#9

REPORT

REYNAERS
aluminium

Magazine
by Reynaers
Aluminium for
architects and
investors

TECHNICAL VOCATIONAL SCHOOL

High quality architecture in Visp

FOCUS

Progress in comfort

MOULINS DE PANTIN

A successful large-scale conversion

#9

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MORE THAN LUXURY

Just as there is a difference between objective and subjective temperature, there is also a difference between objective comfort levels and what could be called a feeling of comfort. It's possible for a perfectly insulated and ventilated building simply not to feel very comfortable. True comfort is found in the combination of well-being and lavishness. Physical comfort is of course an indispensable part of this. If someone is cold or sitting in a draught, or lacking fresh air, he or she will not feel comfortable.

Reynaers Aluminium is thoroughly aware of the fact that comfort starts with high-quality products which can achieve the desired energy performance, air- wind- and water tightness and acoustical insulation. The next step can be found in ease of operation, and in practical details like the absence of thresholds. Finally comes in the psychological comfort: beauty, quality, character, and the ambiance of the architecture.

Comfort is often associated with luxury, but the original definition has more to do with inner peace. In a rational world which places great importance on facts and numbers, this feeling is often neglected. On the one hand, architecture is thoroughly rational and practical; but on the other hand, it always focuses on feelings, even on poetry.

We at Reynaers Aluminium can take care of the physical and practical comfort. With the partnership of our fabricators, partners, contractors and architects, we can offer the means to provide for the intangible but no less real aspects which can generate the impalpable architectonic quality which makes buildings, spaces, and environments places where it feels good to be.

Roland Hörzer
Director Reynaers Switzerland

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←
This intuitive platform will give you access to specific technical information and background information on various themes such as sustainability, local standards and regulations, test reports and many other interesting topics. We have also developed some easy-to-use tools such as the U-calculation tool, which can help you in your daily projects.
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→
For more inspiration on building and renovating, please also visit us at
www.alu-inspiration.com

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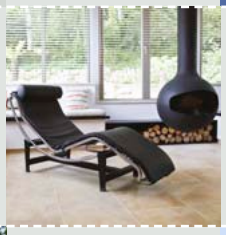
Comfort - more than just a safe roof over your head



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An overview of recent projects that Reynaers has contributed to

JULIAN NEDEV

A house as a tree

VARNA (BG) – One of the most remarkable projects by Boris Ignatov, a Bulgarian architect working out of New York and Varna, is his tree-like Conservatory House. This large residential complex façade was made with Reynaers systems CW 50-HI, CW 50-RA and CS 77. The project was nominated by World Architecture News for House of the Year 2010. This unique house has six geothermal probes that create a closed loop ground heat exchange system, which delivers clean heating and cooling. The glazed roof is reversed, which allows natural light to enter and the collection of rain water for irrigation at the same time. The integrated solar vacuum tubes supply all needed domestic hot water. The house is made of natural materials – wood, stone, reinforced concrete. The architect explains: 'The conservatory is the main functional, aesthetic and environmental feature of the house, combined with vast areas of glazing and curtain wall. It allows daylight to reach all levels, balances the indoor climate by the thermal mass of its soil, freshens the air with flower aromas and is a favourite place for relaxation. In summer the house benefits from the conservatory's natural cross ventilation, while in the winter the residents enjoy its greenhouse effect.'

CONSERVATORY HOUSE
Architect: **Borislav Ignatov, Varna** Investor: **Georgi Bonin** General contractor: **Bon Marin Ltd., Varna** Fabricator: **Rekar plast 2006 Ltd., Varna** Reynaers systems: **CW 50-HI, CW 50-RA, CS 77**

Solid ground in Luxembourg

LUXEMBOURG (LU) – The dredging fleet of the Belgian construction conglomerate Jan de Nul sails under the flag of Luxembourg, thanks to a Belgian law from the 1990s. For this reason, Dredging and Maritime Management S.A., which is responsible for the dredging fleet, has realised a head office in Luxembourg. The building, designed by Tetra Architectes Paul Kayser & Associés, consists of almost 8,000 m² offices, archives and technical spaces. It is foreseen that a dredging simulator will be installed to train future workforce.
The building, which is designed to reflect the image of the company, has façades of dark brick and glass, made using different Reynaers systems: the high-insulated façade system CW 50-HI as well as the window and door systems CS 86-HI and CS 77-FP.
The DMM building is constructed with a double façade for optimal thermal and ventilation comfort. For more information on the applied technical solution, go to page 56-57.

