

The effect of cell structure on oil absorption of polyurethane foam using polymer-polyols modified by vinyl monomers

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The effect of the oil absorption of polyurethane foam using by modified polyols was studied. Polypropylene glycol was mainly used in the polyurethane foam as oil absorbent. Modified polyols were prepared by polypropylene glycol in the presence of vinyl monomers such as styrene, acrylonitrile and methacrylic acid. Polyurethane foam was synthesized by the modified polyols, water, additives and toluene diisocyanate(TDI-80) by using one shot process method. Density, cell structure and oil absorption of this foam were measured. From these results, it was found that the foams using by modified poyols showed higher oil absorption than foam using by polypropylene glycol, and oil absorption decreased with the increase of density of foams. In oil/water mixture, the amount of oil absorption increased linearly as the oil percentage increased.