BAUX

Acoustic Pulp

Vers 2
November 2023

BAUX IS FOUNDED ON THE BELIEF THAT BUILDING MATERIALS SHOULD BE SUSTAINABLE, SURPRISINGLY FUNCTIONAL AND REMARKABLY BEAUTIFUL.

LET’S BUILD!

BAUX
Acoustic Pulp

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BORN FROM OUR VALUES

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When we're looking for new designs, products or acoustic materials, nature is always our first source of inspiration.

It all started with a simple idea. That acoustic materials can be the bridge that connects urban arch itecture and interior design with nature. A perfect harmonisation of beauty, function and sustainability, without compromise. This idea energizes us daily. It's embedded in the products we make and the way we do business. And it pushes us to constantly strive to do better, and more.

For us, BAUX is the sum expression of what we do, what we stand for, and what makes us relevant. Our mission is to change the world for the better.

With acoustical products? Yes. After all, a conversation between two students excels into brilliance, a business meeting gone right leads to new potential or leaders of nations make an agreement that matters to the world – all thanks to restful acoustics in residential buildings, industrial premises and public spaces.

Headquartered in Stockholm, Sweden, BAUX is only a short commute away from a quiet walk on a forest trail or a swim in a tranquil lake. A perpetual invitation to put down our laptops, detach from the office and reawaken the depths of our inborn senses.

Nature offers a sanctuary far from the noise, bustle and stimulation of urban life. A restful and soothing space where you can quiet your mind and tune into something deeper. Feel the brush of wind on your ears. Breathe in the scent of earth and pine. Listen to the chirping of birds or the rushing of water. Feed your eyes with a restorative palette of greens, browns and blues.

It's no surprise that nature is always our first source of inspiration whenever we're looking for new designs, products or materials. Not only does it provide a wellspring of ideas for colours, patterns and shapes. When you explore beneath the surface, nature holds the key to removing unsustainable ingredients from the equation entirely.

At BAUX, we're constantly seeking to uncover potential, inspire change and discover new ways to make people's lives at work better through sustainable acoustical solutions. It's our passion. And it's firmly rooted in the belief that our products should do more than serve as a functional solution or meet the contemporary design expectations of architects and engineers. They should also contribute to a better planet, both today and for generations to come.

It's simply a matter of wanting to change things for the better.

The degradation of our natural environment is a global topic of increasing urgency, and we can no longer afford to turn our backs or cut corners. We are dedicated to doing our part to reduce our ecological footprint and make sustainability an integral part of everything we do and create. Preventing pollution, reducing waste, conserving resources, designing for longevity. Learning from our mistakes, asking the right questions and always striving to do things even better than before.

We believe in a future where companies are founded upon strong values that direct industries towards a sustainable future. Where businesses guide customers in the right direction. And brands you can trust create products and services that work with nature—not against it.

But dreams, ideas and prototypes forecasted for some point in the future are not enough.
We need working solutions today.

The tools and inspiration already exist, and the possibilities are truly exciting.
It's simply a matter of wanting to change things for the better.

Let's build!

Fredrik Franzon John Löfgren Petrus Palmér Jonas Pettersson Johan Ronnestam

BAUX ACOUSTIC PULP

Over the past century, fossil based materials have become the norm and standard for acoustical products in the interior design and building industries.

It’s time to accelerate change
towards a fossil free future.

It’s time for a new kind of material.
One that breaks the mold and pushes us
beyond what the world believes is possible
for sustainability in acoustical products.

IT'S TIM
NEW MA

E FOR A
TERIAL

100% bio-based

100% recyclable

100% biodegradable

0% pollution or waste

Biomimicry engineered

Lightweight

Durable

Fire retardant

Water repellent

Material made of wheat

Colours made from biodegradable elements

Laser enhanced sound absorption

This patented, 100% bio-based material drastically pushes the boundaries of cellulosic properties to a completely new level.

We at BAUX are not afraid of a challenge.
We've been searching the world for the most sustainable and functional building materials ever since we first got started.

This time, we had a vision to create an acoustical solution that would be uncompromisingly sustainable in every way— from the resources and materials to the manufacturing process, and the impact of the product at the end of its life. All while achieving the right characteristics for optimal sound absorption and meeting the contemporary design expectations of modern architects and designers. We wanted to take advantage of the natural resources provided to us by nature in our own backyard, the forests of Sweden. We imagined an end product that would feel all at once familiar, playful, and beautiful, while generating sensations as innate and restorative as nature itself.

