cost
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

FP1407
ModWoodLife

fhs Fachhochschule Salzburg University of Applied Sciences

Surface Modification using Infrared Radiation

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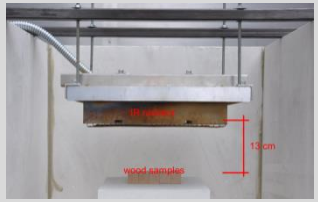

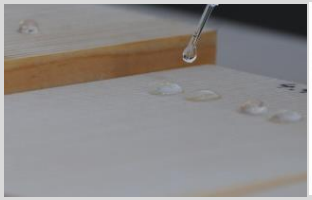


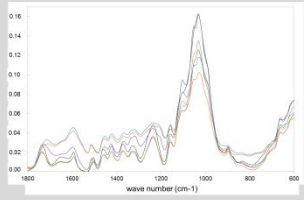

Pre-tests of the infrared radiation device

- temperature on the surface
- temperature in the wood
- possible process times
- distance between wood and IR radiator

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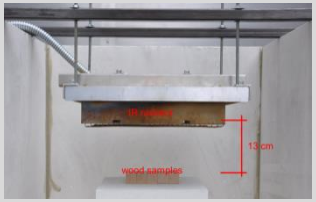
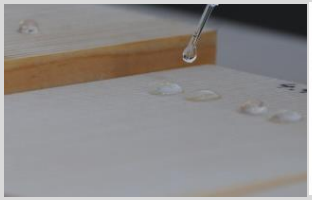
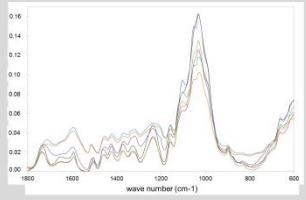
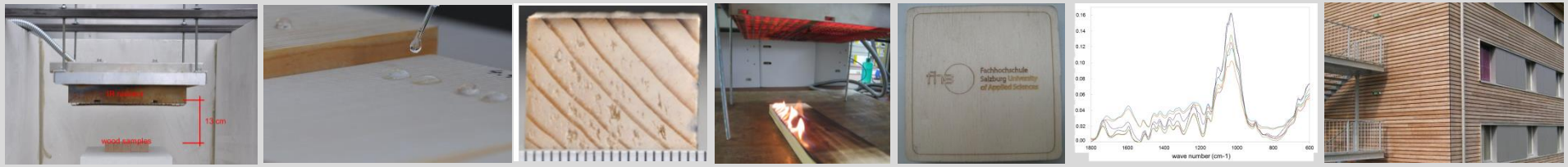




