

# **UTILIZATION OF MARBLE WASTE AS A MIXTURE OF FINE AGGREGATE WITH A PERCENTAGE OF 35%, 40%, 45% AND 5% BENDRAT WIRE CUTTING AS A PAVING BLOCK ADDITIONAL MATERIAL**

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## **ABSTRACT**

*Paving Block is a building material made from a mixture of portland cement, water and aggregate with or without other added materials that do not reduce the quality of the concrete. With a certain composition, paving blocks have a semi-permeable or permeable surface that can pass water into the soil. Paving blocks are used as pavement layers both inside and outside the building. This study focuses on the use of marble waste as a mixture of fine aggregate with a percentage of 35%, 40%, 45% and the addition of bendrat wire pieces with a percentage of 5% as an additional material for paving blocks. The purpose of this study was to determine the effect of marble powder added 35%, 40%, 45% and 5% bendrat wire on the compressive strength and water absorption of paving blocks, with the planned life of the test being 28 days. The test results showed that the paving blocks with marble powder added 35%, 40%, 45% and 5% bendrat wire had an overall increase in compressive strength when compared to normal paving blocks of 8.5 MPa. The highest increase in compressive strength occurred in 45% marble powder and 5% bendrat wire, which reached 19.167 MPa, or an increase of 125.49% when compared to normal paving blocks. Meanwhile, the water absorption test showed that the paving block with marble powder added 35%, 40%, 45% and wire bendrat 5% overall decreased when compared to the normal 5.11% paving block. The highest decrease in water absorption occurred in 45% marble powder and 5% bendrat wire, which reached 3.47%, or decreased by -32.24% when compared to normal paving blocks.*

**Keywords:** *paving block, marble powder, bendrat wire, compressive strength, water absorption.*