pro clima®

Magazine

30 years of Energy efficiency · Healthier buildings · Protection against moisture damage

Editorial

Fulfilment and responsibility

Conceiving and designing a building and maybe even building it with your own hands is one of the most rewarding projects you can take on in life. After all, even young children enjoy shaping their immediate environment in a playful manner by stacking building blocks or «playing house» in the garden. No matter how old we are, where we come from or what period in history we are living in, when we build we are always driven by an impulse that is as old as humanity itself: our need for protection, comfort and security.

With our buildings, we create a third layer of protection for ourselves – in addition to our skin and our clothes – that will protect us from the elements and keep us warm and healthy. At the same time, buildings define and leave a mark on our living environments for half a century or even longer – aesthetically, sociologically and culturally too. The construction and subsequent day-to-day use of these buildings consume vast amounts of materials and energy, and the building sector is responsible for 60% of all waste globally. As a result, the practice of building is both fulfilment and responsibility.

We find this challenge so fascinating that we have gladly devoted the last 30 years to working on it. This is what we do every day – with dedication, drive and a lot of laughs along the way too! We put our creativity, expertise and innovative spirit to work to ensure that building envelopes can do their job reliably and efficiently as a third skin for humankind. With ideas, materials, knowledge and partnerships that combine to deliver the best possible outcomes: energy efficiency, protection against moisture damage to structures, healthy living environments, durability, sustainability and protection of our environment.

In this magazine, you can find out how the company started out, what challenges had to be mastered along the way, and how we have grown and helped to move building culture forward. You will also see how important responsibility and partnership are to pro clima.

We hope you will enjoy reading it!

Oliver Goldau
Head of Communications

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Origins & Philosophy

Visionary ideas

How it all began: In the 1970s, there was considerable interest in Germany in building biology, ecological building materials and alternatives to conventional construction methods. Our company was founded with the aim of changing building culture in a long-term manner and making healthier buildings attainable.

The anti-nuclear movement, concerns about forest dieback and the scandal around wood preservatives were some of the pressing issues of the day in Germany in the 1970s. People also began to look for healthier alternatives in the areas of nutrition, everyday consumables and construction too … people like Lothar Moll.
As the oldest child in a family that owned a sawmill works, it was planned that he would take over the family business. With this in mind, he decided to study timber engineering in Rosenheim, in Bavaria. During his studies, however, he became fascinated by the subject of building biology and the challenge of applying this approach to building physics and structural engineering.
The field of building biology was still in its infancy at the time, but Lothar Moll could see its potential. Changing building culture in a sustainable manner, delivering better homes and healthier buildings that are free of toxins and mould, and going against mainstream practice in Germany at the time – these were the missions he wanted to pursue. In the end, he never did take over the family sawmill, but instead founded the first ecological builders' suppliers in the world in 1981: the «Biologische Insel» (*Biological Island*). At the time, people thought he was mad, but over 40 years on we can say that it was a great decision!
Today, MOLL bauökologische Produkte GmbH – with its «pro clima» brand – is a globally active company that is recognised and renowned for high-quality sealing of building envelopes with a complete range of sealing systems for interior and exterior applications, such as intelligent membranes, tapes, adhesives and other accessories for detail features.

The concept was simple: we wanted to create superior new solutions and change building practice.

pro clima has always been synonymous with pleasant indoor climates and climate protection on the outside. We now have subsidiaries in Switzerland, France, Australia and New Zealand, and strong partnerships with local companies in over 40 other countries. All around the world, system products from pro clima can be found on projects that demand high standards in terms of energy efficiency, protection against moisture damage, and achieving healthier indoor environments!

◄ *The pioneers of energy-efficient, moisture-protected and healthier construction: founder, owner and Managing Director, Lothar Moll (l.), and his partner as a Managing Director for many years, Uwe Bartholomäi (r.)*

«When I see what has developed out of a one-man operation over the last 43 years, I can only look forward to the future.»
Lothar Moll

For company founder Lothar Moll (right), the open exchange of ideas with company staff is a key factor in the success of pro clima.

Innovation for better building practice

From building paper through to intelligent vapour control: pro clima is always one step ahead. The original idea of airtight construction has led to lots of innovations along the way. Some were initially greeted with scepticism, but today they are established best practice that is stipulated by building regulations. We will present six of these innovations here.

1. Airtightness

Back in the 1980s, there was little awareness among construction specialists about the impacts that an airtightness layer could have on buildings and the people who live or work in them. However, the recently graduated timber construction engineer Lothar Moll had a hunch that the thermal insulation layer was critical in terms of achieving healthier living environments. His thinking: air can move through the insulation layer and its temperature can drop along the way, and this can result in major energy losses, together with condensation and mould formation.

He became mildly obsessed with this issue and carried out simulations. What would be better – the vapour barriers that were in use at the time, or vapour check membranes? The results clearly showed that vapour checks are significantly more beneficial. The only drawback was that they hadn't been invented yet! To meet this need, Lothar Moll developed vapour check (or control or retarder) membranes, initially under the brand name «B.I. Baupappen», which later became DB+. Reactions in the building industry varied between scepticism and outright rejection. However, the Fraunhofer Institute for Building Physics tested these membranes a few years later and confirmed that he was right: vapour checks offer more reliable protection than vapour barriers! The diffusion resistance of DB+ became the industry standard and set a marker internationally for vapour check membranes.

A lot of pro clima innovations are now standard building practice. Airtightness is even required by regulations and laws in many territories!

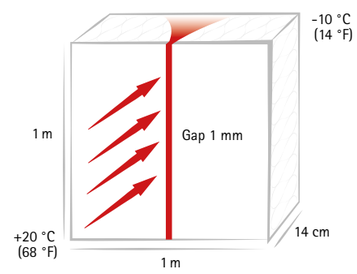
2. Intelligent, humidity-variable vapour check membranes

The DB+ membrane was a resounding success that reliably protected structures against moisture damage – even when it was installed inadvertently, or in the absence of better knowledge, on structures that were vulnerable to moisture problems according to simulations, e.g. on structures that are diffusion-tight on the outside.

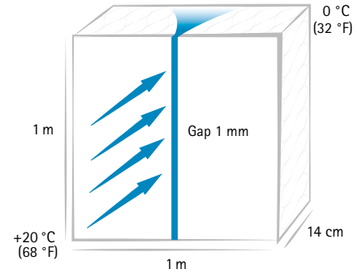
Was this a miracle? In a way, yes … until the Fraunhofer Institute again provided a scientific explanation: DB+ responds to the surrounding humidity level and was thus the world's first intelligent, humidity-variable vapour check and airtight membrane. Thanks to this very useful property, insulation structures that are vapour-impermeable on the outside and potentially problematic could now be implemented in a dependable manner. And these advantages could be achieved without the labour costs and aesthetic compromises that had previously been required! Assuming that the structure has been properly designed and implemented, any moisture that has entered into the structure can dry out to the inside if necessary. The overall structure stays dry and free of moisture damage and mould.

In 2004, the INTELLO membrane was launched, which works on the same principle as DB+ but is significantly more powerful. Structures with challenging building physics behaviour can be executed reliably using INTELLO – e.g. projects at high altitudes or with particularly thick insulation layers.

With its humidity-variable INTELLO membrane, pro clima set new standards in protection against mould and moisture damage to structures.



A 1 x 1 m building element with 14 cm of insulation has a U value of 0.30 W/(m²·K) under airtight conditions. If there is a 1 mm gap in the airtightness, this value worsens by a factor of almost 5.



The situation for moisture is even more dramatic: 0.5 g enters per day in the airtight scenario, but this rises to 800 g per day if there is a 1 mm gap – worse by a factor of 1,600!

3. Moisture-activated exterior sealing

On the exterior of buildings, however, the situation was less than satisfactory for a long time. After all, roof and facade membranes have to fulfil very demanding requirements with regard to protection against driving rain and watertightness. They also need to be very diffusion-open so that moisture can dry out of the building component to the outside quickly and reliably. The microporous membranes that were previously available on the market fulfilled these requirements only to a limited extent. In addition, they often had poor resistance to ageing. The result was membranes in service that were often in poor condition and barely able to protect the underlying insulation structure.
To meet these demands, Lothar Moll developed the monolithic SOLITEX functional film, which is particularly ageing-resistant and can actively transport moisture out of building structures to the outside. Membranes with this pore-free TEEE film provide significantly improved protection for valuable roof and wall structures, and they now dominate the marketplace.

The roofing underlay membranes in the SOLITEX MENTO series have high resistance to ageing and are extremely watertight, but are diffusion-open. Their monolithic SOLITEX functional film provides ideal protection on the outside for the insulation.

This simple test illustrates the problem with the older technology: the membrane has micropores that air can flow through. If the surface tension of the water droplets is reduced, the membrane can allow water to enter from the outside.

Independently tested and confirmed – the TESCON VANA adhesive tape for interior and exterior use offers 100 years of verified adhesive performance.

The water-resistant SOLID adhesive sticks even under water.

