

## PENGARUH SERBUK CANGKANG KERANG SEBAGAI MATERIAL TAMBAHAN PADA CAMPURAN BETON TERHADAP KUAT TEKAN BETON

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### ABSTRAK

Perkembangan teknologi beton dimasa ini menuntut dilakukannya usaha untuk meningkatkan kinerja beton yang dihasilkan, baik dari segi mutu, bahan maupun cara yang diterapkan, hal ini tidak lepas dari tuntutan dan kebutuhan masyarakat terhadap fasilitas infrastruktur yang semakin maju. Oleh karena itu perlu kiranya mencari alternatif lain sebagai bahan tambahan pada beton. Telah dibuat beton alternatif dengan penambahan serbuk cangkang kerang jenis Anadara Granosa. Proses pre-treatment kulit kerang yaitu dijemur terlebih dahulu kemudian dihaluskan menggunakan alat penghancur (palu) sehingga dihasilkan tumbukan kulit kerang dengan lolos saringan 5 cm sebagai substitusi agregat halus terhadap kuat tekan beton k-225 dengan komposisi penambahan serbuk cangkang kerang 0% : 5% : 10% : 15% dalam waktu perawatan 7 hari, 14 hari, 21 hari dan 28 hari menggunakan metode SNI. Hasil pengujian menunjukkan bahwa pada usia 28 hari beton normal (0%) = 299,504 kg/cm<sup>2</sup>, beton campuran 5% = 317,622 kg/cm<sup>2</sup>, beton campuran 10% = 286,482 kg/cm<sup>2</sup>, beton campuran 15% = 127,388 kg/cm<sup>2</sup>. Dari hasil analisa disimpulkan, penambahan tumbukan kulit kerang jenis Anadara Granosa sebanyak 0%, 5%, 10% dan 15% .

**Kata kunci** : Serbuk Cangkang Kerang, Anadara Granosa, beton alternatif

## THE EFFECT OF SHELLS POWDER AS ADDITIONAL MATERIAL IN CONCRETE MIXTURES ON THE PRESSURE STRENGTH OF CONCRETE

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### ABSTRACT

The development of concrete technology at this time requires efforts to improve the performance of the concrete produced, both in terms of quality, material and method applied. This cannot be separated from the demands and needs of the community for increasingly advanced infrastructure facilities. Therefore it is necessary to look for other alternatives as additives to concrete. An alternative concrete has been made with the addition of powdered shells of the Anadara Granosa type. The pre-treatment process of the shells is dried first and then mashed using a crusher (hammer) so that a collision of shells is produced by passing a 5 cm sieve as a substitute for fine aggregate to the compressive strength of concrete k-225 with the composition of the addition of shell powder 0%: 5% : 10%: 15% within 7 days, 14 days, 21 days and 28 days of treatment using the SNI method. The test results show that at 28 days of age normal concrete (0%) = 299,504 kg / cm<sup>2</sup>, 5% mixed concrete = 317,622 kg / cm<sup>2</sup>, 10% mixed concrete = 286.482 kg / cm<sup>2</sup>, 15% mixed concrete = 127.388 kg / cm<sup>2</sup>. From the results of the analysis concluded, the addition of collisions of Anadara Granosa shells was 0%, 5%, 10% and 15%.

**Keywords**: Seashell Powder, Anadara Granosa, alternative concrete