

Ecology and Sustainability Data | Facts

> Room concepts made of natural WOOd for floors, walls & ceilings

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Nature concerns allofus

Why sustainable construction

The construction and renovation of buildings, as well as manufacturing the products involved, require resources with limited supply. Sustainable construction is one way to minimise the consumption of resources. The aim is to take into account the environmental properties of the materials used throughout the entire lifecycle of a building, from construction to recycling.

Why EPD

An Environmental Product Declaration (EPD) Ais aimed at assisting builders, architects and processors to compare the environmental impact of different products with each other. An EPD is a neutral tool for communicating the environmental properties of products - independently audited according to standardised rules.

Warum Admonter

n addition to in-house quality control, the Admonter products are also regularly checked by accredited institutions. Apart from all the structural standards, they also meet the highest environmental and health requirements.

Other aspects that speak for Admonter

- Closeness to the natural point of origin
- Wood from sustainable forestry
- Manually controlled quality work
- Timeless design that creates atmosphere everywhere

Nature concludes its supply agreements only with those who appreciate, cherish and nurture.





Sustainability history

Mission statement of Admonter Holzindustrie AG

We are proud of our 1,000 years of socio-Christian tradition. We preserve it. It accompanies us on the road to a modern society.

We are aware of our responsibility towards our employees and our partners. We treat them with openness and honesty.

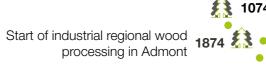
Building long-term relationships in which trust and equality are the pillars in dealing with business partners is a cornerstone of our company. Customer satisfaction is our ultimate goal! Naturalness and sustainability are preconditions for the selection of our raw materials from which we produce the highest quality products. Wood has been machined and processed at the Admont site for several centuries.

Admonter Holzindustrie now employs 270 employees and, with its Admonter FLOORs, ELEMENTs, STAIRs, DOORs and ACOUSTICs, known far beyond the borders of Austria.

Based on this successful business philosophy, not only the design but also the most environmentally friendly and sustainable production are the drivers behind the consistent quality and exclusive production in Admont.

Admonter now





Establishment of Admonter Holzindustrie AG **1972** Development of the natural wood panel **1979**

Two biomass boilers with a total of 7 MW district heating network taken into operation **1998**

filter system for all biomass boilers 2008 💈

1. Admonter LCA cradle to factory gate 2009 🤼

Commissioning of a 650 kWp photovoltaic 2013 plant on the roofs of the factory halls

Connection to rail transport 2015



1074 wood processing in the region starts



| 1985 🚯 | Briquetting for recovery of wood by-products |
|--------|--|
| 1987 | Birth of the first natural wood floor |

| 2001 🎎 | Start of own apprenticeship training |
|--------|---|
| 2003 🎎 | Admonter is PEFC-certified |
| 2004 | Final end of fossil gas firing |
| 2006 | expanding the biomass boilers by 5 MW |
| 2007 | 2. electric self-generation ORC with 800 kW |
| • | |

- • 🎎 2016 EPD of all products manufactured in Admont
 - **2017** Austrian Ecolabel
 - **2019** Listed at the German institute for healthy living "Sentinel Haus Institut"
 - **2020** 100% of the electricity supplied derives from sustainable sources

Sustainable raw material

SUSTAINABILITY CAN BE DEMONSTRATED.

The "Programme for the Endorsement of Forest Certification Schemes" (PEFC) prooves that wood and products produced thereof come from sustainably managed forests.

It is one of the largest wood certification systems in the world and ensures that our forests with its diverse functions are preserved for future generations.

The independent control of the entire production chain - from the forest to the final products guarantees the seamless traceability of the wood flow taking economic, ecological and social aspects into account.3

Choosing Admonter is a choice for nature.

In every respect.

