

Rheological Properties of DGEBA/Poly(phenylene oxide) Blends

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In this work, the rheological and miscibility properties of diglycidyl ether of bisphenol A (DGEBA) containing poly(phenylene oxide) were investigated. The DGEBA/PPO compositions were varied within 100:0–100:20 wt.%. The rheological properties of DGEBA/PPO blend were studied under the isothermal condition using a rheometer. The miscibility properties of the blend were determined by dynamic mechanical analyzer (DMA). As experimental results, the blend exhibited one T_g , which could be confirmed that DGEBA/PPO blend showed a good miscibility in all the compositions. And the gel time of the blend was decreased up to the PPO content of 10 wt.%, due to the plasticization effect of PPO. In this work, the cross-linking activation energy (E_c) showed the highest values at 10 wt.% of PPO content. These results were explained by increasing the intermolecular interaction between DGEBA and PPO.