

Rovanco® Piping Systems

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INS-EWC

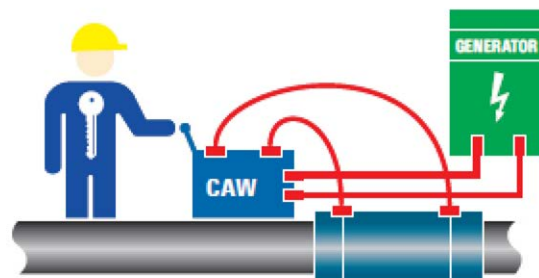
EWELCON® Electrically Welded Joint Installation Instructions

Revised 06/28/2023

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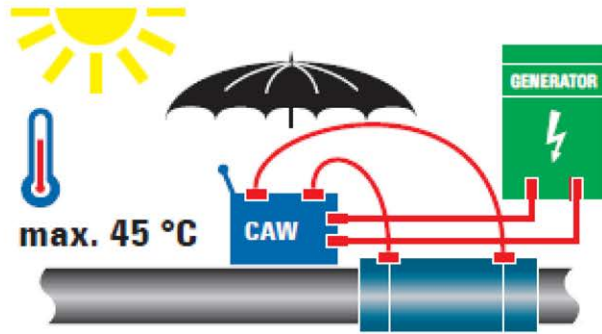
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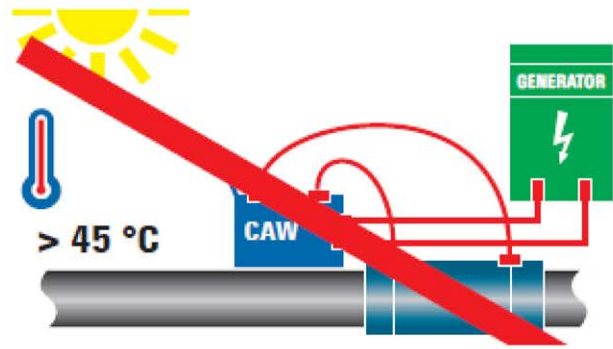
These installation instructions are designed only as an aid for trained personnel and will not replace proper training.



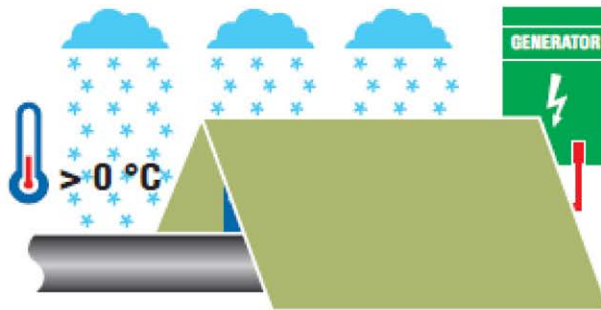
Section 1: Installation Conditions



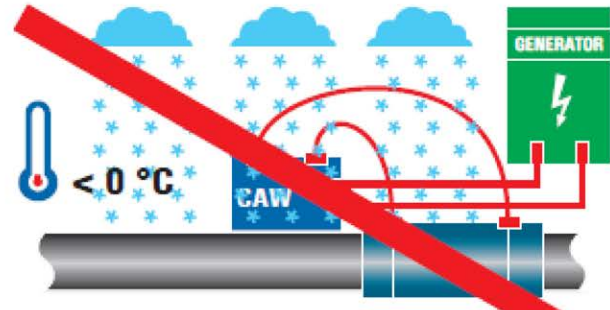
Avoid uneven heating of the casing pipe in the welding area by implementing appropriate measures (thermal insulation mats, umbrellas, tents).



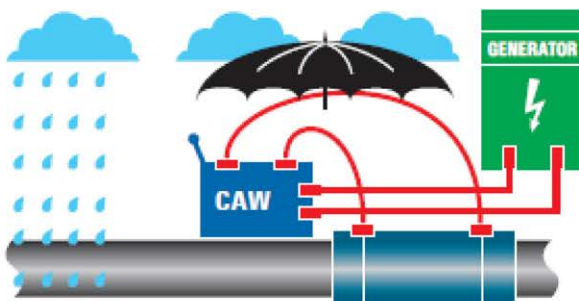
The welding unit will not start welding if the joint/casing pipe temperature exceeds 45°C!



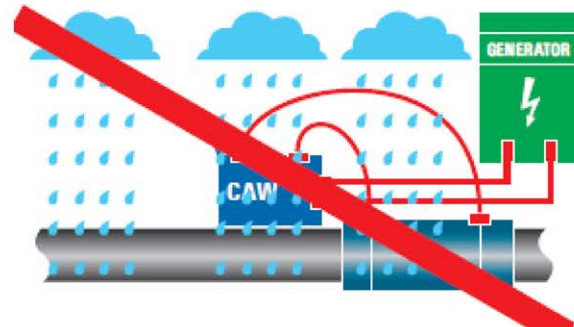
In conditions of negative temperatures, the welding area and the joint must be heated to 0-10°C. The welding area must be protected against cold and wind in a heated tent.