DEBBIE DE BRAUWER

DMM HEAD OFFICE
Architect: **Tetra Architectes Paul Kayser & Associés Sarl** Investor: **Dredging and Maritime Management SA, Capellen** Fabricator: **Metalica, Esch/Alzette** Reynaers systems: **CW 50-HI, CS 86-HI and CS 77-FP**

Gals Business Centre

NOVOSIBIRSK (RU) – Just like a caterpillar which has found a place to pupate, on a branch, under a leaf, or in a crack in a wall, this office building in Novosibirsk, Russia's third-largest city, seems to have squeezed itself in between existing buildings. Architect Valeriy Philipov has used CW 50-HL for both the flat and curved façades of this remarkable business centre.

BUSINESS CENTRE
Architect: **Valeriy Philipov, Novosibirsk** Investor: **Systema-K** General contractor: **SpaceStructure, Novosibirsk** Fabricator: **GlasStoun, Novosibirsk** Reynaers systems: **CW 50-HL, CS 77-HV**

VIACHESLAV STEPANOV

PETER BARACCHI

7

Three layers

UZNACH (CH) – Juan González and Ruben Daluz, each with their own architectural office, have worked together to create this house in Uznach, in the canton of St. Gallen in Switzerland. They were originally commissioned to merely renovate the two-story house which was already standing there, but along the way the plan arose to create a three-story new building. And once that decision had been reached, the designers were given free rein. The building consists of three staggered boxes, which are completely opaque on the side facing the public road and completely transparent on the side facing the garden. By using the sliding door system CP 155 with low thresholds and triple glazing, the huge glass surfaces achieve a very low U-value of 0.7 W/m²K.

PRIVATE HOUSE
Architect: **Daluz/González Architekten, Meilen/Rapperswil-Jona** General contractor: **Feusi + Peyer Architektur AG, Schmerikon** Fabricator: **ZUBAG Metallbau Wintergärten AG, Gommiswald** Reynaers systems: **CP 155**

PROGRESS IN COMFORT

ALTHOUGH FEW ARCHITECTS WOULD SAY THAT PROVIDING COMFORT IS THE PRIMARY GOAL OF THEIR WORK, THAT IS WHAT ARCHITECTURE IS ABOUT. MANY PEOPLE CAN, FORTUNATELY, SEE A BUILDING AS MORE THAN JUST A SAFE ROOF OVER THEIR HEADS, AND UNDERSTAND THE ESSENCE OF ARCHITECTURE, OFFERING A COMFORTABLE SHELTER AGAINST THE OUTSIDE WORLD. THE POINT IS STILL TO KEEP THE OUTSIDE WORLD - WIND, WATER, HEAT AND COLD - OUTSIDE. BUT MORE SO THAN EVER BEFORE, THAT IDEA IS UNEQUIVOCALLY COMBINED WITH A DESIRE FOR ADDITIONAL COMFORT.

Text: Hans Ibelings

CHANGE

The speed with which architecture changes can be seen in more than just the stylistic developments which quickly follow one after the other. If you look at the architecture of the 1960s or 1980s it is easy to see a world of difference from today. The fast pace of change can also be seen in the massive developments in terms of the comfort level of buildings. Here as well, the space of a century brings countless changes, and often enormous innovations will take place over a decade.

How long ago was it the norm to have single glazed windows? It took an oil crisis and an increase in the price of fossil fuels in the early 1970s before double glazing started to become popular. The gradual increase in popularity for triple glazing is an even more recent development.

PERFORMANCE

Rising energy costs and a growing awareness of sustainability have contributed to greater attention being paid to a building's energy performance. Energy performance standards, established and often made stricter by regulation, are indirectly an important driving force behind the increase in the comfort levels of buildings.

makes it possible to maintain a comfortable climate directly behind a large glass façade, regardless of it being freezing or too hot outside.'

ACCESS

It is still possible to achieve gains in terms of improving the air-tightness and water-tightness of windows, sliding windows, and doors. Comfort is associated on the one hand with a feeling of well-being and on the other hand with convenience. These two are combined in the innovations and improvements to the Reynaers system sills and thresholds, which meet the highest standards of air- and water-tightness, even when the thresholds are very low. Van Put says, 'Schools, hospitals, and public buildings in particular must meet high standards for easy accessibility. Reynaers makes sills and thresholds for various systems which meet the relevant European norms, which permit a maximum height of 18 millimetres. In specific systems we have even achieved the stricter British norm, which dictates a maximum height of 15 millimetres.

