

How to make coated wood products last longer

March 28 2019



Tinh Sjökvist, doctor in forestry industry production systems, holding a lecture.
Credit: Linnaeus University

By painting wood products like facades and outdoor furniture you can prolong their service life. However, it is not only the paint that affects

the durability, but also the characteristics of the wood. Studied variables were the density and whether the wood consists of heartwood, the inner part of a tree, or of sapwood, the outer part of a tree.

Tinh Sjökvist has studied this in a new dissertation from Linnaeus University. Her research shows that heartwood with [low density](#) offers the best durability for coated spruce panel outdoors.

"I found no difference in the water sorption between coated heartwood and coated sapwood of spruce. However, there is less mould growth on panels of heartwood than on panels of sapwood. And if you want as little crack formation as possible, you should use [wood](#) with low density," says Sjökvist.

Two [conclusions](#) that Sjökvist has drawn from her research is that wood is a complex material and that phenomena that are measured can depend on many different factors. For instance, it has long been claimed that the amount of water that is absorbed by spruce wood depends on how porous the wood is.

"I have discovered that water sorption is also affected by the chemical characteristics of the wood, through the fact that the surface tension of the water is changed by the spruce's so-called extractive substances. This is something that I will continue to carry out research on," Sjökvist concludes.

More information: Coated Norway Spruce: Influence of Wood Characteristics on Water Sorption and Coating Durability. [lnu.diva-portal.org/smash/record.jsf?pid=diva2%3A1290893&dswid=-1595](https://portal.org/smash/record.jsf?pid=diva2%3A1290893&dswid=-1595)

Provided by Linnaeus University

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