

Preparation and Properties of Copolymers for hydrophobic Coating

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Perfluoroalkyl methacrylate copolymers were prepared by solvent polymerization using Perfluoroalkyl methacrylate, Cyclohexyl methacrylate and 1,6-Hexanediol diacrylate as comonomers. A film of Perfluoroalkyl methacrylate copolymer was formed on a slide glass, and its surface properties were analyzed by measuring the contact angles analyzer. The solid content of Perfluoroalkyl methacrylate copolymer in the copolymer coating solution used to prepare the film of Perfluoroalkyl methacrylate copolymer should be above 4.0 wt%. The oil repellency of Perfluoroalkyl methacrylate copolymer is more dependent upon the Perfluoroalkyl methacrylate content of Perfluoroalkyl methacrylate copolymer than the water repellency. The contact Angle of Perfluoroalkyl methacrylate copolymers varies sensitively with Perfluoroalkyl methacrylate content. The contact Angle of Perfluoroalkyl methacrylate copolymers, whose Perfluoroalkyl methacrylate content is in the range of 40–60 wt%, shows a value between 110~120°.