REHAU®
Unlimited Polymer Solutions



PASSIVHAUS PRODUCTS FROM REHAU

World-class energy efficiency through innovation.

REHAU PASSIVHAUS RANGE

A world of innovative energy efficient products.

Passivhaus is the advanced energy efficiency concept which has now become a worldwide standard that creates buildings with ultimate energy efficiency and comfortable living through superior indoor air quality and thermal comfort. With its increased popularity, it presents a challenge to architects, engineers and specifiers. A challenge REHAU can help you meet.

GENEO® Passivhaus Certified Entrance Door System.

There are some key considerations when it comes to entrance doors such as energy-efficiency, design and durability. Aspects GENEO® achieves with ease and great style.





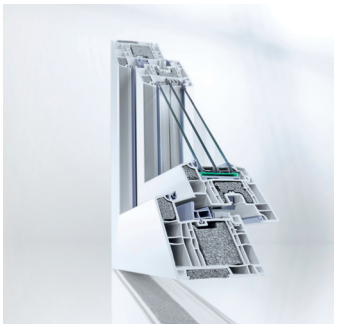
REACH/Ankrom Mosain Architects, Portland.

Passivhaus Trust MEMBER



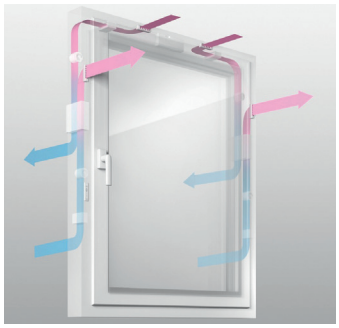






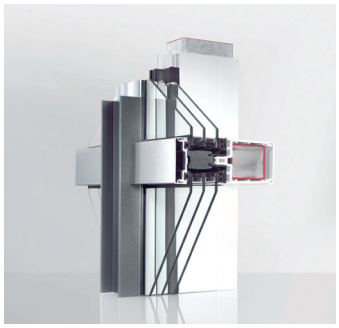
GENEO® Windows.

With its three surrounding seal levels, it offers the best possible insulation characteristics whilst also being the first fully self-reinforced window profile system with a Uw value of 0.73 W/m²K.



GENEO® Inovent.

Highly innovative, this window system creates optimum ventilation through continuous air exchange. This ensures very hygienic air and a remarkable heat recovery of up to 68%.



Polytec 50.

Our composite curtain walling system comes with superior strength and thermal performance. Passivhaus certified and tested to the CWCT's challenging weather performance standards.



Awadukt Thermo.

Often used on zero-carbon and Passivhaus buildings, our ground-air heat exchanger reduces costs, saves energy and is the first of its kind with an antimicrobial inner layer.

GENEO® WINDOW PROFILE SYSTEM

Market-leading energy efficiency.

Manufactured using our innovative RAU-FIPRO® composite material, the GENEO® Window system is completely self-reinforced without the need for steel reinforcement, eliminating thermal bridges and their inherent energy inefficiencies.

This results in windows with a reduction in energy losses of up to 76%*, remarkable sound insulation levels and also greatly improved break-in protection.

This makes it ideal for energy efficient buildings from current building regulations up to Passivhaus standards – regardless of whether they are new builds or refurbishments.

Features

- 86mm profile depth | 6 chambers | Uw up to 0.73 W/m² | glass 50dB = Rwp 47dB | Up to Class 3 burglary resistance.
- One of the most energy efficient profiles available for windows ranging from low energy houses to Passivhaus standards
- BRE Green Guide rated A 'for domestic and A+' for commercial with a life cycle of 35 years

**Reduction in the energy loss from windows when replacing old wooden/plastic windows from the 80s (Uf= 1.9, Ug= 3.0) with windows made from GENEO® profiles (Uf= 0.91, Ug= 0.5, window size 123 x 148 cm).*



Innovation at every level.

Every part of the GENEO® window profile system has been precision engineered to be highly energy efficient, cost-effective and easy to install.

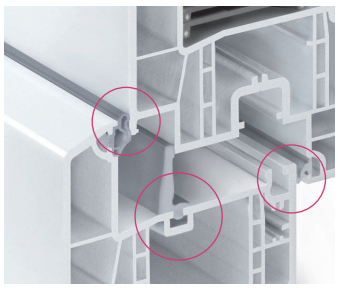
Passivhaus certified and specified.

