

# TECTRON™ Small Diameter ME Cells

## Product Data Sheet

The T1 TECTRON Membrane Electrode (ME) Cell anode diameter is 1-1/2 inches. It is recommended for use in **small industrial** E-coat systems, especially indexing or hoist type E-coat paint systems. The T2 TECTRON Cell anode diameter is 2 inches. It is targeted for **large industrial** E-coat paint systems, reducing the number of Cells required in these systems.

### Benefits

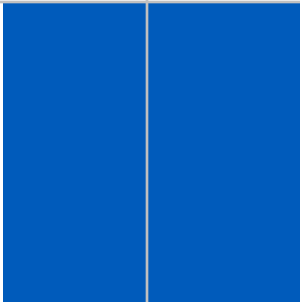
- Anode can be removed for inspection, then re-inserted without damaging the fragile membrane.
- The ME Cell, even a long one, can easily be lifted and held by one person.
- The cylindrical geometry of the TECTRON Cell lowers electrical resistance, as there is more membrane area than anode area. The T1 has a membrane-to-anode ratio of 1.4:1. The T2's ratio is 1.3:1.
- The uniform anolyte flow pattern promotes enhanced cooling and faster removal of harmful oxygen bubbles.
- The ion-exchange membrane is supported on both sides.

### Features

- The cylindrical anode design has no exposed edges; eliminating rapid edge wear and hot spots.
- Protective Membrane Guard is standard.
- Precious metal oxide anodes are available for acrylic E-coat paint formulas that cannot tolerate any possible iron contamination.
- Open Top version is suitable for most monorail type conveyor systems. Splash Guard is available.
- Closed Top version, with a Bulkhead Fitting, is available for use in hoist or indexing E-coat systems.

### Properties (T1 or T2)

- Anode current density of 32 - 54 amp/m<sup>2</sup> (3 - 5 amps/ft<sup>2</sup>) is typical at 200 - 400 volts.
- Membrane Shell is sized to work package height, and is offered in standard effective lengths of 1400 mm, 1900 mm, 2300 mm and 2900 mm; longer lengths are available. The PVC Neck is sized according to tank depth.
- Membrane Shell weighs approximately 1.5 - 8 kg (3 - 18 lbs.), depending on length.
- Recommended anolyte flow rate is 8.0 lpm/m<sup>2</sup> (2.0 gpm/10 ft<sup>2</sup>) per ME Cell at 3 - 3.5 bar (45 - 55 ft) of head at anolyte pump discharge. Special Note - for Low Profile Applications, limit anolyte supply pressure to ~0.5 bar (5 - 7 psi) to avoid damage to the ion-exchange membrane.
- Maximum Cell outside diameter: T1= 85 mm (3.3 in); T2 = 98 mm (3.7 in).
- Anode is made of 316L Schedule 40 stainless steel pipe. Anode outside diameter: T1 = 48.3 mm (1.9 in); T2 = 60.3 mm (2.375 in).
- S40 316L anode weight per lineal unit: T1 = 4.044 kg/m (2.718 lbs/ft); T2 = 5.43 kg/m (3.653 lbs/ft).
- Anode surface area: T1 = 0.150 m<sup>2</sup>/m (0.49ft<sup>2</sup>/ft); T2 = 0.18 m<sup>2</sup>/m (0.62 ft<sup>2</sup>/ft).



