

Sholikhah, F. M., 2018, Silikon Dioksida (SiO₂) – Asam Palmitat sebagai Bahan Pelapis Hidrofobik pada Material Batu dan Kaca, SKRIPSI, di bawah bimbingan Dra. Usreg Handajani, M.Si, dan Alfa Akustia Widati, S.Si, M.Si, Departemen Kimia, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya

ABSTRAK

Bahan pelapis hidrofobik dengan sudut kontak air yang statis telah disintesis dengan memodifikasi SiO₂ dan asam palmitat. Bahan pelapis hidrofobik SiO₂ - asam palmitat pada material kaca dan batu telah diteliti dalam penelitian ini. Pelapisan SiO₂ - asam palmitat menggunakan metode *dip coating*. Hidrofobisitas diukur dengan uji sudut kontak air. Pengukuran sudut kontak air dilakukan dengan variasi konsentrasi dan waktu deposisi SiO₂ – asam palmitat, suhu pengeringan, dan kondisi pH. Pada kondisi optimum, sudut kontak air kaca dan batu adalah 86,626° dan 123,110°. Bahan hidrofobik dikarakterisasi menggunakan *Fourier Transform Infra Red* (FTIR), *Scanning Electron Microscopy* (SEM), dan Spektrofotometer UV-Vis.

Kata kunci: *Hidrofobik, Dip coating, SiO₂, asam palmitat*

Sholikhah, F. M., 2018, Silicon Dioxide (SiO₂) - Palmitic Acid as a Hydrophobic Coating Material on Stone and Glass, This script is under guidance of Dra. Usreg Handajani, M.Si, and Alfa Akustia Widati, S.Si, M.Si, Department of Chemistry, Faculty of Science and Technology, Airlangga University, Surabaya .

ABSTRACT

A hydrophobic coating material with static water contact angle has been synthesized by modifying SiO₂ and palmitic acid. Hydrophobic coating material of SiO₂ – palmitic acid on glass and stone materials have been investigated in this study. Palmitic acid was coated with SiO₂ by dip coating method. The hydrophobicity was measured by the water contact angle test. The optimum water contact angle with variety SiO₂ – palmitic acid concentration, deposition time, drying temperature, and pH condition of the surfaces are measured. In optimum condition, the water contact angle of glass and stone are 86,626° and 123,110°. Hydrophobic materials were characterized by Fourier Transform Infra Red (FTIR), Scanning Electron Microscopy (SEM), and UV-Visible Spectrophotometer.

Keywords: *Hydrophobic, Dip coating, SiO₂, Palmitic acid*