

The Impact of Initiators on Fast Drying Traffic Marking Paint

Authors : Maryam Taheri, Mehdi Jahanfar, Kenji Ogino

Abstract : Fast drying traffic marking paint comprising a solvent-borne resin, a filler, a pigment and a solvent that is especially suitable for colder ambient (temperatures near freezing) applications, where waterborne traffic paint cannot be used. Acrylic resins based on methyl methacrylate, butyl acrylate, acrylic acid, and styrene were synthesized in different solvents using organic peroxide initiators such as peroxyester, peroxyketal, dialkylperoxide and azo. After polymerization, the molecular weight (Mw), polydispersity index= PDI (Mw/Mn), viscosity, total residual monomer and APHA color were evaluated and results of organic peroxide initiators (t-butyl and t-amyl derivatives) were also compared with the azo initiator. The Mw, PDI, viscosity, mass conversation and APHA color of resins with t-amyl derivatives of organic peroxide initiators are very proper. The results of the traffic marking paints test such as non-volatile matter, no-pick-up time, hiding power, resistance to wear and water resistance study that produced with these resins also confirm this.

Keywords : fast drying traffic marking paint, acrylic resin, organic peroxide initiator, peroxyester, peroxyketal, dialkylperoxide and azo initiator

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020