4. Water-resistant adhesives and tapes with 100 years of adhesive strength

To ensure that these critically important membranes can do their jobs effectively on the interior and exterior, one more ingredient is necessary: reliable, durable adhesives and tapes!
Back in the 1980s, Lothar Moll recognised the importance of bonding vapour check membranes to one another and to adjacent building parts. The only problem is that there were no airtightness adhesives available at the time.
Once again, he responded to this need with a world first: pro clima COLL, now known as ECO COLL. Taping and sticking vapour checks ran contrary to all standards and regulations at the time, and here too the Fraunhofer Institute for Building Physics carried out tests a few years later, in 1989. The researchers tested a thermal insulation structure with a 1 mm-wide gap in the airtightness layer and compared it with the same structure without this gap (see diagrams, page 13). The results confirmed very clearly what we had already been preaching for a number of years: airtightness is the critical factor in the reliability and energy efficiency of insulated building structures.
It was a matter of course that airtightness became part of accepted best building practice and even became law in Germany from 1995 onwards.
Unfortunately, the adhesive bonds installed on building projects are frequently not reliable in the long term. We believe that these adhesive bonds should last as long as the building structure itself.
For this reason, we have developed particularly durable solutions: the durability of the adhesive strength of our adhesive tapes TESCON VANA, TESCON No.1, UNI TAPE and of the ORCON F joint adhesive has been tested independently by the University of Kassel. The result: these four products demonstrated 100 years of adhesive performance in tests – a world first!
Next question: what happens in the presence of moisture? After all, vapour checks and roofing underlays can easily become damp or even properly wet during installation, as rain and condensation are unavoidable features of normal building sites. This is no problem for pro clima's water-resistant SOLID adhesive, which ensures reliable adhesive joints both inside and outside.
Products featuring our SOLID adhesive can be installed even during wet and rainy conditions, ensuring that no valuable time is lost on site.

The solution for uneven surfaces is ORCON F, our all-round joint adhesive that has achieved excellent values in hazardous substance testing.

5. Spraying instead of sticking!
Implementing airtightness seals can often be a time-consuming task on site when the installer is faced with challenging detail features that are difficult to access, cable or pipe penetrations, or transitions between components with lots of corners and edges. Our sprayable AEROSANA VISCONN airtightness sealant offers an alternative that installers can use to seal complicated geometries just as quickly and easily as large surfaces. This sealant can either be sprayed or painted onto all surfaces typically encountered in construction. Regardless of the application, the initially paste-like substance dries and forms a durable, seamless and permanently elastic vapour-controlling airtight layer. And since AEROSANA VISCONN has a humidity-variable diffusion resistance, the spray film can be applied to both the interior and exterior of building components – e.g. on roof refurbishment projects. What's more, the spray film achieves excellent values in testing for hazardous substance emissions. This is beneficial for the health of the installation technicians and, later on, for those who will live or work in the building.

Our spray-on sealant saves a lot of labour time on site and is very versatile, particularly for challenging connections.

AEROSANA VISCONN can be applied with a paintbrush, airless sprayer or compressed air sprayer.

Our peel-and-stick airtightness and weathering-protection membranes are now available in a transparent variant, SOLITEX ADHERO VISTO.

6. Temporary protection for timber structures during the construction phase
Timber construction has gone mainstream in recent years, as can been seen from the increasing numbers of ambitious timber projects being designed and built. Timber floor elements with ceilings that remain visible in the long term showcase the natural character of timber construction. With this in mind, it is all the more important that the original, natural appearance of these elements is preserved and protected. And herein lies the challenge: how can timber construction elements be reliably protected against the entry of moisture during transport and subsequent installation on site?
This problem is solved by SOLITEX ADHERO, the first peel-and-stick weathering-protection membrane on the marketplace. It keeps facade elements and timber floor/ceiling slabs dry and is particularly practical for buildings where indoor air quality is important and where temporary construction shelters or coverings are not suitable. These membranes are quick to install, and are waterproof and diffusion-open. The latter characteristic is a major advantage in terms of protection for the component, as the membrane can allow any moisture due to construction work to quickly escape to the outside.
The weathering-protection membrane has full-surface adhesion to the substrate. This is a real plus, as it means that moisture cannot spread out underneath the membrane if the membrane is damaged during construction. And if timber should become moist, this moisture will quickly dry out again – the diffusion-permeability of the SOLITEX functional film actively transports moisture to the outside. As a result, your building structure remains protected!

Tight to the wind

What do pro clima and windsurfing have in common? Whether on a construction site or out on the water: if you want to be successful, you need the right equipment along with the necessary skills and experience.

Wind, air and water seem to be everywhere. Windsurfing means harnessing the forces of nature: the surfer grips his sail, his feet firmly positioned on the board. To make the best possible progress, you need to make big leaps forward while also taking care of the smallest of details. The best materials and continuous improvement are essential if you want to stay ahead of the game. By now, the parallels with pro clima should be apparent: we too aim to bring together human input, natural forces and high-quality materials. The goal is to hit the sweet spot – when surfing and when building too. Good equipment and the right preparation are crucial, along with cutting-edge technology, expert knowledge and human factors. Only then can the prevailing conditions be mastered and long-term success be ensured.

According to champion windsurfer Oisín van Gelderen, who is sponsored by pro clima:

«The first thing is to have the right equipment for the conditions. Next thing is … training and practice, and a positive attitude: learning from mistakes, not being upset by highs and lows, and always staying focussed on the goal.»

Find out more about pro clima and windsurfing:

proclima.info/en/windsurfing

Focussed on people

With their needs and wishes, humans define the required performance and impact of buildings, components, products and services.

People

Users · Installers · Project planners

People are the focus of everything we do. Their needs set the parameters for our work at pro clima. Only when all levels – from general philosophy, technical expertise, products and systems, right through to services – are ideally coordinated can the best outcomes be delivered.

Services

Technical Support · CAD details · On-site service · Training seminars · Responsive logistics

Product systems can only be turned into solutions and deliver their full impact if they are used properly. For this reason, a full range of support services is part of our standard package at pro clima.

Products

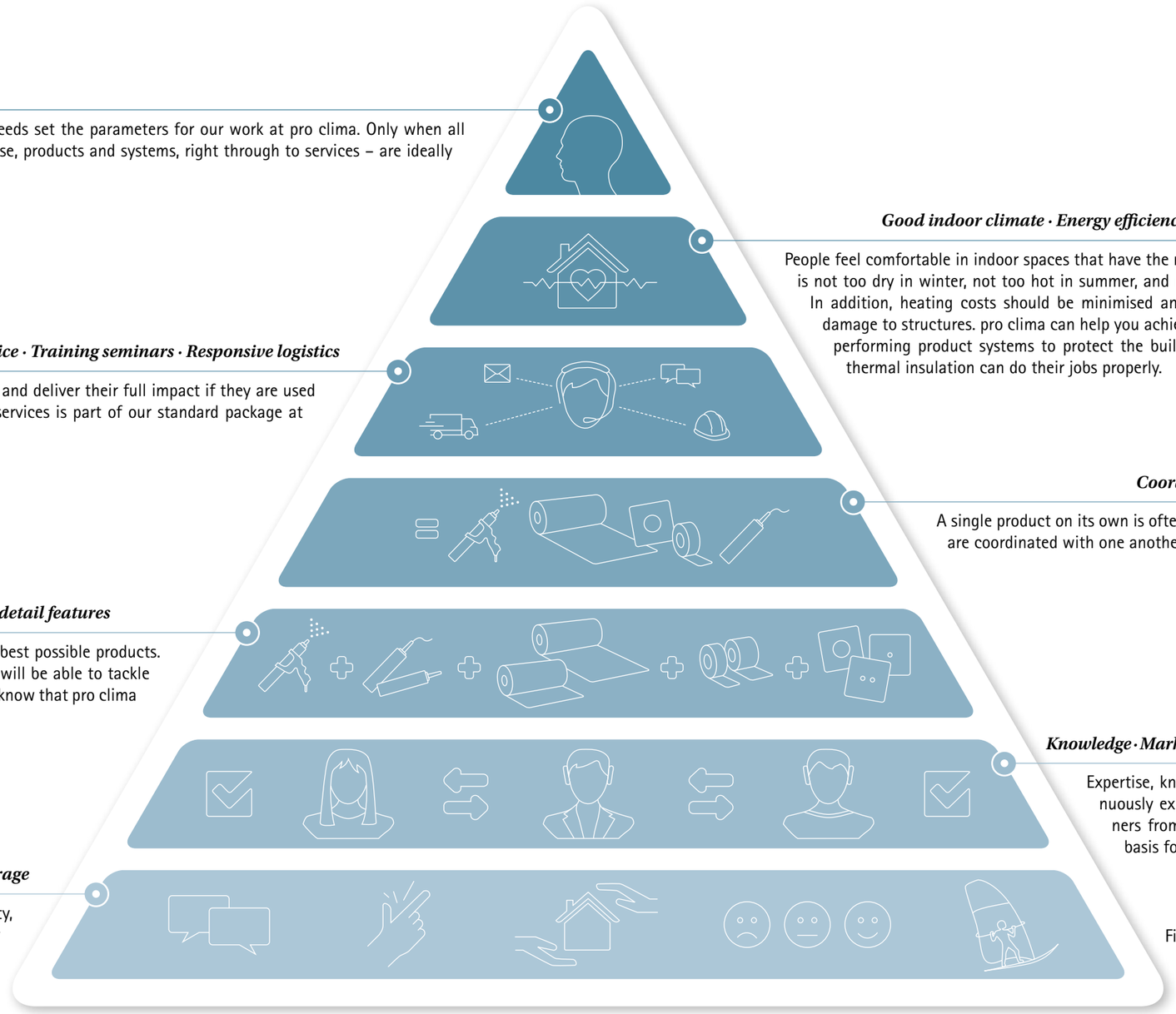
Membranes · Adhesives · Tapes · Solutions for detail features

Well-founded engineering expertise results in the best possible products. With just 4 or 5 of our core system products, you will be able to tackle most on-site situations. However, it is also good to know that pro clima has solutions available for special cases too.

