



## ENERGY EFFICIENCY IN PERFECTION

ONLY THE BEST FOR THE FUTURE – THE GENE<sup>®</sup> WINDOW SYSTEM  
MADE FROM HIGH-TECH RAU-FIPRO<sup>®</sup> MATERIAL





# GENEO® WINDOW PROFILE SYSTEM

BEST IN CLASS ON THE MARKET! GENEOR® IS AHEAD OF THE FIELD  
TO HELP YOU MAKE THE RIGHT DECISION

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Thanks to their technological advances and their performance characteristics, windows & doors constructed from GENEOR® profiles put all previous systems in the shade.

- The first fully self reinforced window profile system
- Made from a high-tech fibre reinforced composite material RAU-FIPRO® which is fully recyclable up to six times.
- The most energy-efficient profile available for windows ranging from low energy houses (e.g.,  $U_w = 1.1 \text{ W/m}^2\text{K}$ ) to passive house standards (e.g.,  $U_w = 0.73 \text{ W/m}^2\text{K}$ ).
- The best possible level of sound insulation without steel reinforcement, achieving previously unattainable values (glass 50 dB =  $R_{w,P}$  47 dB) for sound insulation class 5 – and including optimal thermal insulation.
- Break-in protection up to resistance class 3. Without steel reinforcement, resistance class 2 – including optimal thermal insulation.
- Investing in the best frame/sash combinations possible future proofs your investment should better performing glass become available.
- BRE Green Guide rated, A' for domestic and, A+ for commercial with a life cycle of 35 years.

**Save your energy! There is no better way to change your energy budget to meet future needs.**





# GENEO® WINDOW PROFILE SYSTEM

THERE IS NO BETTER WAY TO CHANGE YOUR ENERGY BUDGET  
TO MEET FUTURE NEEDS



GENEO® profiles allow the most energy-efficient windows available to be created. They create the comfortable environment you have always wanted.

The fully self reinforced profile design requires no steel, thus eliminating thermal bridges through which valuable energy can be lost. The best possible break-in protection and previously unattained sound insulation are included.

GENEO® MD plus,  
Passive House standard - certified

Ug value = 0.5 W/m<sup>2</sup>K  
Uf value = 0.77/0.78 W/m<sup>2</sup>K  
Uw value = 0.67 W/m<sup>2</sup>K \*

Calculated savings \*\*  
Savings using GENEО® MD plus:  
Gas: 3555 kWh / annually  
CO<sub>2</sub> reduction: 648 kg / annually  
CO<sub>2</sub> reduction: 22,680 kg\*\*\*  
Energy saving: 17%

GENEO® MD plus,  
Suitable for Passive Houses

Ug value = 0.6 W/m<sup>2</sup>K  
Uf value = 0.91 W/m<sup>2</sup>K  
Uw value = 0.80 W/m<sup>2</sup>K \*

Calculated savings \*\*  
Savings using GENEО® MD plus:  
Gas: 2,614 kWh / annually  
CO<sub>2</sub> reduction: 480 kg / annually  
CO<sub>2</sub> reduction: 16,800 kg\*\*\*  
Energy saving: 15%

GENEO® MD plus, surpasses the  
latest Part L 2010 regulations<sup>1)</sup>

Ug value = 1.0 W/m<sup>2</sup>K  
Uf value = 0.91 W/m<sup>2</sup>K  
Uw value = 1.1 W/m<sup>2</sup>K \*

Calculated savings \*\*  
Savings using GENEО® MD plus:  
Gas: 1,961 kWh / annually  
CO<sub>2</sub> reduction: 360 kg / annually  
CO<sub>2</sub> reduction: 12,600 kg\*\*\*  
Energy saving: 13%

\* Window size: 1230 × 1480 mm.

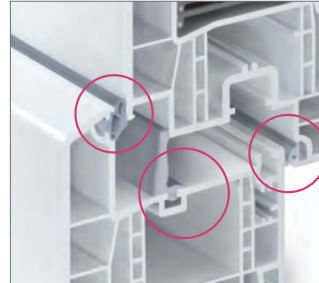
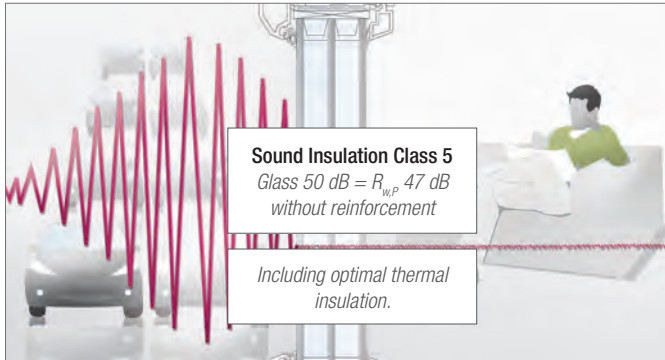
\*\* Based on: timber/plastic windows from the 1970s with an approximate  $U_w$  value of 3.0 W/m<sup>2</sup>K and a typical detached house with 120 m<sup>2</sup> of floor space and 25 m<sup>2</sup> of total window area.

