

SUMMARY

Halidazia, *Department of Civil Engineering, Faculty of Engineering, University of Brawijaya, January 2018, The Effects of Fiber Can Hooks on Compressive Strength, Tensile Strength and Modulus of Elasticity of Lightweight Concrete, Academic Supervisor* : Ari Wibowo and Bhondana Bayu B.K.

The addition of can fiber to the concrete mix is one way to reduce the weakness of the concrete is not strong enough to withstand tensile and strong in withstand the compressive force, also can increase the ductility and confinement in the concrete. Concrete is also a structural element that can injure a person in the event of a disaster because it has a heavy mass, therefore the addition of a pumice which has a lighter mass than the gravel will further reduce the mass of the concrete itself and is called lightweight concrete.

Variations used are variations of hooks A and B as much as 10% of can fibers and normal concrete that has 25% pumice from the volume of cylindrical concrete and 10% fiber concrete with no hook or straight-shaped. Tests performed include compressive strength, tensile strength and modulus of elasticity of concrete. Tests were performed on 28-day-old concrete. Tools used in tensile strength testing and compressive strength using compression machine or compressive strength machine, while elasticity modulus test using extensometer and strain gauge. Strain gauge is used only on hook test specimen B3 and Normal Pumice 3.

The result of tensile strength test shows that the maximum value of Maximum Drag pull is obtained on a hooked fiber concrete (straight) with a value of $f_t = 2,003$ MPa. While the results of the compressive strength test showed that the maximum value of compressive strength is obtained at fractional fraction of B with a value of $f'_c = 17.55$ MPa. While the result of maximal elasticity modulus test at hook fraction B yields maximum elasticity modulus value that is by Eurocode 2 method 56135,36 MPa, ASTM C469 method got result 38082 Mpa, with method of SKSNI T-15-1991 that is equal to 22621,4 Mpa and on the TS 500 (Turkey) method has a value of 29689.5 MPa. This is because the value of elastic modulus of concrete is directly proportional to its compressive strength value

Keywords: can fiber, pumice, compressive strength, tensile strength, modulus of elasticity