An aerial photograph of a dense, vibrant green forest. A winding river or stream flows through the center of the forest, its water a deep, clear blue-green color. The trees are thick and cover the entire landscape, with the river meandering through them. The overall scene is bright and natural, conveying a sense of environmental health and sustainability.

ENVIRONMENTAL PRODUCT DECLARATION

ARCHISONIC®



ARCHISONIC® is a family of high-performance acoustic absorber made from upcycled plastic bottles available in two material thicknesses to cater for a wide variety application. A carefully curated 28 colour collection, assembled in eight Colour Families with a corresponding selection of images built a strong colour concept design tool for architects and designers.

The climate is changing. So must the architectural design industry.

Buildings are the single biggest global emitter of energy-related greenhouse gas emissions by sector.

Half of the energy used in the construction of new buildings is devoted to extracting materials and products.

Waste is a crime. Embrace your inner pragmatist and celebrate materials that do more with less.

SUSTAINABILITY



Leadership in Action

Dematerialisation, upcycling and life cycle management are the foundation in the product development of ARCHISONIC®'s high-performance acoustic absorbers. Instead of extracting new material, the product relies on the upcycling of single-used plastics with a positive carbon footprint.

The complete ARCHISONIC® product range has been LEED accredited and Cradle to Cradle Certified™. Due to its flexibility in application it offers the design community limitless possibilities to address acoustical challenges.

Ways to Go

Originating from the corporate design industry, our founders understand the importance of creating affordable products with the power to become an integral part of the design intent while enhancing individual wellbeing through performance and colour.

With the power to influence mood, elicit a feeling and tell a story, colour is integral to the development of our acoustic materials.



Trash Hero

In the fight against the use of single-used plastics we support the global Trash Hero movement, providing experiential education on the environmental impact of waste, promoting practical solutions to mitigate, prevent and avoid the same.

Environmental Performance

ARCHISONIC® uses 88 post-consumer plastic bottles* for every square metre of finished material. The shredded bottles are melted into a viscous molasses and the colour is added to grant no wastage during the process. The molasses is released through a spinneret and cooled. Recycled fibres are brittle, and the felting process is very delicate.

ARCHISONIC® is manufactured in the same traditional way as natural wool felt. In order to achieve the stiffness of the product after felting, the material is baked at 300°C (572°F) to crosslink the

fibres naturally without any glue or any other additives.

At the end of the life cycle we apply circular design principles by turning the material into solid boards to be used as solid building material for various building applications in replacement of wood.



DESIGN INNOVATION & TECHNOLOGY



ARCHISONIC® offers most versatile acoustic building material used by the architecture, interior design and furniture industry. This raw material makes the difference for countless acoustic applications for ceiling elements, wall cladding, acoustic partition, and furniture.

Design Principles

- Significant reduction of the use of natural resources by recycling single used plastic in the production of raw material.
- Sourcing recycled PET from trusted sources with certified environmental management practices.
- Elimination or significant reduction in the use of hazardous substances.
- Minimizing overall energy and water consumption and rely solely on renewable energy in the manufacturing process of the raw material and its confection.
- Educate designers about the efficient use of material without wastage of material.
- Product-Take-Back programme at the end of life where we turn our products into new building material for the furniture sector.



PRODUCTS & APPLICATION

Understanding Material Performance

ARCHISONIC® sets new standards of a compact, single layer of fully needle punched non-woven textiles. It can be customized to any shape for wall- and ceiling installations as well as freestanding- and hanging elements or included in carpentry and system furniture.

ARCHISONIC® is the landmark brand of IMPACT ACOUSTIC and the base material for all offered products. The raw material is manufactured and available in stock in two sizes:

- 1200 x 2800 x 12mm (2400g/m2)
- 1800 x 2400 x 24mm (4000g/m2)



AESTHETICS

The material is coloured throughout the fibres, giving a natural felt finish that does not require further treatments. With a colour, the collection is created with an understanding of developing and enduring colour trends and the stories behind them.

As individuals, our tastes and preferences are informed by broader macro influences, from the political and social climate to environmental concerns and technology advances. We have taken these influences and translated them into a range of versatile neutrals and directional highlights. Each one plays their role in eight emotive stories designed to encapsulate the prevailing moods in colour.

Because we love the natural finish of our product and we want to do good to our planet, we do not print them.



ACOUSTIC SOLUTIONS

All building materials have some acoustical properties in that they will all absorb, reflect or transmit the sound striking them. Conventionally speaking, acoustic materials are designed and used to absorb sound that might otherwise be reflected.

The performance is mainly driven by the open structure where sound can penetrate the absorber, its density, thickness and most importantly the air gap between the absorber and the hard surface (wall or ceiling) – materials installed with an air gap generally perform better. To address different needs, ARCHISONIC® is offered in two thicknesses. The 12mm material is mostly used for full wall applications and the high-performing 24mm for ceiling- and workplace-partition elements.

Because we love the natural finish of our product and we want to do good to our planet, we do not print them.



PRODUCT CARE

PET fibres do not provide a breeding ground for bacteria and therefore have anti-bacterial properties.

ARCHISONIC® is made of through-dyed fibres, which do not bleach out even when aggressive cleaning and disinfecting agents are used. Accordingly, not only alcohols or aldehydes but also products with active chlorine are suitable

for disinfecting the panels. Because of the strong smell of chlorine-containing agents, we recommend disinfectants with a fast-drying alcohol solution (75%) for daily cleaning and disinfectants with a long-term effect (e.g. Pantasept Disinfection Spray) for weekly cleaning.