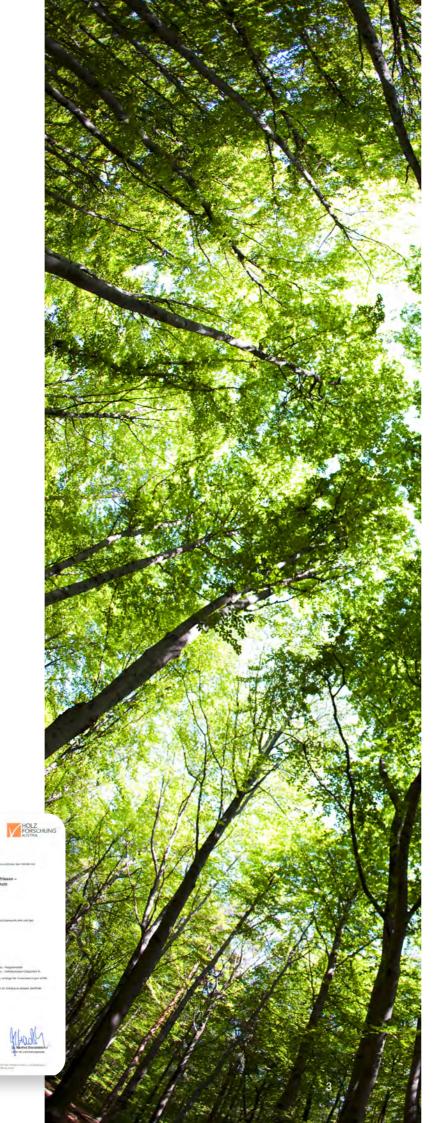
The abundant forests in the region of Admont and in overall Austria create an excellent basis for wood business. Like this, raw wood can be supplied by very short supply routes. A nationwide precondition for sustainability is ensured with the Austrian Forest Act1 and the FLEGT². Moreover, we are taking the PEFC certification in order to make sure that all wood comes from sustainbly managed forests. But that's not all. Instead of rare tropical timbers, our policy has always been to use native wood species.

¹ www.ris.bka.gv.at, Austrian Forest Act, Federal Law Gazette of 11.07.2016 ² FLEGT (EU-Regulation 995/2010) ³ www.pefc.at

PEFC







Cascading use

Apart from the origin of the raw material from sustainably managed forests, the sustainab le use of the material plays an equally importar role at Admonter. The use of a raw material over several stages is known as the cascading or mu tiple use. It starts with a product that has the high hest added value, ecologically creates the great test benefit and does not exclude multiple use

The next steps include, ideally, multiple material us with decreasing added value, and a finally the use of the raw material for energy generation or compos ting.4

Admonter is aware of its responsibility as it is usually at the beginning of the multiple use in the production of multilayer products from solid wood - it must be possible to reuse the material of all products after their service life. For the purposes of subsequent cascading use, the products must be free from pollutants. If a combination of material is required due to certain product properties, it must be easily recyclable. The reutilisation of waste wood as a raw material for high-quality design products is a good example, as higher product value is created as part of the material use - keyword Upcycling.

Consistent control measures by our suppliers, monitoring as part of our inhouse quality assurance and regular external inspections by in-

Multiple Material use



| om b- int | dependent institutes ensure that only uncont- aminated waste wood will be further recycled. |
|------------------------|---|
| ver ul- g- æ. | The cascading use of wood as raw material and the products made from it allows it be used in the economic system for as long as possible. This enables environmental benefits such as: |
| se of s- | A lower burden on the environment Greenhouse gas savings Higher added value4 |

⁴ Austrian Federal Environmental Agency, Publication Efficient use of wood: cascade versus incineration 2014

 \mathbf{m}_{0} of an average Ādmonter product saves 12,5kg (biogenic) CO2

ELEMENTs



Chip-based products

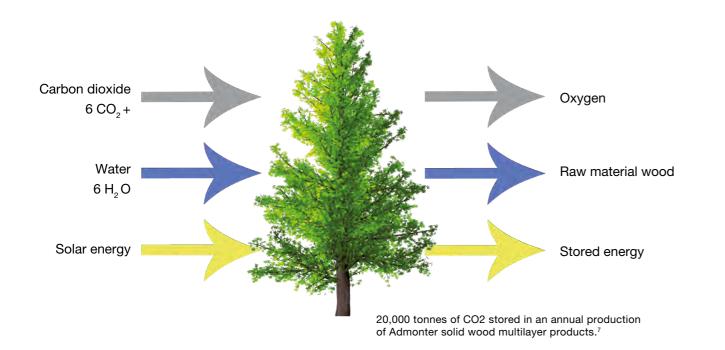


Fibre-based products



Eneraetic utilisation

Sustainable energy concept



Economise with energy

ood residue and waste wood from the pro-Wood residue and waste weet ducti-on process that cannot be used further as material are used to generate energy in the company's in-house heating plant. The energy from the Admonter heating plant supplies the entire office and factory premises of Ad-monter Holzindustrie including the necessary pro-cess heat for thermal chambers, drying chambers and press lines. Through the connection to the local district heating network, the entire Admont Benedictine monastery (www.stiftadmont.at) and about 200 households are supplied.

