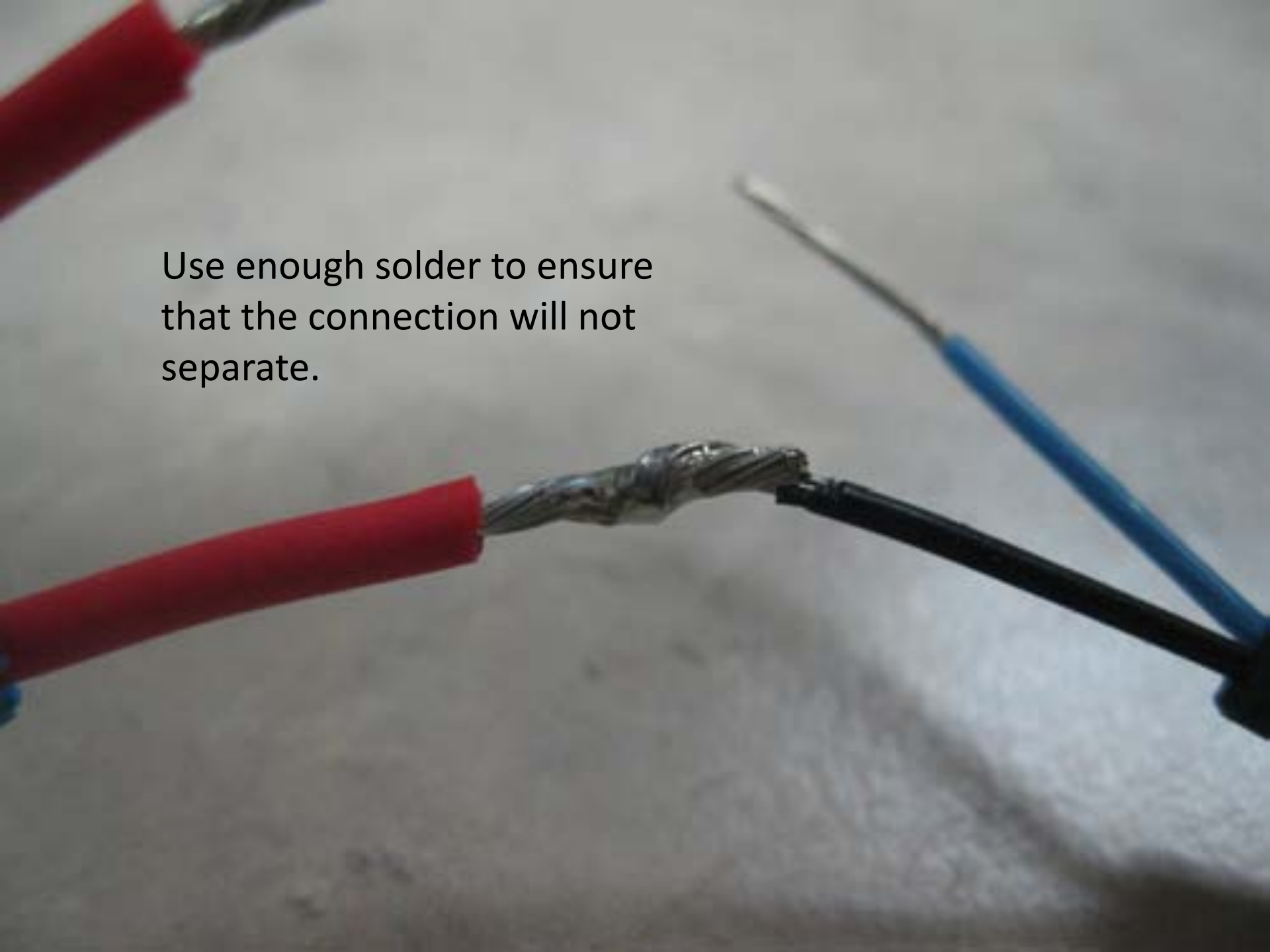
You will need your soldering gun or iron and solder at this point.