Already in use across the UK, the GENEO® Window system is giving architects and specifiers the solutions they need to answer their client's brief.

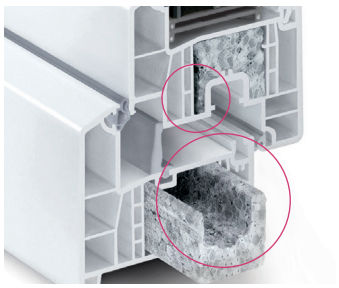




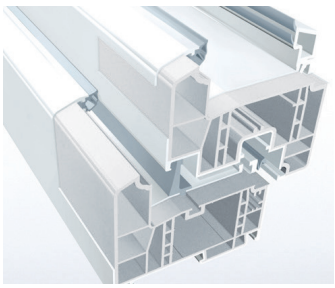
Sound insulation – Class 5 for a comfortable environment.



Centre seal – for best possible insulation.



Thermal insulation – six chambers for enhanced thermal optimisation.



RAU-FIPRO® profile core – provides maximum strength and stability.

GENEO® ENTRANCE DOOR SYSTEM

The stylish and secure choice for energy efficient housing.

When searching for an entrance door to meet Passivhaus standards, it has to be energy efficient, ergonomically designed and durable.







REHAU have developed a high quality premium range of Passivhaus certified entrance doors, each featuring innovative RAU-FIPRO® technology, and each combining stylish design with exceptional strength and thermal performance.

Coupled with market leading break-in protection from our partners, this means your projects won't just be more energy efficient, they'll be more secure and attractive too. Offering a total solution including a choice of finishes for complete flexibility and premium aesthetics for peace of mind.

RAU-FIPRO® inside.

Every door in the range features a GENEO REHAU Profile made from RAU-FIPRO® – a high performance material based on fibre composites used in aircraft construction and Formula 1 vehicles. An integral part of the door system, RAU-FIPRO® delivers high stability, torsional stiffness and static properties with reduced steel reinforcement requirements, helping significantly to improve overall energy efficiency.

Features

- Thermal Insulation – Ud up to 0.7 W/m²K, ensuring outstanding performance all year round
- Innovative RAU-FIPRO® technology for enhanced insulation
- Aesthetically stylish, adding value to every project
- Optimum sound proofing for added noise protection
- Available in a wide range of colours and in a choice of foil finishes or aluminium-facing formwork.







Creative freedom.

Available with colour options in foil finishes or aluminium-facing formwork, it's an innovative system that gives you complete flexibility to create the finished style you require.

GENEO® INOVENT

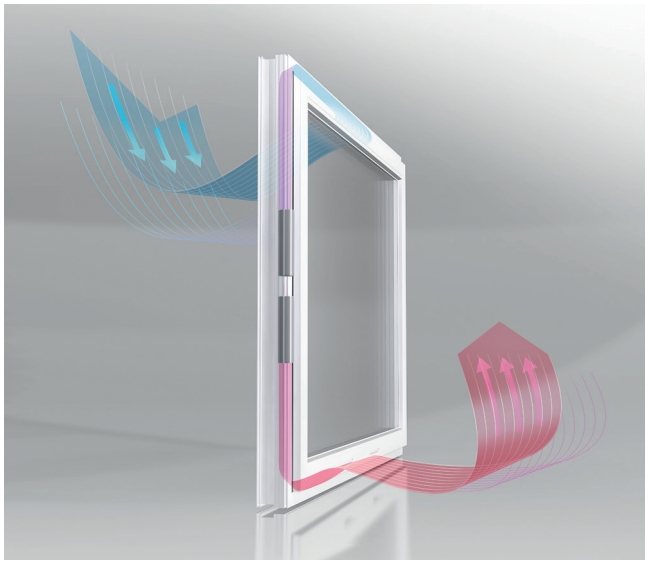
The window that ventilates while closed.



Creating a comfortable and healthy environment is easy with GENEO® INOVENT – a fully integrated ventilation system for fresh air that functions even with the windows closed.

Remarkably this means no moisture, no mould and no noise from the outside.

Added to all this, it has a heat recovery of up to 68% and is able to filter outside air to reduce pollen by up to 80% – in short, it's a real breath of fresh air for those who desire both energy efficiency and healthy living.



