## *ABSTRACT*

### *OPTIMIZING THE USE OF RICE HUSK ASH AS A PARTIAL SUBSTITUTION OF CEMENT IN CONCRETE FOR STRONG FLEXURAL STRENGTH*

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*This research was conducted to determine the effect of rice husk ash in the concrete mixture on the flexural strength of concrete. On another side, this study also aims to obtain a comparison of the value of the flexural strength of concrete from each percentage in a normal concrete mixture. The test object in this study was in the form of a beam measuring 15 cm x 15 cm x 60 cm. The number of test objects using in this study was 36 samples with each percentage variation ranging from 0%, 25%, 50%, and 75% and the quality of the plan used was 25 MPa. The flexural strength test of the concrete in this study was carried out when the specimens were 7, 14 and 28 days old. This can be seen in the ASP 4 specimen (75%) which has a decrease of 92.8% in the 28 day old concrete. This study also obtained the maximum value of the flexural strength of concrete in the use of a mixture of rice husk ash which was found at a percentage of 25%, namely 2.10, 2.98 and 3.02 MPa and the minimum value at 75% percentage was 0.18, 0.31 and 0.34 MPa against normal concrete. These results indicate that the effect of husk ash in the concrete mixture greatly affects the flexural strength value.*

***Keywords*** *: optimization, concrete, rice husk ash, flexural strength*

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