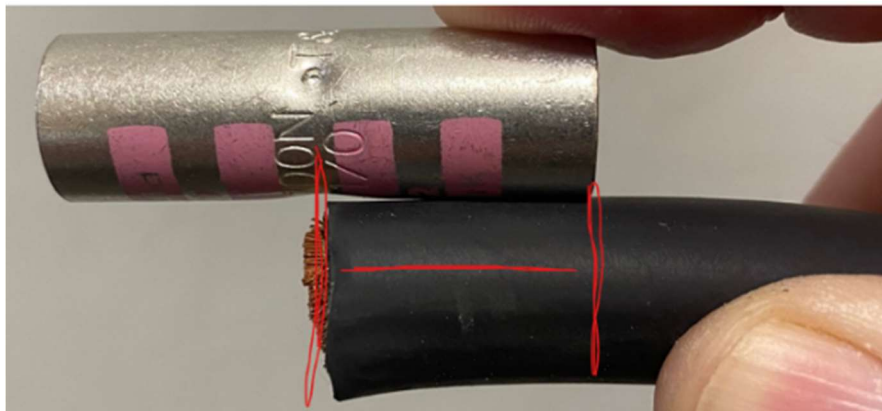


Tape Splice Procedure

- ☛ All tape and shrink tubing should be from 3M or an approved substitute (must be approved by Clearflow Technical Manager)
- ☛ At this time add 1 length of 24" of ITCSN shrink tube and slide down to the one side of the leads that are being spliced.
- ☛ At the end of the lead, remove enough of the cable insulation to allow for the connection of the butt connectors. (Roughly $\frac{1}{2}$ to $\frac{3}{4}$ length of the butt connector being used to perform the splice...)



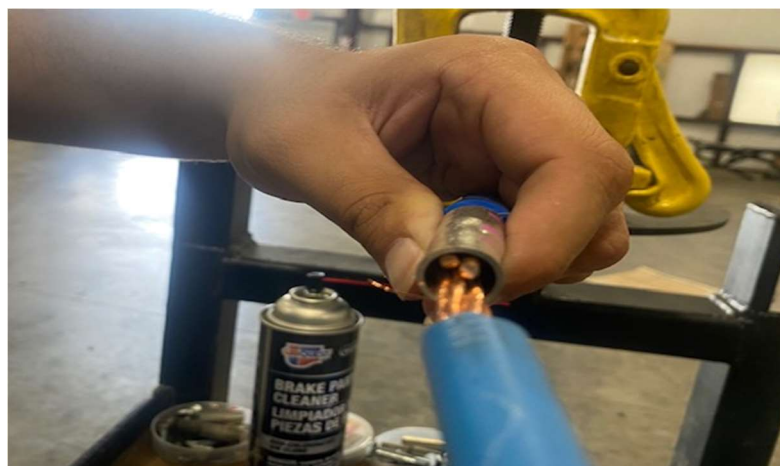
- ☛ Remove the liner between the insulation and the copper conductor as this can have an adverse effect on the conductivity of the splice.



- Choose the size of butt connector for the largest cable that will be used.



- The smaller cable will have copper packers to make up the internal space (packers must be of solid copper).



- Ensure that the butt connector is as close as possible to the insulation with no ragged edges or stray wires protruding.



Use the correct size crimping tool for the size of the butt connector. After it is fully crimped go down 1 size and crimp one time on each side of the butt connector. Check for any sharp edges and remove by filing. Check the connection by pulling the 2 leads in opposite directions. If any lead is loose then start again.

Now start taping using the Scotchfill electrical insulation putty cut into strips about 1½" long.



Remove the paper backing and start wrapping and fill the dimples left from the crimping and any voids in the butt connector as well as spaces on either side of the butt connector and try to make it about the same diameter as the cable jacket.



Cut a piece of Scotch 23 about 9"- 10" inches long. Start at one end of the butt connector overlapping each turn by half the width and stretching the tape till it changes from black to a dull grey colour, making sure not to stretch too much and break the tape. (If this happens remove any loose edges and back-up about ½" and begin to tape again). Continue taping past the end of the butt connector by approximately 1½" then go the opposite direction and repeat the process until there are 3 layers of tape. The taped portion should now be about 6" long (approx. 3" each side of the centre of the butt connector).

- ☹ Take the Scotch 130C tape and start at the end finished with Scotch 23. This tape is used with the sticky side up. Stretch this tape also till it changes from black to a dull grey colour making sure not to stretch too much and break the tape. Continue this step same as before for 3 layers, overlapping by half the width of the tape. When finished the taped portion should now be 12" long (approx. 6" each side of the centre of the butt connector).

- ☹ Using the Scotch 33 vinyl electrical tape start at the end finished with the Scotch 130C. Continue, as before, until you have 3 full wraps and overlapping by half of the tape. When finished the taped portion should now be 18" long (approx. 9" each side of the centre of the butt connector).

- ☹ The final layer of tape is Scotch 27 white heat barrier tape. Starting just past the end of the Scotch 33 and overlap by about ½ the tape width past the opposite end of the splice. It is important that no gaps remain to ensure that the electrical tape is not damaged when the heat is added to the shrink tubing.

- ☹ Slide the ITCSN shrink tubing over the heat barrier tape. Starting at one end, apply heat and shrink the tubing until it forms around the cable/splice. After applying heat shrink, place aside and let cool. Once cool down is completed wipe down the heat shrink with cleaner to remove any debris or residue leftover from the heat shrink process.