Do not install EWELCON® joints at temperatures below 0°C!



The welding area and the joint itself must be at all times protected against moisture and precipitation.



It is forbidden to install EWELCON® joints during rainfall, snowfall or hailstorm without properly securing the welding area.

Section 2: Tools & Equipment

Standard Tools



A. Dust-Free Cloth



B. PE Cleaning Liquid



C. Marker (white)



D. Tape Sander with P 40-60 tape



E. P 40-60 abrasive tape



F. Scraper for Plastics



G. Assembly Knife



H. Jigsaw



I. Drill with 10mm Bit



J. Small Hammer



K. Rubber Hammer

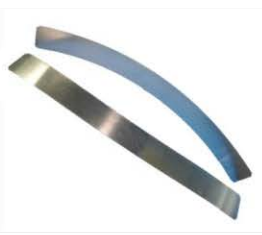


L. Insulation Tape

System Tools



A. CAW05 joint welding unit, complete with cable set



B. Radial Pressure Distribution Plate (2x)



C. Axial Pressure Distribution Plate (1x)



D. Ratchet (2x)



E. Polyester Strap (2x)



F. Pretension Strap with a Ratchet (2-4x)

Additional Equipment



A. 24mm Curling Trap



C. Test Instrument for Leakage Tests



D. Foaming Agent, Leak Detector or Soap Solution



E. Hole Cleaning Cutter



F. Plug Holder

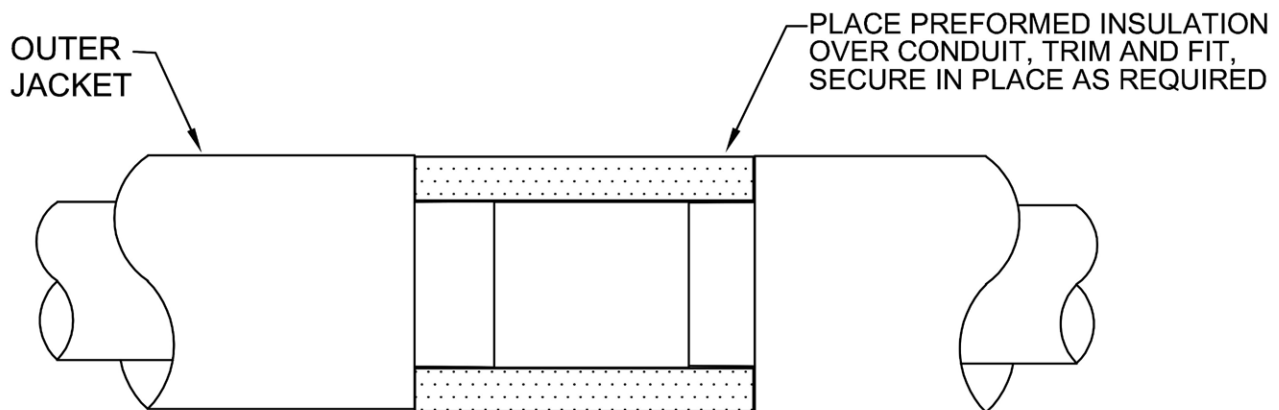
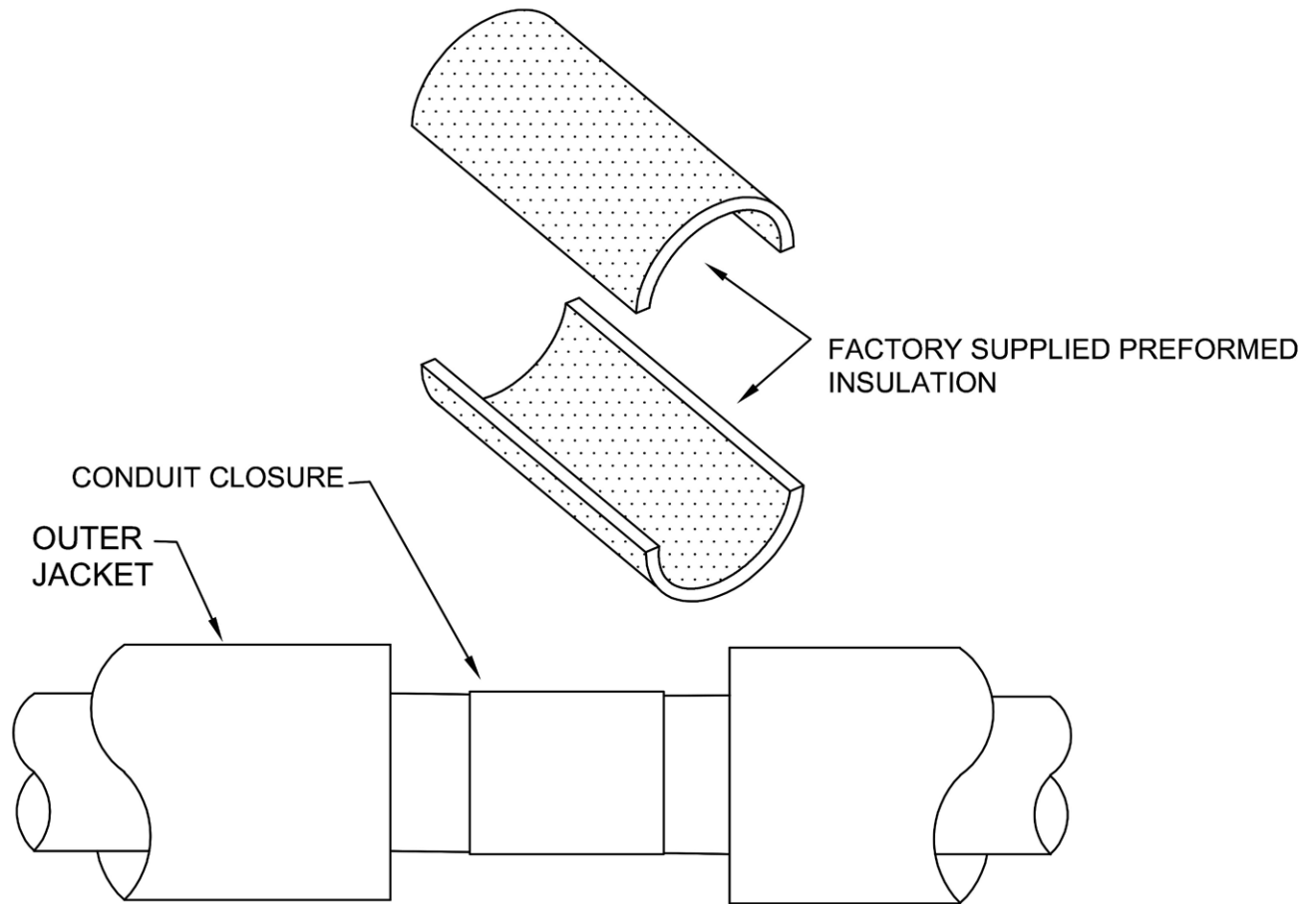


