

The European Commission supports our **Technology of Change**.

This project has secured an EU LIFE grant. LIFE is the EU's funding instrument, dedicated to the support of environmental and nature conservation projects since 1992. Its objective is to contribute to the implementation of EU environmental policy by co-financing pilot or demonstration projects with European added value.

Interested in the **Tricoya® wood element** acetylation technology?

The acetylation technology used to produce Tricoya® wood elements will be available under licence to interested parties wishing to operate their own Tricoya® plant and develop wood composite products to meet current and future design and construction demands.



What do you think about our project?

information@tricoya.com

You can follow our progress

Our project website will keep you updated on all our news and on the progress of this exciting project:

life.tricoya.com

LIFE12 ENV/NL/000573
LIFEWOOD

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tricoya®

Lifewood

A project to demonstrate an **innovative** environmentally friendly **technology for wood products**

tricoya®

John Cumming:

“I became an Engineer to leave the world a better place. This project and the business behind it have a sound ethical model and a product that will have a positive impact on society.”

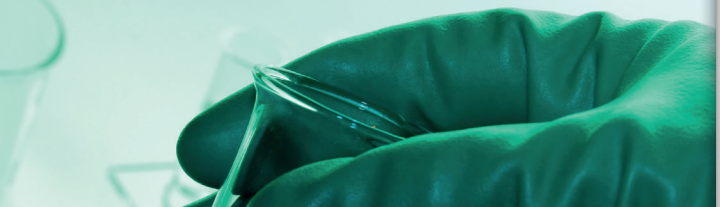


This project is financially supported by the LIFE programme of the European Union



The Tricoya Lifewood project

The **primary objective** of the project is the demonstration of enabling technology for the **continuous production** of acetylated MDF panels.



Gaining experience

Our objective is to gain field experience with the application technology at a first-in-kind full-scale demonstration facility.



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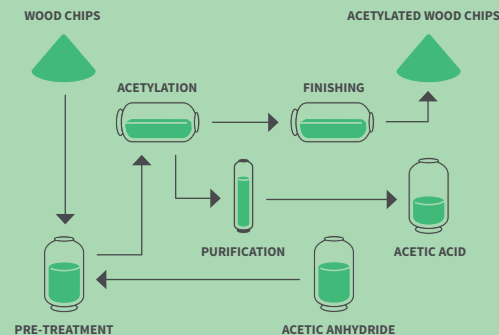
What is 'wood acetylation'?

The physical properties of any material are determined by its chemical structure. Wood contains an abundance of chemical groups called "free hydroxyls". Free hydroxyl groups absorb and release water according to changes in the climatic conditions (moisture content) to which the wood is exposed. This is the main reason why wood swells and shrinks.

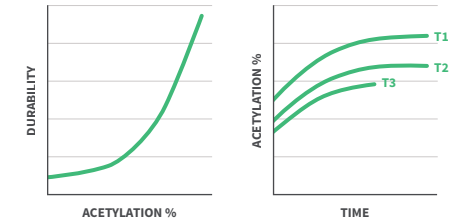
Acetylation effectively changes the free hydroxyls within the wood into acetyl groups. This is done by reacting the wood with acetic anhydride, which comes from acetic acid (known as vinegar when in its dilute form).

Will the wood still be 'natural'?

Acetyl groups are already naturally present in all wood species as well as in humans and other mammals. This means that the manufacturing process adds nothing to the wood that does not already naturally occur within it, resulting in an end product that does not add toxins to the environment.



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LEFT: Durability of the wood increases with increased acetylation

RIGHT: The acetylation reaction rate increases at higher temperatures

What is this project about?

This project concerns the modification, by acetylation, of fast-growing softwoods using an environmental friendly technology. We want to demonstrate that our acetylation technology can be used in an economically viable production plant, in order to continuously produce MDF (medium density fibreboard) panels from acetylated wood. We also want to expand new uses for acetylated wood products.

Is it difficult?

It is not easy. Although wood acetylation has been studied by scientists around the world for more than 80 years, this project is about building the first-in-kind full-scale demonstration facility.

Is it sustainable?

The chemicals commonly used to increase wood durability, such as oils, ammonia or metal salts, are harmful to living organisms and present challenges for the safe disposal of the wood at the end of its serviceable life. However acetylation only adds further acetyl groups that already naturally occur within it.

The Lifewood technology will enhance the durability and dimensional stability of residual wood, from abundantly available certified wood species. The products will have a much higher lifespan than traditional wood composites. All wood used is sourced from sustainable resources such as certified, or reclaimed timber.