

PERBANDINGAN PENGUJIAN *HAMMER TEST*, *UPV TEST*, & *COMPRESSION TEST* PADA BETON MUTU TINGGI

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ABSTRAK

Tujuan penelitian ini adalah: (1) mengetahui perbandingan kekuatan beton dengan membuat persamaan antara pengujian *compression test* ukuran 6" terhadap *hammer test* dan *UPV test*, (2) mengetahui perbandingan kekuatan beton dengan membuat persamaan antara pengujian *compression test* ukuran 6" terhadap *compression test* ukuran 3".

Pengujian yang dilakukan pada laboratorium dengan membuat benda uji dengan ukuran 3" dan 6", mutu beton yang digunakan 40 MPa. Perawatan benda uji dengan direndam dalam air, pengujian dilakukan pada umur 28 hari. Benda uji yang berukuran 6" dilakukan pengujian *hammer test*, *UPV test*, dan *compression test*. Benda uji berukuran 3" dilakukan pengujian *compression test*.

Hasil penelitian menunjukkan bahwa: (1) hubungan antara pengujian *compression test* 6" terhadap *hammer test* dan *UPV test* diperoleh persamaan korelasi yaitu, $\sigma_c = -5,77619242 + R \cdot 0,802928029 + v \cdot 0,005175954$ dengan nilai R^2 0,0286. (2) hubungan antara pengujian *compression test* 6" terhadap *compression test* 3" diperoleh persamaan korelasi yaitu $\sigma_{c6} = 0,56 \cdot \sigma_{c3} + 17,49$ dengan R^2 0,8565.

Kata kunci: *compression test*, *hammer test*, *UPV test*.

COMPARISON OF HAMMER TEST, UPV TEST, & COMPRESSION TEST ON HIGH CONCRETE

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ABSTRACT

The aim this research: (1) know the strength comparison of concrete by making an equation between the compression test size 6 " against the hammer test and UPV test, (2) know the strength comparison of concrete by making an equation between compression test size 6 "against compression test size 3".

Tests carried out in the laboratory by making specimens with sizes 3" and 6". The concrete quality is 40 MPa. Treatment of test specimens by immersing them in water. The tests specimens were tested at 28 days of age. Specimen with size 6" tested for a hammer, UPV, and compression test. Size 3" Specimen were tested only by compression test.

The result: (1) the relationship between compression test to hammer, and UPV correlation equation is obtained $\sigma_c = -5,776 + R*0,8029 + v*0,00517$ with value of $R^2=0,0286$. (2) the relationship between compression test 6" to compression test 3" correlation equation is obtained $\sigma_{c6"} = 0,56* \sigma_{c3"} + 17,49$ with value of $R^2=0,8565$.

Keywords: compression test, hammer test, UPV test.