Values and philosophy

Communication · Simplicity · Feedback · Courage

Our four central values of Communication, Simplicity, Feedback and Courage serve as the foundation for the overall pro clima philosophy. Everything that happens at the company emerges from these values.



Needs

Good indoor climate · Energy efficiency · Avoiding moisture damage · Sustainability

People feel comfortable in indoor spaces that have the right indoor climate: pleasantly warm with air that is not too dry in winter, not too hot in summer, and no problems with mould or hazardous substances. In addition, heating costs should be minimised and excellent protection provided against moisture damage to structures. pro clima can help you achieve all this! With strong support services and high-performing product systems to protect the building envelope so that the building structure and thermal insulation can do their jobs properly.

Systems

Coordinated · Reliable · Simple all-round solutions

A single product on its own is often no real help – and this is why pro clima products are coordinated with one another to create capable, practical, seamless systems.

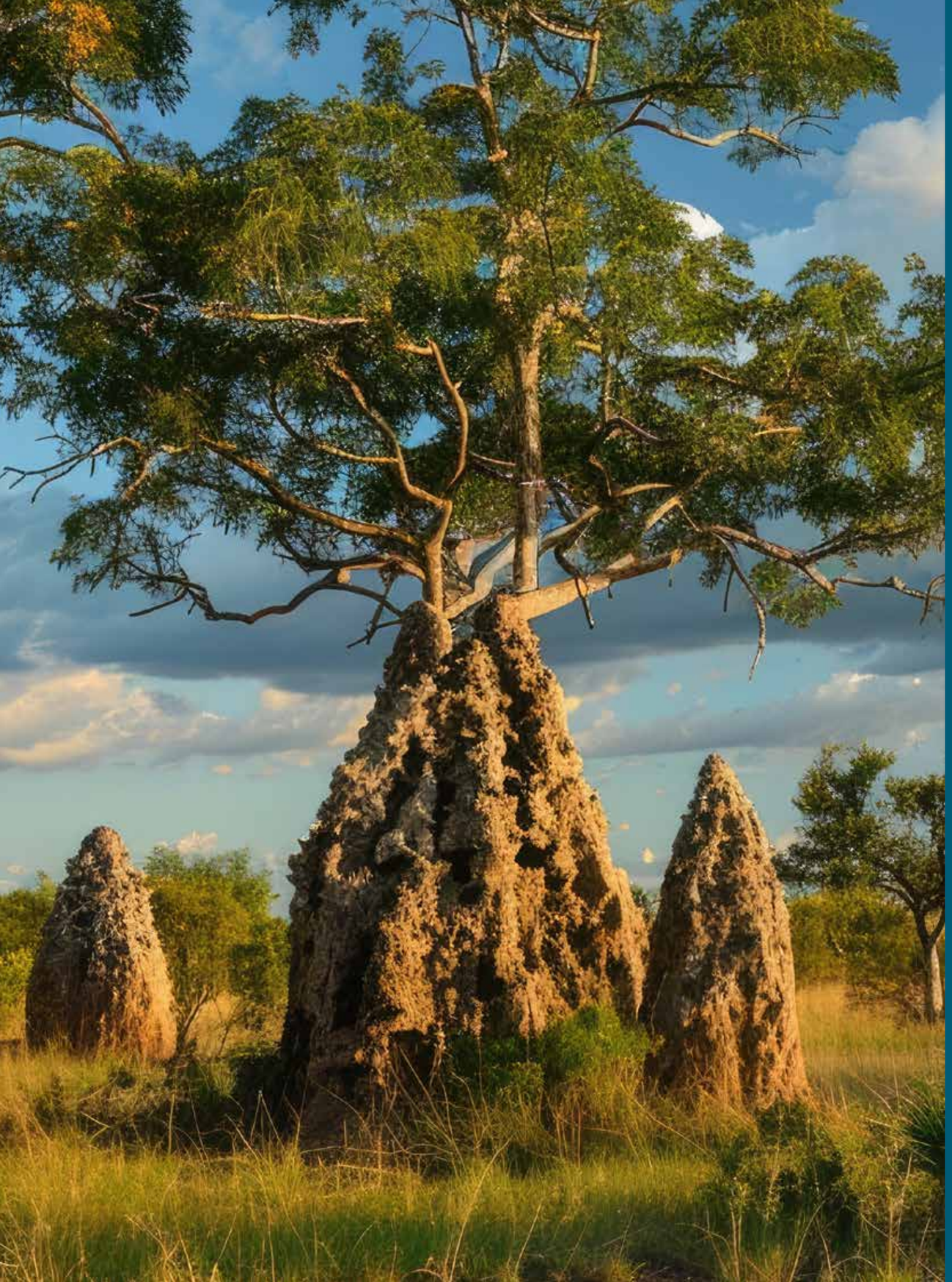
Expertise

Knowledge · Market · Design · Building physics · R&D · Production

Expertise, knowledge and experience are combined and continuously expanded at pro clima in open exchange with partners from almost all sectors of society. This serves as the basis for ongoing innovation.

Find out more about the motivation behind pro clima:

proclima.info/en/30-years



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Growth & Impact

20 years of INTELLO

The principle behind the INTELLO high-performance vapour check membrane is as simple as it is clever. It was revolutionary 20 years ago and still offers state-of-the-art protection against mould and moisture damage today: vapour-tight in winter and diffusion-open in summer for dependable drying out.

Although not taken seriously by many at the time of its launch, the INTELLO vapour check membrane with humidity-variable diffusion resistance revolutionised construction practice back in the early 2000s. Since then, it has come a long way: the first humidity-variable vapour check with an ETA, certified to Passive House standards, and with excellent results in hazardous substance testing, this membrane is already an established component of best building practice. It can be found on countless buildings worldwide – ranging from tiny houses and conventional timber constructions, right through to multi-storey buildings – to ensure the integrity of the airtightness layer.

Two decades of milestones and now part of established best practice: INTELLO – a success story that really rocks!

Excellent protection against mould and moisture damage

The right materials are crucial to the success of any project, along with joined-up planning and professional installation on site: these materials have to be high quality and offer a safety buffer of additional protection for the scenario that moisture should enter into the insulation. With its responsive, humidity-variable resistance, INTELLO prevents moisture from getting into the insulation in the first place, but also allows any moisture present to escape again if necessary. This key capability means INTELLO is still the premium vapour check membrane on the marketplace, even 20 years after its launch.

For specialised applications, we also have INTELLO PLUS, which has additional reinforcement to support blown-in insulation materials, and INTELLO X, which has been engineered for use on refurbishment projects and in unconverted attic spaces where it can withstand permanent exposure to diffuse UV radiation. The common denominator for all of these product variants is intelligent control of their molecular structure.

However, innovation never stops and INTELLO is ready to face tomorrow's challenges: since March 2024, pro clima has been producing all of its INTELLO and INTELLO PLUS climate membranes with 50% recycled materials in their fleece layers (see page 31 for details). This saves on valuable resources and leads to less waste, and is thus another important step along the path to greater sustainability in building practice.

INTELLO milestones

From the initial idea to market success

05/2004 Market launch of the first «hydrosafe» humidity-variable vapour check membrane

03/2005 We have it in writing: The first study on potential protection against moisture damage to structures is published and confirms the low probability of moisture build-up and the high potential for drying out offered by INTELLO

05/2005 Market launch of INTELLO PLUS with fibre-reinforced fabric for greater tear resistance – ideal for use with blown-in insulation

01/2006 Rockwool, market-leader worldwide in stone wool insulation, includes INTELLO in its product range as «Rockwool INTELLO climate»

04/2006 Excellent values for INTELLO in hazardous substance testing carried out by the German Federal Environment Agency

04/2012 The INTELLO system is a test-winner in the German «Stiftung Warentest» in the category of airtightness systems

01/2015 INTELLO is awarded BBA (British Board of Agrément) certification, which is a guarantee for quality and reliability in practical service

10/2015 INTELLO is the first humidity-variable membrane to be approved by the German Institute of Construction Engineering (DIBt)

08/2017 INTELLO is certified as a Passive House component with the best possible measurement results

11/2017 INTELLO already fulfils the new requirements of the German standard DIN 68800-2 with its ideally designed «hydrosafe» value, which offers additional protection during building work in winter

06/2018 INTELLO sponsoring campaign at the Lüderitz Speed Challenge in Namibia with champion windsurfer Oisín van Gelderen, who breaks the world speed record of 50 knots.

