TALLINN UNIVERSITY OF TECHNOLOGY
SCHOOL OF ENGINEERING
Department of Materials and Environmental Technology

# RESEARCH OF VENEER WETTABILITY OF DIFFERENT WOOD SPECIES

## ERINEVATE PUIDULIIKIDE SPOONI MÄRGUVUSE UURIMINE

MASTER THESIS

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# SUMMARY

The aim of present research work was to investigate the effect of soaking temperature on wettability of four widely spread Estonian wood species: Birch (Betula pendula), Aspen (Populus tremuloides), Black alder (Alnus glutinosa), Grey alder (Alnus incana), respectively. Also, the research on the influence of log soaking temperatures on wettability along the logs was conducted. Birch is used as reference specie to compare its properties with other chosen species.

The results showed that different soaking temperatures affect the species in different maners. 70°C soaking has the greatest influence on properties of all four species and 20°C soaking affects the wettability along the logs. Still, statistically 20°C and 40°C soaking are very similar.

Aspen has the closest wettability to birch of all three alternative species. However, it has unique surface properties that negatively affect the consistency of measurements.

Black and grey alder are statistically very similar. Nevertheless, grey alder has lower wettability in all the temperature groups. Both alders differ sufficiently from birch.

Black alder, grey alder and aspen veneers are not widely researched yet. This makes current work scientifically valuable This data is valuable for plywood manufacturers. Provided results will be crucial when bonding strength of the species will be studied. However, conclusions of the thesis are not to be used alone. Further testing of other factors affecting bonding of the species are to be done.