We started by folding paper.
For weeks, we played with a multitude of different origami and architecture-inspired lines and shapes until we discovered a series of simple patterns that both matched our aesthetic and provided acoustical benefits.

Then, we entered into a two year period of trial and error, testing different materials until we finally discovered the perfect partner to help us bring our vision to life: A high-tech and like-minded life science laboratory located just outside Stockholm.

Founded by a group of researchers from the Royal Institute of Technology, the laboratory works with biomimicry and Click Chemistry to organically modify cellulosic fibers from recycled streams of Swedish pine and spruce trees. It's through this technique that they developed a patented, 100% bio-based material that drastically pushes the boundaries of cellulosic properties to a completely new level. It turned out to be the perfect canvas for our new acoustical solution.

Experimenting together with our newfound lab partners, we fine-tuned the formula and production process until it yielded the exact properties needed to build the highly functional, sustainable, and beautiful acoustical product we were seeking.

Instead of resorting to chemicals, we looked to nature for answers.
To create fire-retardancy, we mimicked the natural wood fossilization process and the resilience of grass roots. For water repellency, we looked to the superhydrophobic surface of the lotus flower. For colour, we added wheat bran. For strength, we utilized a naturally catalytic combination of potato starch, plant-based wax and citrus fruit peels from lemons, limes, and oranges to provoke the cellulosic molecules into creating a powerful matrix of intermolecular fusions. And to achieve extra sound absorption and durability, while maintaining a lightweight product with minimal material usage, we borrowed the hexagonal honeycomb structure originally invented by bees and popularly used by the aerospace industry.

The final product comes together in built form in a local factory that runs on 100% hydropower. First, all of the ingredients are mixed together with water and fed into a 3D mold. Next, the contents of the mold are pressed with 40 tonnes of weight and dried under pressure using a highly technological vacuum technique so that it becomes extremely dense. The dried surface is then nano-perforated using an advanced laser technique for enhanced sound absorption. Finally, each front panel is adhered to a honeycomb structured back made from the same material. When the process is complete, all of the leftover ingredients and water are recycled back into the factory's closed circular system to be reused again in the next batch. The only emission generated from production is a tiny amount of pure and clean water vapor that's released as the material dries.

Fully harmonised with the nature it's made and inspired from, when the product reaches the end of its life, it can be recycled in its entirety — or simply returned to the earth it came from.

It's nature's own magic.

The ingredients:

Sustainably harvested Swedish fir and pine trees

Recycled water

Non-GMO wheat bran

Potato starch

Plant-derived wax

Citrus fruit peels

Zero chemicals

The new 100% bio-based BAUX Acoustic Pulp panel is the first in the world to uncompromisingly combine the performance properties of sound absorption, safety and durability with sustainability and modern aesthetics. The result is a restful and sustainable acoustical environment for residential buildings, industrial premises and public spaces that calls us back to the harmonising pulse of nature. Harmless for us, harmless for the environment. It’s nothing short of an acoustical revolution.

This is BAUX Acoustic Pulp.

PRODUCT ASSORTMENT

Origami Series

500 mm, 19.68″

1000 mm, 39.37″

Origami Pulse
2 tiles/m2, ~0.18/sqft
Thickness: 20 mm, 0.78″

500 mm, 19.68″

1000 mm, 39.37″

Origami Energy
2 tiles/m2, ~0.18/sqft
Thickness: 20 mm, 0.78″

500 mm, 19.68″

1000 mm, 39.37″

Origami Sense
2 tiles/m2, ~0.18/sqft
Thickness: 20 mm, 0.78″

ACOUSTIC PULP
ORIGAMI PULSE

2 tiles/m2, ~0.18/sqft
Thickness: 20 mm, 0.78″

A rhythmic chain of mountains and valleys. This chevron-like pattern creates lively and productive meeting points while giving interiors a smart, contemporary feel. Apply it to areas that require consistent movement or to attract inhabitants to a communal space.

