고분자 매트릭스와 필러 종류에 따른 복합수지의 열전도도와 기계적 특성 변화에 관한 연구

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Thermally condcutive composites consisting of polymer matrices and ceramic fillers were prepared by the conventional extrusion process and then thermal conductivity was investigated in relation to mechanical properties. Thermal conductivity of the composites increased with an increase of the ceramic loading. In addition, the use of polymer matrices with high crystallinity and larger ceramic particles was more efficient to enhance thermal conductivity. The mechanical properties such as tensile strength, flexural strength, and impact strength gradually decreased as the ceramic content increased. It is realized that the selection of appropriate materials and their combination is prerequisite to maximize the thermal conductivity and mechanical properties of polymer composites.