\*\*\* Based on lifespan of window being 35 years as indicated in the BRE Green Guide  
Heating method: Gas

# WINDOWS MADE OF GENE<sup>®</sup> PROFILES

## SOUND INSULATION AND BREAK-IN PROTECTION

### - INCLUDING HIGH-TECH



#### Centre seal

With its three surrounding seal levels, the GENE<sup>®</sup> window profile offers the best possible insulation characteristics. The highly elastic seal material which is resistant to continuous stress guarantees a long service life.

| Sound insulation class | Traffic density                        | Distance between the home and the center of the street | Recommended window sound insulation value* | Glass | R <sub>w,P</sub> |
|------------------------|--|--|--|-------|------------------|
| 1                      | Residential street, 1,500 vehicles/day | 3-12 m   | 28-29 dB                                   |       |                  |
| 2                      | Residential street, 1,500 vehicles/day | 12-5 m   | 30-34 dB                                   |       |                  |
| 3                      | Federal highway, 30,000 vehicles/day   | 150-80 m   | 35-39 dB                                   |       |                  |
| 4                      | Federal highway, 30,000 vehicles/day   | 80-30 m  | 40-44 dB                                   | 40 dB | 42 dB            |
| 5                      | Freeway, 50,000 vehicles/day           | 70-40 m  | 45-49 dB                                   | 50 dB | 47 dB            |

\* Noise level which the window can dampen.

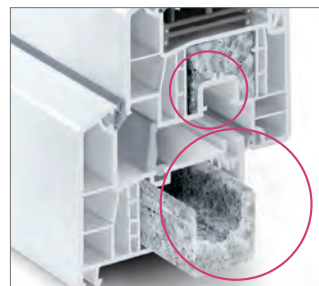


#### Sleek design

The profile design offers an elegant, sleek appearance (115 mm) for even the largest elements. Combined with REHAU's innovative adhesive technology, even floor-length windows can be created with the necessary degree of stability.



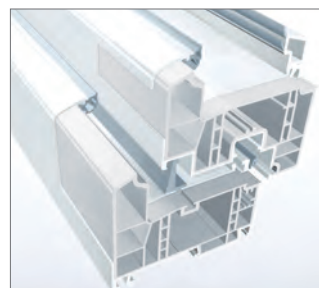
Break-in protection: For security in every situation.



#### Optimized thermal insulation

GENE<sup>®</sup> possesses functional chambers which can be employed for a variety of purposes. For example, the GENE<sup>®</sup> MD plus uses thermal modules to optimise the insulation properties to provide an enhanced thermal performance.

|  |   |
|--|---|
|  | <b>Basic security:</b> Basic security is adequate for windows which are difficult to access.                            |
|  | <b>Resistance class 1:</b> Low protection against the use of levers.  |
|  | <b>Resistance class 2:</b> Improved protection against the use of simple tools such as screwdrivers, pliers and wedges. |
|  | <b>Resistance class 3:</b> Best possible protection against the use of heavy tools such as a crowbar.                   |



#### RAU-FIPRO<sup>®</sup> profile core

The profile core made from the high-tech material RAU-FIPRO<sup>®</sup> gives GENE<sup>®</sup> window profile systems maximum stability.

# GENEO® PROFILE SYSTEMS

## FOR WINDOWS WITH A FUTURE

### RAU-FIPRO®- THE INNOVATIVE, HIGH-TECH MATERIAL



#### 1. Unbeatably stable

RAU-FIPRO® – represents high-tech in combination with an innovative material formulation. The highest level of profile core stability sets new benchmarks for window profile systems.

#### 2. Uniquely innovative

With a high-tech fibre composite material, this branch-specific innovation sets an example. Following work done with aircraft construction and Formula 1 design, fibre composite materials now also offer the best performance in the area of window design.

#### 3. Highest quality

The best initial materials combined with the highest manufacturing benchmarks result in the outstanding quality and long service life of profiles made from RAU-FIPRO®, under even the highest stress levels.

#### An overview of all properties:

##### GENEO® window profile systems

|   |   |
|---|---|
| Construction width:   | 86 mm / 6 chamber system  |
| Thermal insulation:   | $U_i$ up to 0.85 W/m <sup>2</sup> K (MD plus)*                        |
| Sound insulation,<br>sound insulation class (VDI 2719):       | Up to sound insulation class 5**<br>(Glass 50 dB = $R_{w,P}$ 47 dB)   |
| Break-in protection   | Up to resistance class 3<br>Up to resistance class 2 (without steel)  |
| Surface:  | High value, smooth, sealed and easy maintenance                       |
| - Ideal for low energy houses and energy conscious renovation | - Up to the passive house standard<br>- For upscale home construction |

\*  $U_i$  = Profile thermal insulation value

\*\* Including optimal thermal insulation

**Compare price and performance and you will choose windows made from GENEO® profiles.**

**Please get in touch with us to find out more.**

# GENEO® PROFILE SYSTEMS

## PROVIDING ENERGY EFFICIENT SOLUTIONS

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On the first floor of The London Building Centre in Store Street, seven tilt and turn GENEIO® windows have been installed to replace 1960s aluminium frames as part of an overall refurbishment programme which is aiming to achieve a BREEAM Excellent rating.

The refurbishment is a means of demonstrating how even a building which is approaching 100 years old can be refurbished to BREEAM Excellent standards.

The  $U_w$  Value of the windows has been improved from  $4.5 \text{ W/m}^2\text{K}$  to less than  $0.8 \text{ W/m}^2$  utilising the triple glazed GENEIO® solution.



REHAU GENEIO® windows have been installed throughout a project carried out by Orbit Heart of England Housing Association which aims to maximise the energy efficiency of a traditional 1900s mid terrace house.

Orbit Heart of England set itself a target of using mainstream affordable solutions to refurbish the house using Passivhaus principles.

The installation, in Foleshill Road Coventry, is within the qualifying area under the Community Energy Savings Programme (CESP) where energy providers have committed to delivering energy efficiency measures and improving standards to reduce fuel bills.

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