G. Fusible 24mm Plug



H. Plug Welder

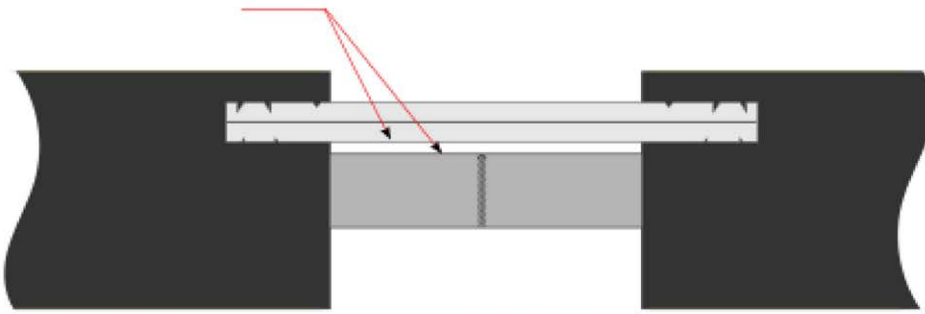
Section 3: Field Applied Preformed Insulation Over Pipe or Conduit



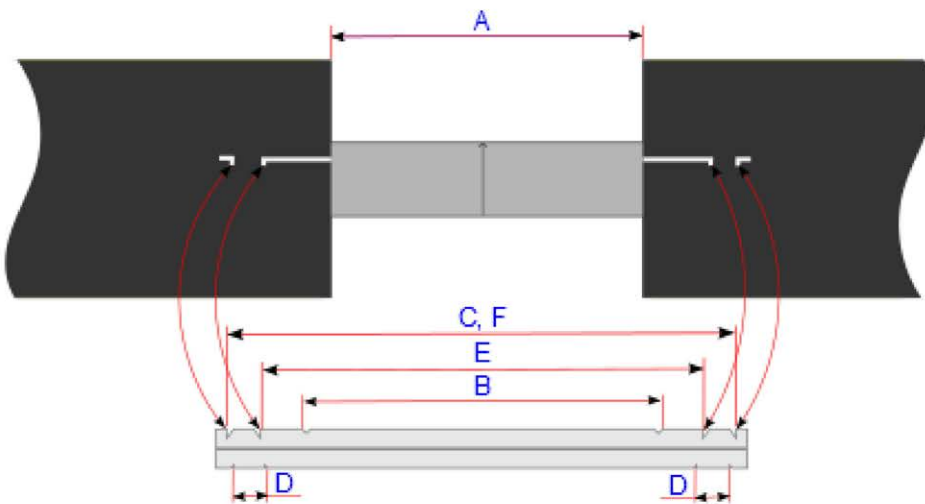
Section 4: Joint Area Preparation

**** Foam Not Shown for Clarity**

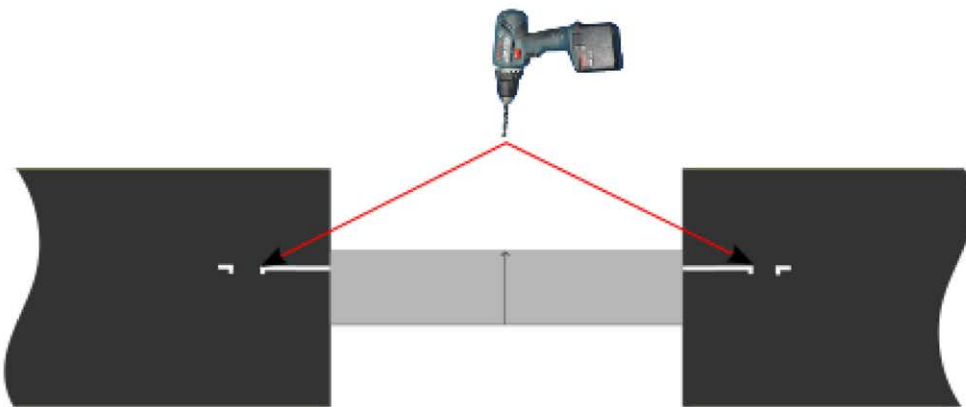
marker plate parallel



1. Place the marker plate parallel to the pipe

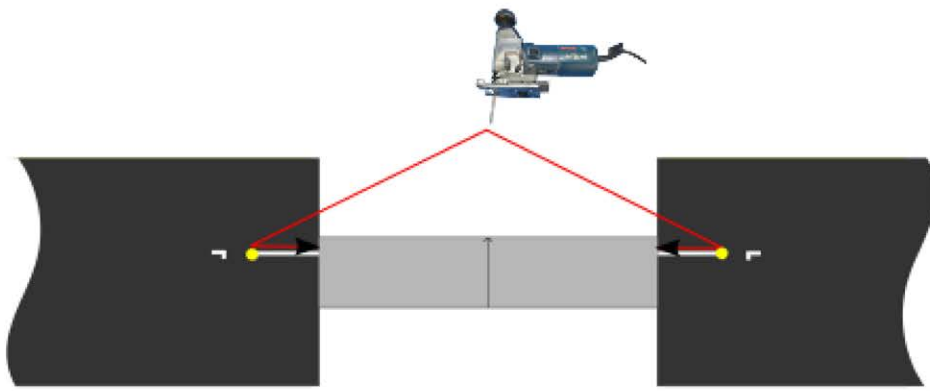


2. Use the marker plate to mark the following with a white marker:
 - E – bracket position
 - C – joint end
 - F – axis of the longitudinal weld
 - B – maximum distance from the pipe casing
 - D – weld area

