SUMMARY

Rotary peeled veneers are known to develop lathe checks that affect their strength properties. Soaking green wood before peeling is one way of reducing the lathe checks and improving the veneer strength. This study investigates the effect log soaking temperature has on the crosswise tensile strength of veneer and the development of veneer lathe checks by soaking aspen, birch, black alder, and grey alder hardwood species at temperatures of 20 ºC, 40 ºC and 70 ºC for the duration of 24 and 48 h and investigate for changes from bark to the pith, conditions with the best tensile strength and the effect lathe check depth have on veneer crosswise tensile strength.

Veneers of 1.5 mm peeled with an industrial lathe were used for the investigation. A crosswise tensile strength test was performed on the freshly peeled veneers, and the lathe check depth of veneer sheets close to the bark and pith of the logs was measured from images captured with the aid of a microscope. The cutting plan for the lathe check depth samples was such that it would be exactly from the same region as the samples for the crosswise tensile strength.

The study results indicated that the tensile strength improves as the temperature increases from 20 ºC to 70 ºC, and this is negatively correlated to the veneer lathe checks depth (LCD) that decreases from 20 ºC to 70 ºC. At 40 ºC, there is already a significant increase in the crosswise tensile strength, stressing the importance the heating of logs before peeling has on the strength of veneers. The comparison of the bark and pith showed no significant difference in the mean lathe check depth.

Generally, it appears that the LCD is decreased by the increase in temperature and longer soak duration. This, in turn, results in the production of veneer with higher crosswise tensile strength. The interaction between the bark and the pith of the species was not significant enough to be considered a difference when the LCD is the factor of the comparison.