ACOUSTIC PULP
ORIGAMI ENERGY

2 tiles/m2, ~0.18/sqft
Thickness: 20 mm, 0.78″

A spark of lightning shakes up the horizon. This lively pattern is an ideal choice for buzzing social interiors where you wish to invite action and play. Reinvigorate a stagnant corner. Or let the pattern occupy an entire room to stimulate creativity and change.

ACOUSTIC PULP
ORIGAMI SENSE

2 tiles/m2, ~0.18/sqft
Thickness: 20 mm, 0.78″

A solid meeting between earth and sky. This stabilising pattern brings a sense of stillness and ease to interiors for peaceful moments and deep concentration. A great way to create smooth transitions from room to room, or set a restful tone in a dedicated space.

Acoustic Pulp panel, back side.

The joint between the Acoustic Pulp panels.

COLOUR

Material derived from wheat.

Adding paint would have compromised our vision of creating a 100 % bio-based product. Instead, with BAUX Acoustic Pulp, colour is achieved using 5 % wheat bran. Together with the three origami patterns, there are endless possibilities for mixing, matching and harmonising with different space designs. The final effect is an organic expression of character and colour, without any chemicals at all.

BAUX Acoustic Pulp Bio Colour.

Inspired by Swedish Colour Traditions, Developed for the Future.

Through rigorous research a range of subdued, biodegradable colours are included in the offering. This palette provides Interior Architects and Interior Designers the opportunity to enhance acoustics while also honouring principles of sustainable design. The bio-based colours in our Acoustic Pulp line seamlessly blend functionality, aesthetics, and environmental responsibility.

Comprising the colour range of Bio Blue Chalk, Bio Green Soil, Bio Red Mud, Bio Yellow Terra and Bio Rose Clay, the paint originates from plant extracts, natural earth pigments, minerals, and chalk.

These scent-free colours are made without any plastic or petrochemicals, ensuring that allergy and asthma sufferers enjoy certified VOC-free indoor air quality. In addition, our vapour-permeable acoustic material also helps to maintain stable humidity. With sustainable production in certified carbon-neutral manufacturing facilities, we work actively to protect biodiversity. According to Ethical Consumer Magazine, it's the best environmentally friendly and ethical paint you can buy.

And, on top of all, this selection of panels is even compostable and vegan.

Bio Natural Wheat

Bio Blue Chalk

Bio Green Soil

Bio Red Mud

Bio Yellow Terra

Bio Rose Clay

ACOUSTICS

Acoustics are both an aesthetic and functional element of design that should be integrated into the design process as early as possible.

Acoustical benefit: Absorption

BAUX Acoustic Pulp fibres capture noise, transforming the sound waves into micro-movement and heat. The result is a more restful acoustic environment.

Before treatment:

After treatment:

Acoustical benefit: Diffusion

BAUX Acoustic Pulp also diffuses sound.
It's irregular surface breaks up reflections and spreads them out in different directions. This minimises distractions and helps maintain acoustical continuity.

Before treatment:

After treatment:

This graph shows the
practical absorption coefficient
of BAUX Acoustic Pulp
at any given frequency.

Performance testing indicates that BAUX Acoustic Pulp has excellent absorptive qualities, making it well suited for spaces that can benefit from a more restful and focused acoustical environment. A triad of sound absorption mechanisms are used: diffusion, absorption, and chambers. The irregular 3D shaped surface breaks up reflections and spreads them in different directions. The cellulosic material fibers transform sound waves into micro movement and heat. And the honeycomb chambers trap sound waves entering through the perforated surface which bounce around and “die out.”

	Installation	αw	NRC	SAA	Class
●	BAUX Acoustic Pulp	0.35	0.35	0.35	D

αw = Weighted sound absorption coefficient. NRC = Noise Reduction Coefficient. SAA = Sound Absorption Average (ASTM C423). Stone Wool in use: 40mm stone wool panel 140 kg/m3. Using Stone Wool as a backing may require screws or a frame around the tiles to fix the tiles appropriately.

BENEFITS OF BAUX ACOUSTIC PULP

1.

Contributes to greater wellbeing and productivity in public spaces by dampening excess sound and reflections for more restful acoustics.

2.

Made from natural and recyclable materials with functional properties for high performance and durability in all kinds of climates.

3.

Design-friendly, with a versatile range of shapes that allow for endless combinations and total creative freedom.

4.

Approved for safety indoors, with high fire and moisture resistance, zero harmful chemicals or additives and extremely low emissions.