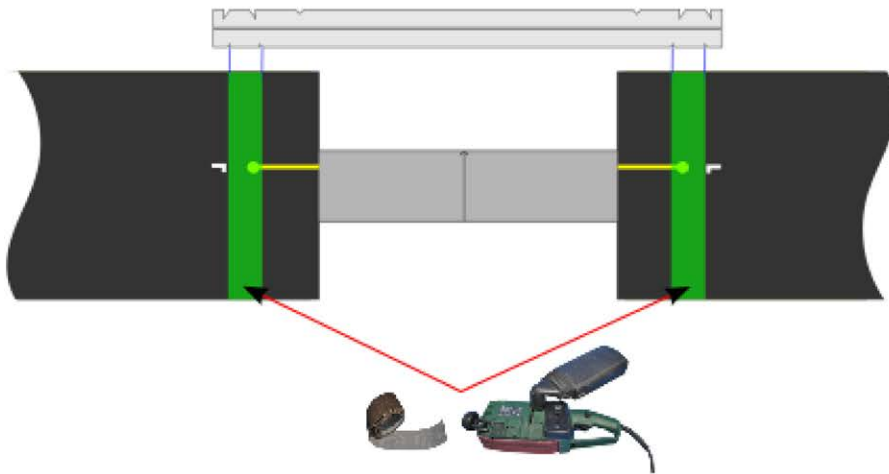


3. Drill ϕ 10mm holes.

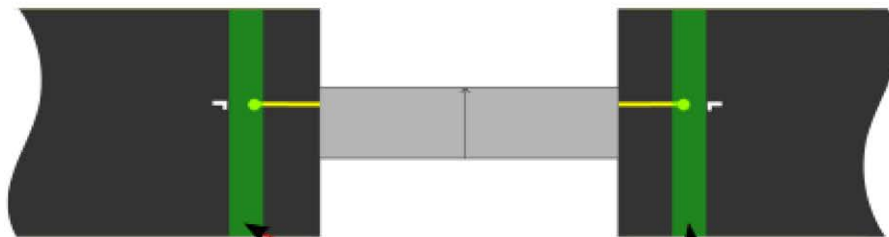
**** Foam Not Shown for Clarity**



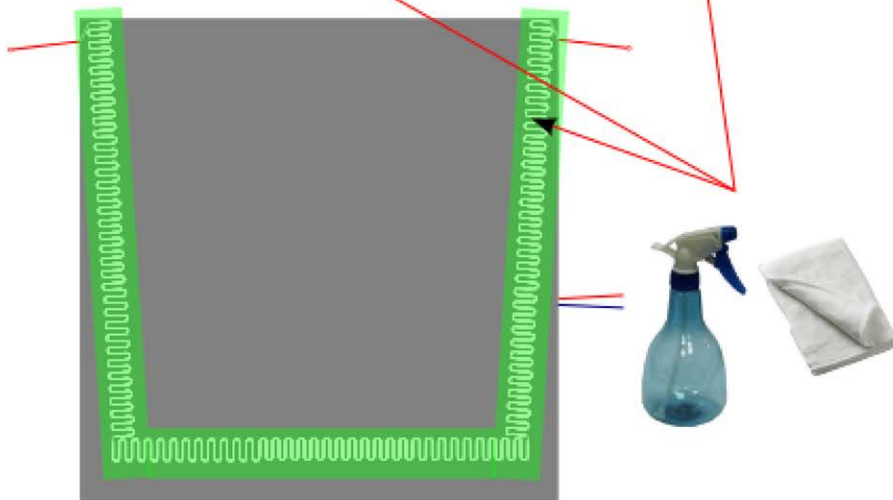
4. Use a jigsaw to cut a 2-3mm wide slot in the pipe casing. Cut from the hole towards the weld.



5. Clean the pipe casing in the radial weld area to the depth of 0.3mm. Use a tape sander or sandpaper. Sandpaper grit size 40—60.



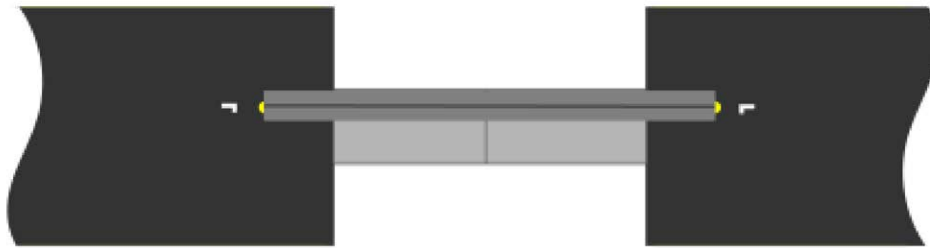
