# Treatment of *Schizolobium parahyba var. amazonicum* wood (Quanwood) Laminates by styrene, furfural alcohol and nano silica is due by the end of this week

Graciela Inés Bolzon de Muniz*
Mayara Elita Cordeiro
Silvana Nisgoski
Valcineide Tanobe
Washington Luiz Esteves Magalhães
Kestur Gundappa Satyanarayana

*Universidade Federal do Paraná

graciela.ufpr@gmail.com

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This paper presents the synthesis and characterization of nano silica particles from *Equisetum arvenses* and its impregnation of wood veneer *Schizolobiumamazonicum* (Quanwood). The purpose of the use of nanoparticles is for the development of technological quality of this species. The process of obtaining nano silica based on different combinations of cycles acid leaching followed by calcination. Among the materials produced, the treatment showed the best results was subjected to two cycles of acid leaching and calcination temperature of 500 ° C, yielding a material with specific surface area of 330.63 $g/cm^3$, 8.21 nm diameter, composed of 93.5% silicon and amorphous nature, results evaluated by the technique of near infrared spectroscopy (NIR), which is effective and able to predict the properties of the silica nanoparticles. Treatments for the modification of the sheets were Quanwood impregnation of furfuryl alcohol, styrene and nanoparticles of silica in different combinations. The sheets used in this study come from the industry Palmasola, and under laboratory conditions the bodies were made of the test piece that suffered modifications and subsequently characterized by percentage of weight gain, gross and microscopic, infrared spectroscopy, the flexural static, by exposure to natural weathering and thermal degradation behavior. The treatments with furfuryl alcohol gave the wood a dark color and were higher when measured in exposure to natural weathering and resistance to thermal degradation. Styrene has a sleek look and improved resistance to bending, in general, nano silica particles to treatment provided an improvement in resistance to bending and thermal degradation. The modified blades were characterized by near infrared spectroscopy, a technique able to discriminate the treatments and the models developed were effective and the predictive ability of the studied independent of treatment. The proposed modifications valued distinctive properties and identifying interesting technological improvements in the quality of sheet Quanwood.