

## Fire-Proof Properties of Silicone Rubber Composites Filled with Carbonated Fly Ash

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Recently, fire-proof materials have been attracted to building materials. In this study, silicone rubber (SR) composites filled with carbonated fly ash were analyzed for fire-proof, and mechanical properties. Fly ashes from power plants at each location (Samcheok, Boryeng, and Taean) were used as fillers. In gas torch test, it is confirmed that all SR composites filled with fly ash were superior to raw SR. After carbonation, SR composites filled with Samcheok and Boryeng fly ash had better fire-proof properties. The fire-proof mechanism was analyzed by thermogravimetric analysis (TGA), and X-ray diffractometer (XRD). Through universal material testing machine (UTM), it was observed that mechanical properties of SR composites filled with Samcheok and Taean fly ash were improved after carbonation.