6. Clean the welding area from the sanding remains, degrease the pipe and the joint in the areas indicated.



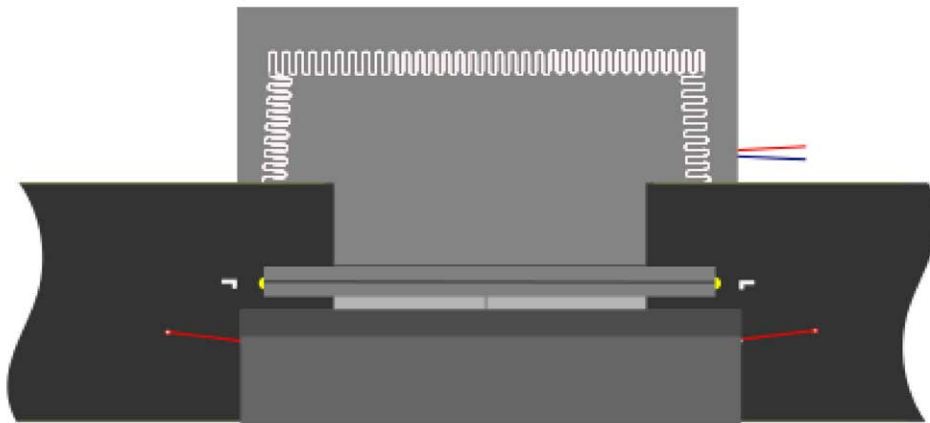
Note: use denatured alcohol

Section 5: Joint Installation

**** Foam Not Shown for Clarity**

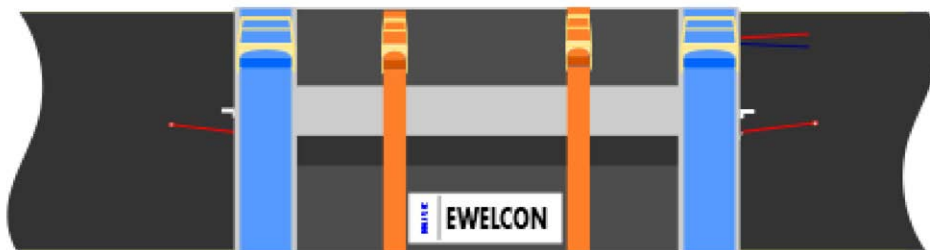


1. Insert the bracket into the slot cut on the casing pipe.



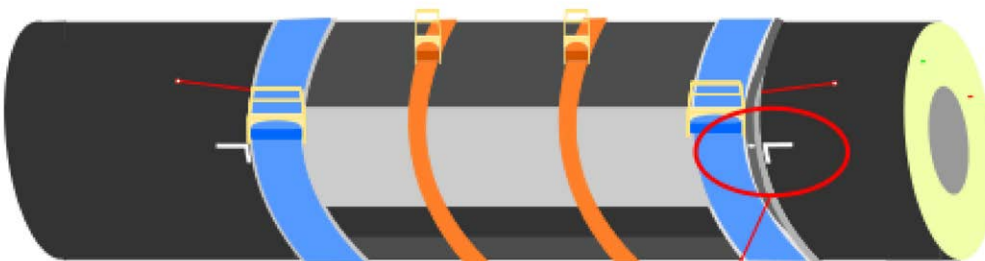
2. Use the pretension strap to wrap the joint around the pipe. Put onto the joint:

