

Densify vine stock pieces – the technology

In close collaboration with the jewellery maker Grégoire Maret, from the brand PIERRE d’ALEXIS SA, researchers of the Institute for Materials and Wood Technology IWH at Bern University of Applied Sciences BFH are developing a new technology for the processing of vine stock for fine jewellery. The process makes it possible to establish a circular economy of the vine stock by upcycling the material, which is today a waste product of the wine production. It also creates a link between the jewellery-making in Valais and its region.

The treatment

Based on our know-how on wood densification processes, we at BFH propose treating vine stock pieces by impregnating them with a synthetic thermo-setting compound, followed by densification under heat and high pressure. The combination of these two processes aims to make the otherwise very fragile material more stable, shock and water resistant, and overall more durable.



Prior to processing, the parts of the plant that are ideal must be selected and are sawn into blocks of the right dimension.

The selection

Prior to processing, the vine stock is sawn into blocks of the right dimensions for treatment. But first, the parts of the plant that are ideal for making these blocks must be selected. Not only is it important to select pieces of wood without any weak points, but also to take into consideration aesthetic aspects such as the plant’s natural patterns as well as different colours and textures.

As a research partner, our activities aim to better understand this both traditional and innovative material. As we discover the particularities of the vine and its varieties, depending on the type of grape, our challenge is to optimise the stabilisation process while conserving the material’s unique aesthetic qualities. After that, it is Grégoire Maret’s turn to get hold of the material and use its unexpected properties to create beautiful pieces of art.



A block from a vine stock after being impregnated and densified.

The vision

In a next step, we aim to find a bio-based alternative for the synthetic thermo-setting compound in order to further support BFH’s vision of fostering circular economy by reusing waste, improving a product’s traceability and using the most ecological materials.

Contact

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