

Studi pengaruh penggunaan agregat halus daur ulang dan agregat kasar daur ulang dari limbah beton padat dengan mutu K350-K400 dengan admixture Glenium C-316 terhadap kuat tekan, kuat lentur, dan susut = Study of using recycled coarse aggregate from hardened concrete k-350 k-400 and with addition of Glenium C-316 to compressive strength flexural strength and shrinkage in concrete

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Abstrak

Dewasa ini banyaknya kebutuhan akan material beton telah memicu pemakaian sumber daya alam secara besar-besaran. Penggunaan beton pada industri konstruksi menghasilkan beton sisa atau limbah beton yang dapat merusak ekosistem tanah jika dibiarkan menumpuk. Penelitian ini akan menggunakan agregat halus daur ulang dan komposisi agregat kasar daur ulang sebesar 40%, dimana agregat tersebut berasal dari penghancuran limbah beton. Komposisi benda uji terdiri dari 0%, 20%, 40%, dan 60% agregat halus daur ulang dari limbah beton mutu K350-K400. Pengujian meliputi, yaitu pengujian kuat tekan, kuat lentur, dan susut pada beton. Kuat tekan beton dengan komposisi 40% agregat halus daur ulang meningkat 3,9% dan mengalami penurunan kuat lentur sebesar 7,6% dari kuat tekan dan kuat lentur beton normal pada umur 28 hari. Susut beton dengan komposisi 60% agregat kasar daur ulang mempunyai nilai susut tertinggi dibandingkan dengan campuran lainnya.

*Nowadays, a huge mining activity of concrete forming materials has been developed due to constructions in Indonesia. On the other hand, use of concrete in every sector of constructions produce a concrete waste, which will damage soil environment if it's abandoned. This study will use recycled fine aggregate as aggregate in concrete and 40% recycled coarse aggregate. The composition of the test object consisting of 0%, 20%, 40%, and 60% recycled fine aggregate from concrete waste K350-K400. Testing includes, compressive strength test, flexural strength, and shrinkage in concrete. Compressive strength of concrete with 40% recycled fine aggregate increased by 3,9% and decreased by 7,6% for its flexural strength compared with compressive strength and flexural strength of the normal concrete at 28 days. Shrinkage of concrete with a composition of 60% recycled coarse aggregate has the highest shrinkage value compared to other mixtures.*