5.

Features superb thermal insulation abilities, contributing to a smaller energy footprint and more comfortable indoor climate.

BOTTOM LINE

BAUX Acoustic Pulp has all the ingredients for excellent acoustic design—performance, sustainability and a variety of shapes to play with.

CREATE YOUR DESIGN

BAUX Digital Toolkit is a free resource packed with downloadable files that help working professionals design, sketch and construct sustainable, beautiful and acoustically pleasing environments for spaces of every size.

Download BAUX Digital Toolkit or specific files at baux.com

BAUX Digital Toolkit

3D/CAD
For many professionals, computer-aided design is an indispensable tool when it comes to visualising designs for upcoming projects. All of our Acoustic Pulp product files are available in formats compatible with AutoCAD, Sketchup, ArchiCAD, Rhino and more.

.3ds .dwg .dxf .igs .skp .sldprt .step

BIM/Revit
Building information modelling is an essential tool used by professionals for virtual construction during the project planning process.
All of our Acoustic Pulp product files are available in compatible formats, including detailed elements featuring BAUX colour schemes.

.rfa

Keynote and PowerPoint
If you need help getting the ideation process rolling, our ready-to-go presentation is an excellent catalyst. Available in both Keynote and PowerPoint formats, it features "drag & drop" objects so you can start designing right away. Great for workshops and client meetings.

.key .pptx

BAUX Patterns
BAUX Patterns makes it easier than ever to transform any space with a unique Acoustic Pulp design. Select from over 500 pre-measured 3D patterns, each designed to repeat like wallpaper so you can quickly calculate exactly how many tiles you'll need for your project.

.png .tiff .jpg .dwg .txt

Adobe Illustrator
An easy and efficient design tool, a lot of professionals choose Adobe Illustrator to help bring their creative visions to life. All of our Acoustic Pulp product files are ready to go in compatible formats for easy upload so you can start playing with shapes, colours and patterns.

.ai

Adobe Photoshop
A popular tool for editing photos and graphics. Adobe Photoshop can help you perfect your presentation and exhibit your design at its fullest potential. To make things easier, we supply high-resolution pictures of all Acoustic Pulp products in vectorised PDF format.

.psd

Texture Files
The next best thing to experiencing it in person. Texture files give you an idea of what a material will bring to a space in terms of colour and feel. All of our Acoustic Pulp product files are available in texture file formats. Great for renderings or as colour samples.

.ai

Mounting DWG
When it's time to build, we have the information you'll need to translate your designs from drawings to real life. We provide mounting files in DWG format, which can be attached to drawings, as well as installation instructions for the entire BAUX Acoustic Pulp range.

.dwg

INSPIRATION

Origami Pulse

Bio Natural Wheat

Origami Pulse Origami Sense Origami Energy

Bio Natural Wheat

Origami Energy

Bio Natural Wheat

Origami Pulse Origami Sense Origami Energy Bio Blue Chalk Bio Red Mud

Origami Pulse Origami Sense Origami Energy Bio Red Mud Bio Yellow Terra

Origami Pulse Origami Sense Bio Natural Wheat

Origami Sense Bio Natural Wheat

Origami Pulse

Bio Blue Chalk
Bio Green Soil
Bio Red Mud

Origami Pulse
Origami Sense
Origami Energy

Bio Blue Chalk
Bio Green Soil
Bio Red Mud
Bio Rose Clay

Origami Pulse

Bio Blue Chalk

Bio Green Soil

Bio Red Mud

Origami Pulse Origami Sense Origami Energy Bio Natural Wheat

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Origami Sense

Bio Red Mud

Bio Rose Clay

Origami Pulse

Origami Sense

Origami Energy

Bio Blue Chalk

Bio Green Soil

Bio Red Mud

Bio Yellow Terra

Bio Rose Clay

For more inspiration

SPECIFICATIONS

BAUX
Acoustic Pulp

Material:

Ingredient:	Painted	Unpainted:	Function:	Origin:	Certificates/other:
Cellulose Pine & Spruce	94%	94%	Matrix	Sweden (SE)	FSC and PEFC
Wheat bran	5%	5%	Visual look and strength	Sweden (SE)	EU legislation controlled, non-GMO
Bio binder 5101 Mixture of citrus fruit peels, potato starch and wax from plants	~1%	~1%	Binder	Sweden (SE)	Certified according to ISO9001, ISO14001 and ISO50001. Members of the UN Global Compact Group
Paint, Bio-based	0%	<1%			Pigments from natural resources. Biodegradable and home compostable

About:

BAUX Acoustic Pulp is 100% bio-based and respectfully sourced from nature.
The material is generated by modifying cellulosic fibers in a way that drastically moves the boundaries of cellulosic material properties to a completely new level. It's harmless for us, it's harmless for the environment.
All harmful chemicals have been replaced with nature's own magic.

