

Materials Handling and Fuel Cells

How can Fuel Cells be used in Today's Materials Handling Market?

Today's materials handling market is highly focused on efficiency while reducing energy costs and emissions. Many in the materials handling business are looking for alternatives to combustion-powered forklifts, leaving the market ripe for a strong green technology, fuel cells. Fuel cell-powered forklifts have been deployed across the country, including companies such as Walmart, Sysco, Wegmans, Coca-Cola, Whole Foods, Central Grocers, United Grocers, Nissan and BMW.

What Advantages do Fuel Cells have over Battery Powered Fork Lifts?

Fuel cell powered forklifts outperform their battery powered counterparts in almost every measure.

Power Degradation

Battery electric forklifts have a serious issue with powered degradation over time, with some battery-powered units reportedly losing as much as 14% of their speed over the last half of their charge. Fuel cells never degrade in power output over time; they run at the same high level of performance as long as they have fuel in their tanks.

Battery Swapping

Another major issue with lead acid forklifts is that their batteries must be swapped with a new one every time the charge runs out. This requires valuable floor space be set aside and used for supplementary battery storage and charging, as well as needing an extra technician to assist in the battery replacement. On the other hand, fuel cell forklifts can take less than five minutes to refuel, and require the same level of skill to fill up a car with gasoline. More space is made available for actual warehouse needs, and with the fast fill times of fuel cell forklifts, personnel downtime is minimized and efficiency maximized.

Performance Time

A completely filled fuel cell forklift can run for about 18 hours while the plant is in full production. A battery-powered forklift runs for approximately four to six hours before the battery must be recharged. Less down-time and no decrease in power output means an increase in productivity and efficiency, showing fuel cells to be the superior option for forklift units.

Environmental Benefits

The only by-products from forklifts powered by fuel cells are water, heat, and electricity. Because they do not emit any pollutants or noxious fumes, they can be operated indoors without difficulty. As a zero-emission alternative to battery-powered forklifts, fuel cells offer companies the advantages of adopting innovative clean technologies, without any loss in warehouse efficiency.