- At least 2 pretension straps (for 850 or 1100 wide joints, use 3 or 4 straps)
- An axial pressure distribution plate
- 2 radial pressure distribution plates
- 2 polyester straps with ratchets



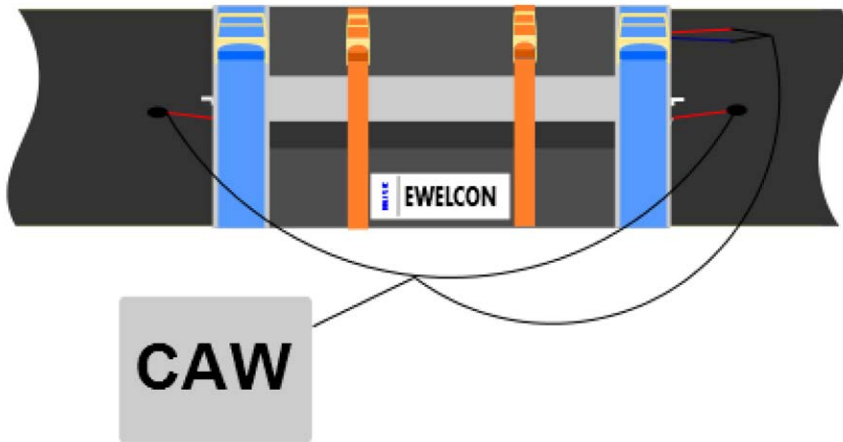
3. Check if the joint is installed correctly:

- The white point on the joint should cover the line of the longitudinal weld on the pipe
- The white point on the joint should cover the middle of the plate
- The space between the joint and the pipe should not exceed 2mm.



longitudinal plate, point on the joint and marked line aligned to the axis

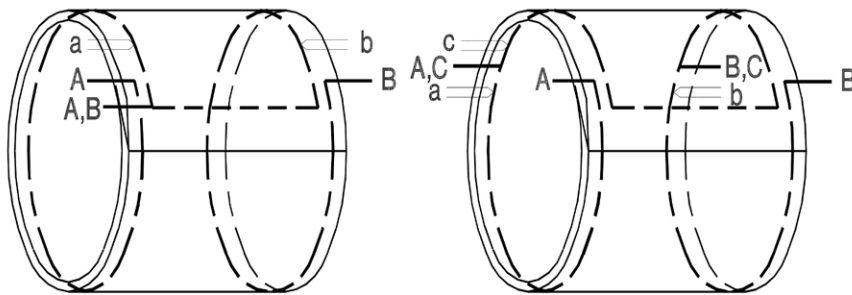
Section 6: Joint Welding



1. Connect the welder to the joint and, after inputting the data, start welding.

Process duration: 5-15 minutes.

Caution: note the colors when connecting the thermocouple.



