

Hiil Oy Weathering test for charred wood

Standard utilized: ISO 16474-2 (2013) Paints and varnishes. Methods of exposure to laboratory light sources. Part 2: xenon-arc lamps. Geneva: International Standards Organisation.

Correspondence: 3 year exposure to UV- and rain.

Test organization: Natural Resources Institute Finland, Veikko Möttönen and Nina Pottonen, 2025





Euroopan unionin
osarahoittama



POHJOIS-KARJALA
Maakuntaliitto

Weathering test for charred wood – Hiil Oy

Results 27.3.2025

Veikko Möttönen

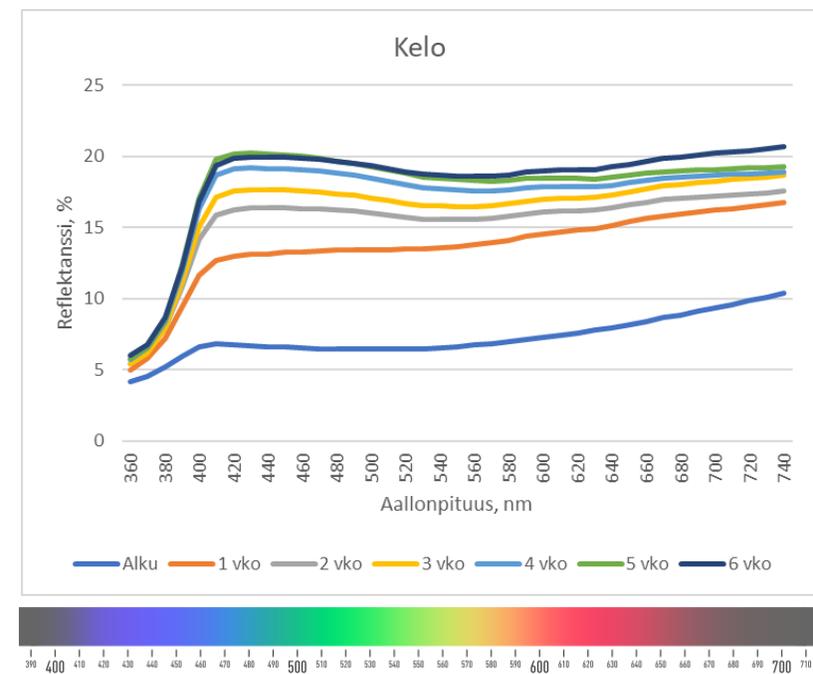
Nina Pottonen



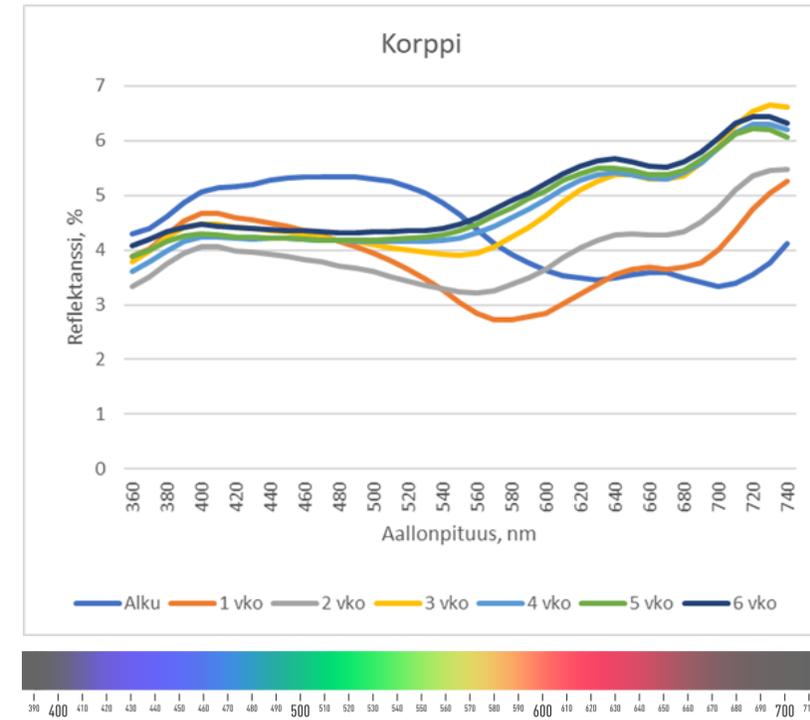
Photographs and spectral measurements

- The climate chamber programme for the weathering test consisted of 102 minutes of UV treatment and 18 minutes of UV+water spray treatment, repeated over 6 weeks (1,008 h). The treatment can be assumed to be equivalent to approximately 3 years of outdoor exposure to rain and sunshine. The UV radiation dose in the test was approximately 218 MJ/m².
- The photographs show the initial situation and the weekly changes over a period of 6 weeks.
- The spectral images show the surface reflectance spectrum measured with a spectrophotometer at the same time points in the visible light wavelength range of 360–740 nm.