11/2019 European passport for building products: INTELLO and INTELLO PLUS receive ETA certification

05/2021 INTELLO is certified by the Building Research Association of New Zealand (BRANZ)

10/2021 New additions to the INTELLO family: introduction of the INTELLO X humidity-variable vapour check membrane for application that require longer exposure to UV and to the natural elements

12/2023 A first in Europe – INTELLO and INTELLO PLUS now with 50% recycled materials in their fleece layers

05/2024 INTELLO celebrates 20 years of innovation and success

The building sector offers huge potential for improvements in sustainability: this is a generational task that we are happy to take on!

proclima.info/en/sustainability

Responsibility and sustainability

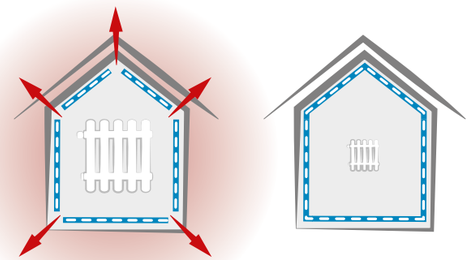
Acting responsibly is something that we take very seriously. We aim to make our products, production processes and everything we do a little more sustainable every day.

Focussed on the future right from the beginning

When we started out as the first builders' merchant for ecological construction materials in the world, it was already clear that only those buildings that last a long time and protect the health of their users will be of benefit to us all in the long term. The use of pro clima systems can contribute to increased sustainability in the following ways:

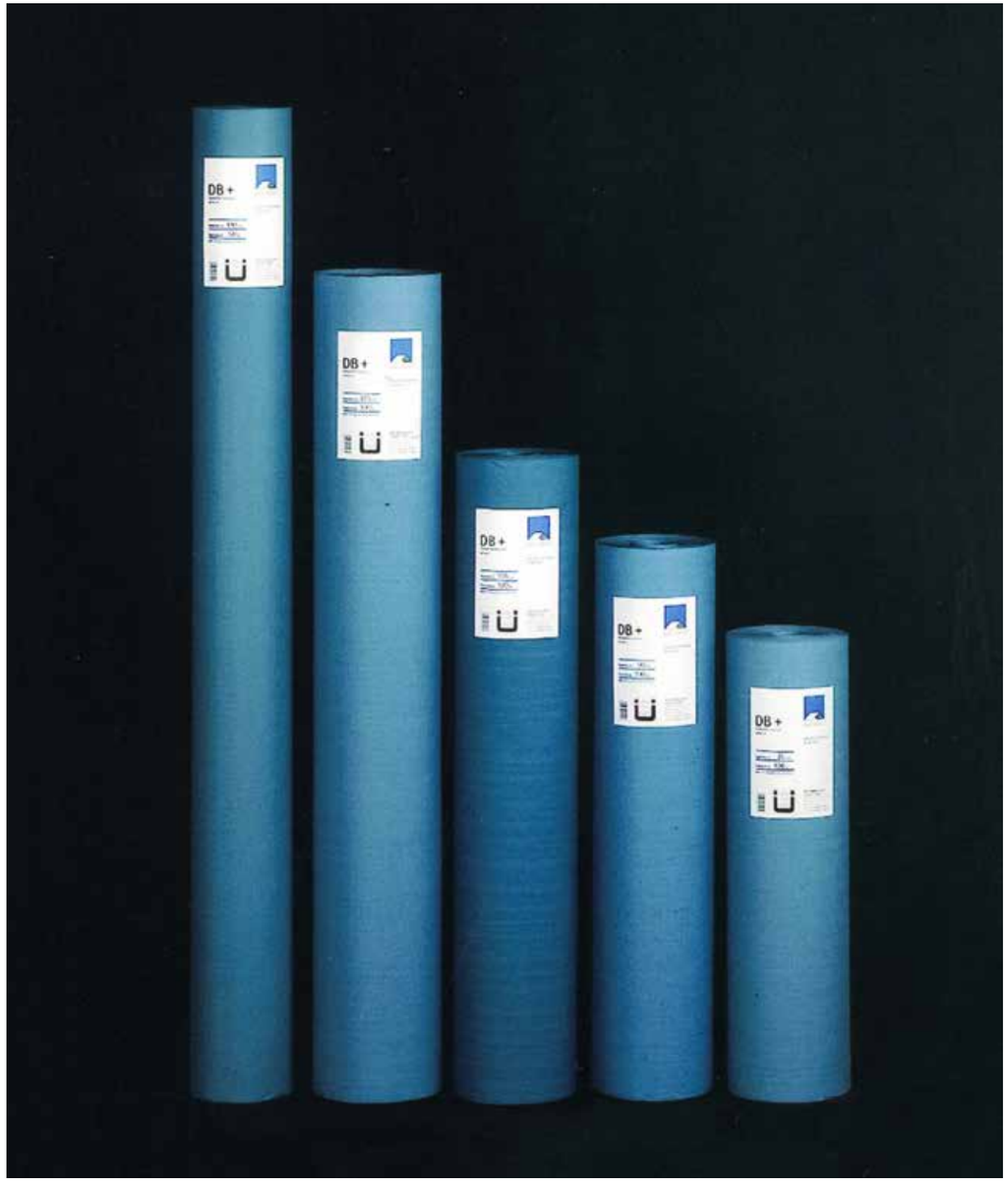
- Well-protected, durable structures without moisture damage
- Buildings that will have longer service lives
- More effective insulation structures and the resulting savings on energy consumption
- Healthy living environments that are free of mould and protect the health of users

At pro clima, we also regard dealing with employees, partners and customers fairly and responsibly as an integral part of sustainability. «People are our focus» – this philosophy, combined with our aim of developing durable, high-performance construction products while always keeping one eye on ecological awareness, is at the core of pro clima's approach.

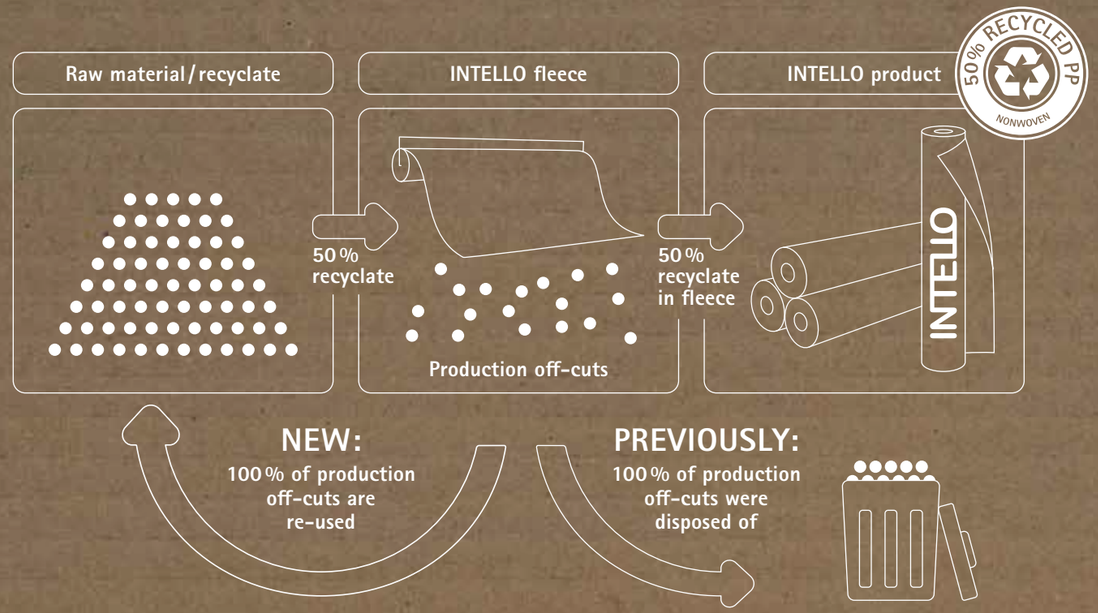


Airtight homes have five times less energy consumption (above) and also avoid moisture damage and mould (below).

Products made from building paper and natural latex
Right from the beginning, we have been focussed on ecological materials: the predecessor company to pro clima, «Biologische Insel», didn't just develop any old airtightness membrane; instead, it deliberately came up with the first ecological vapour check membrane, DB+. From today's perspective, this paper membrane ticks a number of sustainability boxes. First off, it uses 100% recycled paper and saves considerable amounts of heating energy in service. It is also extremely long-lasting and helps to ensure healthy indoor air. In addition, the COLL natural latex adhesive and the paper tape marketed as TAPE (later re-named ECO COLL and UNI TAPE, respectively) helped to turn DB+ into a component in the first ecological airtightness system, which is still being successfully used through to the present day in an almost unchanged manner.



DB+ was the first ecological vapour check made of paper and offered a number of advantages in terms of sustainability.



Recycling with post-industrial materials
Since March 2024, pro clima has been producing its all of its INTELLO and INTELLO PLUS membranes with 50% recycled materials in their fleece layers. The recycled material is generated in the course of the manufacture of PP fleece materials in the form of off-cuts, which were previously disposed of as waste. However, why throw away this valuable material when it could be used as a secondary raw material in our fleece layers? The high quality of the recyclate ensures that the performance, technical specifications, installation, areas of application and price of these membranes remain unaffected. Not only does this save on at least 225,000 kilograms of plastics per annum, but also reduces emissions, landfill waste and the use of fossil fuels. INTELLO and INTELLO PLUS are the first humidity-variable vapour checks on the European market with recycled constituent materials.

