ABSTRACT

This Final Project discusses the use of waste materials that are not normally used for building materials, namely glass dust waste as substitution of fine aggregate, for the use of concrete mixtures. This research was conducted at the Laboratory of Sangga Buana YPKP University by comparing normal concrete with glass powder mixed concrete mixtures, which were made in 4 mixed variations, namely normal concrete (0%), concrete with glass waste bottles of 2.5%, 5% and 7.5% as a substitute for fine aggregate. Compressive strength testing is carried out at the age of 7 and 14 days with a total of 8 cube test specimens.

In the compressive strength test results at the age of 14 days with a 1: 2: 3 mixture composition, the optimum value obtained in concrete mixtures with a glass waste composition of 0% or normal concrete of 19.92 MPa, while for concrete containing compressive strength powder waste under normal , namely 2.5% substitution of 18.81 MPa, 5% substitution of 18.44 MPa, 7.5% substitution of 17.71 MPa.

Glass powder waste material can be used for concrete aggregate substitute for fine aggregate in low concrete.

Keywords: Waste glass bottles, Concrete Compressive Strength, Medium Quality Concrete, Aggregate Substitution