

ABSTRACT

MUSLIHATUN SOLEHA. Study Of Manufacture Concrete With Utilization Concrete Waste As Coarse Aggregate. Thesis, Jakarta: Department of Civil Engineering, Faculty of Engineering, State University of Jakarta, in 2016

Materials Laboratory of Civil Engineering Department has a lot of waste concrete which has not been utilize optimally and tend to interfere with other students practice area. This study aims to determine the compressive strength of concrete by replacing some coarse aggregate in concrete waste, for concrete design 20 MPa, with a slump of 100 + _20 mm and 0,55 CWF (Cement Water Factor).

This study was conducted in Material Testing Laboratory of State University of Jakarta in September 2015 until December 2015 with the experimental method. The study had a sample of 60 specimen (compressive test = 5 for each individual variations in the age of 7 days, 14 days and 28 days). Results of this study partially replace coarse aggregate with each variation of 0% as control, 65%, 75% and 85%.

Materials used by coarse aggregate (Waste Concrete) used is a waste of Material Testing Laboratory has a specific gravity; with 7.09 FGM (Fine Grain Modulus); 1.03% of water content; BJ 2.56% absorption 2.90%; wear wastes 7.04%. While Coarse Aggregates (gravel) has a dry conditions specific gravity of 2.33 g/mm; Dry specific gravity of 1.97%; Specific gravity of SSD conditions 2.46 g/mm; with 7.08 FGM (Fine Grain Modulus); water content of 2.76%; Los Angeles Testing is 8,26%. While the Fine Aggregate (Sand) had mud content of SSD conditions 2.1%; FGM (Modulus Fine Grain) 3.1%; Absorption of 2.1%; and 1.08% Water levels. These results indicate that the compressive value of waste concrete is 20.28 MPa. As for the concrete variation of 65% and 75%, compressive strength value reaches 19:28 MPa and 20.11 MPa. According to the research, waste concrete can be used as a partial replacement of coarse aggregate in the concrete mix because it is according to plan.

Keywords: *Utilization Concrete, Concrete Recycle, Concrete Compressive Strength*