2-section joint 3-section joint

In multiple section joints, connect the welding unit according to the diagram

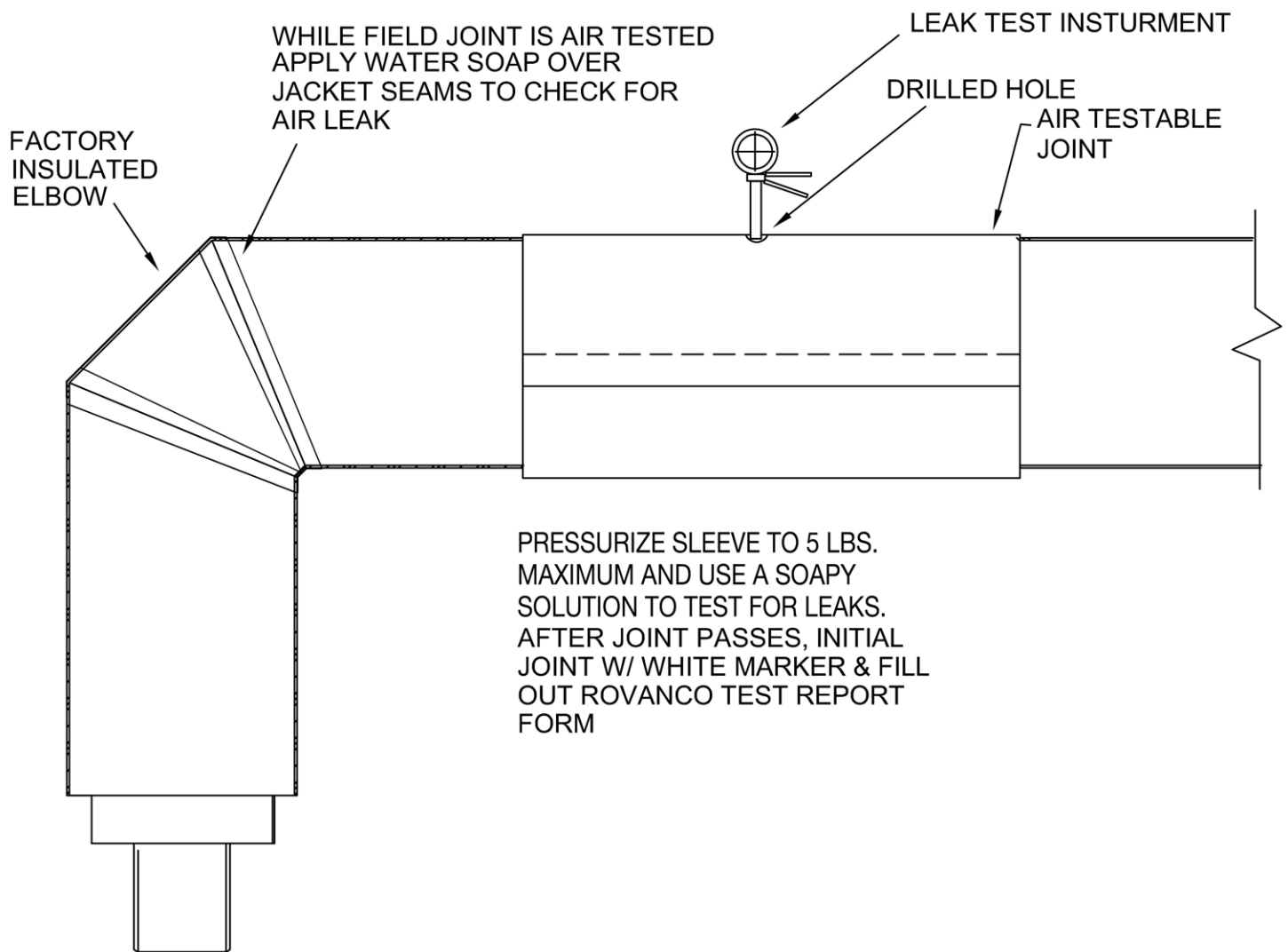
Example (2-section joint):

1 weld: electrical cables A-A and thermocouple a

2 weld: electrical cables B-B and thermocouple b

**** Ratchet straps and stainless bands can be removed once joint is 70°C / 160°F**

Section 7: Leakage Tests, Foaming The Joint & Fusing The Plugs

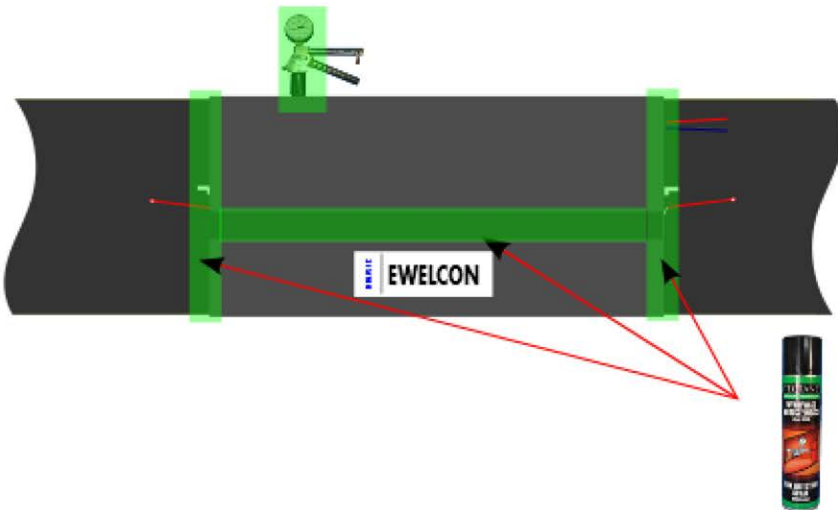




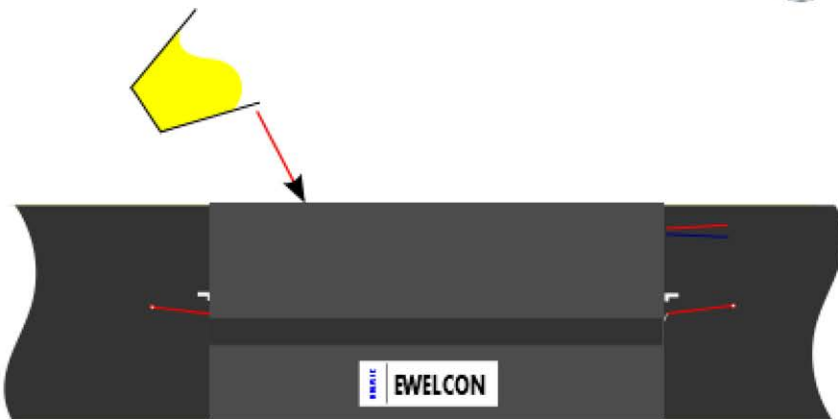
1. At joint temperature below 70°C / 160°F, the ratchet straps and stainless bands can be removed.



