



# Installation Reference - Membrane Electrode

Topic: All TECTRON™ Membrane Shells PTAN,PTCA,PTAG, PTAR Membrane Types

**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

## Required Tools

- Screw Driver and Pliers

The Membrane Electrode (ME) Shell has to be replaced in the event the original ME Shell was damaged or has concluded its useful service life. The Membrane is fragile. Do not allow it to touch a sharp corner of a door frame; handle the ME Shell by holding the Cap (at the top of the ME Shell).

## Instructions

1. Some consideration should be given to locating replacement ME Shell(s) in a low "current demand" region, such as the exit end of the monorail or the outside ends of a hoist e-coat tank. This will help to reduce the electrical load on the new ME Shells and keep the old ME Shells working hard. (See Bulletin #990156 for more information).
2. Mark the center of the ME Shell to replace before the old one is removed from the ED bath.
3. Disconnect the power cable and the electrolyte supply tubing. If you are using a Low Profile ME Cell (with a bulkhead fitting on the top of the ME Cell) proceed to step seven.

### Open Top Cell

4. Remove the Electrode by pulling straight up and set aside. Do not allow the Electrode to get dirty. If the old ME Shell has been cut, you must clean the ED paint solids from the outside and inside of the Electrode.
5. **If the ED tank is not drained, fill the ME Shell with D.I. water to counteract the buoyancy forces that could bend the ME Shell and cause damage.** Carefully lower the ME Shell into the same location as the original and secure with two (2) clamps.
6. Install the Electrode by revising Step 2. Proceed to Step 9.

### Low Profile Cell

7. Remove the ME Cell from the ED bath. See your manual or Bulletin 990133 for disassembly procedure of your Low Profile ME Cell. If the old ME Shell has been cut, they you must clean the ED paint solids from the outside and the inside of the Electrode. (See Bulletin 990145) Replace the original ME Shell with the new one.
8. Install the ME Cell into the same location as the old one.
9. Reattach the electrical cable and the electrolyte supply line.
10. Insure that there is at least 75 mm (3") of side to side clearance between the ME Shell and any obstruction through the side wall of the ED tank.
11. Set the proper electrolyte flow rate through the ME Cell.

**Reminder:** The membrane does have finite water permeability, and it is normal for it to become wet and "sweat" after several minutes. Let sit for three hours and if still leaking more than 200ml/hr take out of tank and inspect for damage.

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

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Topic: TECTRON ME Shells PTAN, PTCA, PTLAN, PTLCA Membrane Types (P/N 993127)

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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