Saving energy and conserving resources one step at a time
We are also striving continuously to improve packaging and reduce its ecological footprint. For example, we have already stopped using plastic wrapping and including printed installation instructions with our products wherever possible. Our adhesives and tapes now come almost exclusively in neutral brown cardboard boxes.

Black is the new green!
The tubes for our ORCON F, ORCON CLASSIC and ECO COLL joint adhesives are further examples of our more sustainable packaging. They are manufactured from 100% post-consumer recycled materials – i.e. plastics that have been recycled as packaging waste or through the deposit system for single-use bottles. As well as choosing a quality adhesive, you are actively supporting recycling every time you purchase one of these pro clima products. In total, this changeover will save many tonnes of plastic waste every year. This makes no difference to you, but a big difference to the environment!

From eco-merchant to global brand name

Milestones along the way for pro clima

1979

Lothar Moll opens the first builders' suppliers for building biology products in the world at the Moll sawmill site.

1981

He starts his own «Biologische Insel» (Biological Island) company, or to give it its full name: «Biologische Insel naturgemäße Baumaterialien, Gartenbaubedarf und Ernährung Moll GmbH & Co. KG».

1984

Our first comprehensive guide, called «Die Biologische Insel» is published: with information on the installation of ecological building materials and structures. It was the predecessor for our current «pro clima WISSEN» catalogue.

1986

First expansion of the company: purchase, conversion and opening of the offices at Rheintalstraße 35-43 in Schwetzingen, with a floor area of 10,000 m².

1987

Lothar Moll develops the first vapour check membrane made of paper, the BI natural vapour check paper.

1989

The Fraunhofer Institute for Building Physics publishes its research findings on airtight and non-airtight thermal insulation structures (including the infamous illustration with the 1 mm gap) and confirms that airtightness is indeed essential!

1991

With the launch of DB+, Lothar Moll develops a vapour check with innovative behaviour – intelligent adaptation of its diffusion resistance.

1993

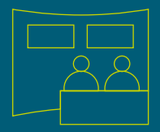
Lothar Moll comes up with the name «pro clima», and a logo for the new brand name is developed.

pro clima®

Development and growth of pro clima

1994

pro clima is presented to the public for the first time at an ecological construction trade fair in Mannheim.



The Fraunhofer Institute for Building Physics (Dr. Hartwig Künzel) is asked to evaluate the performance of an insulation system with pro clima DB+.

1995

The results of the investigation by the Fraunhofer Institute demonstrate that pro clima DB+ has a humidity-variable diffusion resistance. This is a world first!

1999

Focus on the sealing of building envelopes: the builders' suppliers and the joinery works are closed.

pro clima develops an extremely ageing-resistant exterior membrane with an innovative monolithic TEEE functional film (SOLITEX UD).

2000

Uwe Bartholomäi becomes a Managing Director of MOLL baubiologische Produkte GmbH (pro clima) alongside Lothar Moll.

2004

pro clima's powerful INTELLO vapour check is presented at the BAU trade fair in Munich. It sets new performance standards relative to other humidity-variable membranes.

A construction physics study for Germany, Switzerland and Austria demonstrates the superiority of INTELLO and DB+ with regard to protection against mould and moisture damage for insulation structures.

2005

The insulation manufacturer Rockwool decides to use humidity-variable vapour check membranes and initiates a cooperation with us.

pro clima has always placed great emphasis on trust and freedom in its partnerships. Our employees are given the tools and support necessary to work from home to an increasing extent from 2005 onwards, almost 15 years before other companies were suddenly forced to introduce home-working during the COVID-19 pandemic.

2006

Founding of pro clima New Zealand: its mission is to introduce the pro clima approach to building culture in Oceania and enable healthy living conditions there too.

2009

pro clima launches a new generation of roofing underlay membranes with excelllent UV resistance: the SOLITEX MENTO family is born!

The first «pro clima WISSEN» catalogue appears in Germany: running to over 400 pages, it brings together everything users need to know to implement reliable sealing of building envelope. It quickly becomes established as an invaluable source of information.

2010

Versions of our «pro clima WISSEN» catalogue are published for France, Belgium (in French) and Switzerland with the aim of providing country-specific information in local languages for architects and installers on how to achieve reliably protected, energy-efficient buildings.

Founding of pro clima Australia to promote the pro clima message «down under».

2011

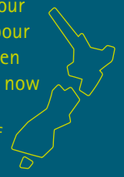
After protracted legal proceedings, we finally receive confirmation that our ORCON joint adhesive does not violate any patents! The «Free ORCON» campaign is started.

A predecessor of our innovative multi-trade «Schnittstelle Baustelle» seminar tour takes place in a number of cities in Germany.

The building physics study for New Zealand is published and helps to change building practice there.

2012

pro clima plays its part in changing building regulations in New Zealand. Previously, vapour checks and vapour barriers had been prohibited, but now they are an integral part of regulations!



INTELLO is recognised as a test-winner by the German «Stiftung Warentest» product-testing foundation.

The first versions of our «pro clima WISSEN» catalogue are prepared for the Netherlands and Belgium (in Dutch).

2013

The first multi-disciplinary «Dach-Praxis» training seminars for roof refurbishment from the outside are held.

2015

An innovative «infotainment» format is initiated: the first «Bauslam» in Schwetzingen imparts specialist knowledge in 10-minute slots in a particularly impactful, visual and entertaining manner.

BAU SLAM

Founding of our Swiss subsidiary, pro clima Schweiz GmbH.

2016

Airtightness and windsurfing have a lot in common: our INTELLO windsurfing campaign is started.

2017

pro clima New Zealand and pro clima Australia become exclusive partners for the WUFI simulation software developed by the Fraunhofer Institute for Building Physics in Stuttgart.

WUFI

More effective knowledge transfer for the southern hemisphere: opening of the pro clima HUB seminar centre in Auckland.

2018

Simpler solutions for sealing detail features: market launch of our AEROSANA VISCONN sprayable sealants.

Construction of pro clima offices in Sydney.

Well-equipped for the future with pro clima

2019

Founding of pro clima France.

New solutions for weather protection are needed in the timber construction sector, and pro clima is the first to respond to this need with its SOLITEX ADHERO membranes.

2020

We build and equip the pro clima TV studio and place more emphasis on digital knowledge transfer.

The size of our stand at the DACH+HOLZ trade fair in Stuttgart doubles.

The COVID-19 pandemic turns the world upside down.

2023

Opening of our new «ResonanzRaum» seminar and event centre in Schwetzingen.

Uwe Bartholomäi, one of our two Managing Directors alongside Lothar Moll, retires after 30 years of managing and shaping the company.

A building physics study for Australia is published.

2024

Jens Lüder Herms, who has been working at Lothar Moll's side for 18 years, becomes a new Managing Director of the company.

Our new SOLITEX QUANTHO roofing underlay with self-sealing perforations is launched.

Year-long marketing campaigns:

- 30 years of pro clima and
- 20 years of INTELLO

Knowledge transfer at pro clima

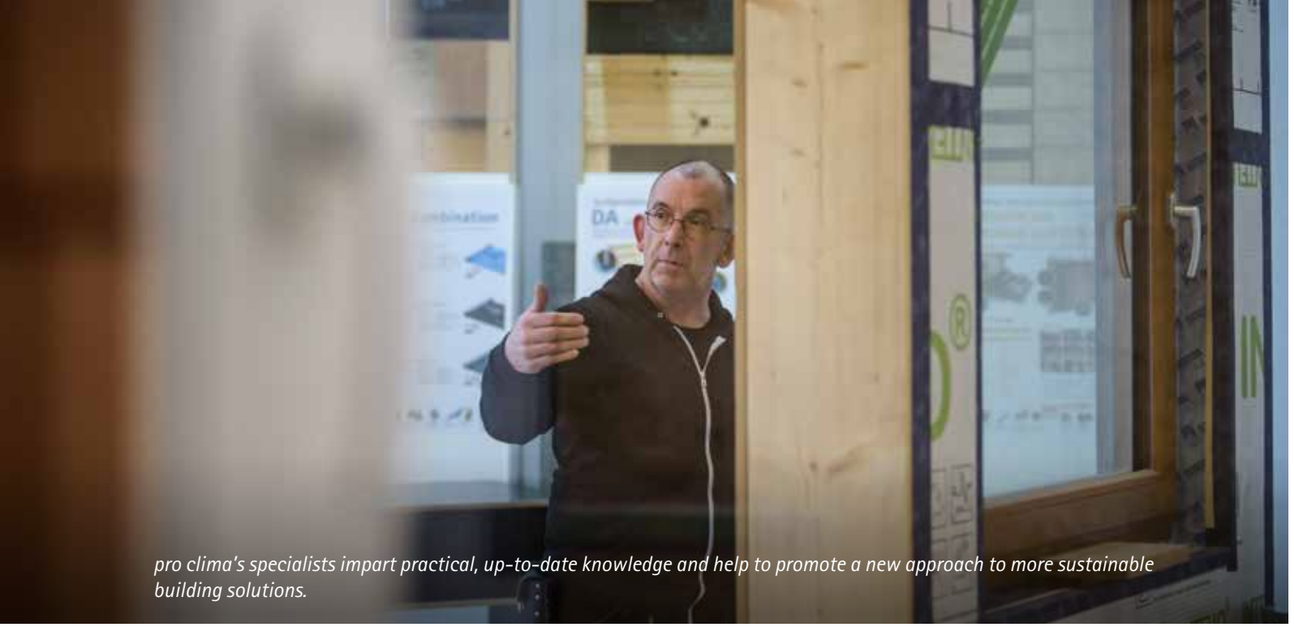
The open exchange of knowledge and relationships based on partnership are key foundations of pro clima's success.