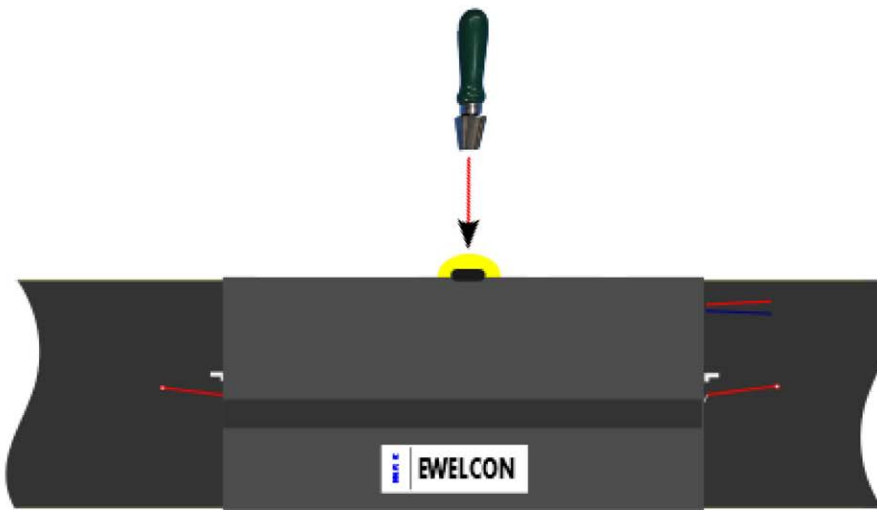
2. Drill one hole for the leakage test instrument on the top of the joint. The joint should be tested at 0.3 bar for 15 minutes.



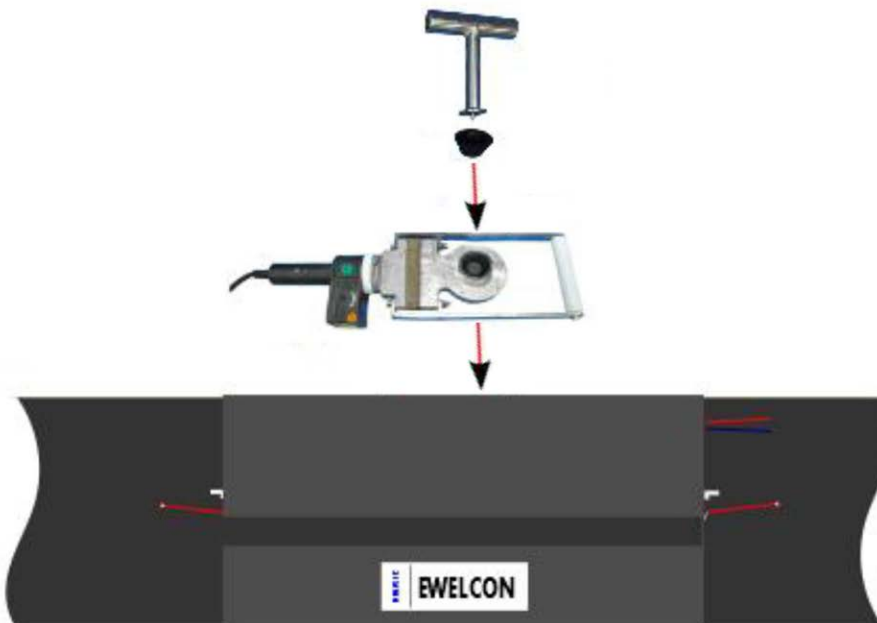
3. Additionally, use a leak detector to test the radial weld on the circumference, as well as the axial weld. Check the pressure gauge for leaks.



4. Prepare a suitable amount of foam, mix the ingredients thoroughly, and pour it into the joint through the hole.



6. After the foaming stops, remove the vent plugs and excess foam. Next, clean the technological holes with a special curling trap to prepare them for fusible plugs.



7. Use the welder to fuse the plugs.

Section 8: EWELCON® Electrofusion Joint Check List



Project: _____

Order Number: _____

Note: This check list is to ensure items are reviewed during the process of the field joint completion. This list only highlights set points in the process. Please review and follow complete installation instructions for the field joint. Please have installer initial each step and return a copy to Rovanco at project completion. Your project may or may not have leak detection in the foam, disregard continuity check if you do not have leak detection.

Joint # / Size	Date	Tape Foam in Place	Check Continuity (measure & cut for bracket)	Prepare Area (sand & clean)	Electrofuse Joint	Air Test & Shrink Holes