



# Installation Reference - Membrane Electrode

## Topic: All TECTRON™ Membrane Electrode (ME) Cells

Please read all the instructions listed below carefully to familiarize yourself with the project before attempting to perform any of the work.

### Required Materials

- None
- Red Plasti Dip

### Required Tools

- Scissors
- Crescent Wrench

Initial installation of the ME Cells should be done immediately before the tank is filled with paint so the ME Cells can be checked for leaks. The less time the ME Cells are in the tank before the paint fill, the less likely they will be damaged.

### Instructions

1. Unpack the ME Cells carefully! Remove any exposed nails or screws from the shipping container which may cause damage.
2. Mount the Membrane Shell to the horizontal strut channels with two clamps. **If the ED tank is full of paint, or partially full, fill the Membrane Shell with D.I. water first to avoid damaging the Membrane Shell as it is placed under the liquid level.** Place the centerline of the overflow nozzle at the desired height above tank rim. For Low Profiles look for tab and place against wall of e-coat tank.
3. Hold the Electrode and grasp the supply tubing near the yellow sticker and pull the excess tubing from inside the Electrode. Remove the yellow sticker and discard. **Note:** Low Profile anodes will most likely already be assembled.
4. **DO NOT DROP THE ELECTRODE INTO THE ELECTRODE HOLDER!!!** Lower the Electrode slowly and gently into the Electrode Holder. The tab of the Electrode will generally extend 20 mm (3/4 inch) past the top of the Electrode Holder. If the tab extends further than this, the Electrode is not properly seated in the bottom PVC cap of the Electrode Holder. Jiggle and twist the Electrode until it slips into place. **DO NOT HOLD BY THE PIGTAIL IF THE PIGTAIL IS ALREADY INSTALLED. THIS WILL CAUSE DAMAGE!**
5. Connect the electrical cable to the upper hole in the Electrode Tab with 5/16" SS nut, bolt and compression washer set provided. Some electrical connections for Low Profiles will be potted in the epoxy. The others will have at least a 1/2" stud with nut and lock washer.
6. Non Potted electrical connections should be covered with red plasti dip to protect electrical connection.
7. Cut the anolyte supply tube attached to the Electrode to the appropriate length, leaving some slack. Connect the tubing to the corresponding hosebarb on the supply manifold.
8. Cut a 45° angle on the end of the anolyte return tubing to be inserted into the return manifold. Make sure the length of the tubing is the correct I.D. so the tubing will not kink when installed. Allow for 25 mm (1") of insertion into the return manifold hole for each ME Cell. Cut the other end of the tubing to the ME Cell overflow nozzle. Push the other end no more than 25 mm (1") into the corresponding hole in the return manifold.
9. After all the ME Cells are installed and anolyte piping has been flushed, turn on the Anolyte Circulation System and adjust the flow rate to each ME Cell for approximately 0.8 lpm/sm (0.2 gpm/sf) of Electrode area (no less than 1.5 lpm/ME Cell; 1/3 gpm). Check each ME Cell for leaks. The Membrane Shells are warranted against leakage due to materials and workmanship. The membrane does have finite water permeability, and it is normal for it to become wet and "sweat" after several minutes. Let it sit for one hour; and if still leaking more than 200 ml/hr for PTAN and 400 ml/hr for PTAR, take out of tank and inspect for damage. Immediately report to UFSc any defective ME Cells that you feel may have excessive membrane permeability.

**For more information** see the original manual that came with the equipment or call UFSc (219) 464-2027 ext. 24.

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(P/N 993136)

Think and act in a safe manner. Always disconnect power and use a lockout before you work on the E-coat system, or any of the related subsystems. Observe any confined space conditions. Use the appropriate safety equipment and clothing for the task.

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