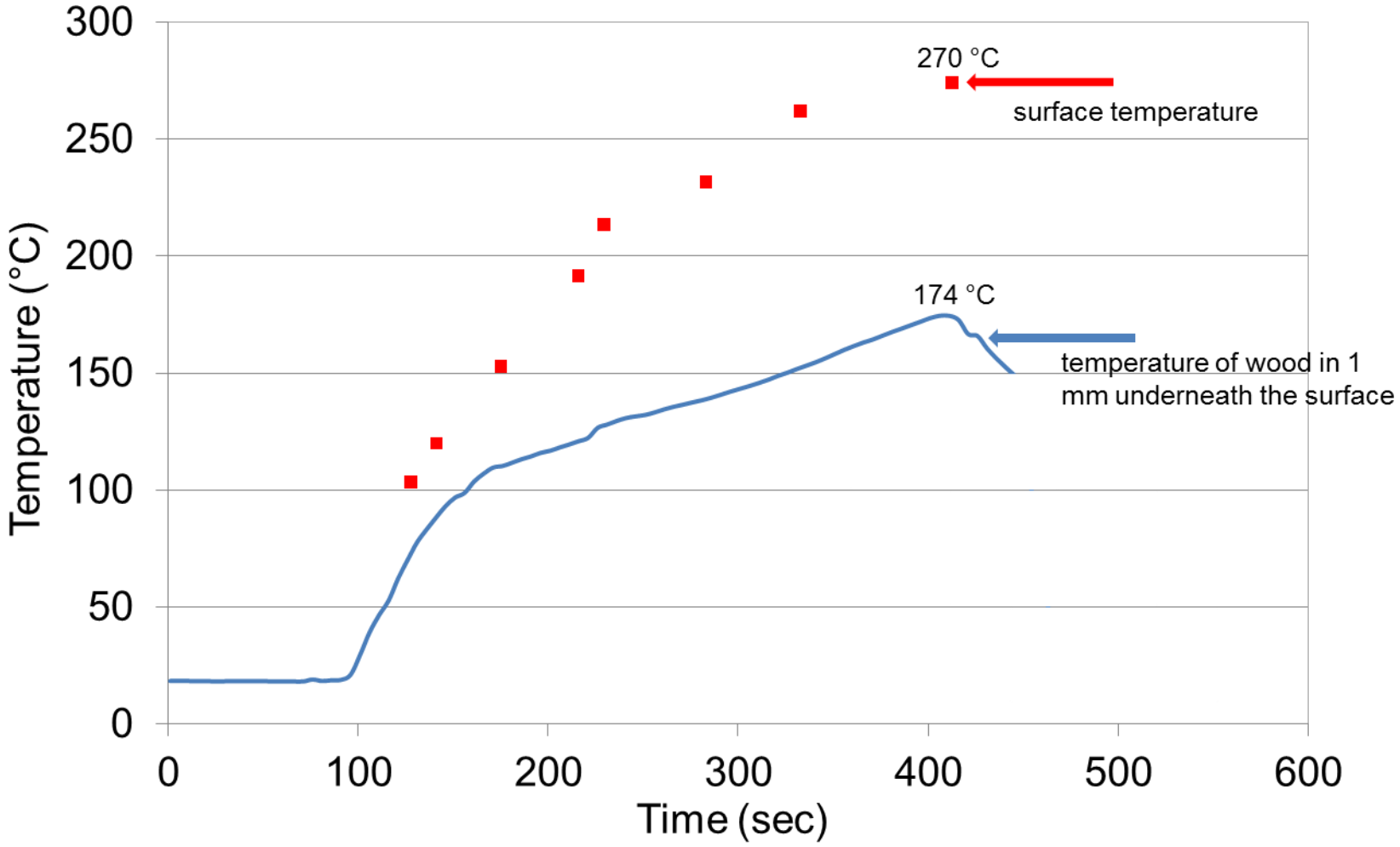



Material & Methods

- Beech and spruce wood samples
- Krelus IR radiator
- colour measurement system (Datacolor)
- FT-IR spectroscopy (Perkin Elmer)



Differences in temperatures



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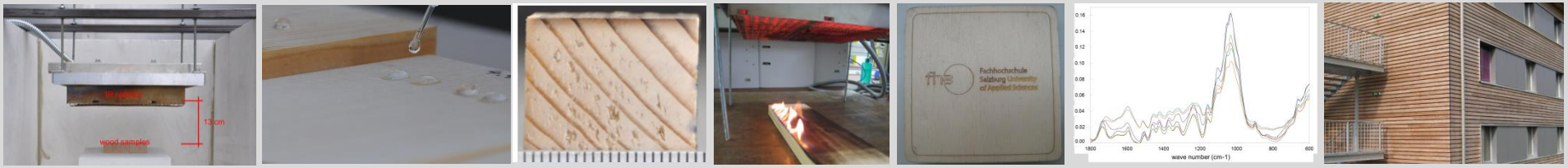
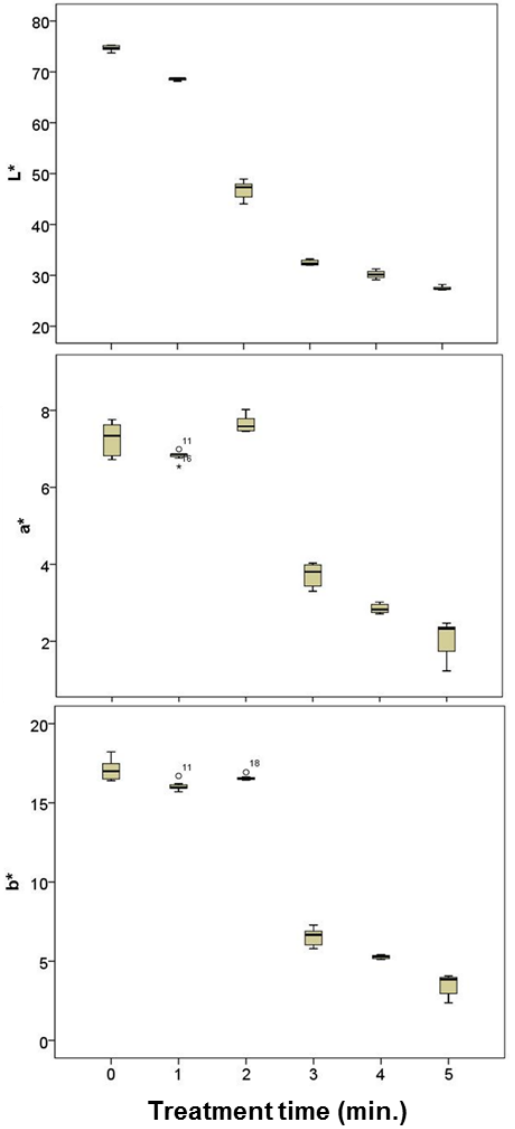