Recycling management

All unavoidable residues and packaging mate-rials, which are generated during operation, are stored at central collection sites and recycled by authorised companies. Admonter has placed the emphasis on waste recovery and waste prevention in recent years.

- Continuous staff training on recycling ٠ management
- Raising employee awareness and recycling ٠ ethics
- Changeover of glue application technology -longer cleaning intervals and therefore lower water consumption
- Reduction of packaging material through in-ternal reuse

Energy management

Optimisation of the compressed air and power supply, the construction of photovoltaic systems on the factory roofs or retrofitting the lighting to LED techno-logy are just some of the energy-efficiency measures with which Admonter sets the trend for the future

⁵ Admonter-EPD in 2016; Austrian Federal Ministry of Agriculture, Forestry, Publication Wood Fuel 2016 ⁶ Climate and Energy Agency Baden-Württemberg CO2 emission factors in accordance with IINAS Version 4.94 7 Admonter EPD 2016 + conversion to molecular weight

The use of wood by-products and biomass in the company's in-house heating plants achieves an annual reduction and saving – of approximately 4 million litres of heating oil in year.⁵ This in turn corresponds to approximately 19,000 tonnes of CO2 and CO2 equivalents per year.⁶

Production

The appealing workin conditions in an innovative company and the positive product and brand brand image drive the high motivation of our employees.

Internal communication is key for our employees to perform at their best and ensures that the company's targets and developments are met.

A key aspect of our corporate philosophy is a continous increase in the competitiveness in a structurally weak environment. This is the only way to secure the production in the medium and long term.

At Admonter labour safety, environmental protection and social standards play a major role. Both the development of innovative products and the use of regional raw materials result in independence from non-European imports, which again contributes to regional value creation.

The high level of internal working conditions are already set by law. Furthermore, we even increase them with team-buildings, continous medical care by an occupational physician and with incentives for performance during the year.

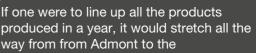
magine

produced in a year, it would stretch all the way from from Admont to the North Cape.

All the floorboards produced in one year would cover the entire length of the Danube to its mouth in the Black Sea.

All the natural wood panels produced in one year stacked would be almost twice as high as the Burj Khalifa, currently the tallest building in the world.

8





Wood and formaldehyde + VOC

At the latitudes we live, we spend 90 per cent of our time indoors!

For this reason, indoor air exposed to the lowest possible emissions is an important prerequisite for health and well-being.⁸

The concentration levels of volatile organic compounds (VOC) accordingly contribute negatively to indoor air quality. As we are dealing with different materials with equally different effects on human health, the potential risk cannot be assessed cumulatively.

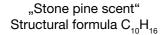
Possible indoor VOC sources can be chemicals used in construction, furnishings and articles of daily use or cleaning products.⁹

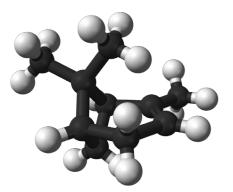
VOCs can also be of completely natural origin, wood and wood materials also contain them.

Without VOC, no wood smell

The health-friendly and mostly positively perceived substances in the wood are crucial to the smell of wood. They are also responsible for the characteristic and very pleasant smell of the stone pine wood.¹⁰

- ⁸ Österr. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Publikation Richtlinie UZ 56 Fußbodenbeläge Version 3.0 2015
- ⁹ Österr. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Publikation Bewertung der Innenraumluft – Flüchtige organische Verbindungen – VOC 2012
- ¹⁰ Institut für Umweltmedizin Universitätsklinikum Freiburg; Fraunhofer-Institut für Holzforschung, Publikation Ist Holz ein gesundheitsverträglicher Baustoff 2010





There is currently no harmonised European limit values of the VOC emissions of indoor air. Besides some national voluntary tests, only a few countries have mandatory evaluation systems.

As of 2012, furnishings and construction products therefore must be classified and labelled to indicate their VOC emission behaviour – in France, for example, before they are placed on the market.

