EFFECT OF RECYCLED COARSE AGGREGATE ON CONCRETE PROPERTIES

Thesis

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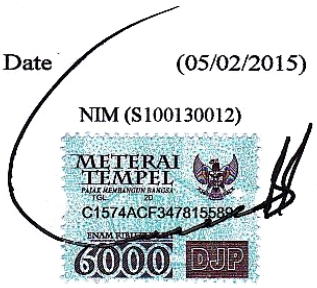

ABSTRACT

Nowadays, the activity of people getting higher, therefore the need of high quality in the Construction. is the main purpose of government in terms of developing Construction. One of the materials that can be used as material replacement is recycled aggregate. In terms of this research, the scope of study is about comparison between recycle coarse aggregate and natural aggregate in terms of specific gravity, apparent specific gravity, absorption, los Angeles. Moreover, this research will also focus on the comparison between recycled aggregate for 0%, 35%, 50% and 65% replacement.

This research was conducted with experimental research with the mixture of recycled coarse aggregate for 0%, 35%, 50% and 65% replacement. Based on the result of research, it is obtained that recycled aggregate has lower value than natural aggregate in term of specific gravity, apparent specific gravity; while recycled aggregate has higher value of absorption and los Angeles than natural aggregate. Moreover, the value of compressive strength, flexural strength and modulus elasticity of 0% recycled aggregate was the highest compared to 35%, 50% and 65% replacement. Finally, it can be concluded that the percentage of recycled aggregate will influence the value of compressive strength, modulus elasticity and flexural strength; and the 20 mm of size recycled aggregate will also has the the high value of compressive strength, modulus elasticity and flexural strength.

Key Word: Recycled Aggregate, Compressive Strength, Flexural Strength, and Modulus Elasticity.

ABSTRAK

Saat ini, aktivitas masyarakat semakin tinggi, sehingga kebutuhan berkualitas tinggi dalam Konstruksi tersebut. adalah tujuan utama pemerintah dalam hal mengembangkan Konstruksi. Salah satu bahan yang dapat digunakan sebagai pengganti bahan daur ulang agregat. Dalam hal penelitian ini, ruang lingkup studi tentang perbandingan antara agregat kasar daur ulang dan agregat alami dalam hal berat jenis, jelas berat jenis, penyerapan, los Angeles. Selain itu, penelitian ini juga akan fokus pada perbandingan antara agregat daur ulang untuk 0%, 35%, 50% dan 65% pengganti.

Penelitian ini dilakukan dengan penelitian eksperimental dengan campuran agregat kasar daur ulang untuk 0%, 35%, 50% dan 65% pengganti. Berdasarkan hasil penelitian, diperoleh bahwa agregat daur ulang memiliki nilai lebih rendah dari agregat alam dalam hal berat jenis, jelas berat jenis; sedangkan agregat daur ulang memiliki nilai yang lebih tinggi dari penyerapan dan los Angeles dari agregat alam. Selain itu, nilai kuat tekan, kuat lentur dan modulus elastisitas 0% agregat daur ulang adalah yang tertinggi dibandingkan dengan 35%, 50% dan 65% pengganti. Akhirnya, dapat disimpulkan bahwa persentase agregat daur ulang akan mempengaruhi nilai kuat tekan, modulus elastisitas dan kekuatan lentur; dan 20 mm dari ukuran daur ulang agregat juga akan memiliki nilai yang tinggi kuat tekan, modulus elastisitas dan kekuatan lentur.

Kata Kunci: Daur Ulang Agregat, Kuat Tekan, Kekuatan lentur, dan Modulus Elastisitas.

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