

Effect of Novel Lubricant GPSL on Crystallization Behavior of PEEK Resin

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Abstract: A novel high temperature lubricant (GPSL) were used in poly (ether ether ketone) (PEEK) resin to improve processing characteristic and crystallinity of PEEK resin. A series of PEEK/GPSL and PEEK/CF/GPSL compounds were prepared by melting blending with twin screw extruder (ZSK 30P9P, WP). The torque of screw was investigated and Crystallization behavior and Isothermal crystallization kinetics of compounds were studied by DSC. The results showed that a small amount of GPSL can decrease torque of screw for processing PEEK resin, namely the novel lubricant GPSL can improve processing characteristic of PEEK resin, at the same as can promote the crystallization process of PEEK, but not change the nucleation and growing mechanisms. The novel lubricant GPSL is an effective modifying agent for processing of PEEK.