Treatment of beech samples



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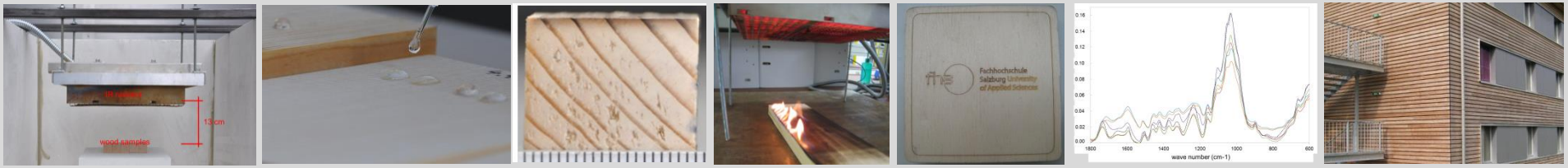
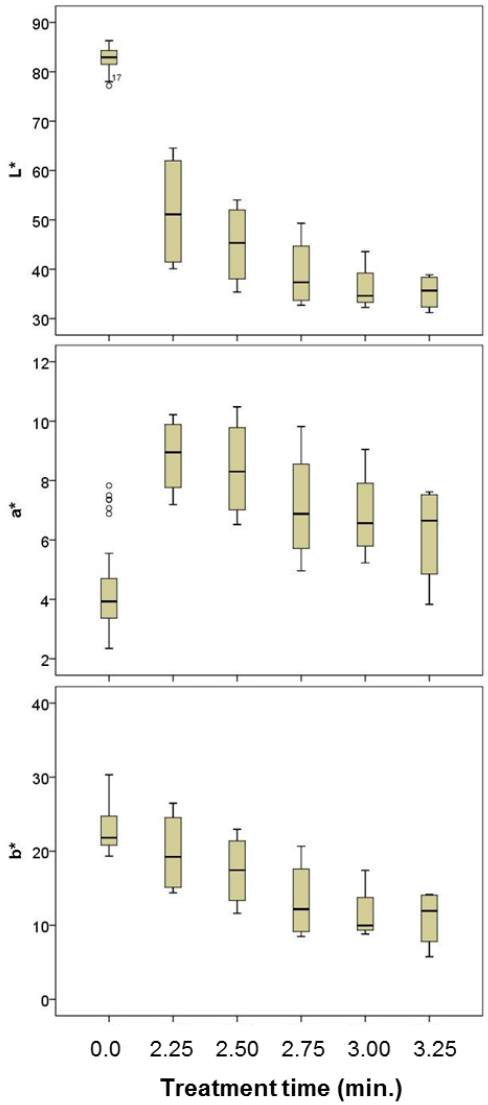


Treatment of spruce samples

untreated | 2 min. 15 sec. | 2 min. 30 sec. | 2 min. 45 sec. | 3 min. | 3 min. 15 sec.

Treatment



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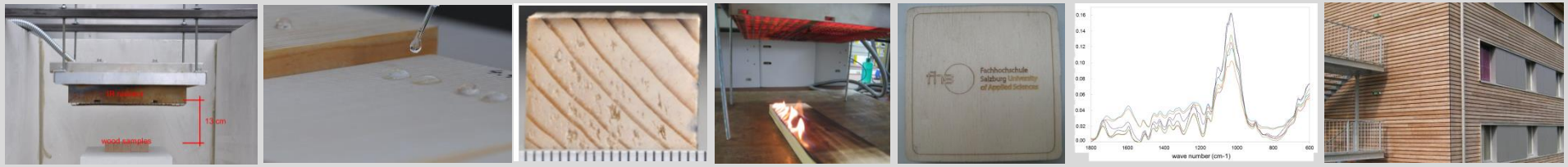

Conclusions

- Screening tests show potential of this method
- A fast method to change the colour and increase the temperature on the surface
- Dark colour of the wood samples were obtained

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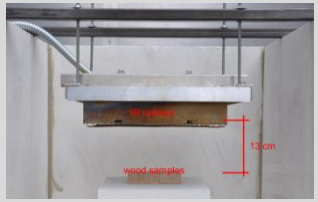

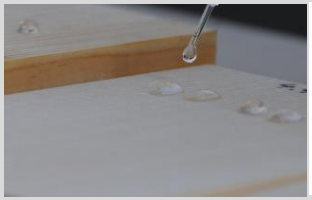


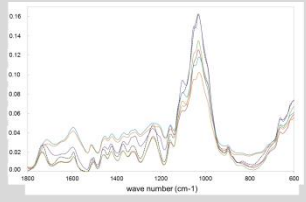

Thank you for your attention!

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