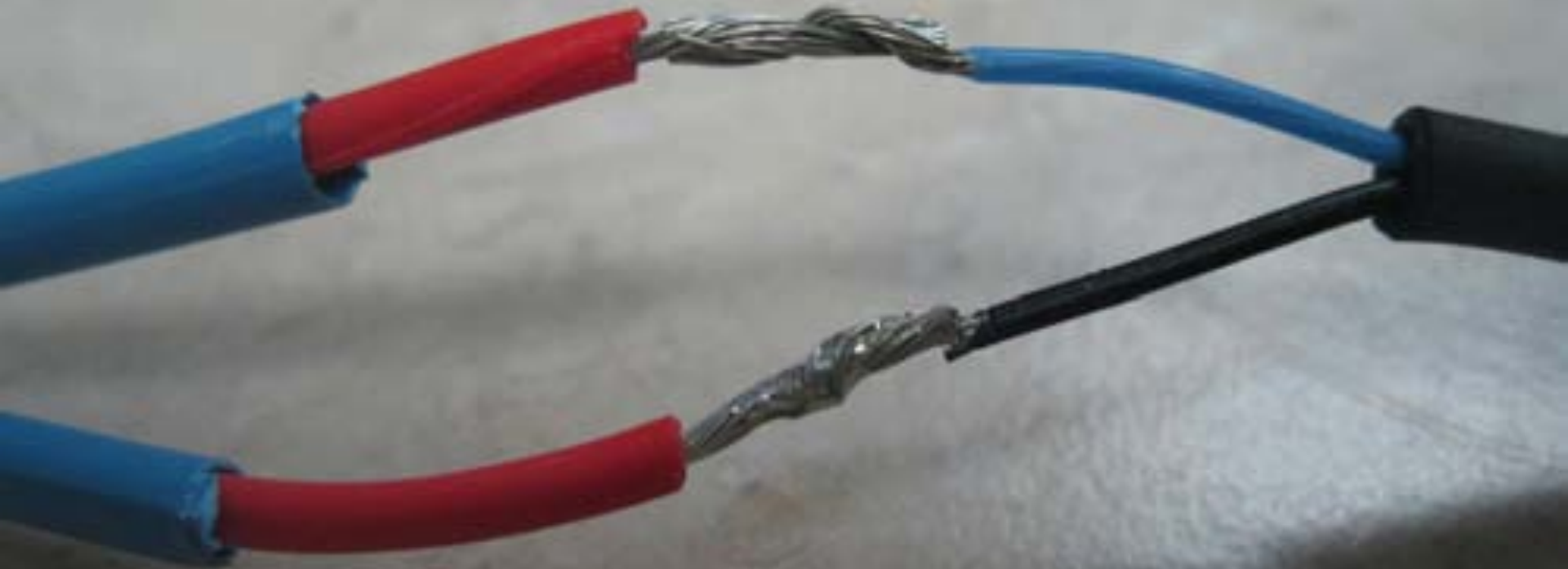
Heat the wire, holding the solder on the opposite side. When the wire is hot enough, the solder will melt into the wire strands, securing the two wires together.



Use enough solder to ensure that the connection will not separate.



Wrap the second pair of wires the same way and then solder them together as well.



After both wires are soldered, move the smaller shrink wrap tubing over the solder joints.



