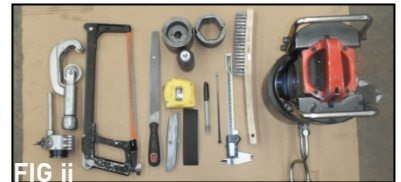
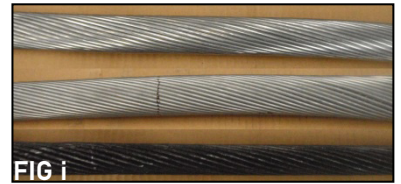


FI.01E INSTALLATION INSTRUCTIONS – ACSR COMPRESSION DEADENDS

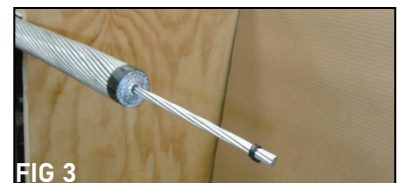
I. PREPARATION

The conductor along the full length of the joint should be in overall good condition. Cut away damaged / corroded sections before constructing the joint and ensure conductor ends are cut square and undeformed. To prevent interlayer slippage and birdcaging, the conductor should be secured at all times using a combination of electrical tape and hose clamps / twisted aluminium wire.

- i. Determine the preparation method along the compression length (Fig i):
 - a. New, bright finish, fully greased conductors – No unwinding of layers, cleaning and oxide removal required on the outermost surface of the conductor only.
 - b. Partially greased/ ungreased conductors – All ungreased layers must be unwound and filled with Uni-Grip C jointing compound. Cleaning and oxide removal required down to layer in contact with the steel core or a maximum of two layers, whichever is less.
 - c. Aged / dirty conductors – Ensure that all aluminium and steel strands are not corroded and prepare as per Case (b).
- ii. Tools needed for installation (Fig ii) – Hacksaw, conductor trimming tool, tape measure, marker pen, zip ties, insulation tape, utility knife, stainless steel wire brush, Emery paper, Uni-Grip C jointing compound, compression dies, compression tool, vernier callipers, file.



- ### II. CONSTRUCTING THE JOINT
1. Ensure that the work area is clean, dry and protected from dust and rain. Mark conductor end at a distance to the 1st knurl mark of the Aluminium Joint (Fig 1). Straighten the conductor end to a distance of 2.5 times the marked length.
 2. Slide the Aluminium Joint completely over the conductor end and out of the way. Mark conductor end at a distance of the compression length of the Steel Joint plus 25mm, and secure with at least 5 turns of insulation tape (Fig 2). Secure the conductor end firmly at a distance just before the Aluminium Joint.
 3. Cut back the aluminium strands to the mark with a hacksaw or conductor trimming tool, removing each layer separately and ensuring that the edges are square. To prevent damage to the steel core during this process, the final layer of aluminium strands should be partially cut and then broken off by bending. A cable tie can be used to keep the steel strands from unravelling (Fig 3).
 4. At this stage the compression area of the conductor end is ready for preparation (refer Section I, i), and the setup should resemble that of Fig 4. For Case (a) proceed to Step 5, for Case (b) or (c) proceed to Step 6.
 5. Clean the outermost layer of the conductor end using a stainless-steel wire brush, scouring pad or Emery paper, and apply Uni-Grip C jointing compound immediately (Fig 5). Proceed to Step 7.
 6. Secure the conductor end firmly at a distance 2.5 times the compression length. Unwind each layer in small groups, following the natural lay of the conductor, and allowing for access along the entire compression length (Fig 6). Ensure that the strands are not deformed during this process. Starting at the innermost exposed layer, clean strands using a stainless-steel wire brush, scouring pad or Emery paper, and apply Uni-Grip C jointing compound immediately. Wind the layers back on.



7. The prepared conductor end should resemble that of Fig 7, with all voids filled with Uni-Grip C jointing compound or grease.
8. Mark the steel core at a distance of the compression length of the Steel Joint. Insert the steel strands into the Steel Joint, ensuring that the end is hard against the stop and the end of the Steel Joint lines up with the mark (Fig 8).
9. At this stage the Joints are ready to be compressed, and the setup should resemble that of Fig 9.
10. Using the correct Steel Die size, compress the Steel Joint starting at the stop and working out towards the conductor (Figure 10a). The die bites should be overlapped by about 1/3 the die width. Keep the joint as level as possible and rotate the fitting or die by one flat with each compression to avoid 'banana-ing' (Figure 10b). Straightening dies can be used to straighten bent joints. Apply a coating of jointing compound over the compressed portion.
11. Slide the Aluminium Joint over the compressed Steel Joint, such that the Aluminium Joint is hard up against the collar of the Steel Joint (Fig 11). Using the correct Aluminium Die size, compress the Aluminium Joint on to the Steel Joint, starting out as close as possible to the anchor point and working out towards the conductor, stopping at the first knurl line. Do not compress the area between the knurl marks.
12. Compress the Aluminium Joint on to the conductor, starting at the second knurl line and working out towards the conductor (Fig 12a). The die bites should be overlapped by a minimum of 12mm. Keep the joint as level as possible and rotate the fitting or die by one flat with each compression to avoid 'banana-ing' (Fig 12b).
13. Remove any die flash or sharp edges with a file or Emery paper. Wipe away any excess jointing compound.
14. Measure the AF (across flat) dimensions across all faces of the joint in several locations to ensure that the correct compression has been achieved.
15. Joints at risk of ice jacking due to the accumulation of water (e.g dead-end or jumper compressions with the mouth facing upwards) must have a 3mm drain hole drilled through the lowest point of the joint sleeve just in front of the compression zone (Fig 13).

