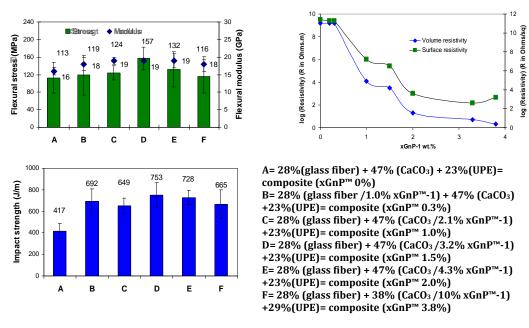
## SMC with improved Impact, Stiffness, and Electrical Conductivity through the addition of xGnP

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Research during the past year was directed at exploring methods for applying a thin, uniform layer of exfoliated graphite nanoplatelets  $(xGnP^{TM})$  onto glass fibers and/or adding them to the resin or filler constituents or a typical sheet molding compound (SMC) in order to produce an SMC that is sufficiently electrically conductive so that the SMC can be electrostatically painted and does not suffer from a loss in mechanical properties. Furthermore, methods were explored that are suitable for integration into current industrial manufacturing methods for either the glass fiber or the SMC.



The following results have been achieved:

- \* Glass fibers have been inexpensively transformed into conductive fibers through a dip procedure or spray coating of coating the fibers with a small concentration (<3%) of xGnP. The process is compatible with current continuous glass fiber manufacturing practices.
- \* SMC formulations containing a total of ~3% of xGnP have been produced which have a unique combination of mechanical and physical properties. Increases in modulus ~20%, strength ~40%, impact strength ~80% could be achieved simultaneously with levels of conductivity suitable not only for electrostatic painting but also electrical and magnetic shielding.