STUDY OF THE CHARACTERISTICS OF PERVIOUS CONCRETE USING ENVIRONMENTALLY FRIENDY MATERIALS

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ABSTRACT

This research aims to find out: (1) compressive strength, (2) permeability, and (3) the best variation with the addition of steel slag and superplasticizer on porous concrete.
This research used experiment method. Pervious concrete was made by replacing partial of natural coarse aggregate (gravel) with steel slag as much as 0%, 25%, and 50% with superplastizicer as much 0.4% by weight of cement. The spesiments had cylindrical shaped with the diameter was 15 cm and high was 30 cm totaled 18 pieces for compressive strength test and slab shaped with the dimensions was 50 cm x 50 cm x 5 cm totaled 9 pieces for permeability test. The cylindrical spesiments were tested at the age of 7 days and 28 days, while the slab spesiments were tested at the age of 28 days. Data analysis in the form of descriptive quantitative by found the average price.
Based on the results, porous concrete with partial replacement of gravel using steel slag as much as 0%, 25%, and 50% with superplasticizer as much 0,4% of cement had compressive strength at the age of 7 days consecutively 14,05 MPa, 6,97 MPa, and 2,99 MPa and at the age of 28 days consecutively 18,18 MPa, 15,50 MPa, and 4,40 MPa, and also the permeability at the age of 28 days consecutively 7,65 mm/sec, 7,82 mm/sec, 13,36 mm/sec. Permeability tends to be higher if the result of compressive strength is lower. The best composition of porous concrete mixture at 25% variation.

Kata Kunci: *pervious concrete, steel slag, compressive strength, permeability*