Since the 1980s, we at pro clima have accumulated a solid base of knowledge relating to better construction practice. We assess requirements, methods of construction, materials and product systems on an ongoing basis. The result is an ever-expanding store of expertise and experience that serves as the basis for our innovations right through to today. We also believe that this knowledge should be shared and disseminated so that solutions can be created that will deliver a better future and quality of life for all of humankind. This is why pro clima has started so many initiatives and vehicles for exchange, learning and knowledge transfer.

Our «WISSEN» catalogue

The first comprehensive pro clima guide appeared in 1994, which included flyers and product samples along with information on construction physics and practical applications. Since then, demand for our valuable reference catalogues has grown steadily. In 2009, we decided to produce a single comprehensive guide called «pro clima WISSEN», German for «KNOWLEDGE». It contained everything you need to know about construction physics, our products and product systems, their benefits and impacts, and our services – compiled in a single volume running to over 400 pages.
This guide has since been published for nine different countries and/or languages: it is called «SAVOIR» in French and «KENNIS» in Dutch. Almost half a million copies have been distributed, and if you stacked them all they would be almost as high as Mount Everest!
However impressive this may be, we have recently decided to start sharing our knowledge in a more environmentally friendly manner by streamlining our catalogue. Four example, the most recent German edition of «WISSEN kompakt» has 124 instead of 448 pages, but still presents comprehensive information on interior airtightness, exterior windtightness, and sealing connections and transitions, including window joints. In this new approach, more detailed information is available by means of digital links to technical data and videos that can be accessed online. Our new «pro clima WISSEN kompakt» remains as complete and invaluable as ever, but is now more up-to-date in all senses of the phrase.

«Intelligence is not the ability to store information, but to know where to find it.» Albert Einstein



pro clima's specialists impart practical, up-to-date knowledge and help to promote a new approach to more sustainable building solutions.

Training and technical support

With virtual and physical seminars, at your site, by phone, across all building trades – pro clima is ready to help!

A fresh approach to online training
With our virtual seminars, we share our knowledge with you, live and direct: from our in-house TV studio for professional video productions with the latest technology, we can broadcast our practically oriented training courses live to screens and headsets all over the world. Viewers don't just see a slide-show presentation; instead, they get to enjoy a varied mix of specialist lectures and practical demonstrations with models and small-scale experiments – all presented in a lively manner and backed up with solid technical knowledge. In this way, participants learn more easily and will also remember what they have learned.

Combined, multi-disciplinary training events
For optimal project outcomes, the scopes of work for the trades before you and after you should always be well defined. With this in mind, pro clima and its partners organise combined training events that deal with issues that affect a number of different disciplines on site:

- «Schnittstelle Baustelle» (Building site interface) is a specialist training event that focusses on current developments in new-build timber construction.
- «Dach-Praxis» (Roofing practice) aims to increase the participants' expertise in planning and implementing challenging roof refurbishment projects from the outside.

In both of these training events, pro clima speakers and representatives from other renowned manufacturers use full-size models to demonstrate to project planners and installers how tasks on site can be carried out in a reliable, coordinated manner.

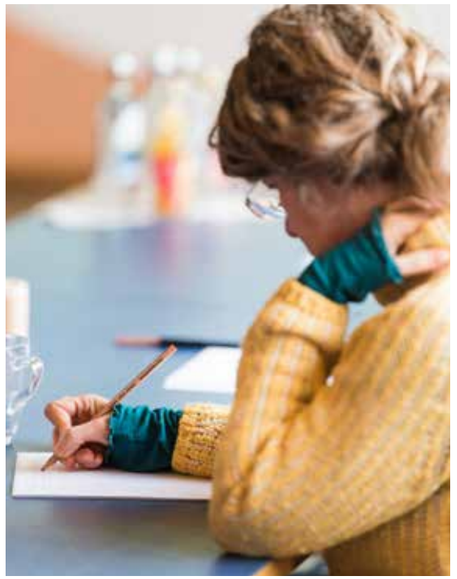
pro clima's expert speakers include energy consultants and state-certified construction engineers.

These two events alternate biannually, and are organised in the form of tours through Germany that last for a number of weeks.

The «ResonanzRaum» – pro clima's new event and training centre
A multi-functional event and training centre at pro clima's headquarters in Schwetzingen – for practising, networking and learning: Since it opened in 2023, our new «ResonanzRaum» has regularly hosted conferences and our in-house, physical training courses. It is also home to our very own broadcasting studio. Find out more on page 56.

Advice by telephone or during building site visits
If you have questions about a specific building project, our specialists from the fields of timber construction and building in general can provide quick, uncomplicated, expert support through pro clima's Technical Support service. Here too, we aim to share knowledge in the form of tailored solutions to ensure the cost-effective, reliable execution of structures for healthy, sustainable buildings. If you require support on site, a member of our Field Sales team can also visit you.

Assessments and modelling calculations
pro clima has years of expertise in the area of building physics. As a result, we can offer very valuable services in the area of simulations and modelling calculations. Certain building components require a modelling calculation to demonstrate long-term moisture protection (see DIN 4108-3), and we are able to perform these calculations. We examine the individual component and provide a written assessment to project planners and installers.



pro clima organises both physical and virtual seminars. Specialist training events are held in a number of cities in Germany once a year.

A brilliant idea spreads around the world

pro clima®

An idea that emerged in Germany in 1980s from the development of new knowledge in building physics and that found its practical application in building envelopes has since spread all around the world: over the course of 30 years, more and more people globally have taken up our enthusiasm for this approach and we now have partners in 46 countries. Again and again, we are impressed by the incredible energy, inspiration and sense of fun that are created by our worldwide community and that help to promote the issue of reliable airtightness and windtightness.

1994

1. Germany
2. Switzerland
3. Austria

1995

4. Luxembourg
5. Netherlands
6. Belgium

1997

7. France

2000

8. Spain

2001

9. Ireland
10. Liechtenstein
11. Ukraine

2005

12. Russia

2006

13. New Zealand

2007

14. Estonia
15. Finland

2008

16. Lithuania
17. Latvia
18. Italy
19. Portugal
20. Sweden
21. Czech Republic
22. Slovakia

2009

23. Denmark
24. Japan
25. Poland
26. South Korea
27. Slovenia
28. Norway

2010

29. Great Britain
30. Australia

2011

31. USA
32. Canada

2012

33. Brazil

2013

34. Chile

2014

35. Mexico
36. Taiwan
37. Turkey
38. Hungary

2015

39. Croatia
40. Greece

2017

41. South Africa
42. Iceland

2018

43. Cyprus
44. Bulgaria

2020

45. Romania

2022

46. Kazakhstan

3

Project Highlights & Outlook

SANU 2nd Home, Japan

The ecological «circular construction» approach – i.e. the idea that raw materials should not be thrown away and that everything should be re-used in new material cycles – is being put into practice in the countryside around Tokyo.

The sleek, modern timber cabins in the SANU 2nd Home project are designed to fit unobtrusively into their surrounding natural environment. They offer busy urban-dwellers a refuge where they can take a break from city life without making any compromises in terms of living comfort. At the same time, they have minimal environmental impact thanks to the use of renewable raw materials and the closing of material cycles.
A central tenet of the project philosophy is the holistic consideration of the life cycles of the buildings – from procurement of materials, construction and normal service, right through to end-of-life dismantling. With careful planning and the selection of suitable materials, the project planners and architects were able to create circular buildings with a minimal environmental footprint.
The «circular construction» approach aims to close material cycles by using renewable raw materials and ensuring that the building components themselves can be recycled in the future. The open-plan floor layout means that the buildings can be used flexibly, which should ensure that they will have long useful lives. The use of 100% domestically sourced timber is another measure that improves overall sustainability.
SOLITEX MENTO 3000 roofing underlays and SOLITEX FRONTA QUATTRO weather-resistive barriers ensure dry, reliably protected building components during the construction phase and in the long term too.

Circuitus 2.0 passive house, Sweden

Innovative house for series production with minimal environmental impact

As part of the Circuitus 2.0 pilot project, a mould-breaking passive house was developed for series construction in Sweden. The buildings combine minimal environmental footprint, a high level of living comfort for residents, and timeless aesthetic design. Sustainable solutions and materials characterise the Circuitus 2.0 houses, which are recyclable to a significant extent. As a result, the ecological impact of these designs has been kept to a minimum during fabrication and construction and also over the entire service life of the buildings.