All Admonter solid wood multilayer products fall well below the most stringent class "A+" (very low emission).¹¹

Formaldehyde is one of the most volatile organic compounds. In concentrated form, formaldehyde is a colourless, pungent-smelling, gaseous substance at room temperature. It is contained in raw wood with a steady state concentration of less than 0.01 ppm.¹²

Admonter campaigns against trivialising the dangers of formaldehyde exposure; in addition to inhouse monitoring, Admonter regularly undergoes ongoing external inspections. All solid wood multilayer products measure se-veral clicks below the limits of the currently most stringent European E1 formaldehyde class.

Some more sensitive testing methods are commonly applied on other continents, but Admonter meets or falls below these limits.

 ¹¹ eco Institute Cologne, Publication French VOC Regulation 2012
 ¹² Association of the German Wood Products Industry, Publication Building and Living with Wood 2013
 ¹³ Test report HFA 566/2016

| Overview of formaldehyde limit values | | | | |
|---|-----------------------------------|-------------------------------------|--|--|
| Emission class | Test method according to | Limit value | | |
| E1 | EN 717-1 | 0,1ppm (0,124mg/m ³) | | |
| | EN 717-2 | 3,5mg/m²h | | |
| E0 | AS/NZS 4266.16 | 0,5mg/l | | |
| F**** | JIS A 1460 | 0,3mg/l | | |
| Sauna suitabi- lity according ÖNORM M 6219-1 2010 | EN 717-2 (geprüft bei 90°C) | 0,4mg/m²h | | |
| Steady state concentration of row wood | 0,01 ppm | | | |
| Admonter solid wood multilayer products ¹³ | 0,01 ppm | | | |

Sustainable Development Goals (SDGs)

On 25 September 2015 the Agenda 2030 for Sustainable Development was adopted by the General Assembly of the United Nations by all 193 member states. 17 Sustainable Development Goals (SDGs) have been set, which encompass social, environmental ecological and economic aspects and result in the "transformation of our world".

The SDGs are divided into 169 sub-goals (targets) and include a newly interconnected understanding of poverty, environmental degradation, inequality, production and consumption patterns, corruption, to name just a few. It was recognised that different problems need to be addressed everywhere at the same time and should not be regionally or thematically limited. The universality of the agenda means that all goals apply to all countries. The responsibility for the implementation of the goals lies both at the domestic as well as at the international level.

Admonter has implemented the majority of the 17 SDGs already for years.







Ecologically balanced

WITH A GOOD CONSCIENCE

The "Life Cycle Assessment" LCA is the compilation and assessment of the input and output flows and the potential environmental impact of a product in the course of its life. Factors such as resource consumption, global warming potential or energy content are represented by key figures. The sum of the required resources and emissions ("LCI") is converted into indicators of a compre-hensive impact assessment.

The conducting of an LCA study regulate the ISO 14040 and ISO 14 044 series of standards.¹⁴ In an LCA the environmental relevance of the va-ious life stages of the product or process are examined.

These life stages comprise the following areas

- Raw material extraction
- Production
- Processing
- Transport
- Consumption
- Reuse
- Waste (municipal waste disposal)
- Wastewater treatment
- Disposal

An LCA comprises three key components: assessment inventory, impact and interpretation.

The assessment area is divided into areas such as use of raw materials, energy use, emissions, water, waste generation and toxicological and ecological assessments of the emissions caused. The aim of the LCA is to weigh up the environmental impact of products and processes.¹⁵

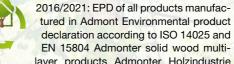
¹⁴ Admonter-EPD 2021

¹⁵ EN ISO 14040ff with system boundary "cradle to factory gate" Method: CML 2 baseline 2000 V2.1 + primary energy balance 2,12,04 / West Europe

EPD Environmental Declaration

| Extract from the LCA according to ISO 144 Parameters | Unit | Production (A1-A3) |
|---|---------------------------|-----------------------|
| LCA environmental impact: 1 m ² solid | wood multilayer | product |
| Global warming potential | [kg CO ₂ -Äq.] | -7,68E+0 |
| Depletion potential of the stratospheric ozone layer | [kg CFC11-Äq.] | 9,51E-8 |
| Acidification potential of soil and water | [mol H+-Äq.] | 3,16E-2 |
| Eutrophication potential | [kg P-Äq.] | 3,06E-4 |
| ormation potential of tropospheric ozone [kg CO2-Äq.] | | 2,57E-2 |
| Potential for abiotic depletion of fossil fuels | [kg Sb-Äq.] | 4,46E-6 |
| Potential for abiotic depletion of fossil fuels | [MJ] | 7,44E+1 |
| Ökobilanz Ressourceneinsatz: 1m ² Mas | sivholzmehrschic | htprodukt |
| Renewable primary energy as an energy source | [MJ] | 1,30E+3 |
| Renewable primary energy for material use | [MJ] | 1,28E+2 |
| Total renewable primary energy | [MJ] | 1,43E+3 |
| Non-renewable primary energy as energy source | [MJ] | 6,87E+1 |
| Non-renewable primary energy for material use | [MJ] | 5,69E+0 |
| Total non-renewable primary energy | [MJ] | 7,44E+1 |
| Use of alternative materials | [kg] | 2,47E-2 |
| Renewable alternative fuels | [MJ] | 0,00E+0 |
| Non-renewable alternative fuels | [MJ] | 0,00E+0 |
| Use of freshwater resources | [m³] | 1,32E+0 |





