

Analysis of the Recovery of Burnility Index and Reduction of CO2 for Cement Manufacturing Utilizing Waste Cementitious Powder as Alternative Raw Material of Limestone

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Abstract : In countries around the world, environmental regulations are being strengthened, and Korea is no exception to this trend, which means that environment pollution and the environmental load have recently become a significant issue. For this reason, in this study limestone was replaced with cementitious powder to reduce the volume of construction waste as well as the emission of carbon dioxide caused by Tal-carbonate reaction. The research found that cementitious powder can be used as a substitute for limestone. However, the mix proportions of fine aggregate and powder included in the cementitious powder appear to have a great effect on substitution. Thus, future research should focus on developing a technology that can effectively separate and discharge fine aggregate and powder in the cementitious powder.

Keywords : waste cementitious powder, fine aggregate powder, CO2 emission, decarbonation reaction, calcining process

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