- Note: the reflectance scale of the spectral images is not the same in all cases (minimum 0–5% and maximum 0–60%) due to the visualisation of the changes in the spectrum that occur in the climate chamber.
- The photographs were taken and the spectrum measured on dry specimens (at the end of the UV treatment period, prior to water spray).
- Based on the photographs and spectral measurements, the surface colour of most of the samples changed the most during the first week of treatment.
- Based on the photographs and spectral measurements, the charred-surface samples "Hiili" (charcoal) and "Korppi" (raven) changed the least in colour during the test. The colour changes in these were not clearly visible to the eye. Little wear of the charred surface was visible in either of the charred-surface samples, with more in the "Korppi" (raven) sample than in the "Hiili" (charcoal) sample.
- The "Noki" (soot) sample retained its dark colour almost the same as the charred-surface specimens.
- The "Sammal" (moss) sample had intense cracking. The other samples showed only minor cracking at or near the knots.

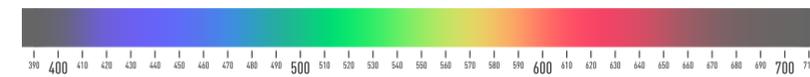
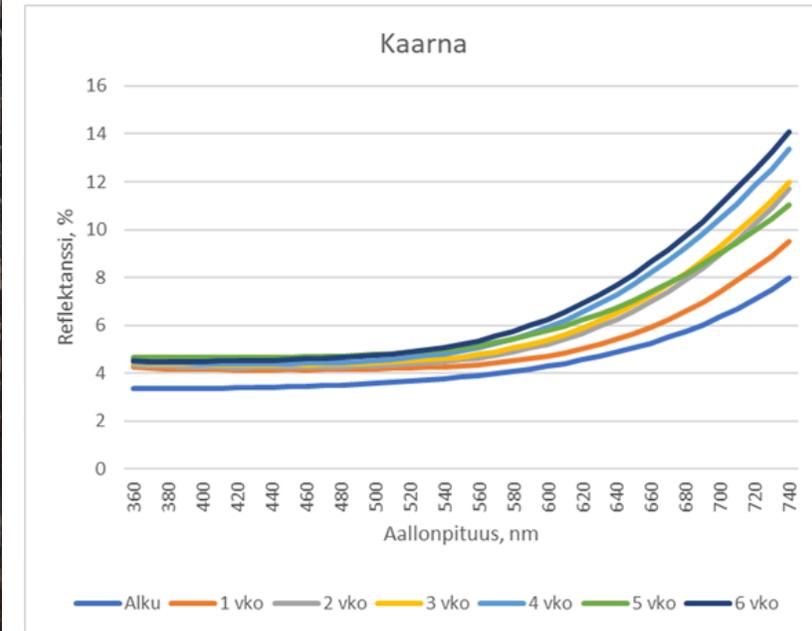
Kelo



