

ABSTRAK

Penelitian ini bertujuan untuk mengetahui besar kuat tekan, besar daya serap air dan densitas bata beton pejal dengan menggunakan limbah pecahan keramik. Bata beton pejal dicetak di CV. Ayaki Ulina yang berlokasi di Gang Saudara Lorong VI, Kelurahan Ketaren, Kabupaten Karo pada tanggal 18 Maret 2020 dan diuji di PT. Rumah Berneh yang berlokasi di Jalan Besar Kabanjahe Merek, Kabupaten Karo pada tanggal 15 April 2020. Pelaksanaan penelitian ini dimulai dari pengujian bahan-bahan yang digunakan. Parameter bahan yang diuji dalam penelitian ini meliputi pemeriksaan berat jenis pasir, pemeriksaan gradasi pasir, pemeriksaan berat jenis pecahan keramik, pemeriksaan gradasi keramik, pemeriksaan semen dan pemeriksaan air. Pembuatan bata beton pejal dilaksanakan setelah semua pemeriksaan bahan susun selesai. Perawatan bata beton pejal dilakukan setiap hari dengan cara menyiram air ke seluruh permukaannya. Pengujian bata beton pejal dilaksanakan pada umur 28 hari. Dari hasil pengujian kuat tekan rata-rata bata beton pejal maksimum terdapat pada variasi pecahan keramik 12% yaitu $102,475 \text{ kg/cm}^2$. Daya serap air rata-rata bata beton pejal maksimum terdapat pada variasi pecahan keramik 0% yaitu 3,559 %. Densitas rata-rata bata beton pejal maksimum sebelum uji kuat tekan terdapat pada variasi pecahan keramik 6% yaitu $1,998 \text{ gr/cm}^3$, sedangkan densitas rata-rata bata beton pejal maksimum sebelum perendaman terdapat pada variasi pecahan keramik 0% yaitu $2,040 \text{ gr/cm}^3$. Dari hasil penelitian ini pecahan keramik dapat digunakan dalam pembuatan bata beton pejal.

Kata kunci : Bata Beton, Pecahan Keramik, Kuat Tekan, Daya Serap Air, Densitas.

ABSTRACT

This research aims to find out the compressive strength, water absorption, and density of solid concrete bricks using the ceramic waste. The solid concrete brick was printed on the CV. Ayaki Ulina which is located in Gang Saudara, Lorong VI, Ketaren Village, Karo District on March 18th 2020 and was tested at PT. Rumah Berneh which is located on Jalan Besar Kabanjahe Merek, Karo Regency on April 15th 2020. The implementation of this research starts from testing the materials used. The material parameters tested in this study include the examination of sand specific gravity, grading sand examination, the examination of specific gravity of ceramic fragments, the examination of ceramic grading, examination of cement and water inspection. Making solid concrete bricks is carried out after all inspection of the stacking material is complete. Solid concrete brick treatment is carried out every day by pouring water all over its surface. Solid concrete brick testing is carried out at 28 days-old. From the results of the average compressive strength test of the maximum solid concrete brick, there are variations in ceramic fragments as much as 12% or equal to 102,475 kg/cm². The maximum water absorption capacity of solid concrete bricks was found in the variation of ceramic fragments as much as 0% or at 3,559%. The average maximum density of solid concrete bricks before the compressive strength test was found in the variation of 6% of ceramic fragments that is equal to 1,998 gr/cm³, while the maximum density of solid concrete bricks before immersion was in the variation of ceramic fragments as much as 0% or equal to 2,040 gr/cm³. From the results of this study, ceramic fragments can be used in the manufacture of solid concrete bricks.

Keywords : Solid Concrete Brick, Ceramic Fragments, Compressive Strength, Water Absorption, Density.