

# Battery Welding for Beckett Energy Systems, a division of RW Beckett Corp.



## CUSTOMER

RW Beckett is the North American market leader in fuel oil combustion products used in heating, cleaning equipment, and for custom applications. Founded in 1937, they now have products in over 50 million U.S. homes. Beckett Energy Systems® was established in 2010 as Beckett expanded its business into large format lithium-ion batteries and complete distributed energy storage systems for advanced energy storage applications.

Developing the technology to weld onto lithium-ion battery cells is key to our success in the advanced energy arena. EWI's practical approach to the manufacturing environment was most valuable and will adapt to our specific needs."

— John Bohan, Vice President, Business Development

## CHALLENGE

Joining lithium-ion cells into battery packs was uncharted territory for Beckett Energy Systems (BES). The weld joints necessary for battery pack assembly are particularly challenging because they involve dissimilar materials and dissimilar thicknesses. EWI was highly recommended by BES' battery cell supplier and after initial contact, it was clear EWI possessed the expertise and practical knowledge to develop the desired welding competency.

## SOLUTION

EWI has extensive experience welding cells and battery packs across a multitude of joining processes. Small-scale resistance spot welding was best suited for BES' application. EWI developed processes for joining cells to tabs and tabs to bus bars. The process development included spot weld electrode selection, weld schedule development, and process monitor windows for quality control. In addition, EWI was able to provide design for weldability suggestions and training for BES' engineers to further improve their battery assembly process.

## RESULTS

The Oil Heat Industry market has declined substantially in the last decade. Rising oil prices and competition from natural gas have negatively impacted this industry. Despite these challenges, RW Beckett is committed to grow the business through investment in advanced energy storage. By collaborating with EWI, RW Beckett has developed a competency in battery joining for their large scale lithium-ion battery application. In addition, EWI assembled dozens of prototype battery packs that allowed BES to move forward with product development.

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