Studi analisis korelasi shearwave velocity dengan mutu beton = Study analysis of shearwave velocity correlation with concrete strength

William Sakti, author

Abstrak

ABSTRACT
Pengujian beton dengan metode non destructive test sangat dibutuhkan dalam mengevaluasi kondisi beton pada konstruksi, guna mengurangi resiko kerugian akibat pengujian dengan metode destructive test. Skripsi ini membahas korelasi shearwave velocity dengan mutu beton. Penelitian ini adalah penelitian eksperimental dengan mencari nilai shearwave velocity dan mutu beton, yang kemudian dibandingkan dengan nilai longitudinal wave velocity. Nilai shearwave velocity didapatkan dari pengujian menggunakan bantuan alat A1040 MIRA dan longitudinal wave velocity didapatkan dari bantuan alat UPV. Pengujian dilakukan pada beton dengan mutu K225, K350, dan K500 selama 28 hari hingga lebih. Hasil dari penelitian ini menunjukan bahwa shearwave velocity pada beton berbanding lurus dengan mutu beton akan tetapi nilai shearwave velocity tidak mengikuti kenaikan kekuatan tekan beton, shearwave velocity cenderung bersifat stabil saat umur beton memasuki 10 hingga 14 hari.
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ABSTRACT
Concrete testing with non destructive test method is needed in evaluating the condition of concrete in construction, in order to reduce the risk of loss due to testing by destructive test method. This thesis discusses the correlation of shearwave velocity with the concrete strength. This research is an experimental research by looking for shearwave velocity and concrete strength, which is then compared with longitudinal wave velocity value. The shearwave velocity values were obtained from the test using the A1040 MIRA tool and longitudinal wave velocity were obtained from the test using the UPV tools. Tests were performed on concrete with quality K225, K350, and K500 for 28 days to over. The result of this research shows that shearwave velocity in concrete is directly proportional to the quality of concrete but the shearwave velocity does not follow the increase of concrete compressive strength for the same quality, shearwave velocity tends to be stable when the age of concrete enters 10 to 14 days.