

EFFECT OF PARTIAL REPLACEMENT OF CEMENT WITH KAOLIN ON NORMAL CONCRETE AT QUALITY K- 300

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ABSTRACT

Kaolin added material is expected to increase the quality of concrete, because kaolin is like a pozzolan. This study aims to determine the ratio of concrete with kaolin to concrete without kaolin.

The method in this study, the researchers tried to replace some of the normal concrete mix using kaolin added materials using SNI 03-2834-2000 job mix design, with optimum levels of 7.5%, 10%, 12.5%, and 15% by weight of cement normal.

From the results of a comparison of the compressive strength values of concrete with kaolin variations, it is obtained that the maximum value on day 28 is at a variation of 12.5% with an increase of 30.9% while the minimum value is at the variation of 10% with a decrease of 18.9%. However, as the number of days increases, the compressive strength ratio increases, namely on the 60th day with the maximum value at 12.5% variation of 36% and the minimum value at 7.5% variation, which decreases by 34%. The results of the comparison of the maximum slump value with kaolin variations 7.5% as much as 6.667%, the more kaolin added, the slump value decreased. And a comparison of splitting tensile strength with kaolin variations can get the maximum value at 10% variation with a 20% value while the minimum value is at 7.5% variation with a 27% decrease value

Keywords: *kaolin, split tensile strength, concrete compressive strength, job mix, variation, K-300*