ABSTRAK

ODA FIRMA EMILIA, 2023

MEMBUAT BETON *SELF COMPACTING CONCRETE* (SCC) DENGAN MASTERSURE 1007

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Beton merupakan salah satu komponen penyangga dalam sebuah konstruksi yang tersusun atas campuran semen, agregat (kasar dan halus), air dan dengan atau tanpa bahan tambah (admixture) bila diperlukan. selain beton konvensional juga terdapat beton *Self Compacting Concrete (SCC)*. Beton SCC adalah beton yang mampu mengalir dan memadat dengan sendirinya tanpa memerlukan proses pemadatan dengan getaran. Untuk membuat beton SCC diperlukan bahan tambah yaitu MasterSure 1007 dengan variasi 0,2% dan 0,3%. Penelitian ini bertujuan untuk mengetahui campuran material beton SCC menggunakan bahan tambah Mastersure 1007. Metode yang digunakan pada penelitian ini yaitu metode ekperimental dengan melakukan beberapa pengujian seperti uji material, *slump flow*, J -Ring, V – Funnel, L – Shape Box dan uji kuat tekan. Hasil penelitian yang didapat yaitu beton SCC *admixture MasterSure 1007* prosentase 0,2% dan 0,3%, semen 3,013 kg, agregat kasar 5,37 kg, agregat halus 4,940 kg, air 1,627 ml dihasilkan nilai s*lump* J – Ring 22,9 cm, 20 cm dan kuat tekan beton sampel 1 – 6 diperoleh rata – rata 22,09 Mpa, J – Ring 26 cm, 26 cm dan kuat tekan beton sampel 7 - 12 didapatkan rata – rata 26,75 Mpa. Dari hasil yang diteliti kadar mastersure 0,3% mempengaruhi kuat tekan beton. dapat diambil kesimpulan bahwa penggunaan admixture MasterSure 1007 membuat beton SCC segar lebih encer daripada beton normal hal tersebut memudahkan beton segar SCC melewati tulangan yang sempit dan membuat kuat tekan beton SCC meningkat tanpa vibration.

Kata Kunci : *self compacting concrete, Mastersure 1007, slump flow*

ABSTRACT

ODA FIRMA EMILIA, 2023

MAKING CONCRETE SELF COMPACTING CONCRETE (SCC) WITH MASTERSURE 1007

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Concrete is one of the supporting components in construction which is composed of mixture of cement, aggregate (coarse and fine), water and with or without additives (admixture) if needed. besides conventional concrete there also Self Compacting Concrete (SCC). SCC is concrete that is able to flow and compact by itself without the need for compaction process by vibration. To make SCC concrete, additional materials are needed, MasterSure 1007 variations of 0.2% and 0.3%. This study aims to determine the mixture of SCC concrete materials using Mastersure 1007 added material. The method used in this study is an experimental method by carrying out several tests such as material tests, slump flow, J -Ring, V - Funnel, L - Shape Box and strength tests press. The results obtained were SCC admixture MasterSure 1007 with a percentage of 0.2% and 0.3%, cement 3.013 kg, coarse aggregate 5.37 kg, fine aggregate 4.940 kg, water 1.627 ml resulting J-Ring slump of 22.9 cm , 20 cm and the compressive strength of concrete samples 1 – 6 obtained an average of 22.09 Mpa, J – Ring 26 cm, 26 cm and the compressive strength of concrete samples 7 - 12 obtained an average of 26.75 MPa. From the results studied, 0.3% affects the compressive strength of concrete. It can be concluded that the use of MasterSure 1007 admixture makes fresh SCC concrete thinner than normal concrete. This makes easier for fresh SCC concrete to pass through narrow reinforcement and increases the compressive strength of SCC concrete without vibration.

Kata Kunci : *self compacting concrete, mastersure 1007, slump flow*