

Effect of active carbon on manufacturing polyurethane-urea copolymer foam

권재경, 김정현[†]

서울시립대학교

(jhkimad@uos.ac.kr[†])

Microcellular structured polymer is a new class of materials having characteristics of high cell density and wide range of cell size distribution. Polyurethane foams (PUFs) are well known for a greatly versatile polymer because they have a wide spectrum of bulk density, crosslink density, and stiffness. As increasing environmental concern about water to drink, various methods such as sedimentation, filtration, adsorption, osmosis, and ion exchange have been proposed for the treatment of wastewaters containing organic and inorganic pollutants. Activated carbons (AC) have been considered a notable material to remove the pollutants due to their highly porous structure. Supporting AC in flexible polyurethane foams (flexible PUFs) having open porous structure is possible for the PUFs to use as membrane for removing water pollutants. Therefore, our aim in this study is to propose suitable guidelines for producing the flexible PUF incorporated with AC. The effects of the AC on the foam characteristics were examined through DMA, FTIR, and SEM.