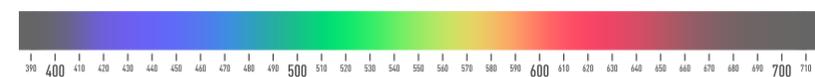
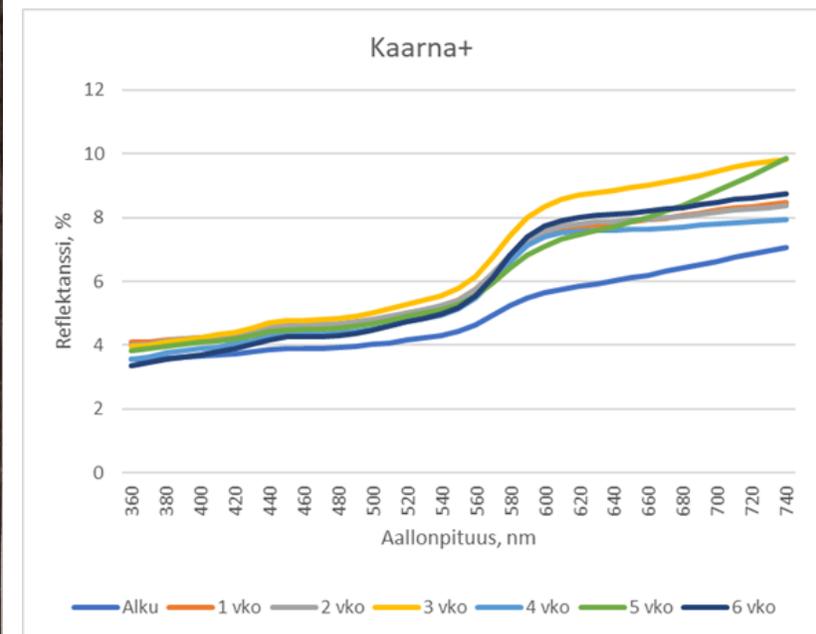
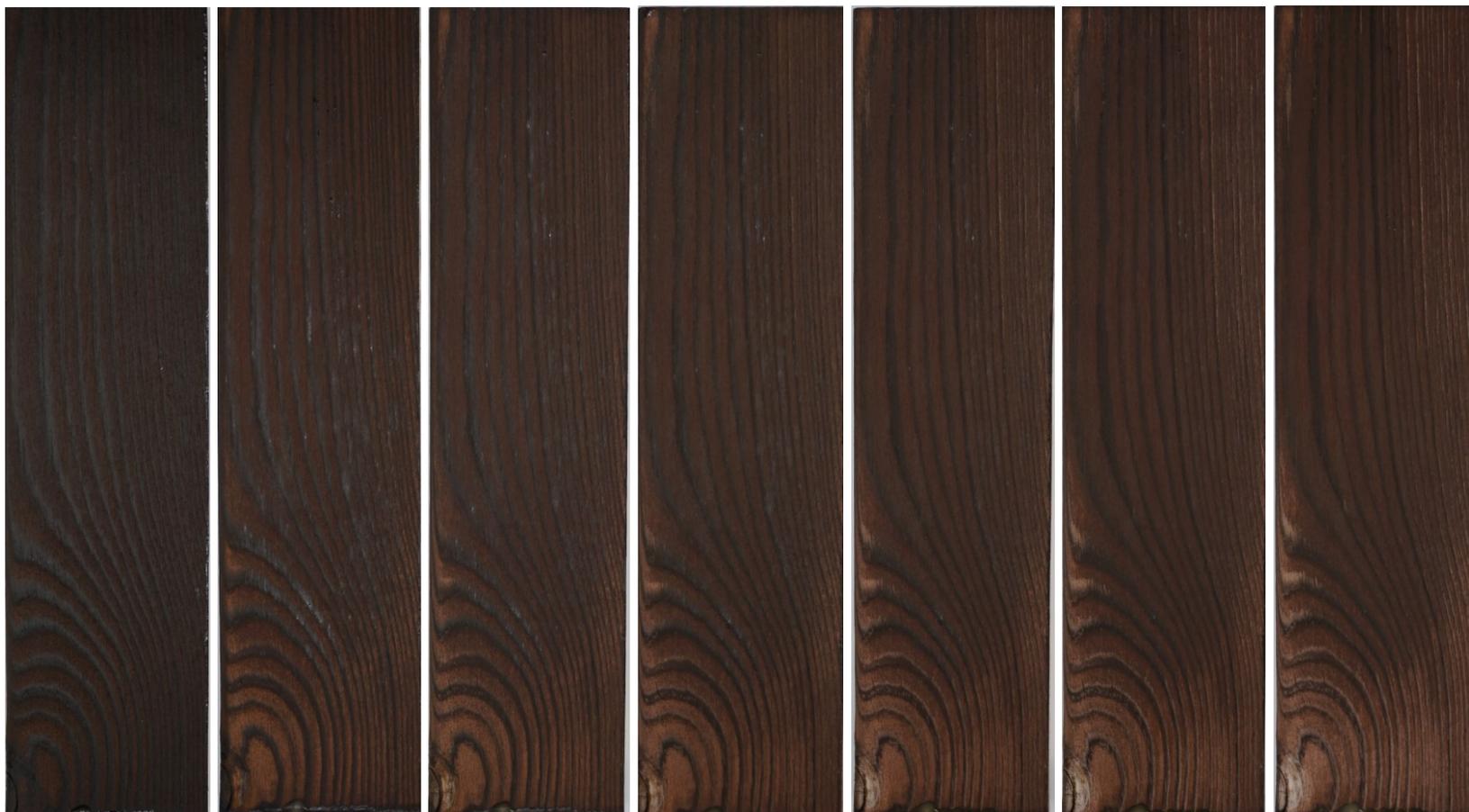
Korppi



