

PENGARUH PENAMBAHAN ABU VULKANIK TERHADAP KUAT TEKAN BETON SCC

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ABSTRAK

Beton SCC terus dikembangkan sebagai alternative dalam pelaksanaan pengecoran beton. Beton SCC merupakan beton yang mampu mengalir dibawah beratnya sendiri dengan *slump* yang tinggi serta mampu mengisi ruang cetakan tanpa mengalami segregasi dan mencapai kepadatan tertinggi. Untuk menghasilkan beton SCC diperlukan bahan tambah (*adimixture*) untuk melengkapi kinerja semen. *Seuperplasticizer* bahan tambah yang digunakan dengan jenis ADVA 455 sebesar 1,5% dari berat semen. Penelitian ini dilakukan untuk mengetahui pengaruh abu vulkanik terhadap kuat tekan beton SCC. Pengujian meliputi *passing ability test*, *segregation resistance test*, *filling ability test* dan kuat tekan beton pada umur 3, 7, 14, dan 28 hari. Variasi penambahan abu vulkanik yaitu 2%, 4%, 6% dan 8% dari berat semen. penambahan abu vulkanik berpengaruh terhadap *workability* dan kuat tekan beton. Kuat tekan tertinggi pada penambahan abu vulkanik sebesar 4% dengan hasil kuat tekan pada umur 28 haru sebesar 50,70 MPa, sedangkan hasil kuat tekan terendah pada penambahan abu vulkanik sebesar 8% dengan kuat tekan 43,70 MPa.

Kata Kunci : Beton SCC, *Admixture*, *superplasticizer*, abu vulkanik , kuat tekan.

EFFECT OF ADDITION OF ABU VULKANIK COMPRESSIVE STRENGTH OF CONCRETE SCC

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ABSTRACT

SCC Concrete being developed as an alternative in the implementation of concrete foundry. SCC is concrete that be able to flow under its own weight with high slump and able to fill the mold space without condition segregation and achieve the highest density. To produce SCC additional material (admixture) to complete performance of the cement. Additional materials used is superplasticizer with ADVA 455 kinds of 1.5% of the weight of the cement. This study was conducted to determine the effect of volcanic ash on the compressive strength of SCC. Testing includes passing ability test, segregation resistance test, filling ability test and compressive strength of concrete at the age of 3, 7, 14, and 28 days. Variations addition of volcanic ash that is 2%, 4%, 6% and 8% by weight of cement. The addition of volcanic ash affect the workability and compressive strength of concrete. The highest compressive strength occurs upon the addition of volcanic ash by 4% with the results of compressive strength at age 28 amounted 50.70 MPa, while the lowest occurred compressive strength results in the addition of volcanic ash by 8% with a compressive strength of 43.70 MPa.

Kata Kunci : SCC Concrete, *Admixture*, *superplasticizer*, Abu Vulkanik, compressive strength