

# NFD DEVELOPS DROP-IN MAGNESIUM SUBSTITUTE LONG FIBER COMPOSITES

SHANGHAI, CHINA – NFD, Inc., a global leader in long fiber thermoplastic (LFT) materials and technologies, announced that it has expanded its LFT composite pellet product line to include drop-in replacements for die-cast magnesium. The new LFT products duplicate both the mechanical and electrical properties of magnesium in injection molding or extrusion materials that offer up to 40% reductions in weight.

Long fiber reinforced composite from NFD has the same strength, stiffness, and EMI shielding properties as magnesium" Structurally, long fiber reinforced composites have a history of successfully being used to replace metals, such as aluminum, because they offer weight savings and easier fabrication which provide considerable cost reductions. Where composites have previously fallen short is in meeting the combination of both structural and electrical characteristics of metals" said Ming Wang, Chief Operating Officer at NFD. "It is common in the consumer electronics and automotive industries to use metals like magnesium for their stiffness and EMI shielding properties. Now, NFD is able to offer LFT drop-in substitutes that allow these types of metal applications to be converted to long fiber."

NFD's new LFT composites match the mechanical performance of pressure die-cast magnesium and aluminum with tensile modulus values up to 42,000 MPa. On the electrical side, they offer surface resistivity values down to 0.2 ohmsq and EMI shielding capabilities in the 60-80 dB range depending on wall section thickness.

"Even though our new materials contain both long fiber reinforcement and nano fillers to achieve magnesium substitution properties they mold extremely well," said Ming Wang. "NFD has already successfully demonstrated commercial applications, with cross sections in the 0.7 to 1 mm range, which were injection molded without any difficulty using these LFT composites. Microstructural characterization showed a conductive network of intertwined carbon fibers and uniform dispersion of the nano fillers throughout the parts."

The combination of mechanical and electrical properties provided in these new LFT composites are achievable in a wide range of polymers from commodity to engineering resins based on performance requirements and price sensitivity of applications.

In addition to hand-held devices and peripherals in the consumer electronics industry, NFD's new magnesium substitution LFT composites can also replace metal profile extruded frames within the automotive industry.

As a vertical, full service long fiber compounder, NFD provides design and analysis services, composite pellet manufacturing, as well as injection molding or extrusion when needed. NFD routinely partners with OEMs on new product development programs and uses finite element

method and mold flow analysis to ensure strength and stiffness performance are not compromised when metal applications are converted to long fiber or designs are modified to reduce mass or increase functionality.

For more information on NFD's LFT products and technologies, please call +86 021-51298656,, or visit their website at [www.nfdpla.com](http://www.nfdpla.com).