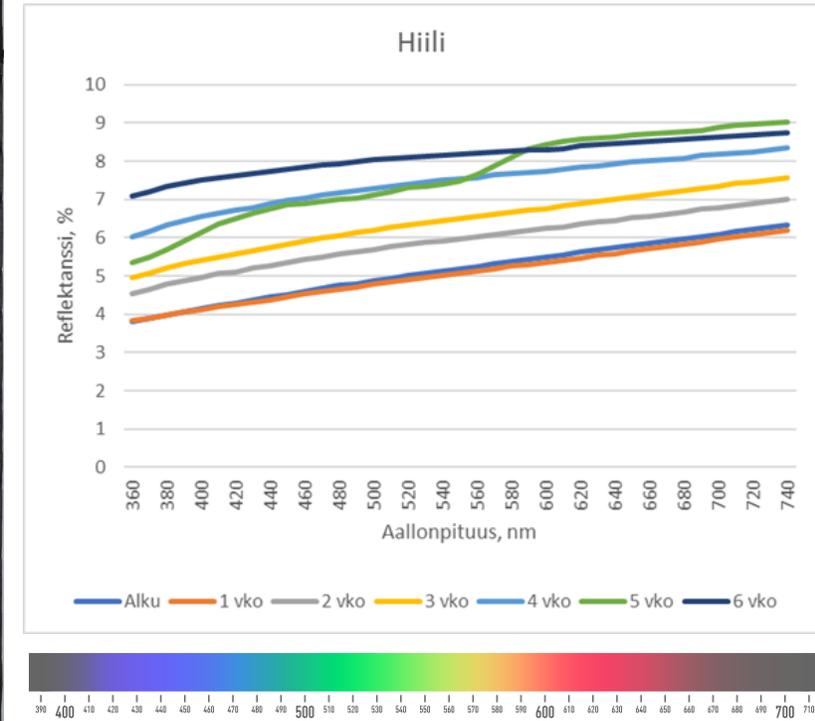
Kaarna



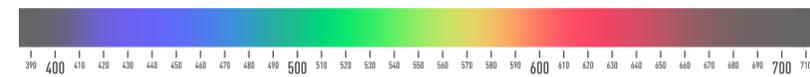
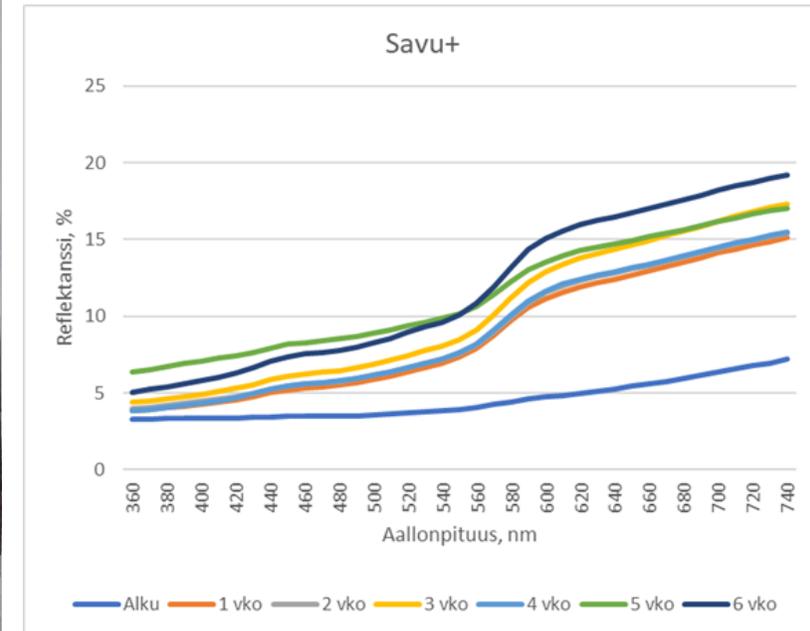
Kaarna+