declaration according to ISO 14025 and EN 15804 Admonter solid wood multilayer products Admonter Holzindustrie AG Declaration Number: EPD-STI-20160090-IBC1-DE http://ibu-epd.com/mitglieder

A part from certifications and approvals, compa-nies are free to draw up a so called "Environmental Product Declaration" (EPD). The EPD is a neutral tool for communicating the environmental properties of a product. An EPD documents the environmental performance about the product life cycle "ecological footprint" - based on a life cycle assessment (LCA).

This allows architects, contractors and processors to compare different products and construction methods according to economic, environmental and socio-cultural criteria with each other. The high energy and material flows in building construction and renovation, as well as in the use phase, have a comprehensive assessment of the sustainability of buildings increasingly gaining in im-portance. Moreover, the aim is to look at the use of re-sources and energy consumption of all building products used in construction throughout their entire life cycles and make a comparison.

An environmental product declaration is checked by independent experts according to uniform rules issued by renowned programme operators and covers all key LCA figures that the conventional systems for sustainable buildings certification apply.16

The EPD thus constitutes the basis for all the necessary aspects for the global assessment of the sustainability of buildings.¹⁷ Despite different program operators, regional dominance and partly different assessment approaches, these certification systems are aimed at weighting the broad scope of factors, beginning with production over use through to the so called "end-of-life" and assemble them in a comparable assessment framework.

The established certification systems include, for example, the American Leadership in Energy and Environmental Design (LEED), the UK Building Research Establishment Environmental Assessment Method (Breeam) or the German Sustainable Building Council (DGNB). The LEED sustainability standard is an internationally comparable quality label for energy-efficient and environmentally responsible buildings, interiors and management concepts.

¹⁶ In the EPD Admonter discloses the environmental performance of its products and so contributes to sustainable building and living. The German Institute for Building and Environment (IBU) is the programme operator of our EPD ¹⁷ Institute for Building and Environment, Publication IBU Compendium Sustainable Building 2013

Austrian Eco Label

The Austrian Ecolabel is a state-issued quality label identifying environmentally friendly manufactured products. Products for use indoors marked with the Ecolabel have little or no pollutant levels and make an important contribution to ambient air quality.¹⁸

Wood and wood products bearing the Ecolabel must meet the following criteria, among others:

- At least half of the processed raw materials must come from sustainably managed forests.

- The products may not contain environmentally hazardous or life-threatening ingredients. The strict limits for VOCs are complied with.¹⁹

Due to their large-scale application, flooring has a significant influence on the quality of indoor air. The use of low-emission products is of great im-portance to avoid adverse health effects. Further-more,itmustbesuitableforcascadeuse.²⁰

Admonter meets the requirements of two diffe-rent directives: UZ 07 (wood and wood-based materials) and UZ 56 (floor coverings).

²⁰Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Publication Directive UZ 56 Floor Coverings Version 3.0 2015

Continous improvement is part of our daily lives!

Many of the points discussed here are not legal required obligations. However, we are responsible to leave the smallest possible ecological footprint.

Only then you can as a customer incorporate the Admonterqualityinyourlifewithacleancons-cience!

The sustainability concept is also reflected in all administrative and planning decisions.

For sustainability reasons this environmental brochure was not printed / available as digital version. If necessary, a small number of copies will be printed. Errors, changes, printing and typographical errors reserved.

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Feel free to contact us if you have any questions! Please send us your message to info@admonter.at

¹⁸ Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Publication The Austrian Ecolabel 2014

¹⁹ Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Publication Directive UZ 56 Wood and Wood-based Materials Version 8.0 2015

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