

Acoustic property of PU foams including cellulose nanocrystals

최현준, 김정현[†]

서울시립대학교

(jhkimad@uos.ac.kr[†])

In recent years, noise pollution has been a serious problem in automobile industries. Polyurethane foams can absorb sound waves through cavities and pores.

In this studies, cellulose nanocrystals are used in fabricating polyurethane composite foams. Cellulose nanocrystal has high contents of OH functionalities, and thus it is expected to form homogeneous cavity and pore structures in polyurethane foams. For exploring relationships between material properties and the cellular morphologies (cavity and pore size, distribution), and scanning electron microscopy (SEM) were examined. For additional property measurement, dynamic mechanical analyzer (DMA) and impedance tube were used to analyze thermomechanical and acoustic properties of polyurethane composite foams.