The circular approach is reinforced by the quality of the materials used and the achievement of excellent energy efficiency. Each house has an estimated heating requirement of just 1,665 kWh/a, and the solar cells on the roof will generate around 5,000 kWh/a of electricity.
The Circuitus 2.0 construction concept offers a range of house models and is ideally suited for serial construction and pre-fabrication, which considerably reduces the installation times on site. In this way, the project not only sets a high standard in terms of sustainable construction, but also shows that projects of this kind can be implemented in an efficient manner.
The INTELLO and SOLITEX FRONTA WA membranes from pro clima were used in the airtightness layer on walls and for sealing of joint details around the windows, respectively. SOLITEX MENTO ULTRA connect, pro clima's reinforced roofing underlay with high tear-resistance and self-adhesive strips, proved to be ideal for the harsh, demanding weather conditions in Sweden.

Silver Bark House, Northern Ireland

Passive house with a timeless, sustainable design

Silver Bark House is a timber-clad home set in the countryside near the town of Hillsborough in Co. Down, Northern Ireland. It was built to passive house standards and occupies a gently sloping site with views of the Mourne Mountains. Particular attention was paid to energy efficiency and minimisation of the building's CO_2 footprint. In recognition of the design's ambitious targets, this house was awarded first place in the Sustainability category at the 2023 RIAI Architecture Awards.
It was planned with careful attention to detail, and combines sustainability, cutting-edge technology and elegant architectural design. The project planners also focussed on delivering a healthy living environment for the residents. In this way, this project serves as a beacon of sustainability innovation: it combines passive house principles with energy-efficient systems and responsibly sourced materials, while also favouring practicality in terms of design decisions and delivering a high level of living comfort.
The diffusion-open SOLITEX ADHERO peel-and-stick airtightness and breather membrane was used to provide protection against the natural elements for the wall and roof structures during the construction period. Our multi-purpose TESCON VANA adhesive tape was used to seal membrane joints and transitions to adjacent components.

ShowPass, Spain

A perfect combination of tradition and cutting-edge technology

With the ShowPass project in Barcelona, the Energiehaus design and certification practice has demonstrated how the multiple goals of optimal living comfort, a healthy indoor environment and energy efficiency can be achieved in a passive house. This retrofit project for a typical Mediterranean urban house that dates from the late 19th century was carried out in 2021 in accordance with the international EnerPHit standard for refurbishments of existing buildings.
Thanks to the resulting significant reduction in the energy requirement for the house, the newly installed photovoltaic system with an output of around 3 kWp is sufficient to cover most of the energy demand. The highly efficient PV panels are particularly suitable for renovation projects, as they can be installed directly onto metal surfaces or roof sealings made of EPDM rubber. ShowPass reduced the ecological footprint of the construction materials used by opting for solutions that involve minimal CO_2 emissions during their manufacture, processing and installation. The low levels of CO_2 emissions that nonetheless occurred were offset using blockchain technology. As a result, the building was awarded a «CO_2 Neutral» certificate by the Ecometro environmental impact consultancy in Madrid.
Installed behind the open-jointed larch wood cladding, pro clima's SOLITEX FRONTA PENTA external breather membrane protects the thermal insulation and keeps the structure dry thanks to its pore-free, moisture-activated functional membrane. This makes the building particularly energy-efficient and also provides effective protection against moisture damage to structures.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ROOTS, Germany

The tallest hybrid timber building in Germany to date

At this very desirable location in the HafenCity urban regeneration quarter in Hamburg's old port area, this 19-storey timber-structure tower is not just one of the most modern living and working spaces in the city, but also one of the most sustainable! The project developer Garbe Immobilien-Projekte GmbH is creating a total of 181 residential units in this exceptional new building. In addition, the first four floors will be home to exhibition spaces and offices. With its visible larch-wood rainscreen cladding, this design is a flagship project for timber construction in general and for sustainable building too.
Thanks to the high degree of prefabrication of the timber structural elements, a comparatively short construction period is planned for the building of the tower. With this project, Garbe Immobilien-Projekte GmbH is putting down a marker along the path to sustainable, climate-neutral urban (re)development. The overarching goal of sustainable buildings is that they should consume less resources during construction and also have longer service lives.

SOLITEX ADHERO 3000 weathering-protection membranes from pro clima were installed on the timber structural components in the workshop, meaning these elements are already protected against rain and moisture when they are delivered to the building site. Intricate detail features were sealed with pro clima's sprayable AEROSANA VISCONN airtightness sealant, while the all-round TESCON VANA adhesive tape and the CONTEGA EXO sealing tape were used on more straightforward joints.


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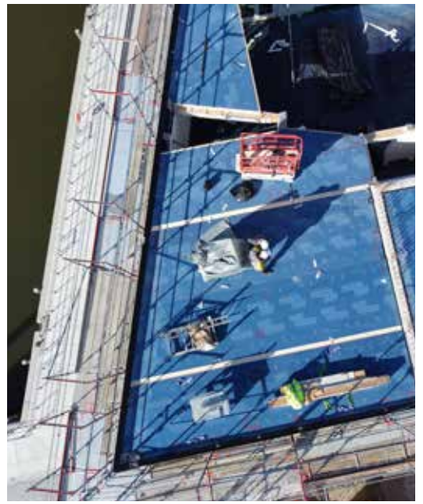


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Strong partnerships for efficient solutions

The Dämgen roofing contractor from Mainz is forward-looking and has a young, dedicated team that is always eager to learn more. Michelle Favaro from pro clima's Communications team spoke to Jonas Dämgen about the challenges he faces, his motivations and the future of the roofing trade.

Michelle Favaro: The topic of energy-efficient refurbishment of existing buildings, and particularly the area of roof refurbishment, is becoming increasingly important in the context of efforts to reduce energy consumption. How are you as a roofing company facing up to these challenges?

Jonas Dämgen: We are very glad that this issue is attracting more and more attention. We would like to invest more time and creativity in our projects, because the reason we get up in the morning is to do work that is meaningful and fulfilling. We would like to play our part and help to make our building stock more energy-efficient. For example, there are lots of attic spaces that are not being used, and the serial refurbishment approach could be used to turn these into additional, energy-efficient living spaces. Photovoltaic systems are another very promising area that has a lot of potential, in our opinion.

Michelle Favaro: I am speaking to you today at a building site in Wiesbaden. What sort of project are you working on here? And what challenges do you face when carrying out energy-related roof refurbishment and installing airtightness and windtightness layers, which of course play such a critical role in this regard?

Jonas Dämgen: First things first: before we start work on site, we engage in detailed discussions with our clients to show them what is feasible, particularly in terms of long-term sustainability. In this case, we came to the conclusion that it would be better to dismantle the entire roof structure and framework. The architects have designed attractive living spaces, with the addition of a shed dormer that expands the living area and provides for extra height. Once the planning was finished, we got in touch with pro clima. Design calculations need to be performed, particularly with regard to the thermal insulation and its level of protection against condensation. Once this evaluation has been carried out, we design the building envelope with its component layers of airtightness, roof insulation and windtightness, through to the roof covering of slates or roof tiles, in this case. This building has challenging corners and edges, and there are also wall joints that need to be improved. Here we are using AEROSANA VISCONN FIBRE, your sprayable sealant, which not only serves as a primer, but also ensures that gaps are filled that are often difficult to finish in an airtight manner on masonry structures. Airtightness is critically important, as without it we are faced with the problem of convection that can make the rest of our work practically useless.

Michelle Favaro: Why did you start using pro clima for airtightness and windtightness in your work?

Jonas Dämgen: When we started the company, we studied all of the manufacturers and products in the marketplace. We also obtained external advice and that was when pro clima came into play. Your field sales team was very impressive with their detailed technical knowledge and they were able to explain a lot of the issues to us. We have since become real fans of your company and consider pro clima a strategic partner that is always ready to provide support. No matter who we talk to at pro clima, they are always very friendly and efficient. We get quick answers to our questions and pro clima can carry out design calculations for us that serve as the basis for the quotations we provide.

The field sales team at pro clima was very impressive with their detailed technical knowledge – we consider pro clima a strategic partner that is always ready to provide support.

Michelle Favaro: You have made use of pro clima's Technical Support with site visits by our qualified roofer Patrik Söns on a number of occasions – how has this worked?

Jonas Dämgen: Over time, we have gradually been able to improve the sustainability of our projects thanks to pro clima. The Technical Support team have opened up potential approaches for us that we wouldn't have been aware of without your assistance. In particular, Patrik has helped us to develop solutions on site for specific challenges and detail features, such as sealing at eaves.

Patrik Söns from pro clima is also here with us today, providing practical support on site.

Michelle Favaro: Patrik, what sort of questions do you have to answer during site visits, and how can you help with your pro clima background?

Patrik Söns: I generally get asked about challenging details, which often arise at the eaves if an upright positioning board is fitted between the rafters. People also ask whether the airtightness layer should be planar or else fitted using the «sub-and-top» geometry on refurbishment projects, and how to finish joints around roof penetrations in general. Various methods are available here, and our Technical Support can advise customers on site and help identify the best solution.