2016
UK Launch

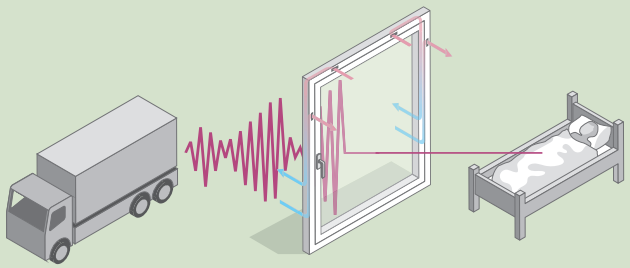
How it works

Using two arrows on the operating panel you can select one of four levels to adjust the ventilation.

The automatic ventilation system works with a heat exchanger that supplies tempered fresh air. This means that room air and fresh air are simultaneously drawn in and channelled to the heat exchanger. The heat is then extracted from the warm indoor air and used to warm the cool fresh air.

Fresh air without all the noise

16x noise reduction with fresh air 24 hours a day.
For a restful night's sleep.



REHAU POLYTEC 50

Composite curtain walling with superior strength and thermal performance.

Our (thermally broken) stick curtain walling system combines the benefits of slim 50mm external sight lines using aluminium facings, galvanised box steel sections for structural strength and PVC profiles for warm internal facings.



Excellent Thermal Performance

Features

As steel has an E-modulus three times greater than aluminium, Polytec 50's structural capabilities can easily outperform aluminium sections with the same geometry, making it perfect for larger spans.

- Tested to CWCT (Centre for Window Cladding Technology) standards allowing it to be specified for new build work controlled by the NHBC (National House Building Council).
- Certified by the Passivhaus Institute and suitable for zero-carbon buildings with a Ucw-value up to 0.8 W/m2K to minimise loss through the building shell and to avoid thermal bridging for sustainable homes.
- Tested in accordance with BSEN13830:2003
  Air Leakage 750Pa
  Water Tightness 1950Pa
  Wind Resistance 2000Pa.

INCREASE YOUR COMFORT BY COOLING AIR

AWADUKT THERMO Ground-air heat exchanger.

For Zero carbon buildings & passive houses, mechanical ventilation is considered essential due to excellent insulation standards and air tightness. Ground-air heat exchangers are regarded as a Passivhaus principle.



Commercial office application

Innovative Heating and Cooling
REHAU AWADUKT Thermo is the ideal solution for a mechanical ventilation system in low-energy, Passivhaus and commercial buildings.

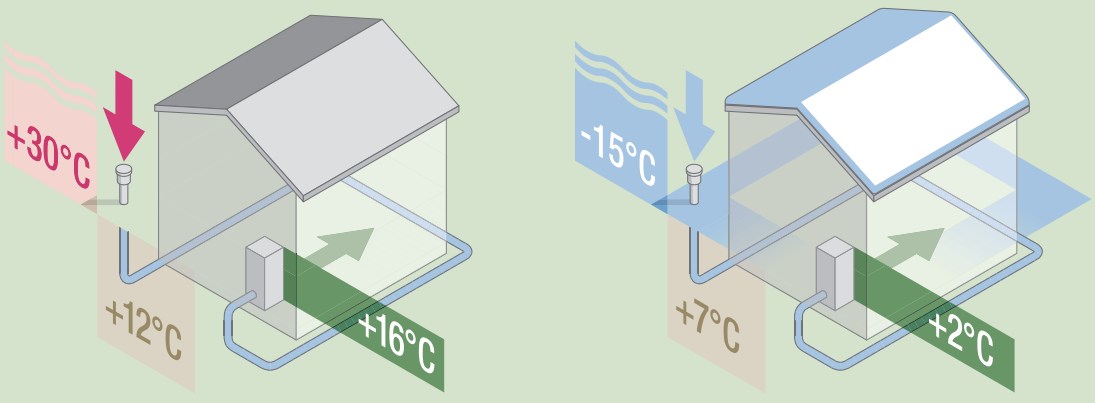
Provides fresh air
Using the natural temperature of the ground, allows the system to pre-warm air in the winter or cool the air in summer, providing fresh air without opening a window, thereby reducing your energy costs.

Healthier climate
REHAU has optimised the system and developed a ground-air heat exchanger that inhibits the growth of bacteria by up to 99% thanks to an antimicrobial inner layer.

Bespoke design software.

- Inlet & outlet temperatures
- Energy savings for both heating and cooling modes
- Pressure losses
- Air velocities

How it works



Ventilation air is simply drawn through underground pipes at a depth of 1.5m, which pre-heats the air in winter and pre-cools the air in summer, using the near constant temperature of the ground (7-13°C).


