PENGARUH PENGGUNAAN SERAT KAWAT BENDRAT SEBAGAI CAMPURAN PADA BETON TERHADAP KUAT TEKAN BETON NORMAL

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ABSTRAK

Beton diperoleh dengan cara mencampurkan semen portland, air & agregat atau diberikan bahan campuran seperti bahan kimia tambahan, serat, sampai bahan buangan non-kimia.

Serat kawat bendrat dicampur dengan komposisi tertentu dengan tujuan menghasilkan beton yang bermutu, awet dan mempunyai kekuatan yang tinggi. Benda uji kubus ukuran 15x15x15 cm dengan penambahan variasi serat 0 %, 0,25%, 0,5%, 0,75%, 1,00% & 1,25% dari volume beton. Pengujian meliputi uji kuat tekan tanpa dibakar & uji kuat tekan dengan dibakar. Pengujian kuat tekan tanpa dibakar diuji pada umur 7, 14 dan 28 hari sedangkan dengan uji bakar umur uji 28 hari, dengan setiap variasi serat dibuat 3 buah sampel.

Hasil penelitian menunjukkan beton tanpa uji bakar kuat tekan beton meningkat dari beton tanpa penambahan serat. Kuat tekan maksimum terjadi pada variasi serat 0,5% yaitu 250,13 kg/cm^2. Sedangkan kuat tekan beton tertinggi dengan uji bakar terjadi pada variasi serat 0,50% yaitu 190,90 kg/cm^2.

Kata kunci : Kawat bendrat, beton normal, kuat tekan, uji bakar, sampel kubus

THE USE OF BENDRAT WIRE FIBERS EFFECT AS A MIXTURE ON CONCRETE AGAINST STRONG NORMAL CONCRETE PRESS

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ABSTRACT

Concrete is obtained by mixing portland cement, water & aggregate or given mixed materials such as additional chemicals, fibers, to non-chemical waste materials.

Bendrat wire fibers are mixed with a certain composition with the research objectives of producing concrete that is quality, durable and has high strength. Cube test object 15x15x15 cm size with addition of fiber variation 0 %, 0.25%, 0.5%, 0.75%, 1.00% and 1.25% of concrete volume. Testing includes a strong press test without being burned & a strong test press with burned. Unburned press testing was tested at 7, 14 and 28 days while with a 28-day burned life test, with 3 samples each variation of fiber.

The results showed concrete without a strong burn test increased concrete press from concrete without the addition of fibers. The maximum press strength occurs at a fiber variation of 0.5% which is 250.13 kg/cm^2. While the highest concrete press strength with burn test occurs at fiber variation of 0.50% which is 190.90 kg/cm^2.

Keywords : Bendrat wire, normal concrete, strong press, burn test, cube sample