ABSTRACT

OPC CEMENT AND PCC INFLUEINCE OF COMPRESSIVE STRENGTH AND FLEXURAN STRENGTH AT HIGH QUALITY CONCRETE WATER CEMENT FACTOR OF 0,36 AND 0,39

By

ANGGARANI BUDI RIBOWO

This research was conducted to study and determine the influence of OPC cement and PCC of compressive strength and flexural strength at high quality concrete cement water factor of 0.36 and 0.39. This study used an experimental method in the Laboratory of Structural and Construction Engineering Faculty, University of Lampung. The test object in this research is a concrete cylinder with a diameter of 15 cm and 30 cm high. And the concrete beam specimen with a length of 60 cm, width 15 cm, height 15 cm. While testing the compressive strength and flexural strength of high strength concrete made fas 0.36 and 0.39 after the test specimen was 14, 28 and 56 days. In testing the compressive strength of concrete fas 0.36 and 0.39, OPC cement concrete without silica fume replacement compressive strength higher than the compressive strength of cement PCC. Value OPC cement with fas 0.36 and 0.39 in the concrete life of 56 days each -masing amounted to 39.7264 and 34.9139 MPa. OPC concrete of cement with silica fume replacement of 10% in testing concrete compressive strength fas 0.36 and 0.39, higher compressive strength of cement PCC. The compressive strength of OPC cement with silica fume replacement fas 10% with 0.36 and 0.39 in the concrete life of 56 days each for 33,7816MPa and 30,9507MPa. In the flexural strength testing of concrete fas 0.36 and 0.39, OPC cement concrete without silica fume penggntian strong bending higher than cement PCC. OPC cement flexural strength values with fas 0.36 and 0.39 in the concrete life of 56 days each for 7,3778MPa and 7,6MPa. OPC cement concrete with the replacement of silica fume 10% in flexural strength testing of concrete fas 0.36 and 0.39, a strong bending higher than cement PCC. Flexural strength value of OPC cement with silica fume replacement fas 10% with 0.36 and 0.39 in the concrete life of 56 days each for 7,8889MPa and 8,3333MPa.

Keywords: compressive strength, flexural strength, OPC cement, cement PCC