

INTISARI

Perkembangan dunia konstruksi di Indonesia ikut mendorong bertambahnya penggunaan beton sebagai material perkuatan struktur. Bata ringan saat ini dikenal ada 2 (dua) jenis yaitu *Autoclaved Aerated Concrete (AAC)* dan *Celluler Lightweight (CLC)*. CLC sering disebut juga beton Non-AAC (*Autoclaved Aerated Concrete*). Dimana beton yang dimatangkan tanpa *autoclave* ini belum banyak dikomersialkan dibanding beton ringan AAC. Penelitian ini di titik beratkan pada hasil kuat tekan, dan porositas.

Beton ringan yang di pakai penelitian ini adalah Non-AAC (*Autoclaved Aerated Concrete*) dengan bahan penyusun yang meliputi air, pasir, semen *mill*, 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, *mill/ 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 terkan tertinggi diperoleh pada BRD-06 dengan nilai 2,47 MPa. Dan rata-rata nilai kuat tekan terendah di peroleh pada *eksperimen* BRD-09 yaitu 1,79 MPa. Porositas tertinggi didapat pada *eksperimen* BRD-01 dengan nilai 22,47% dan porositas terendah di dapat pada *eksperimen* BRD-06 dengan nilai 15,04%. Hasil rata-rata nilai berat jenis dengan nilai tertinggi di dapat dari *eksperimen* BRD-06 yaitu dengan nilai 1083,7 kg/m³ dan nilai terendah diperoleh oleh *eksperimen* BRD-01 dengan nilai 923,7 kg/m³.

Kata kunci: Hidrogenperoksida, beton ringan, Non-ACC

ABSTRACT

The development of construction in Indonesia contributes to the increasing use of concrete as a structural reinforcement material. There are two types of light brick known so far; Autoclaved Aerated Concrete (AAC) and Cellular Lightweight (CLC). CLC is often referred to Non-AAC (autoclaved Aerated Concrete) as it has not been widely commercialized compared to the lightweight AAC. This study focused on the results of compressive strength and porosity.

Lightweight concrete used in this study was the Non-AAC (autoclaved Aerated Concrete) which the constituent material includes water, sand, cement mill, 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 BRD-06 with a value of 2,47 MPa. The average value of the lowest compressive strength obtained in experiments BRD-09 was 1,79 MPa. The highest porosity was obtained in experiments BRD-01 with a value of 22,47% and lowest porosity was obtained in the experiment BRD-06 with a value of 15,04%. The average specific gravity value with the highest values was obtained from experiment BRD-06 with the value of 1083,7 kg / m³ and the lowest value was obtained in the experiments BRD-01 with a value of 923,7 kg / m³.

Keywords: Hidrogenperoksida, Lightweight concrete, Non-ACC