Queen Elizabeth's School
A
B
C
D
E
F
Up to
50%
less energy
consumption

HOME COMFORTS AND PASSIVHAUS PERFORMANCE

Fully certified products in a landmark US development.



Orchards at Orenco, Hillsboro, Oregon

Client	Reach Community Development
Products	GENEO® 4700 Tilt & Turn windows and REHAU exterior hinged doors
Architect	Ankrom Moisan Architects
Systems	GENEO® tilt & turn windows

REACH Community Development created a truly ambitious project at Orchards at Orenco. A three-story, 57-unit, multi-family residential affordable housing complex in suburban Portland that meets Passivhaus certification standards.

With more than 57,750 ft^2 (5,365 m^2) of space, Orchards at Orenco is the largest multi-family Passivhaus building in the US. To help them achieve this, REACH selected the highly energy efficient GENEO® 4700 Tilt & Turn windows and the REHAU exterior hinged doors.

A preliminary air tightness test after the windows and doors were installed recorded 0.056 – incredibly, more than 10 times the efficiency required.



REACH/Ankrom Mosain Architects, Portland.



Regional Office, Leicestershire

Client	Interserve Construction Ltd.
Products	GENEO® window & door system and AWADUKT Thermo ground-air heat exchanger

Achieving its 90% reduction target in energy usage and costs compared with a traditional building, the new regional office for Interserve Construction Ltd is a triumph of design and engineering, gaining Passivhaus certification.

As part of this £1.5m, 680m² Passivhaus certified office, 27 windows and four doors from the GENEO® system were installed, the majority of which were across its south facing aspect to increase solar gain in winter and minimise the requirement to generate additional heat. GENEO's RAU-FIPRO composite material provides greater strength, minimising the need for steel reinforcement and increasing thermal performance.

SUSTAINABILITY

Focusing on our environmental responsibility.

As a global business, we have a global commitment. Across our 170 worldwide locations, and more than 19,000 people, we share a drive to protect our environment – and sustainable conduct is core to who we are and what we do.

Our aims for 2020

Based on 2009 figures, we aim to cut our energy consumption by 30% by 2020.

Water usage

Water consumption in 2014 has been reduced by 17.2% compared to 2009.

CO_2 consumption

We conserve resources and protect the environment. That's why we attempt to reduce emissions and save as much CO_2 as possible.

Energy usage

As a resource-saving company, energy efficiency is one of the most important objectives for REHAU: within the past five years, we have reduced energy consumption by 7.6%.

Waste disposal

We take waste prevention seriously. Since 2012, we have reduced waste in our European plants by 7%.

Accreditations

ISO 14001

REHAU's manufacturing process complies with ISO 14001 for environmental management.

ISO 50001

Many of our locations are certified to ISO 50001 through policies focusing on continuous energy improvement.



Sustainable recycling.

From window profiles to raw materials, we've been recycling plastics for decades.

- A worldwide dedicated recycling team identifies the best technologies, products and processes to optimise recycling.
- We partner with VinylPlus; a voluntary body committed to continuously increasing the sustainability of PVC.
- REHAU has long been pushing ahead with the use of sustainable materials such as natural fibres and biopolymers as well as recycling options.
- In 2014 REHAU UK Limited acquired its own recycling company PVCR, as part of the group, in its efforts to develop a fully sustainable recycling chain using recycled window profiles over our wide range of products from cable management systems to industrial products.



Gold-status for REHAU administration office.

REHAUs administration office in Austria has been awarded an DGNB (German Sustainable Building Council) certificate in gold. Using primarily REHAU system solutions, the renovation project in 2011 set new standards in terms of architecture, energy efficiency, indoor climate, acoustics, functionality and interior decoration. By using energy-efficient systems and renewable energy, we were able to attain remarkable cost savings.

By renovating the outer shell thoroughly, installing new windows to passive house standards, switching from gas to renewable sources of energy and installing superordinate fully automatic building management technology, annual heating and cooling energy requirements have been verifiably reduced by up to two thirds. The heating requirements before the renovation amounted to 151.659 kWh per year (with a gross floor area of 1.736 m²). After the renovation work, these figures were reduced to 36.016 kWh per year, i.e. by around 76 percent (despite a bigger gross floor area of 1.866 m²).

Get in touch...

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