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**Pengaruh penambahan serat sabut kelapa konsentrasi 1,5 persen dan panjang serat 4 cm terhadap mutu
genteng beton serat pada 5 variasi dimensi**
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Effect of Adding Coconut Fiber with 1.5% in Concentration and 4 Cm in Fibrous Length on Quality of Fibrous Concrete Roof Tile with Five Dimension Variations

Muhammad Yahya Saleh[1)]

[1)] Post Graduate Student of Building Material Technology, Environmental and Civil Engineering Faculty, Gadjah Mada University, Yogyakarta

ABSTRACT

Roof is one of basic structural part in a building. There area some types of roof-closing material, including zinc/metal, cement asbestos, burnt soil roof, concrete roof, and wooden roof. Development of metal roof material grows rapidly and varies type of variation, but from price side it is relatively expensive other than concrete roof one. Using concrete roof has a reason because it is cheap and affordable. It just need a few of maintenance. It is easily formed as need of construction, capable of receiving heavy load, resistant to high temperature and inflammable and resistant to corrosive.

This fibrous concrete roof tile was made by adding coconut fiber with 1.5% in concentration of volume and 4 cm in fibrous length. This fibrous concrete roof tile was made of 5 (five) length variation of roof, namely 42, 46, 50, 54 and 58 cm and had 33 cm in fixed width. Testing used covered fibrous weight specific and tensile of coconut fiber, fibrous concrete roof bending test, water absorption and permeability test for fibrous concrete roof after material test aged 28 days.

Result of the study indicated that by adding the fiber with 0.5 f.a.s of 75% distribution rate and average absorption 10,21%, permeability due to extending porous volume of concrete roof, concrete roof bending moment increased from variation I to variation V successively with increasing percentage of 32,46%, 24,07%, 25,69%, 24,62% and 16,31%. Average bending moment of variation I, II, III, IV and V were 118,19; 97,31; 79,99; 72,09 and 59,87 Kg respectively, so that for variation I, II, and III they met bending requirement in quality level II suitable to SII 0447-81. Concrete roof weight by adding fiber decreased 4% to 8%.

Keyword: fibrous concrete roof, coconut fiber, bending moment, absorption, permeability.