

Improvement on Thermal Insulation Property of Rigid Polyurethane Foam

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Polyurethane foams (PUFs) with a cellular structure are used for many engineering applications, such as insulation materials, cushioning, and structural materials. Rigid polyurethane foam was synthesized from the polyol, polymeric 4,4'-diphenylmethane diisocyanate (PMDI), and blowing agent. Thermal conductivity and cell size of the rigid polyurethane foam was investigated with cyclopentane as a blowing agent. In addition, additives were added to improve thermal insulation property of polyurethane foam. Thermal conductivity of the polyurethane foam with additives showed lower value than the polyurethane foam without additives. Cell size of the polyurethane foam was decreased when the additives were added.

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