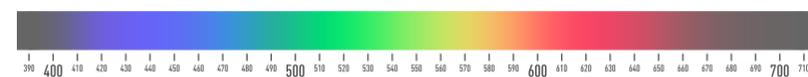
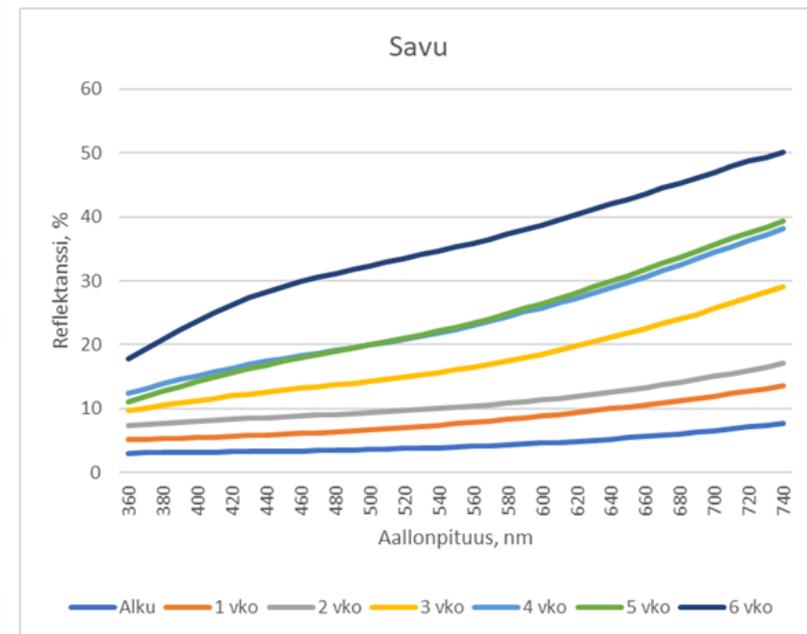
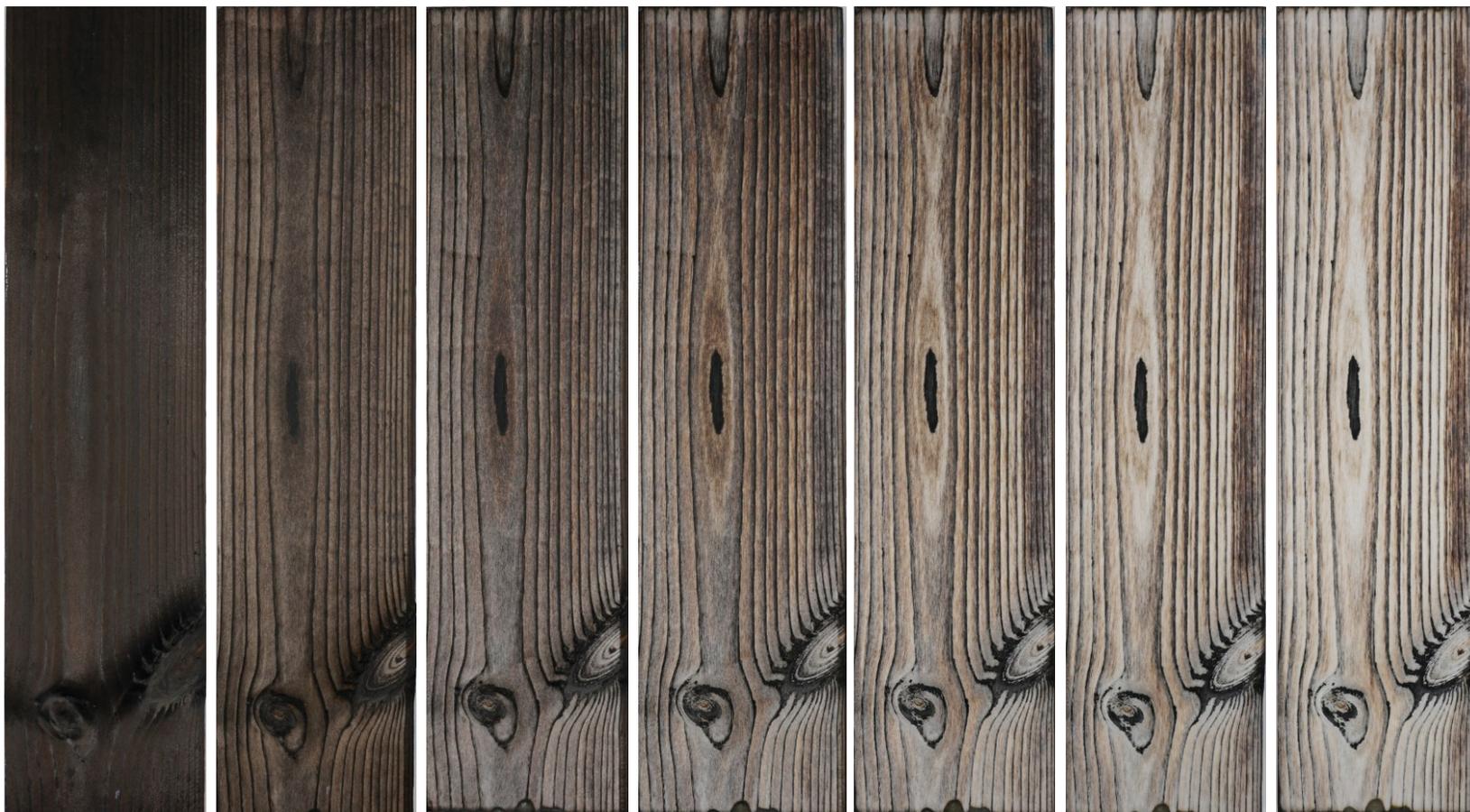
Hiili



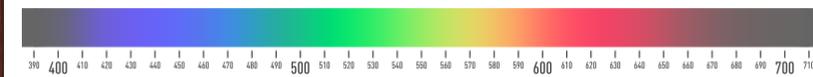
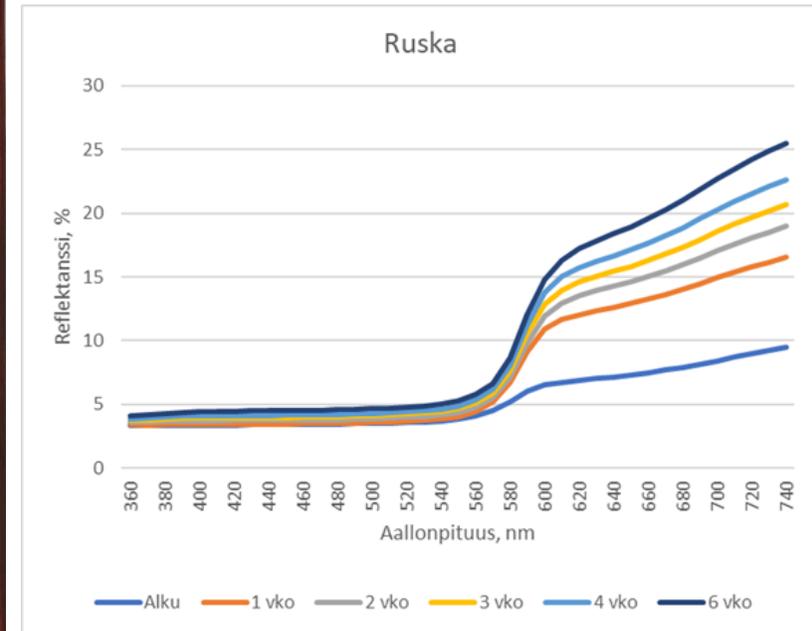
Savu+



