VTT wood samples | Photo source VTT



# A FIRE RETARDANT MADE FROM WOOD, FOR WOOD

PROPERTY & CONSTRUCTION

## The material could one day be used as an additive to almost any coating – turning ordinary paint into a fire-retardant substance

**Spotted:** Researchers at Finnish innovation firm VTT have created a less-toxic flame retardant. The coating is made from nanocellulose, which can be sprayed or painted onto wood. It could one day be used as an additive to almost any coating – turning ordinary paint into a fire-retardant substance.

Nanocellulose is derived from plant matter and is made up of nano-sized fibres that act like a liquid or a gel. It adheres to wood, including painted wood, to form an airtight film that prevents combustion. VTT engineered their coating using a wood-based pulp mixed with organic pigments. The material can be added to paints and other coatings, as well as to packaging.

The company has developed a method for manufacturing the fire-retardant coating efficiently in large batches and is now working on ways to simplify the manufacturing process further. The next step will be to study the suitability of using the technology in commercial paints and coatings.

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## Takeaway:

Fire retardants are essential in construction, particularly when building with wood. According to the European Cooperation in Science and Technology, the use of flame retardants is growing at a rate of around 5 percent per year, and the global market is worth over €6 billion. However, some types of fire retardants can accumulate in cells, causing cancer and other health problems, as well as being toxic to wildlife. Springwise has spotted innovations like highly-absorbent masks and smart LED lasers that make it safer for people who are caught in fires. But VTT is hoping to make it less likely that fires start in the first place by making an easy-to-apply fire retardant.