

**Post Treatments of Pt-Co/C Catalysts and their  
Impact on Performance and Durability**

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In light of commercial deployments of fuel cell vehicles, extensive studies have been done by automotive companies to improve durability of PEM fuel cell cathode, particularly Pt-Co/C. The performance benefits of Pt-Co/C over Pt/C are well recognized however the durability of alloy catalysts under drive cycle conditions are still challenging and not yet acceptable for the lifetime of the fuel cell<sup>[1-4]</sup>. A widely perceived strategy is to post treat the catalysts after alloying Pt and Co. This includes preferential leaching of Co and other processes from catalyst suppliers. To understand the pros and cons of these treatments, various post treated Pt-Co/C catalysts were evaluated. These treatments were aimed to stabilize alloy nanoparticles and sustain the performance in a fuel cell under voltage cycling conditions.

This presentation will highlight those treatments and their impact on catalyst properties such as crystallite size and Pt:Co ratio. Also the activities of these catalysts on RDE and its performance at low and high current densities in a fuel cell will be discussed.

References

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