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KyronMAX™ Structural Thermoplastic Materials Consistently Outperform the Mechanical Strength of Long Fiber Thermoplastic Compounds

CHANDLER, AZ USA - Responding to customer demand for a short fiber thermoplastic material that would outperform the mechanical strength of long fiber thermoplastic (LFT) materials, Piper Plastics, a leading provider of high performance polymer materials and precision machined plastic components and assemblies, developed the KyronMAX™ series of structural thermoplastic compounds, the next generation in injection moldable metal replacement technology.

“Our customers wanted the strongest moldable polymers available without all the process and design limitations associated with LFT polymers,” explained David Wilkinson, Polymer Technology Manager at Piper Plastics. “KyronMAX materials consistently outperform LFT polymers, especially when measuring the performance of the molded part, which is the true test. They overcome all the limitations associated with LFT compounds while yielding stronger molded parts that are also lighter in weight.”

What makes KyronMAX technology unique is that it is based on short fiber technology, so the polymer behaves more like the isotropic nature of metal and eliminates the processing and fiber breakage concerns associated with LFT compounds. The technology enables very complex parts to be molded with unrivaled mechanical performance and consistency. An exciting feature of short fiber technology is that very complex parts can be molded with wall thicknesses down to 0.015” (0.038 cm).

Competitive structural compounds use high fiber loadings and long fiber lengths to achieve the desired mechanical performance, but the performance of these materials often do not translate into the molded parts, due to weld line strength loss and fiber length reduction during processing. In contrast, KyronMAX technology outperforms all other thermoplastic compounds using short fiber technology and much lower filler loadings. “The lower filler content results in a tough, structural plastic that can be utilized in extremely aggressive applications, yet is still processing friendly and does not require specialized molding equipment,” said Wilkinson.

“We are consistently replacing LFT polymers with KyronMAX polymers that are 20% lighter and 20-50% stronger,” said Wilkinson. Exhibiting tensile strengths above 51,000 psi (352 MPa) and flexural modulus above 6,500,000 psi (44,816 MPa), the KyronMAX technology platform is currently formulated in various thermoplastics including PA, PPA, PPSA, PEI, PEEK, with more in current development.

For more information on KyronMAX structural thermoplastic compounds, please visit <http://piperplastics.com/pages/lft>.

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About Piper Plastics

Piper Plastics, is part of the Quadrant Plastics Engineering Plastic Products (QEPP) business group and provides a high-tech and diversified customer base with complete solutions to their engineering and finished component needs by blending advanced manufacturing technologies with state-of-the-art polymer science. Piper Plastics is recognized globally as a leading source for high performance polymer materials and for precision machined and injection molded components, with facilities in Chandler, AZ, Libertyville, IL, and Rayong, Thailand. For more information, please visit www.piperplastics.com.