What's Next in Sustainable Acoustic Materials?

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As society is starting to favor circular materials, and the area of acoustics gaining more recognition, it is important for manufacturers of acoustic products to keep up with the new green economy.

The majority of acoustic products are today primarily made from virgin petrochemical materials, which have a significant impact on the environment.

BAUX is a producer of porous absorbers and are in the forefront when it comes to using sustainable materials in their products. In order to stay ahead of their competition, they are in a continuous search of identifying new sustainable acoustic materials.

During the master thesis, a material database was established, containing 91 materials with the potential of being both sustainable and acoustic. Coupled with a scoring system, the database selects the best performing materials. The system is designed after a thorough investigation into what properties a material should possess in order to be *truly sustainable*.

Properties affecting the materials' insertion into a circular economy were regarded the most important for this type of product. Thus, the system considered parameters such as the material's content, recyclability and origin.

The project revealed that there exists a great number of sustainable materials, however scalability has to be taken into account. Thus, parameters such as current and estimated future production scale were also included in the scoring system.

Three specific materials were later selected: Circulose®, Wood Foam and Bonded Foam. In order to prove their applicability, these materials were sent for acoustic testing and later inserted into a design process where each of them were explored in several concepts of acoustic solutions.

The design process culminated in one final concept, *BAUX Flight Mode*, seen in figure 1. It is a modular concept that allows for interaction and a new sustainable business model. It uses Circulose® as a material for its absorbents and is designed with sustainability permeating every detail.

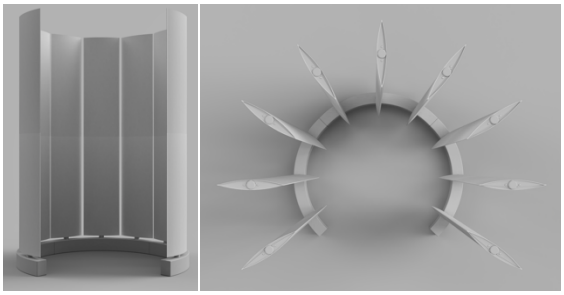

Figure 1 *BAUX Flight Mode*

Circulose® is produced from discarded textiles containing cellulose, such as jeans and other cotton garments. The cellulose is extracted and made into a pulp that is dried into flat sheets.

This new material and acoustic solution have the potential to help BAUX continue to stay ahead of the competition and be a part of the new green economy.