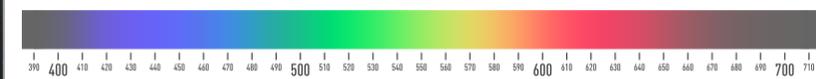
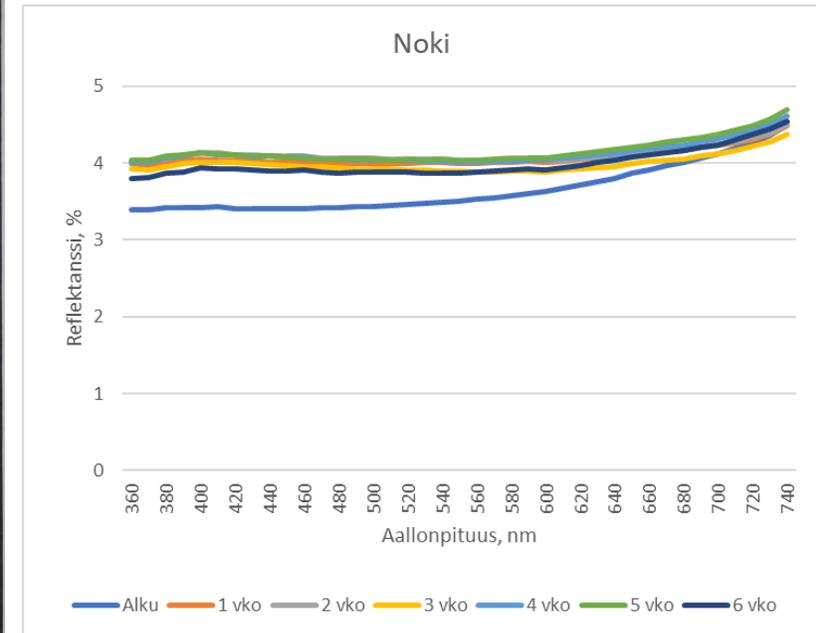
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