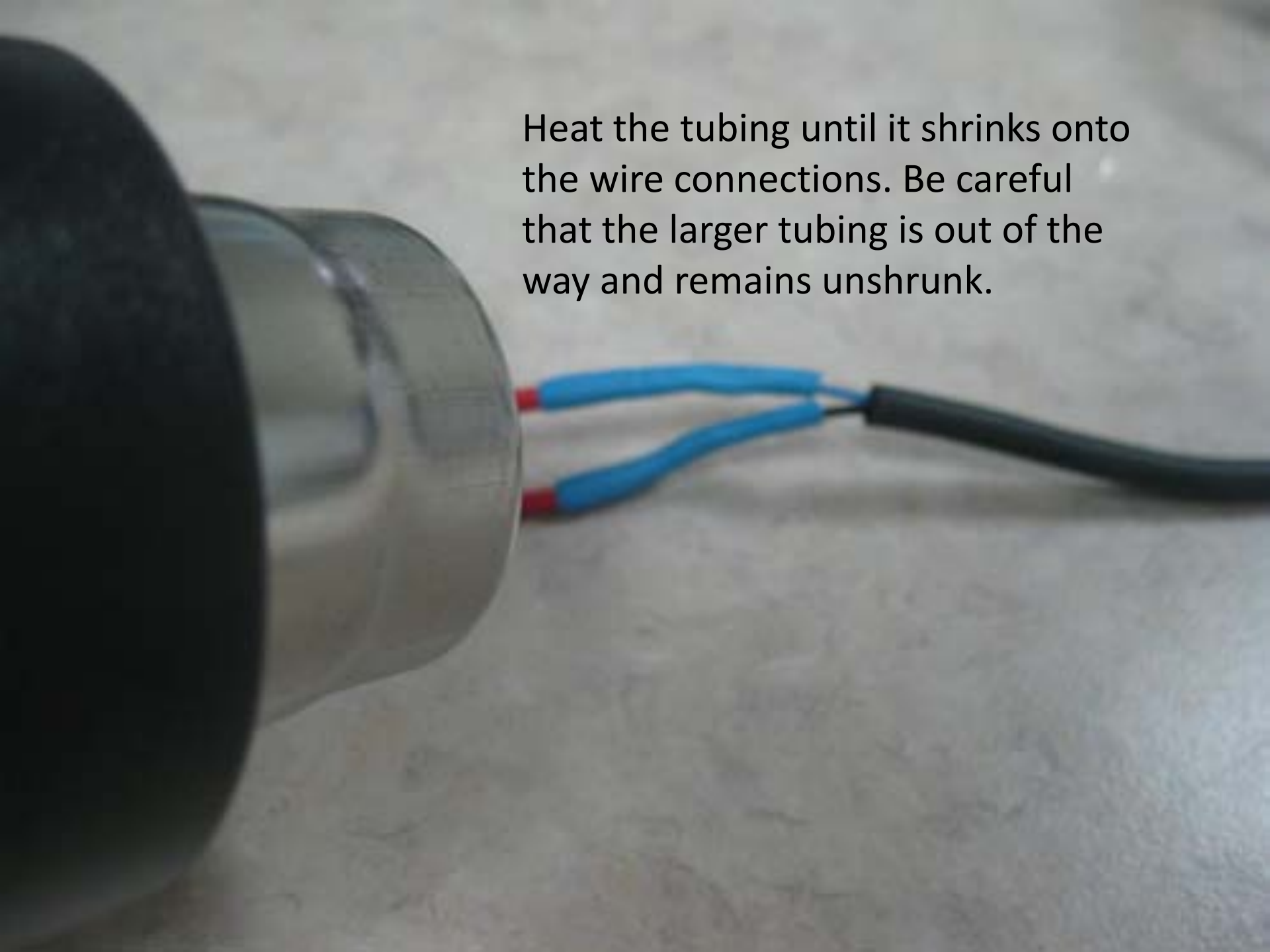
Center the tubing over the joints.





Now you will need your heat gun.

Heat the tubing until it shrinks onto the wire connections. Be careful that the larger tubing is out of the way and remains unshrunk.





You have now sealed the wire connections.



Now move the larger shrink wrap tube over the wire connections.




Center the tube section over the connections.



