

Polyurethane-co-acrylic acid for Metal Coatings

최준석, 한학수*, 장의성, 최원진, 이민주, 최봉구
연세대학교
(hshan@yonsei.ac.kr*)

UV-curable polyurethane acrylate (PU) has been synthesized by reacting polyol (polycaprolactone triol) and diisocyanate (isophorone diisocyanate) and improved the adhesion properties of PU by coating with 50 weight percent of reactive diluents monomer (acrylic acid) for stainless steel. Both PU and polyurethane acrylate-co-acrylic acid (PU-AC) were characterized by fourier transform infrared spectroscopy (FTIR) while the morphology was evaluated by using X-ray diffraction (XRD). The thermal properties were examined by thermogravimetric analysis (TGA) and differential scanning calorimetry (DSC) and the optical properties were characterized by UV. PU-AC showed stronger adhesion to stainless steel and high optical properties as compared to PU. Thus PU-AC will be a good candidate for coating on stainless steel