**Chitosan Coating for Wood Protection**

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*Abstract:* The demand for wood protection coatings and preservatives is expected to advance 4.5 percent per year through 2018. The major applications for wood coatings and preservatives are mainly used for furniture, decking and siding. The development of coatings based in biopolymers such as chitosan has attracted attention mainly due to their friendliness to the environment and their potential substitution. In this study, a semi-permanent chitosan wood coating was produced from the chitin of the cockle shells, to be used as temporary coating for pre-machined wood storage to prevent attacks from pests and diseases. The chitin was extracted from the cockle shells through a series of processes that includes demineralization, deproteinization and deacetylation before mixing it with starch and glycerol to produce the coating. The objectives of this research were to determine and compare the different duration of deacetylation (30, 60 and 90 minutes) on the physical and chemical properties of chitosan coating. To evaluate the different of deacetylation duration of chitosan coating, two attributes were assessed which were the physical properties that includes water absorption, drying time, various temperature, viscosity; and the chemical properties such as infrared spectra identification and pH value. Although there was no substantial difference in the three samples for their chemical properties, the 90 minutes sample showed the best physical results with lower water absorption, shorter drying time, lower pH value, and less deterioration based on the various temperature cycles, compared to the other samples. This goes to show that deacetylation time process is crucial in producing stupendous quality chitosan coating.

*Keywords: Chitosan coating, wood protection*