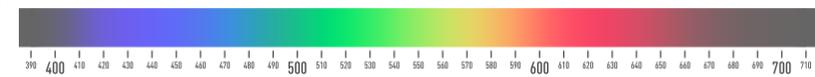
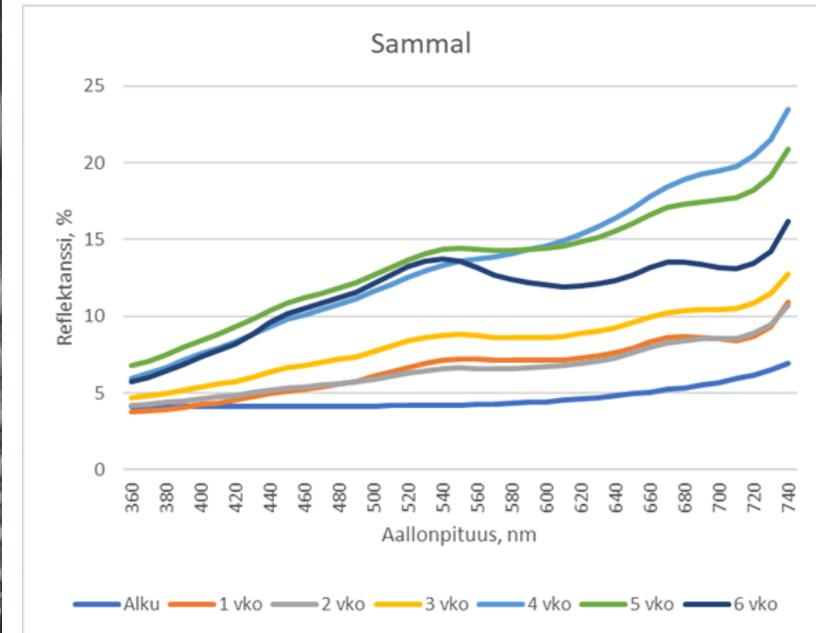
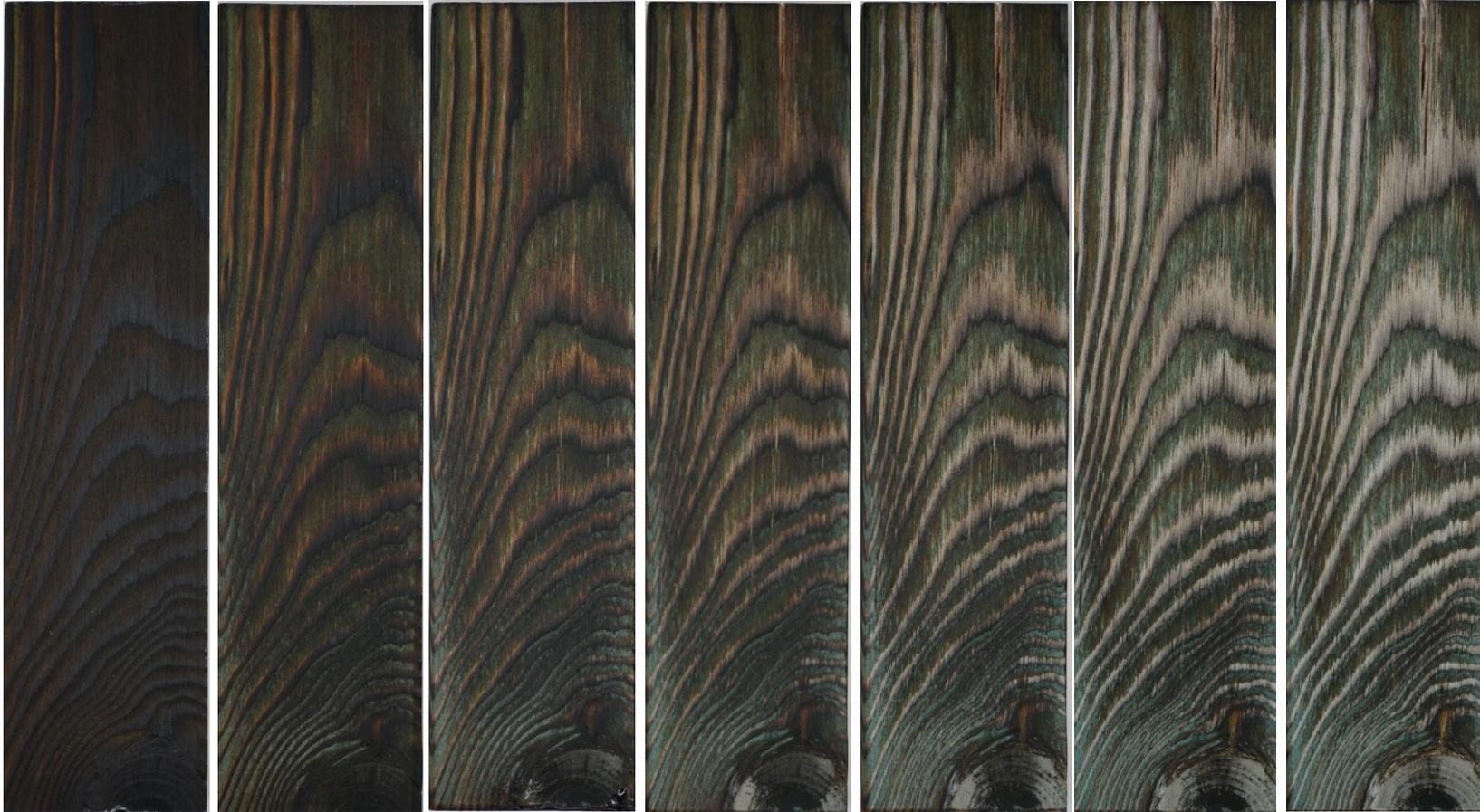
Ruska



