Development of Plastering Geopolymer Mortar

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Geopolymer (GP), which does not use Portland cement, has been attracting attention as a new repair material because of its high CO_2 reduction and acid resistance. However, its poor plastering workability has been a issue to be developed for its practical use. Therefore, we developed a prototype GP mortar for plastering work using fly ash and blast furnace slag fine powder without glass water by the original method named “Si component powder addition in-situ dissolution method”. As a result, the developed GP mortar showed good workability, high resistance to acid deterioration, and no cracking under the condition of an alkali component/water molar ratio of 0.15 and a Si component/alkali component molar ratio of 0.20. Judging from these results, the developed GP mortar is feasible for practical purposes.