PRODUCT LIFE-CYCLE



Manufacturing

ARCHISONIC® raw panels are manufactured in Shanghai due to the geographic location of IMPACT ACOUSTIC's fibre supplier. The production of the panel material is done locally to reduce the carbon footprint. The fibres are manufactured from post-consumer recycled PET (discarded water bottles) fibre and virgin low melt point PET fibre.

Handling, Processing & Packaging

The manufactured products are transported by train to IMPACT ACOUSTIC in Switzerland for storage and further processing, packaging, and distribution. All packaging units are customized to the individual order to reduce unnecessary resources.

Distribution

The finished products are distributed worldwide through international distribution partners. Because of the irregularity of the distribution process, this module has not been assessed.

Installation, Use & Deconstruction

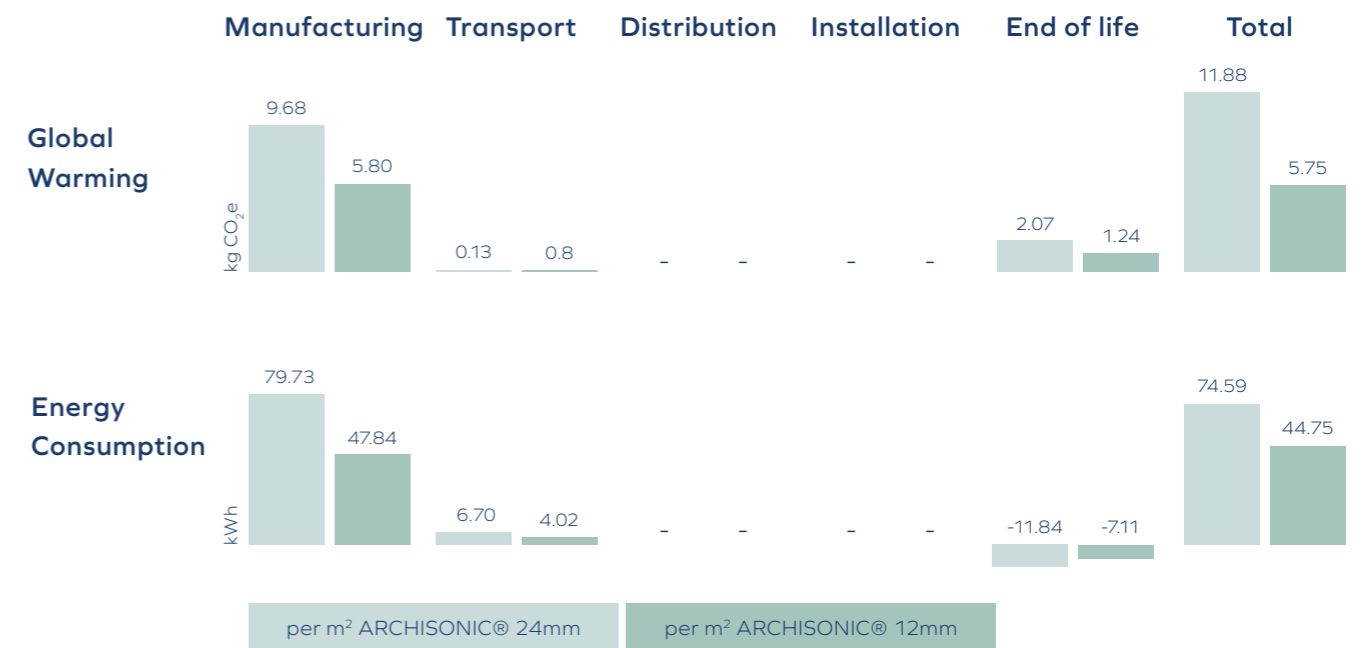
The installation use and deconstruction impact has been valued as negligible and has not been assessed in detail in this EPD.

End of Life

Due to the longevity of the product, there is insufficient data of IMPACT ACOUSTIC's take-back-program to evaluate the impact. Therefore, it is assumed that 90% of the material will be disposed in an incineration plant recovering 60% of energy, whereas 10% of products go to landfills.



Environmental Impact



DATA SHEET

Dimensions:
1800 × 2400 × 24mm (70" × 94" × 0.94")
1200 × 2800 × 12mm (47" × 10" × 0.47")

Composition: 100% PET (min. 60% post-consumer)

Density:
24mm: 4000g/m²
12mm: 2400g/m²

Fire test:
DIN EN 13501-1
ASTME84
B-s1, d0
Class A

VOC Emission:
CDPH 01350
ISO 16000
EN 16516
Pass
(CDPH/EHLB/Standard Method V1.2.)

Colour Fastness:
EN ISO 105-B02, A1
Grade 6

Material reutilisation:
24mm: 88 plastic bottles/m²
12mm: 53 plastic bottles/m²

Environmental:
Cradle to Cradle Certified™
Product qualifies for LEED v4
specifications on VOC emissions in
LEED EQ credit «Low-emitting products»



Supported by:
  Climate-KIC is supported by the EIT, a body of the European Union

Sound Absorption: DIN EN ISO 11654	24 mm	aw 0.55 (no air gap)	12 mm	aw 0.30 (no air gap)
		aw 0.65 (50mm/2" air gap)		
		aw 0.90 (100mm/4" air gap)		
		aw 0.95 (200mm/8" air gap)		



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