Sustainability:
· 100% Bio-based
· 100% Biodegradable
· 100% Recyclable
· 0% Waste and pollution in manufacturing
· Resourceful material sourcing

Functionality:
· Strong
· Lightweight
· Fire retardant
· Water repellent
· Sound absorbent

Research:
BAUX Acoustic Pulp is the result of more than 25 years of biomimicry focused research and development. Biomimicry is a design approach that seeks sustainable solutions based on the idea that the answers already reside within nature itself. The research for our particular product comes from the Royal Institute of Technology in Sweden.

Design:
Carefully designed by Form Us With Love. Inspired by the Origami folding technique. To further amplify strength we looked to bees and the aerospace industry. The backside of the BAUX Acoustic Pulp panels have been carefully designed using a honeycomb structure, often found inside the wings of aircrafts and spaceships. The honeycomb structure allows us to minimise of the amount of material used without compromising the product's strength.

Manufacturing process:
The manufacturing process is 100% green and highly technological. The cellulose mix is formed inside a 3D mold with a powerful vacuum method and dried under high pressure. The surface is nano-perforated using an advanced laser technique. The factory and production process is environmentally friendly. All material waste is recycled back into the production process and re-used again. All water used is built into a closed circular system and recycled. The only emission from production is a tiny amount of pure and clean water vapor as the material dries.

Fire & standards:
· D-classed, according to EN 13823 EN ISO 11925-2
· Mimics the natural wood fossilization process
· Built on knowledge of grass roots' built-in natural fire protection and mechanisms
· Designed for wall applications

Acoustic Performance

Sound absorption:

*An absorption coefficient is one of the key efficiency markers for acoustic materials, showing how much sound is absorbed at different frequencies. In the absorption spectrum, 0 indicates perfect reflection, and 1 indicates perfect absorption. Which one is ideal? It really depends on the kind of acoustic landscape you are aiming to build. While some spaces require maximum tranquility, in others, a bit more bustle and ambience may be desired. Our assortment addresses a range of absorption needs to help you achieve your goals.

	Installation	αw	NRC	SAA	Class
●	BAUX Acoustic Pulp	0.35	0.35	0.35	D

αw = Weighted sound absorption coefficient. NRC = Noise Reduction Coefficient. SAA = Sound Absorption Average (ASTM C423). Stone Wool in use: 40mm stone wool panel 140 kg/m3. Using Stone Wool as a backing may require screws or a frame around the tiles to fix the tiles appropriately.

Product lifetime over? We'll take it back.

CIRCLE

We approach sustainability in everything we think and everything we do, every day. This commitment does not end even when the acoustic products have reached the end of their useful life. That's why we make it easy for you to have a positive impact on the environment while upgrading your space at the same time. Our Circle will support you all the way.

Dimensions:

Product:	Width: (mm & inch)	Height: (mm & inch)	Thickness: (mm & inch)	Weight: (kg & lbs)	Pieces per m2 and sq.ft.
Origami Pulse	500 mm 19.68″	1000 mm 39.37″	20 mm 0.78″	~1.2 kg ~2.6 lbs	2/m2 ~0.18/sqft
Origami Energy	500 mm 19.68″	1000 mm 39.37″	20 mm 0.78″	~1.2 kg ~2.6 lbs	2/m2 ~0.18/sqft
Origami Sense	500 mm 19.68″	1000 mm 39.37″	20 mm 0.78″	~1.2 kg ~2.6 lbs	2/m2 ~0.18/sqft

Models:

Origami Pulse

Origami Energy

Origami Sense

Contact:

If you are interested in BAUX Acoustic products, please get in touch.
We ship globally through our headquarters and via local partners and representatives.
For more information, visit baux.com or contact us at info@baux.com.

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