

# **THE EFFECT OF SAGU SHELL ASH ON THE COMPRESSIVE STRENGTH OF CONCRETE WITH $f'_c$ 30 MPa QUALITY USING SIKAMENT-NN ADDITIVE**

*Student Name* : Septino Hardianto Putra  
*Student ID* : 4103221497  
*Supervisor* : Alamsyah, M.Eng

## **ABSTRACT**

*This study aims to determine the effect of sago husk ash variation on the slump value and compressive strength of concrete with a target strength of  $f'_c$  30 MPa, using an additional admixture of Sikament-NN at 0.6% of the cement weight. The main issue examined is how the addition of sago husk ash in certain proportions influences the workability and strength characteristics of concrete. The variations of sago husk ash used in this research were 0.2%, 0.4%, 0.6%, and 0.8% of the cement weight. The results showed that the use of Sikament-NN was able to increase the slump value of the concrete, thus improving workability. The addition of sago husk ash up to 0.6% still provided a slump value that meets the standards for normal concrete. In terms of compressive strength, the variation of 0.6% sago husk ash produced the highest strength, which was close to or met the target strength of  $f'_c$  30 MPa, while the 0.8% level showed a decline. This study concludes that the combination of sago husk ash and Sikament-NN provides optimal results within certain limits. It is recommended to use sago husk ash up to 0.6% to maintain concrete performance. Furthermore, standardization in the processing of ash and further testing at different concrete ages are required to obtain more comprehensive results. The utilization of sago husk ash also represents an environmentally friendly effort to reduce organic waste and support innovation in construction materials.*

**Keywords:** Sago Husk Ash, Concrete, Compressive Strength, Sikament-NN, Slump