

Sifat uji lentur dan tarik bambu apus, bambu hitam dan bambu petung pada perendaman air rawa dan CuSO_4 = The nature of tensile test and elastic test of bamboo apus black bamboo and bamboo petung soaking in swamp water and CuSO_4

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Abstrak

Penelitian uji lentur dan uji tarik bambu apus, bambu hitam dan bambu petung pada perendaman air rawa dan larutan CuSO_4 dengan variasi waktu peredaman. Uji lentur pada perendaman di air rawa menghasilkan kenaikan modulus young terhadap lama perendaman, semakin lama perendaman semakin besar modulus young perubahan modulus young sebesar 10 ? 25 GPa. Sebagai pembanding hasil uji tarik perendaman di larutan CuSO_4 menghasilkan perubahan modulus young sangat kecil bisa dianggap tidak berubah sama sekali, besar nilai perubahan 0,1 ? 0,3 GPa. Pada uji tarik menghasilkan maximum load pada bambu tanpa perlakuan peredaman 1240kg, peredaman larutan CuSO_4 selama 3 jam 950kg dan peredaman air rawa selama 1 bulan 15 hari 350kg. Semakin lama perendaman semakin kecil kuat tarik dari serat bambu. Perubahan sifat mekanik bambu tersebut di akibatkan adanya interaksi selulosa dengan metan pada air rawa sedangkan CuSO_4 tidak terjadi interaksi tetapi hanya terdapat CuSO_4 mengkristal diantara serat bambu.

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Research on bending and tensile test of bamboo apus, black bamboo and bamboo petung soaked by swamp water and aqueous CuSO_4 with variation of the attenuation time. The result of bending test on the bamboo soaked by swamp water produce greater youngs modulus depend on how long the soaking time, the longer soaking time make greater youngs modulus which is the change of youngs modulus is 10 - 25 GPa. As a comparison, results test on bamboo soaked by solution of CuSO_4 produce very small young's modulus can be deemed not changing at all, great value change 0.1 - 0.3 GPa. By the tensile test produce maximum load on bamboo without silencing treatment 1240kg, soaked by solution of CuSO_4 for 3 hours produce 950kg and soaked by swamp water for 1 month 15 days produce 350kg. The longer soaking the less result elastic test from bamboo fiber. Mechanical properties changes of the bamboo in the presence of impact interactions cellulose with methane in the swamp water while CuSO_4 interaction does not occur but only found in bamboo fiber between crystallized CuSO_4 .