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ABSTRACT (INGGRIS)

STUDY ON COMPRESSIVE STRENGTH AND CARBONATION RESISTANCE OF K-250 CONCRETE WITH MASTER LIFE SF-100 SUBSTITUTION

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ABSTRACT

Concrete is a primary material in construction that is susceptible to quality degradation due to exposure to aggressive environmental conditions such as carbonation. This research aims to determine the effect of immersion in regular water and a 4% carbonation solution on the mechanical properties of K-250 concrete, with two variations of concrete, namely normal concrete and concrete with an addition of 5% MasterLife SF-100. Testing was performed on compressive strength at 28 days, splitting tensile strength at 45 days to observe the effect of carbonation, and ultrasonic pulse velocity (UPV). Concrete samples were immersed in two types of immersion media, and then a comparison was made of the test results for each variation. The research results show that concrete with the addition of MasterLife SF-100 has higher compressive strength, splitting tensile strength, and UPV values compared to normal concrete, both in immersion in regular water and carbonation solution. In addition, the concrete immersed in the carbonation solution experienced a decrease in strength values and

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