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COVER LETTER

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[*02 May 2023*]

Dear,
We wish to submit an original research article entitled "[***Effect of mixing procedure and steam curing on the properties of fly ash Class C-cement based Geopolymer***]" for consideration by SINERGI.

We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere. We promise not to withdraw this article after it has been processed by the Editorial Team. If there is a withdrawal, we are willing to pay a penalty of USD 150 (IDR 2000K) to the SINERGI Editorial Team.

In this paper, We report on / show that:

Field	:	Civil Engineering
Topic	:	Effect of mixing procedure and steam curing on the properties of fly ash Class C-cement based Geopolymer
Brief Background	:	In recent decades, the tremendous production of Ordinary Portland Cement is facing a massive shortage of raw materials and depletion of fossil fuels, which will need a million years to renew. Simultaneously, releasing an enormous amount of CO2 emission into the atmosphere from clinker calcination of cement production will soon lead to faster global warming. In the meantime, the production of fly ash from coal-fired power plants still increases, which needs a large stockpile area for storing the fly ash. Annually, fly ash production in Indonesia reaches almost 9 million tons, and only 10-12% is used for construction projects. These numbers imply that about 90% of fly ash has not been used, possibly resulting in ecological deterioration caused by noxious components present in fly ash. Therefore, utilizing fly ash on a large scale for construction projects is a key to preventing environmental degradation and saving energy shortly
Research Problem	:	Most researchers reported that the use of fly ash class F

		in geopolymer concrete obtained a higher compressive strength than fly ash class C due to the higher content of SiO2 in fly ash class F. The most difficult problem in the future will be the endeavor to improve fly ash class C-based geopolymer performance. The earlier research in this field shows that the curing conditions, among other factors, have a significant impact on how well geopolymer mortar performs. In addition to the curing conditions, applying a heat curing (oven method) increased the strength of geopolymer concrete and mortar. However, using a long duration in heat curing (oven method) decreased the strength of geopolymer mortar.
Overview of Method	:	This research used two methods in mixing process of the geopolymer paste containing. Method one and two are based on water addition in the mixing process, in which water is added in the middle of the mixing process for method one, and water is inserted in the alkaline before starting the mixing process. Steam curing at temperature of 90 °C for 6 hours was applied to the samples after one day (24 hours) of samples production.
Significant finding	:	The use of method 2 in the mixing process exhibits higher compressive strength of GP compared to method 1. An agglomeration of fly ash and cement, which was formed by applying method 1 decreased the compressive strength of the geopolymer. Steam curing increased the compressive strength of GPs in early days of curing. The use of steam curing makes the GP containing 0% cement mixed by method 2 denser with fewer cracks and small pores.

We have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,
[*Romy Suryaningrat Edwin, Ph.D*]

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AUTHORSHIP STATEMENT

We wish to submit an original research article entitled "[***Effect of mixing procedure and steam curing on the properties of fly ash Class C-cement based Geopolymer***]" for consideration by SINERGI.

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript.

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Please submit 3 (three) potential reviewers (*that have not listed in SINERGI*) to speed up the review process that competent for the topic and has a good reputation in that area.

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