Fig.1 COMPARISON OF RESISTIVITIES OF $LiNiMnCoO_2$ CATHODE MATRIXES MADE WITH LAC KNIFE GRAPHITE & COMMERCIAL GRADES OF SYNTHETIC & FLAKE GRAPHITE

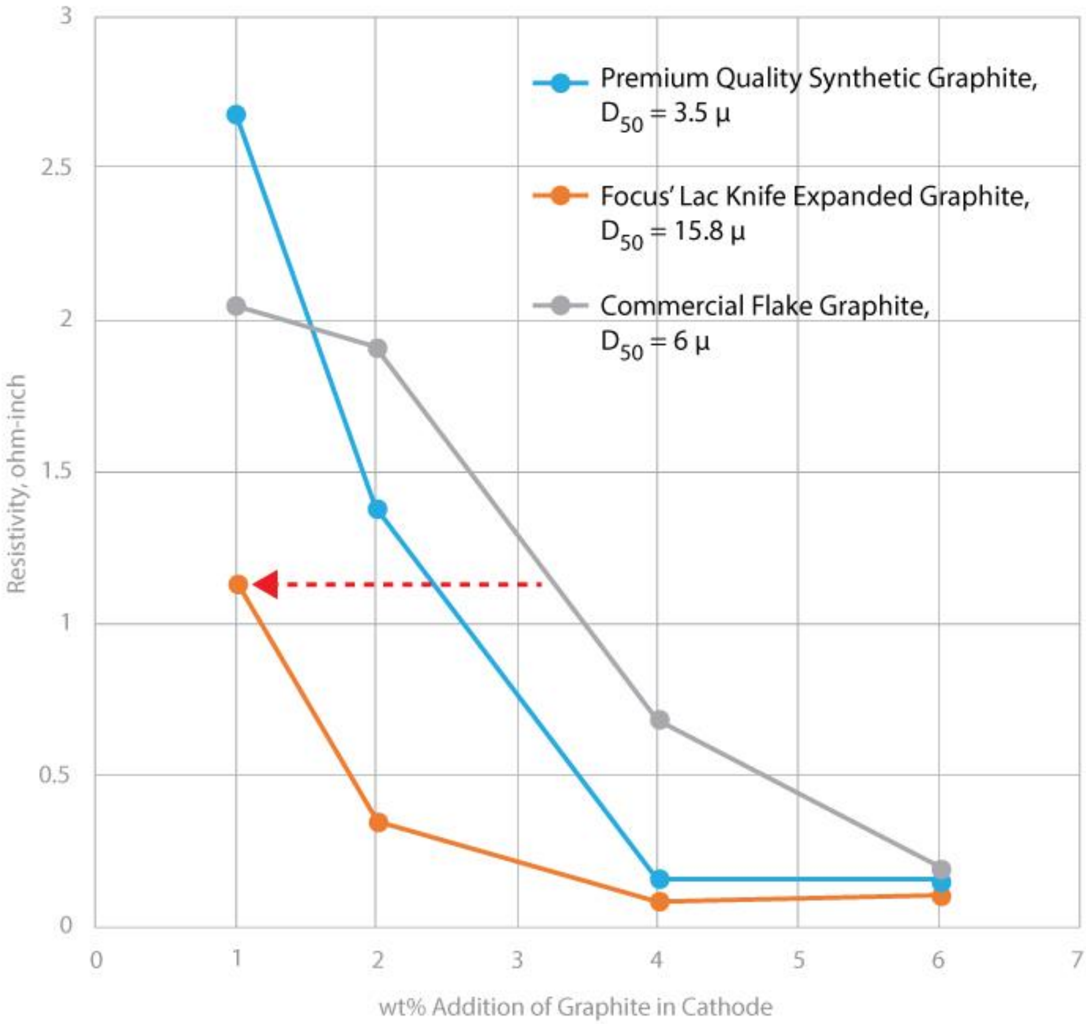
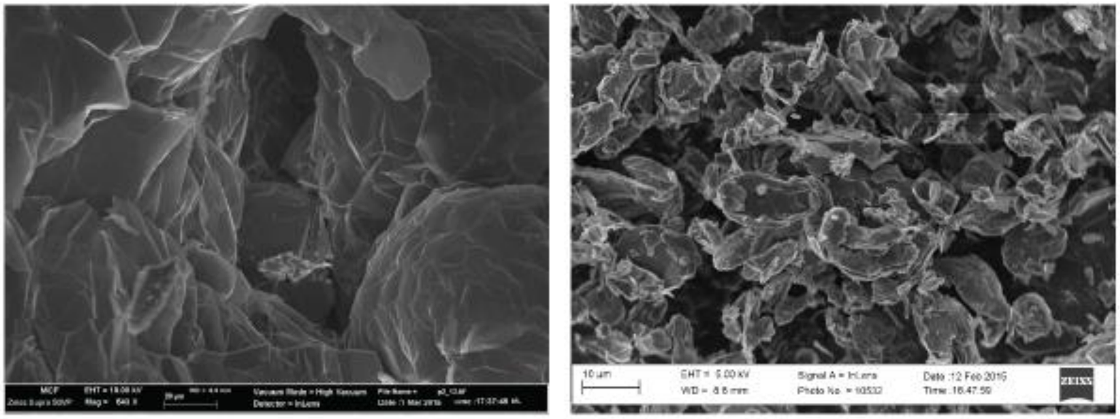


Figure 1 compares the resistivity of Lac Knife's expanded graphite with the resistivities of a premium quality synthetic graphite and a commercial grade of flake graphite in a $LiNiMnCoO_2$ cathode active matrix. (N.B.: lower resistivities result in higher conductivities) The data shows that the Focus D50 = 15.8 μ um grade of expanded graphite is basically twice as conductive in the cathode matrix as the premium quality synthetic graphite and a standard commercial grade of flake graphite at a 1% addition level. Conversely, well over twice the amount of either the synthetic or the flake graphite is needed to match the conductivity of the cathode matrix achieved with the Lac Knife expanded graphite at only a 1% addition rate. What is also important to note is that these higher conductivities were achieved with a much coarser grade of expanded graphite (D50 = 15.8 μ) as compared with much finer D50s = 3.5 μ and 6 μ for the commercial grades of synthetic and flake graphites, respectively. Furthermore, using lower quantities of a highly conductive expanded graphite allows the battery manufacturer to increase the amount of active material added to the cathode thereby allowing for the potential to increase the performance of the Li Ion battery.

FIG.2 SEM'S OF EXPANDED AND DELAMINATED LAC KNIFE FLAKE GRAPHITE



Expanded Graphite | Delaminated Graphite

The left SEM provides a microscopic look through the "tunnel" of an expanded flake of graphite where the layers of flakes are separated like an accordion into much thinner individual flakes. These flakes are then separated by a special process called delamination in order to maintain the original flake structure as shown in the individual delaminated flakes on the SEM on the right. It is the separated thin flakes of graphite blended in with the active material that results in an increase in the conductivity of the cathode matrix.