

Referência Completa do Artigo:

Michael Pockrandt, Mohamed Jebrane, Ignazia Cuccui, Ottaviano Allegretti, Ernesto Uetimane Jr. and Nasko Terziev. 2018. Industrial Thermowood® and Termovuoto thermal modification of two hardwoods from Mozambique. *Holzforschung*, Volume 72, Issue 8, Pages 701-709, eISSN 1437-434X, ISSN 0018-3830.

Resumo Original (Abstract):

The study aimed at treating metil (*Sterculia appendiculata* K. Schum) and neem (*Azadirachta indica* A. Juss) timber from Mozambique under industrial conditions by steam [Thermowood® (TW)] and vacuum [Termovuoto (TV)] thermal modifications (TM). Matched boards were treated identically and wood alterations in chemistry, colour, mass loss (ML), mechanical properties and durability were compared. The applied vacuum partly removed the acetic acid that causes carbohydrate degradation, i.e. heat applied under vacuum was less destructive. TM under vacuum generated a lighter colour than that caused by steam treatment. ML was significantly higher after the TW process namely, 14.1 vs. 9.9% after thermovuoto treatment for metil and 14.2 and 12.1% for neem. Colour and ML changes correlated with the decrease in shear strength, rupture and elasticity moduli and increase in wood decay resistance. Metil wood is more permeable and demonstrated significant differences between the treatments; the thermovuoto process was less destructive but led to less improvement of durability compared to TW treatment.

Palavras Chave (Keywords):

Azadirachta indica A. Juss, chemical changes, mass loss, mechanical properties, physical properties, *Sterculia appendiculata* K. Schum, thermal wood modification

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