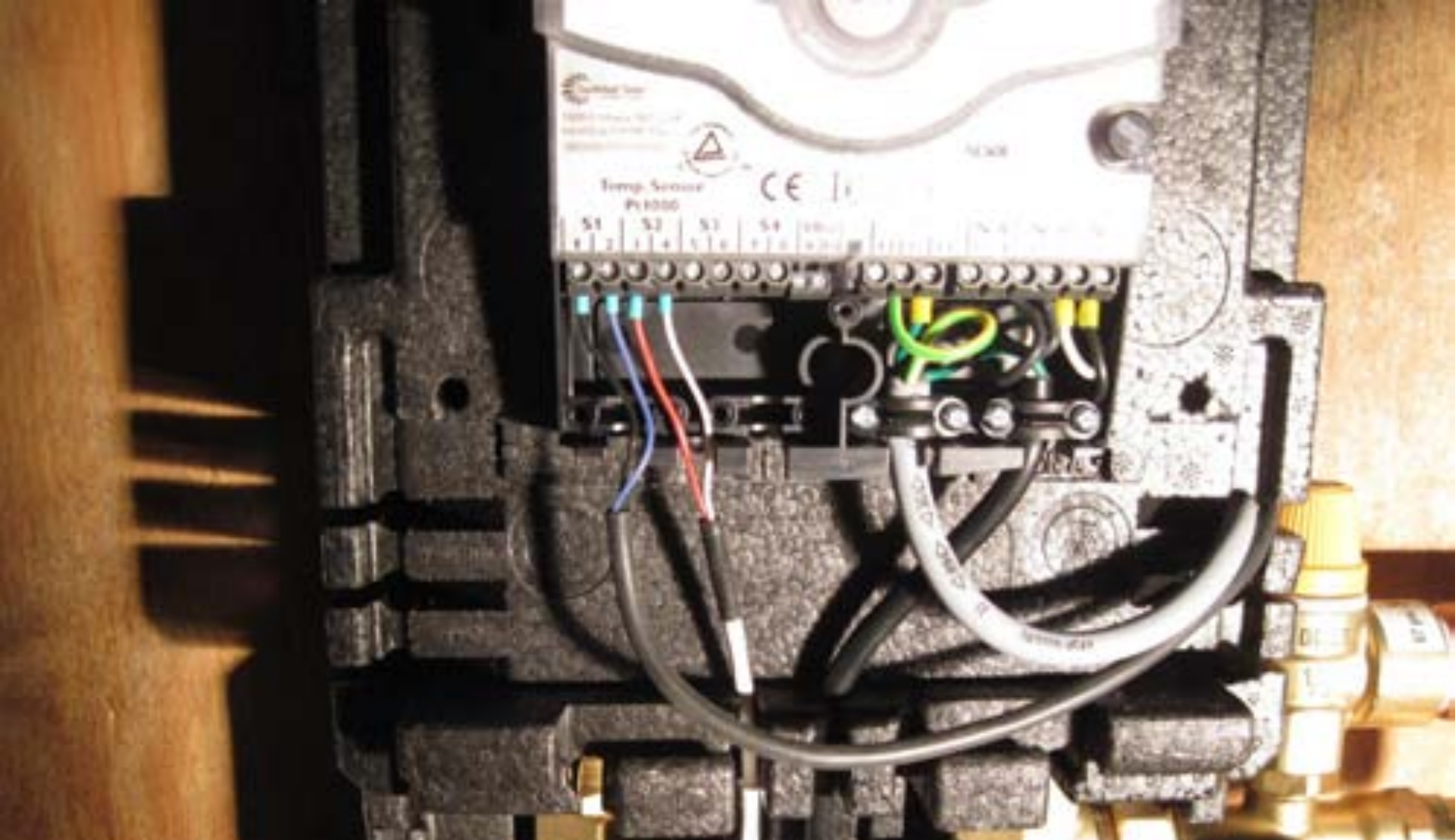
Shrink it onto the cable using the heat gun.



The finished connection.



Most shrink wrap tubing is not high-temp resistant. Therefore make sure you keep all shrink wrap connections outside the insulation and away from any pipe. Most shrink wrap is not UV-resistant either, so enclose the wire connection at the collectors beneath UV-resistant sheathing.



Using the same method, the second half of the cut sensor cable with the crimped ends should be connected to the bridge cable at the controller end. This will provide easy and secure wire connections to the controller.

Contact Information

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