

ABSTRAK

Judul: *Faktor Kadar Lumpur Pada Agregat Halus Terhadap Dosis Admixture Tipe F Dan Semen (Studi Kasus Di Pabrik Wika Beton Karawang). Tugas Akhir, Nama: Gus Khariri, NIM: 41113320007, Dosen Pembimbing: Agyanata Tua Munthe, ST, MT, 2018*

Beton terbentuk dari campuran agregat halus, agregat kasar, semen, air. Salah satu syarat teknis adalah agregat halus (pasir) tidak boleh mengandung lumpur lebih dari 5% berat pasir. Kondisi yang terjadi di lapangan sering sekali kandungan lumpur pada pasir yang dipasok oleh supplier memiliki kandungan lumpur yang melebihi kadar lumpur normal agregat yang diijinkan. Tujuan penelitian ini dilakukan untuk mengetahui pengaruh kandungan lumpur pada agregat halus terhadap kuat tekan beton dengan variasi kandungan lumpur pada agregat halus dengan mutu beton rencana (f_c' 52 MPa).

Penelitian uji kuat tekan beton pada umur 7,14, dan 28 hari dengan variasi kandungan lumpur pada agregat halus 0%, 3%, 6%, 12%, 12%, dan 15% menggunakan benda uji silinder diameter 10cm dan tinggi 20cm sebanyak 12 benda uji per masing-masing variasi kadar lumpur. Metode pembuatan benda uji menggunakan 2 macam metode yaitu satu pengadukan dan pengadukan terpisah.

Hasil penelitian menunjukkan semakin besar kadar lumpur, maka kuat tekan beton semakin turun. Hasil pengujian kuat tekan rata-rata pada umur 28 hari, menunjukkan batas aman kadar lumpur pada agregat halus sampai 6% karena penurunan yang terjadi masih dibawah standar deviasi ($6,04\% < 7,19\%$). Untuk perbaikan mutu adukan beton segar dengan dilakukan dengan penambahan admixture. Jumlah penambahan admixture Antara 30% - 160% pada kadar lumpur 15%. Sedangkan untuk perbaikan kuat tekan beton dengan dilakukan penambahan semen. Jumlah penambahan semen untuk kadar lumpur 9% adalah 8,15%, untuk kadar lumpur 12% adalah 12,92%, dan untuk kadar lumpur 15% adalah 17,89%.

Kata kunci : *Lumpur, Kuat Tekan, Admixture dan Semen*

ABSTRACT

Title: The Factor of Mud Rate on Fine Aggregate Against the Dose of Admixture Type F And Cement (Case Study In Wika Beton Karawang Factory). Final Project, Name: Gus Khariri, NIM: 41113320007, Adviser: Agyanata Tua Munthe, ST, MT, 2018

Concrete is formed from a mixture of fine aggregates, coarse aggregates, cement, water. One technical condition is that fine aggregate (sand) should not contain mud more than 5% of the weight of sand. The situation that occurs on site is, the sand that was supplied often contains mud that exceeds the allowed normal aggregate of mud content. The purpose of this research is to discover the influence of mud content on fine aggregate to compressive strength of concrete with variation of mud content on fine aggregate with concrete quality of plan (f_c '52 MPa).

Research on concrete compressive strength test at the age of 7,14 and 28 days old with variation of mud content on fine aggregate of 0%, 3%, 6%, 12%, 12%, and 15% using 12 cylindrical test objects with diameter of 10cm and height of 20cm for each variation of mud content. The writer use 21 kinds of method to make the specimen, which are single mixing and separate mixing.

The results showed that the increasing of mud content, resulting in the decreasing of compressive strength of the concrete. The test results, of the average compressive strength at the age of 28 days, showed the safe limit of mud content on the fine aggregate to be 6%, as the decreasing of compressive strength of the concrete was still below the deviation standard ($6.04\% < 7.19\%$). To improve the quality of fresh concrete mix, the addition of admixture is needed. The addition of admixture ranges between 30% - 160% at 15% mud content. As for the improvement of compressive strength of concrete, the addition of cement is needed. The addition of cement at 9% mud content is 8.15%, at 12% mud content is 12.92%, and at 15% mud content is 17.89%.

Keywords: Mud, Compressive Strength, Admixture and Cement

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