Jonas Dämgen believes that successful building projects are only possible with great people and the best materials.

Michelle Favaro: If you had three wishes for the future of the roofing trade in general and for your work, what would they be?

Jonas Dämgen: I would like skilled trades to be appreciated and valued more by society in general. In addition, we need to take a more holistic approach – for example, to take facades into account when roofs are being designed to be longer-lasting. Of course, costs have to remain reasonable, but efficient solutions are definitely available that deliver sustainability combined with cost-effectiveness. I would also like to see more young people enter skilled trades. This has already started to happen and I am very glad that the next generation regards the roofing trade as an attractive career. I love my work and I regard my colleagues as an extended family. We have great team spirit.

Michelle Favaro: Thank you, Jonas, for this interview and for the opportunity to visit you at one of your building projects. Your work looks great!

Jonas Dämgen: Thank you too!

Networking 2.0

With our new «ResonanzRaum» event and seminar centre, we can get everyone on the same wavelength!

RESONANZ RAUM
Trainings · Meetings · Events

Ever since Lothar Moll opened his builders' suppliers in 1981 and started developing, producing and marketing solutions for sustainable construction, it has been a central tenet of the pro clima philosophy that we can achieve change for the better – for our natural environment and for society as a whole – only though mutual inspiration, exchange and the sharing of knowledge.
As of summer 2023, we have completely new tools at hand to put this philosophy into practice. Our old warehouse has been comprehensively refurbished and now houses a state-of-the-art, multi-functional training centre for sharing our accumulated expertise. It offers spaces for events, conferences, meetings, seminars and practical training – all on a floor area of 400 m². The jewel in the crown of this project is a TV studio with powerful audiovisual technology for global live streams, podcasts and video productions.

«ResonanzRaum»: a space for creativity and exchange

The new event centre was officially opened in September 2023. «With our new, high-tech facilities, we can reach out to our partners and customers with a level of quality, flexibility and simplicity that is unprecedented, both with physical events on site and by streaming live to anywhere in the world,» says Oliver Goldau, Head of Marketing & Communications. The result is a space for creativity and interactions where people and ideas can come together and feed off one another with the overarching goal of moving things forward.

pro clima fosters networks of ideas, knowledge and human input all around the world with its new «ResonanzRaum»: a location for events and training, with enough space for large meetings, and with its own TV studio for professional video productions with state-of-the-art equipment.


Sichere Dichtung der Gebäudehülle


TESCON

A solid foundation for an innovative future

After over a quarter of a century of involvement in the company, our long-standing Managing Director Uwe Bartholomäi retired at the end of 2023. His departure is a watershed not just for the company and our partners, but also for Uwe Bartholomäi personally. He played a major role in shaping pro clima's philosophy and overall growth with his inspirational character, forward-looking management philosophy and pioneering communication skills. All of this helped to make pro clima what it is today: a strong, authentic global brand.

Construction often focusses on minimum standards – however, buildings that just about fulfil current regulations are generally not sustainable in the long term. We want to be better than that. Average is not good enough for us.

At the start of 2024, Jens Lüder Herms took over Uwe Bartholomäi's role as our second Managing Director alongside Lothar Moll. A qualified carpenter and graduate construction engineer, he is very familiar with the workings of the company at all levels. For many years now, Lüder has worked in leading positions in the company. With empathy, dynamism and well-founded technical expertise, he will continue to foster pro clima's unique spirit and develop the company and brand.

Jens Lüder Herms and Lothar Moll share a vision for the future:
pro clima stands for better buildings that deliver healthy indoor environments, energy efficiency and reliable protection against moisture damage to structures. We value open cooperation with partners who we regard as equals, and provide invaluable support and services to everyone who shares our goals and values. pro clima is synonymous with uncompromisingly high-quality.
Our aim is to exceed standards and to set the bar high in everything we do. «Better buildings»: this is our raison d'être, as long as there are people who want to build the best possible buildings and are not content with mediocrity, people who want to deliver quality to their customers and are proud of the work they do. After all, issues such as durability and reliability are critically important. People want the best products and services, and that is why they choose pro clima. pro clima has a proven record of innovation and world firsts: the first vapour check membrane, the first adhesives for airtightness, the first intelligent vapour check membrane, the first humidity-variable weathering-protection membrane, and the first tapes with 100 years of verified durability. Many of these pro clima innovations are now part of established best building practice – and more will follow.
Jens Lüder Herms is determined to keep moving the company forward along this successful path. Our mission to serve as as a strong partner for builders' suppliers, project planners and installers remains unchanged. We will continue to get better all the time and to fine-tune our service offering so that we can play our part – together with all other stakeholders in the building sector – in achieving tomorrow's ambitious goals of better buildings for more sustainable, healthier living spaces.

Uwe Bartholomäi (right) has retired after 30 years of shaping pro clima together with Lothar Moll (left).

Jens Lüder Herms (left) is a new Managing Director at pro clima, alongside Lothar Moll (right).

Legal information

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Note
The applications and conditions described here are based on current state-of-the-art research and practical experience. We reserve the right to change the recommended structures and installation methods and to further develop and thus alter the quality of individual products. We would be glad to inform you about the current state of engineering knowledge at the time that you plan or carry out your project.

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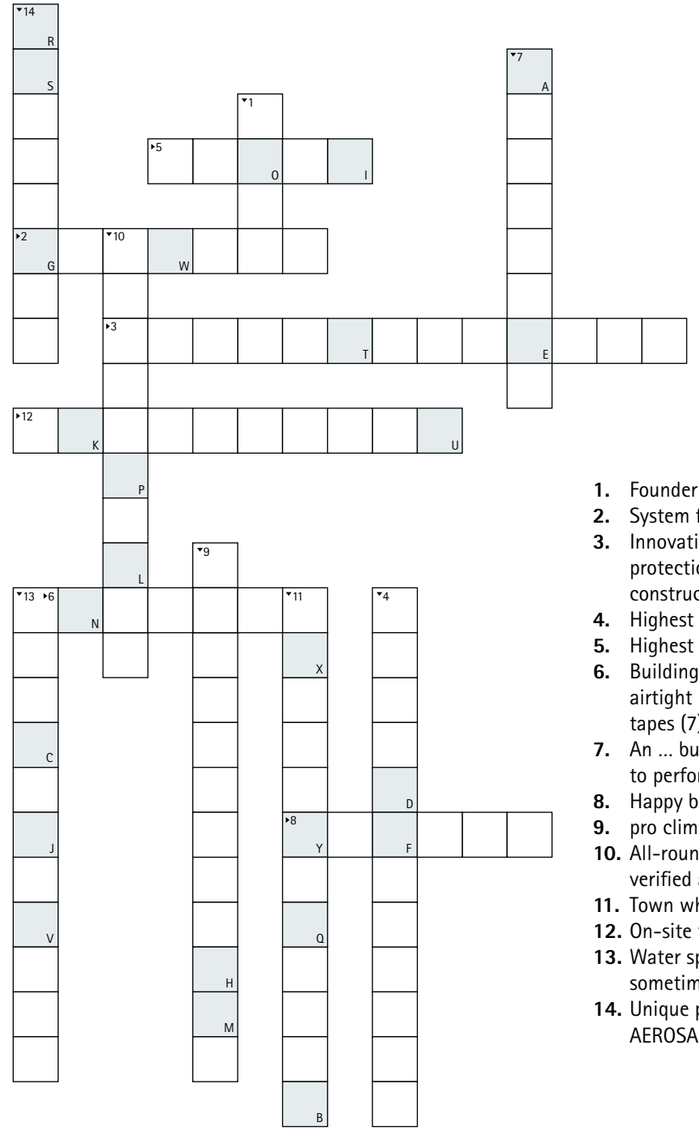
The pro clima crossword: test your knowledge and win a prize! 30 of the correct submissions will win a high-quality pro clima trucker's cap.

This is how to participate:
do the crossword and identify the slogan under «Overall solution» at the bottom of the crossword. Enter your contact details and take a photo of the crossword or scan it and send to **info@proclima.com** by 31 August 2024.

First name | Surname
Company
Address
Country | E-mail
Telephone for queries

☐ I consent to the data protection conditions at **proclima.info/en/data-protection**
Winners will be notified by e-mail. Subject to change without notice. Recourse to courts of law is excluded.

Crossword



1. Founder of pro clima (4)
2. System for intelligent airtightness (7)
3. Innovative system that guarantees reliable protection for timber elements during construction (7, 6)
4. Highest mountain in the world (5, 7)
5. Highest hybrid timber building in Germany (5)
6. Building components that can be sealed airtight using the CONTEGA and EXTOSEAL tapes (7)
7. An … building envelope allows the insulation to perform optimally (8)
8. Happy birthday, INTELLO, you've turned … ! (6)
9. pro clima's main range of roofing underlays (7, 5)
10. All-round adhesive tape with 100 years of verified adhesive strength (6, 4)
11. Town where pro clima was founded (12)
12. On-site test of the airtightness of a building (6, 4)
13. Water sport invented in California in the 60s, sometimes sponsored by pro clima (11)
14. Unique potential method of application for AEROSANA VISCONN (8)

Overall solution:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

Q	R	S	T	U	V	W	X	Y

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