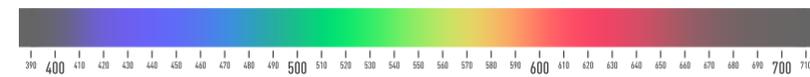
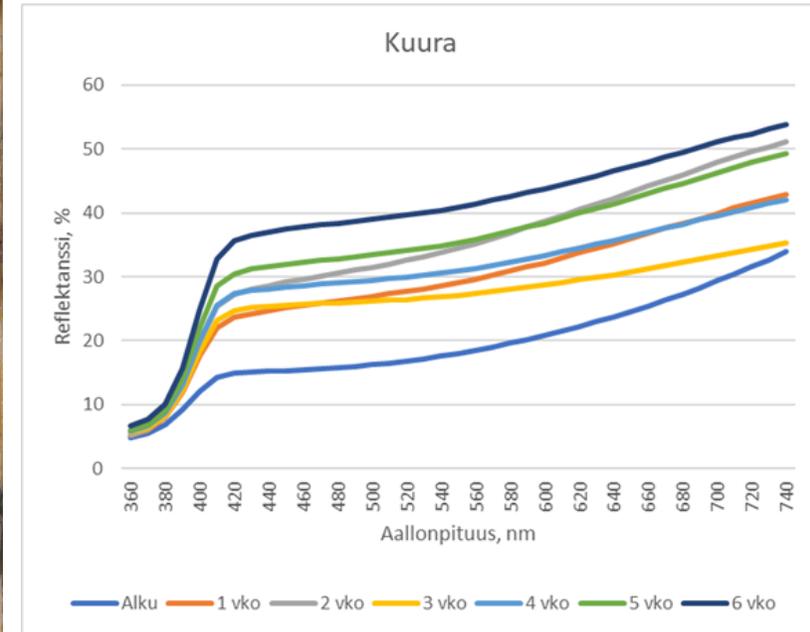
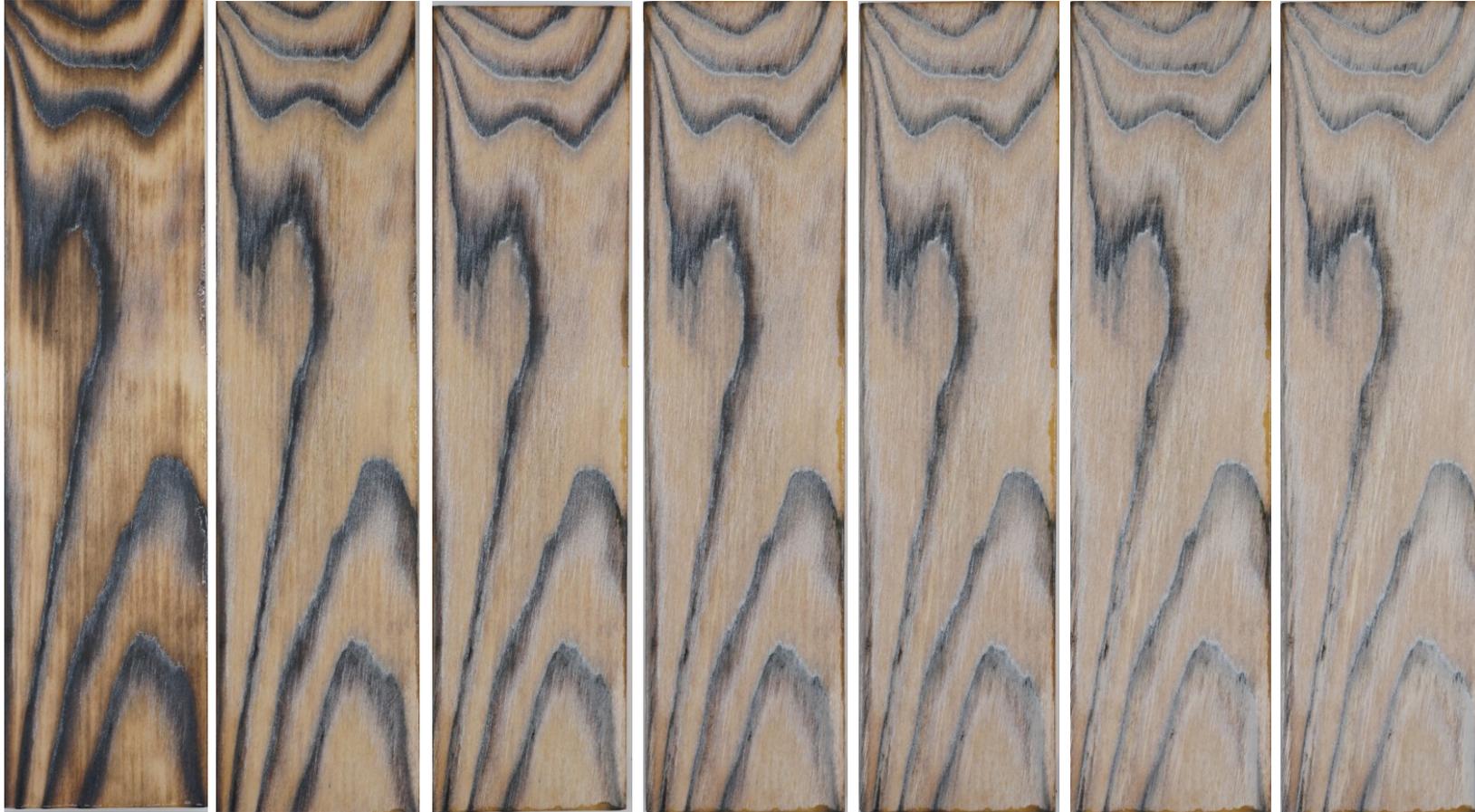
Noki



Sammal



Kuura



Löydä meidät verkosta

 luke.fi

Tilaa uutiskirjeemme ja pysy jyvällä!
luke.fi/uutiskirje



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