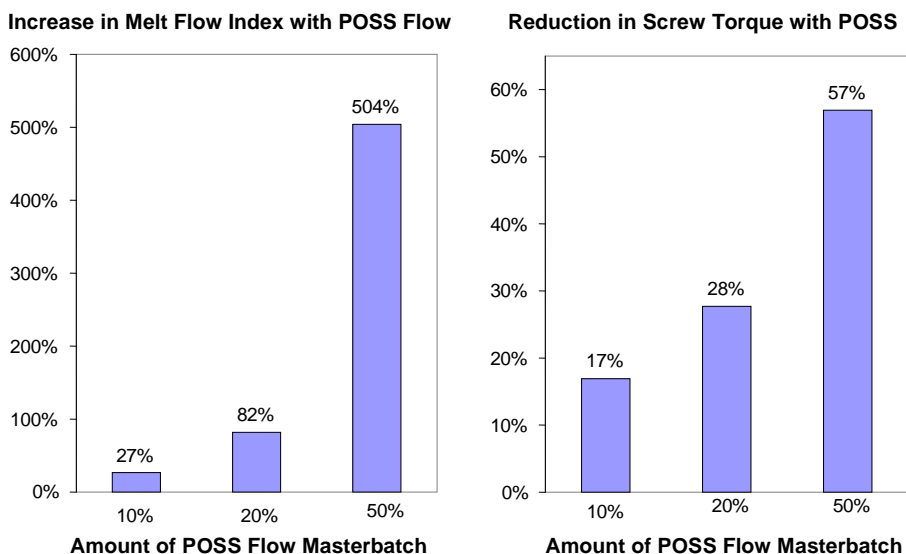


Hybrid Plastics Introduces POSS® Flow Masterbatch To Speed and Enhance PEEK Processing

Hattiesburg, MS: POSS® Flow masterbatches have shown tremendous success in reducing the melt viscosity of a variety of high temperature and difficult to process thermoplastics. Hybrid Plastics offers such a solution for PEEK (Polyetheretherketone). PEEK POSS® Flow is a pellet masterbatch incorporating POSS® Flow in a PEEK carrier that can be used directly in your process or manufacturing stream. For injection molding applications, users will benefit from decreased molding pressures and increased flow for filling intricate and thin-walled parts. This leads to faster cycle times and less scrap. For extrusion applications, POSS® Flow will dramatically decrease screw torque, allowing for an increase in extrusion rate.

Typical addition levels are 10 to 20%. Adding 20% to a high molecular weight PEEK nearly doubled the MFI and decreased extrusion torque by 28%. At loading levels of up to 50%, there is no appreciable decrease in mechanical properties, including modulus, HDT and elongation to break. PEEK POSS® Flow is especially effective in filled systems. POSS coats and interacts with most fillers (glass, mineral, clay, etc.), improving dispersion and significantly decreasing melt viscosity.



PEEK POSS® Flow masterbatch added to a high molecular weight, unfilled PEEK increases MFI and decreases extrusion torque.

POSS® [Polyhedral Oligomeric Silsesquioxanes] is a revolutionary new Nanotechnology based on silicon-derived building blocks that provide nanometer-scale control to dramatically improve the thermal and mechanical properties of traditional polymers while offering easy incorporation using existing manufacturing protocols. These compounds have an average diameter of just 1.5 nanometers, or billionth of a meter. POSS® nanomaterials can be used both as direct replacements for hydrocarbon based materials or as low-density performance additives to traditional plastics. They release no VOCs, and, thereby, produce no odor or air pollution. They are biocompatible, recyclable, non-flammable, and competitively priced with traditional polymer feedstocks. POSS® Nanostructured® materials can be readily incorporated into virtually any existing polymer system through blending, grafting or copolymerization.

These POSS[®] nanobuilding-blocks were hailed by R&D magazine as one of the 100 globally most technologically significant new products for the year 2000. Hybrid Plastics was one of five finalists in Small Times Magazine's 2002 *Best of Small Tech Award*. In December 2005, a *Presidential Determination* deemed POSS[®] Nanotechnology to be in the strategic national interest of the United States.

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