Capacitech Energy Technical Assistance

"Scaling Manufacturing Capability & Meeting Compliance Requirements"

Submitted by: Joe Sleppy, CEO
Capacitech Energy, 3259 Progress Drive, Orlando, FL 32826
Email: joe.sleppy@capacitechenergy.com
Phone: (727) 434-1229

Objective

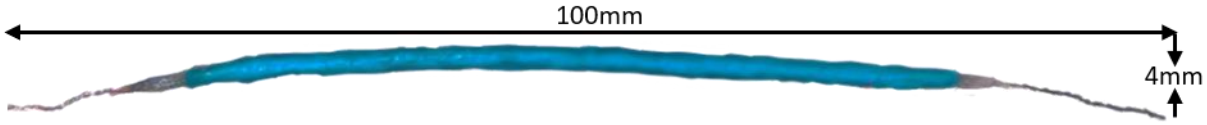
The objective of this document is to describe the immediate technical challenges Capacitech is facing. These include securing a UL Listing, implementing a semi-automated manufacturing line, and improving the voltage rating for improved performance. We will accomplish these tasks by working with vendors who are experts in their field such as Product Safety Consultants and RTP Systems. This document aims to provide additional details related to these challenges.

Milestones

1. *Test for Compliance with UL Standard 810A*

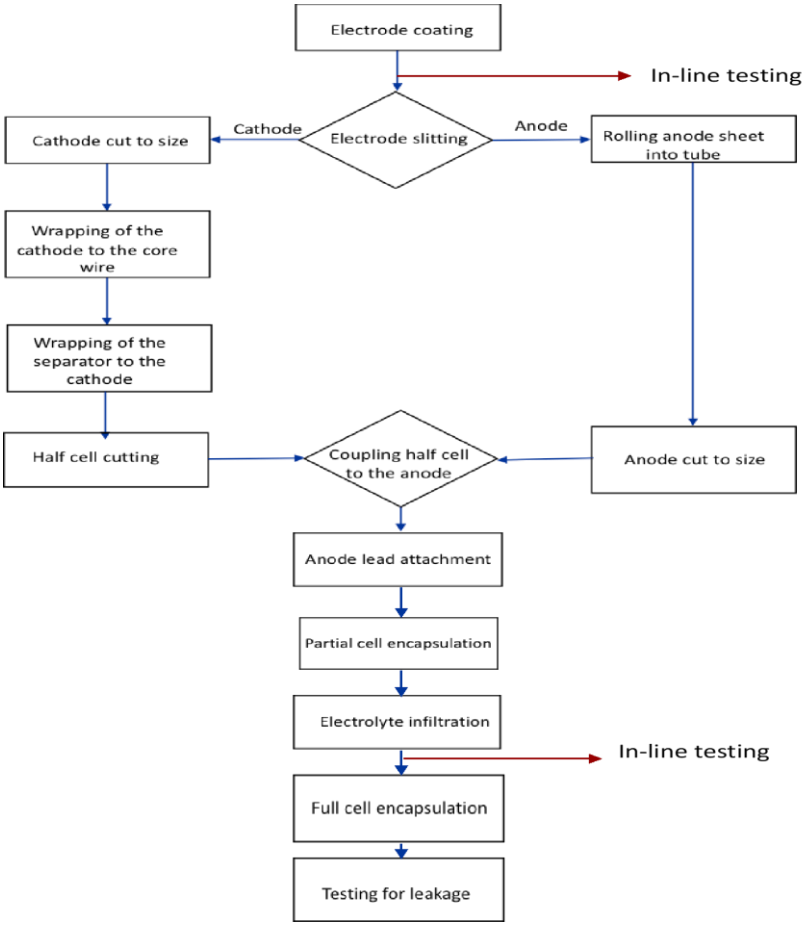
A UL Listing is a major bottleneck to revenue. We have received the tests we must pass, but we need lab infrastructure to test if our technology will pass those tests. We are mostly concerned with meeting the coating requirements and the marking requirements as we have struggled to find a partner who can add the UL required graphics to our energy storage device. We will work with Product Safety Consultants to run UL tests to ensure we will pass mechanical and electrical standards set by UL 810a.

Currently, the product looks like this:



To be UL compliant, we must coat the cell with graphics to look something more like this:

Budget: $10k



2. Build Semi-Automated Manufacturing Line to produce 150 cells per week

Given we are a manufacturer, some customers are concerned regarding our output given we are a single source. We must ensure them that we can meet demand. We can currently produce <50 cells per week and would like to improve that to 150 cells per week by working with RTP Systems who designed our table top tools.

Next, we will work to add servo motors between the table top tools to automate the transfer of the product between fabrication steps and, for certain steps, automate the operation of the tool.

Budget: $30k

3. Improve Voltage Rating & Testing

We have developed a unique process in which we can change the electrolyte used in the product to improve the voltage rating. We would like to push this approach further to move from a 1.6V rating to 5V. Additional prototyping will be required to reach this voltage rating goal without sacrificing the product's capacitance or ESR. Once it is achieved, we must also check a range of other tests such as cycle life testing, temperature range testing, power density, energy density, etc… which Capacitech will need the support of another lab to perform.

Budget: $10k