PENGARUH VARIASI *FLY ASH* DAN *ADMIXTURE* MASTER GLENIUM ACE 8519 TERHADAP KUAT TEKAN BETON *SELF COMPACTING CONCRETE* (SCC)

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ABSTRAK

Beton *Self Compacting Concrete* (SCC) adalah beton yang dapat dipadatkan tanpa alat pemadat atau vibrator, dalam meningkatkan karakteristik beton *Self Compacting Concrete* diperlukan bahan tambah sebagai pengganti sebagian semen seperti *fly ash* yang dikombinasikan dengan *superplasticize*r agar *workability* dan kinerjanya menjadi seimbang. Penelitian ini bertujuan untuk menganalisis karakteristik beton SCC dengan *admixture* Master Glenium Ace 8519, nilai kuat tekan beton *fly ash* SCC variasi 0%; 5%; 10%; 15%; 20%; 25%, dan pengaruh penggunaan *fly ash* terhadap kuat tekan. Hasil pengujian karakteristik beton SCC memenuhi kriteria didapatkan nilai *slump flow* 65 cm; 66 cm; 66 cm; 67 cm; 69 cm; 70cm, nilai *l-box* 0,81 mm; 0,83 mm; 0,87 mm; 0,92 mm; 0,95 mm; 0,99 mm, nilai *v-funnel* 12 detik; 11 detik; 10 detik; 9 detik; 8,6 detik; 8 detik. Hasil uji kuat tekan silinder pada umur 28 hari BN SCC 25,56 MPa; BFA 5% SCC 28,43 MPa; BFA 10% SCC 28,83 MPa; BFA 15% SCC 27,40 MPa; BFA 20% SCC 25,97 MPa; BFA 25%SCC 24,27 MPa. *Fly ash* memberikan pengaruh terhadap kuat tekan pada batas variasi tertentu. *Fly ash* variasi 5% hingga 20% menunjukkan peningkatan terhadap kuat tekan dibandingkan beton normal. *Fly ash* variasi 25% menunjukkan penurunan dikarenakan campuran beton terlalu encer.

Kata kunci: Beton *Self Compacting Concrete* (SCC), Master Glenium Ace 8519, *Fly ash*, *Slump flow*, *L-box, V-funnel,* Kuat tekan

THE EFFECT OF FLY ASH AND ADMIXTURE VARIATIONS MASTER GLENIUM ACE 8519 ON CONCRETE COMPRESSIVE STRENGTH SELF-COMPACTING CONCRETE (SCC)

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ABSTRACT

Self Compacting Concrete (SCC) is a concrete that can be compacted without a compactor or vibrator, in improving the characteristics of Self Compacting Concrete, additional materials are needed as a partial replacement for cement such as fly ash combined with superplasticizer so that workability and performance are balanced. This study aims to analyze the characteristics of SCC concrete with glenium ace 8519 master admixture, the compressive strength value of SCC fly ash concrete with variations of 0%; 5%; 10%; 15%; 20%; 25%, and the effect of using fly ash on compressive strength. The results of the SCC concrete characteristics test meet the criteria obtained slump flow values of 65 cm; 66 cm; 66 cm; 67 cm; 69 cm; 70cm, l-box values of 0,81 mm; 0,83 mm; 0,87 mm; 0,92 mm; 0,95 mm; 0,99 mm, v-funnel values of 12 seconds; 11 seconds; 10 seconds; 9 seconds; 8.6 seconds; 8 seconds. The results of the cylinder compressive strength test at the age of 28 days BN SCC 25,56 MPa; BFA 5% SCC 28,43 MPa; BFA 10% SCC 28,83 MPa; BFA 15% SCC 27,40 MPa; BFA 20% SCC 25,07 MPa; BFA 25%SCC 24,27 MPa. Fly ash has an effect on compressive strength at certain variation limits. Variations in fly ash of 5% to 20% showed an increase in compressive strength compared to normal concrete. Fly ash variation of 25% shows a decrease due to the concrete mixture being too runny.

***Keywords**: Self Compacting Concrete (SCC), Master Glenium Ace 8519, Fly ash, Slump flow, L-box, V-funnel, Compressive strength.*