Abstrak

Untuk dapat mengetahui mutu dari beton maka beton yang sudah dicetak harus dilakukan pengujian. Ada beberapa macam metode pengujian beton, yang pertama adalah Kuat tekan dan kuat tarik belah beton. Kuat Tekan Beton menggambarkan mutu dari beton tersebut. Kuat tarik belah beton menggambarkan kekuatan tarik dari beton tersebut. Tujuan dari penelitian ini untuk mengetahui hasil dan peningkatan nilai kuat tarik belah beton dan pengujian kuat tekan beton mutu rencana f'c 29,05 dan Menganalisis hubungan pengujian kuat tarik belah beton dan pengujian kuat tekan beton mutu rencana f'c 29,05 MPa pada umur 7, 14 dan 28 hari dengan menggunakan agregat kasar Tanjungan. metode pengujian kuat tekan dan kuat tarik belah dilakukan setelah beton berumur 7, 14 dan 28 hari. Dengan jumlah 18 sampel beton. hasil analisis hubungan antara kuat tekan beton dengan kuat tarik belah beton dengan menggunakan metode analisis regresi, didapatkan persamaan nilai korelasi antara kuat tekan beton (MPa) terhadap kuat tekan beton, dengan Y adalah nilai kuat tarik belah beton (MPa) dan X adalah kuat tekan beton beton (MPa). Dari persamaan tersebut dapat diketahui bahwa terdapat variabel yang pengaruhnya cukup kuat dan positif. Didapatkan juga nilai persentase koefisien determinasi (R) yang menunjukan korelasi antara variabel X dan Y menunjukan cukup kuat yaitu sebesar 0,787. Dan juga didapatkan nilai R square cukup tinggi yaitu 61,90 % itu menunjukan bahwa hubungan antara kuat tekan beton terhadap kuat tarik belah beton. sedangkan sisanya dipengaruhi variabel lain yang tidak termasuk dalam model regresi.

Kata kunci: beton; kuat tarik belah beton; kuat tekan beton

Abstract

To be able to determine the quality of concrete, the concrete that has been printed must be tested. There are several kinds of concrete testing methods, the first is the compressive strength and split tensile strength of concrete. The compressive strength of concrete describes the quality of the concrete. The split tensile strength of concrete describes the tensile strength of the concrete. The purpose of this study was to determine the results and increase the value of the split tensile strength of concrete and test the compressive strength of concrete of the design quality f'c 29.05 and to analyze the relationship between testing the tensile strength of concrete and testing the compressive strength of concrete of design quality f'c 29.05 MPa at age 7, 14 and 28 days using Tanjungan coarse aggregate. The method of testing the compressive strength and split tensile strength was carried out after the concrete was 7, 14 and 28 days. With a total of 18 concrete samples. the results of the analysis of the relationship between the compressive strength of concrete and the split tensile strength of concrete using the regression analysis method, obtained an equation of the correlation value between the compressive strength of concrete (MPa) and the compressive strength of concrete, where Y is the value of the split tensile strength of concrete (MPa) and X is the concrete compressive strength (MPa). From these equations, it can be seen that there are variables that have a strong and positive influence. The percentage value of the coefficient of determination (R) which shows the correlation between the variables X and Y is quite strong, namely 0.787. And also the R square value is quite high, namely 61.90%, it shows that the relationship between the compressive strength of concrete and the split tensile strength of concrete. while the rest are influenced by other variables that are not included in the regression model.

Keywords: concrete; split tensile strength of concrete; compressive strength of concrete