Abteilung Holzbiologie & Holzprodukte, Büsgenweg 4, D 37077 Göttingen

Tel.: 0551 / 3922051
Fax: 0551 / 39 96 46
E-Mail: mwentze@gwdg.de

**Project Title**

**Thermally modified *Eucalyptus nitens* as material for Deckings**

## Background

*Eucalyptus nitens* is a fast growing plantation tree species that has gained mayor importance in the wood market in Spain and Chile due to its excellent growth rates. At the moment it is mainly used for pulp and paper production, but there is a growing market for solid dry wood products made from this species. There is interest to expand the uses of this wood to international markets, and thermal modified wood has already been shown to be successful in the northern European wood market. Thermal modification processes use treatment temperatures between 150°C and 240°C, and different operating conditions, such as steam, vacuum, nitrogen or other elements that limit the presence of oxygen in the process. This project will use *E. nitens* wood from Spanish and Chilean plantations and thermally modify them to produce deckings. Selected mechanical properties will be measured to see if it complies with the necessary standards to be a competitive product.

## Experimental

Samples will be cut to size and then modified under atmospheric pressure in a process similar to ThermoWood under the following temperatures: 180°C, 200°C and 210°C. For each modification and for an unmodified reference mass loss, extractive content, volumetric swelling, anti-swelling efficiency (ASE) and equilibrium moisture content (EMC) will be measured.

After obtaining the modified pieces grooved deckings will be produced at laboratory scale. The following tests will be performed: using European standard norms:

- Taber abraser test.
- Shaker test.
- Dynamic and static hardness test.
- Screw and nail withdrawal resistance.

Selected sample products will be exposed to continuous use (1 to 2 months) and the degradation of grooves after continuous use and color differences before and after being exposed to actual use outdoors will be measured.

If you are interested, please contact me per e-mail, I also speak German.

Maximilian Wentzel, PhD Student
Georg-August-Universität Göttingen
Wood Biology and Wood Products

Büsgenweg 4, Room 1.106
37077 Göttingen, Germany
Phone +49 551 3922051
mwentze@gwdg.de
www.wood.uni-goettingen.de