

Polyurethane foams including inorganic fillers for sound absorbing materials

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Polyurethane foam has many application area such as sound absorption material, membrane filter and heat insulation material. Especially, sound efficiency of polyurethane sound absorption materials can be affected by morphological property (porosity, cavity and pore size). For analyzing morphological property and sound absorption efficiency of polyurethane foam, scanning electron microscopy (SEM) and impedance tube were used. In addition, thermal gravimetric analysis (TGA) and universal testing machine (UTM) were used for exploring additional property of polyurethane foam. As a result, inorganic fillers leads the increase of sound absorption efficiency, thermal stability and physical properties.