

**BEHAVIOR OF CONCRETE WITH FABA MIXTURE
ON COMPRESSIVE STRENGTH, DENSITY, AND
CORROSION RESISTANCE OF FC' 25 MPa**

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ABSTRACT

The utilization of FABA (fly ash and bottom ash) as an additive in concrete provides significant environmental benefits. Reinforced concrete structures, particularly in coastal areas, often experience damage due to corrosion of the reinforcing steel.

This research employed the impruset current method to accelerate the corrosion process on the reinforcing steel in concrete with a target compressive strength of 25 MPa, using the casting method specified in the Indonesian National Standard 03-2843-2000.

The research results indicated different variations in compressive strength for concrete with FABA additives. BF 9% exhibited an average compressive strength of 30,257 MPa and an average density of 2371,9181 kg/m³, higher than that of normal concrete. Other variations, such as BF 3%, BF 6%, BF 12%, and BF 15%, had lower density and compressive strength values. Concrete with a 3% FABA addition (BF 3%) demonstrated an optimal compressive strength of 30,257 MPa, surpassing normal concrete and other variations. There were no significant differences in density among the FABA variations. Corrosion testing showed that BS 3% concrete experienced lower weight loss and corrosion rates compared to other variations. Thus, the use of 9% FABA in concrete offers a favorable combination of high compressive strength and improved corrosion resistance.

Keywords: *Corrosion, Compressive strength, Density, FABA*