Side ME Cells



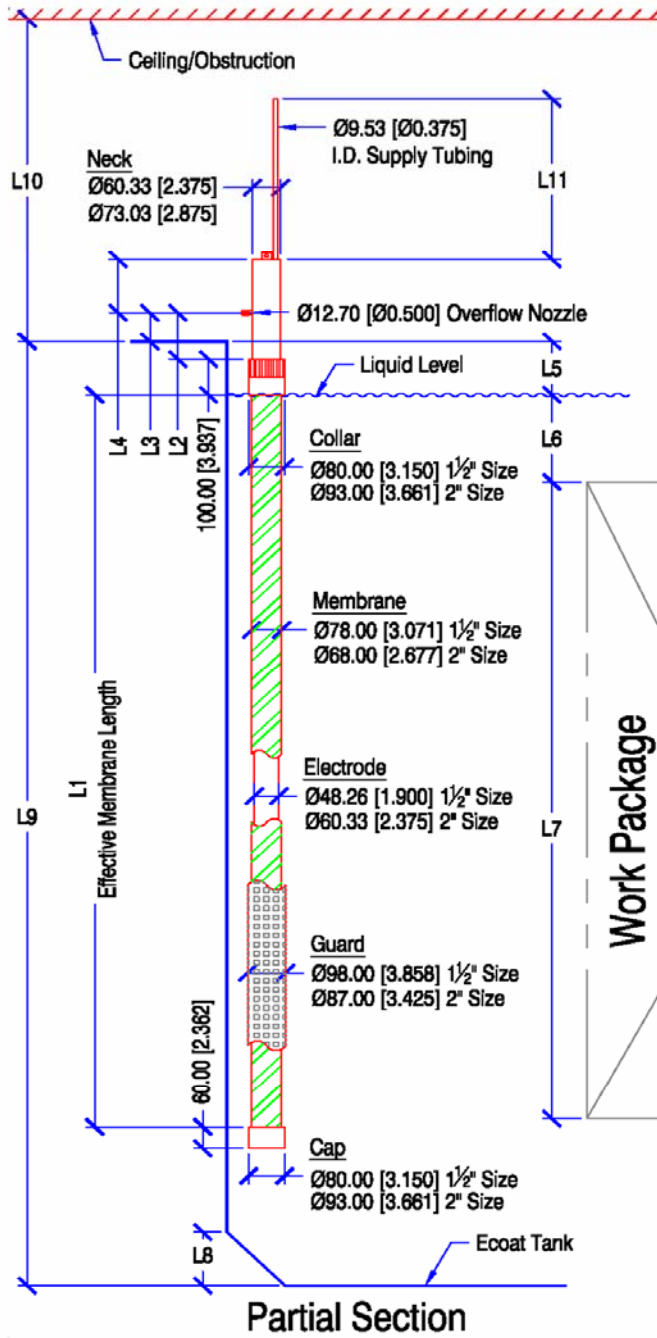
Low Profile ME Cells



Open Top ME Cells  
With splash guards

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# TECTRON Small Diameter ME Open Top Cell Proposal



Date:   
 Quote #:   
 Ref #:

## ME Cell Options List

### Ion Exchange Membrane

- |                                 |                                       |
|---------------------------------|---------------------------------------|
| <b>Type</b>                     | <b>Form</b>                           |
| <input type="checkbox"/> Anion  | <input type="checkbox"/> Roll (PTAR)  |
| <input type="checkbox"/> Cation | <input type="checkbox"/> Sheet (PTAN) |
|                                 | <input type="checkbox"/> Sheet (PTAC) |

### Electrode Size

- 1 1/2"     2"

### Electrode Type

- 316L Stainless Steel Schedule 10  
 316L Stainless Steel Schedule 40  
 316L Stainless Steel Schedule 80  
 Precious Metal (PM\_)

### Membrane Guard

- None     Premium

Effective Length Small Ø ME Electrodes					
Length		1-1/2"		2"	
mm	in	SM	SF	SM	SF
910	35.83	0.138	1.49	0.172	1.86
1400	55.12	0.212	2.28	0.265	2.86
1900	74.80	0.288	3.10	0.360	3.88
2300	90.55	0.349	3.75	0.436	4.69
2900	114.17	0.440	4.73	0.550	5.92

Dimensional Values	
L1	1900.00
L2	
L3	80.00
L4	150.00
L5	
L6	
L7	
L8	
L9	
L10	
L11	1500.00

- mm     inches

### Recommended Accessories

- Flow Meter     Splash Guard  
 Cable Lead     Clamps (2per Cell)  
 Connector Lug Set (1 per every 5 Cells)  
 PVC Return Tubing - 1.5 M (5 Ft) per Cell

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