

Effects of NR and liquid NR loading on swelling behaviour of TPU/NR blends

Abstract

The blends of thermoplastic polyurethane (TPU) with natural rubber (NR) at four different blend ratios were prepared via melt blending at 180°C and 190°C, with addition of liquid natural rubber (LNR) as compatibilizer. The effect of blend ratio and temperature swelling index was studied. The equilibrium swelling index of TPU and its blend increase with increasing of NR, because of the easiness for solvent to diffuse into the gap between rubber molecules. The temperatures of blending also give effect to swelling behavior. Swelling index of all samples was higher when mixed the blends at higher temperature.

Keywords

Liquid NR; Natural Rubber; Swelling; Thermoplastic Polyurethane