

INTISARI

Beton ringan saat ini dikenal ada 2 (dua) jenis yaitu *Autoclaved Aerated Concrete* (AAC) dan *Celluler Lightweight* (CLC). CLC sering disebut juga beton Non-ACC (*Autoclaved Aerated Concrete*). Dimana beton yang dimatangkan tanpa *autoclave* ini belum banyak dikomersialkan dibanding beton ringan AAC.

Beton ringan yang dipakai penelitian ini adalah Non-ACC (*Autoclaved Aerated Concrete*) dengan bahan penyusun yang meliputi air, pasir, fly ash, cairan pengeras *SikaCim*, dan *Hidrogen peroksida*. Dengan focus pada metode pengadukan yang sangat berpengaruh pada hasil 4 uji *trial*, kemudian ditetapkan pada *trial* ke 4 sebagai benda uji dan koefisien *Water/cement* (w/c):0,40, *Sand/Cement* (s/c): 0.75, *H₂O₂*:0.1, *fly ash/ Cement* (%): 0.5. Kemudian pengujian yang dilakukan yaitu uji kuat tekan ,porositas dan uji berat jenis.

Pada hasil uji kuat tekan campuran beton ringan yang berjumlah 9 *eksperimen* rata-rata nilai kuat tekan tertinggi diperoleh pada *eksperimen* ke -7 dengan nilai 4.05 MPa. Dan rata-rata nilai kuat tekan terendah di peroleh pada *eksperimen* ke - 4 yaitu 2,33 MPa. Porositas tertinggi didapat pada *eksperimen* ke - 9 dengan nilai 24,05% dan nilai terendah diperoleh pada *experiment* ke -3 yaitu 18,91%. Hasil rata-rata nilai berat jenis dengan nilai tertinggi di dapat dari *eksperimen* ke- 7 yaitu dengan nilai 1047,7 kg/m³ dan nilai terendah diperoleh oleh *eksperimen* ke - 9 dengan nilai 952,3 kg/m³.

Kata kunci : Beton Ringan, *Non-Autoclaved Aerated Concrete*, Kuat Tekan, Porositas dan Berat Jenis

ABSTRACT

There are two types of light brick known so far; Autoclaved Aerated Concrete (AAC) and Cellular Lightweight (CLC). CLC is often referred to Non-ACC (autoclaved Aerated Concrete) as it has not been widely commercialized compared to the lightweight AAC.

Lightweight concrete used in this study was the Non-ACC (autoclaved Aerated Concrete) which the constituent material includes water, sand, fly ash, liquid hardener SikaCim, and hydrogen peroxide. With the focus on the method of stirring which is very influential to the results of four test trials, then the fourth trial was set as a test object and a coefficient of water / cement (w / c): 0,40, Sand / Cement (s / c): 0.75, H₂O₂ : 0.1, mill / Cement (%): 0.5. Then test of the compressive strength, porosity and density test was done.

In the test results of compressive strength of lightweight concrete mixtures which consist of 9 experiments, the average highest compressive strength value was obtained at experiment to 7 with a value of 4.05 MPa. The average value of the lowest compressive strength obtained in experiments to 4 was 2.33 MPa. The highest porosity was obtained in experiments to 9 with a value of 24.05% and lowest porosity was obtained in the experiment to 3 with a value of 18.91%. The average specific gravity value with the highest values was obtained from experiment to 7 with the value of 1047.7 kg / m³ and the lowest value was obtained in the experiments to 9 with a value of 952.3 kg / m³.

Keyword : Lightweight concrete, Non-Autoclaved Aerated Concrete, Strength, Porosity and Density