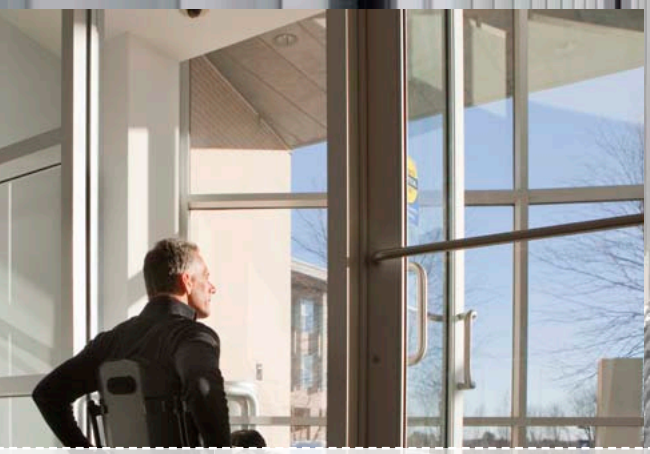
These low threshold solutions give us the opportunity to meet the requirements for easy accessibility in almost all circumstances and particularly in renovations where it is not always possible to adjust the substructure of the floor'.

IT TOOK AN OIL CRISIS AND AN INCREASE IN THE PRICE OF FOSSIL FUELS IN THE EARLY 1970S BEFORE DOUBLE GLAZING STARTED TO BECOME POPULAR

Michel Van Put, product manager at Reynaers Aluminium, agrees that comfort often develops from technological innovations which focus on efficient energy use. 'In thermal insulation we have reached a limit for U-values at Passive house level, well under 1.0 W/m²k. The high insulation value of our systems is indeed a very important aspect, but it is also important to pay attention to ventilation, solar control and airtight building connections. The combination of these aspects

SILENCE

All innovations and improvements in heat insulation, air-tightness and water-tightness also help to improve sound insulation. In our densely populated and busy world, silence is often an underrated luxury. A decrease in the amount of ambient noise significantly improves the level of comfort. Because of their high air-tightness



↑

Reynaers' sill and threshold solutions meet the high standards for easy accessability

The louvres of the BS (Brise Soleil) shading system permit good interior climate control and provide excellent visual comfort

↓

the Reynaers systems already greatly reduce the noise level, and details such as extra seals and hidden hinges improve the acoustic performance even further. The less sound penetrates from outside, the more important the indoor sound becomes. In its own field of façade systems, Reynaers investigates and develops solutions to reduce contact noise which may occur via the façade between floors or between adjacent rooms.

LUXURY

Energy performance is a driving force behind comfortable solutions. But there is also a growing need for comfort which is unrelated to energy-efficiency. Despite rising energy costs, the wealthier parts of the world have experienced significant increases in prosperity in past decades. This increased prosperity means that more and more people have been able to afford levels of comfort which previously were financially unattainable. Something that was a luxury reserved for the very few yesterday is permissible for a great many people today and will be standard for everyone tomorrow – as has happened with the size of window openings and hence the light and transparency of interiors, or with central heating systems. The same is true of the fact that in most parts of the Western world between 1900 and 2000 the number of square metres per person has quadrupled, which has also placed a great deal of pressure on energy consumption.

Some of the ways in which floor space is increased are the conservatories, winter gardens and enclosed balconies which can be found in many new residential developments. Such rooms are used not only in the summer as indoor-outdoor space, they are increasingly being used in other seasons as well. They usually do not have complete heating and cooling systems (and are not insulated in the same way as the rest of the residence), but with available Reynaers technology it is possible to improve the wind-tightness and water-tightness to the extent that such rooms can be used nearly all year-round.

A last aspect of comfort in the Reynaers systems, besides being maintenance-friendly, is their ease of use. The operation of all systems meets the strictest norms, meaning that very little strength is needed, making it suitable for all users, from elderly to young, with little effort required. And for those who would rather not use any muscle power at all, the sliding doors of the CP 155 and CP 50 systems are available with motors which make it possible to operate these doors literally at the push of a button. ■

12 **INCREASED PROSPERITY MEANS THAT MORE AND MORE PEOPLE HAVE BEEN ABLE TO AFFORD HIGHER LEVELS OF COMFORT**

↑

Transparency and the entrance of abundant daylight permit an elevator ride without feelings of entrapment

In our densely populated and busy urban world, silence has become a luxury

↓

BREITENWANG COMMUNITY CENTRE

A HIGH-TECH CONSTRUCTION WITH A REMARKABLE ENERGY CONCEPT AND PLENTY OF COMFORT

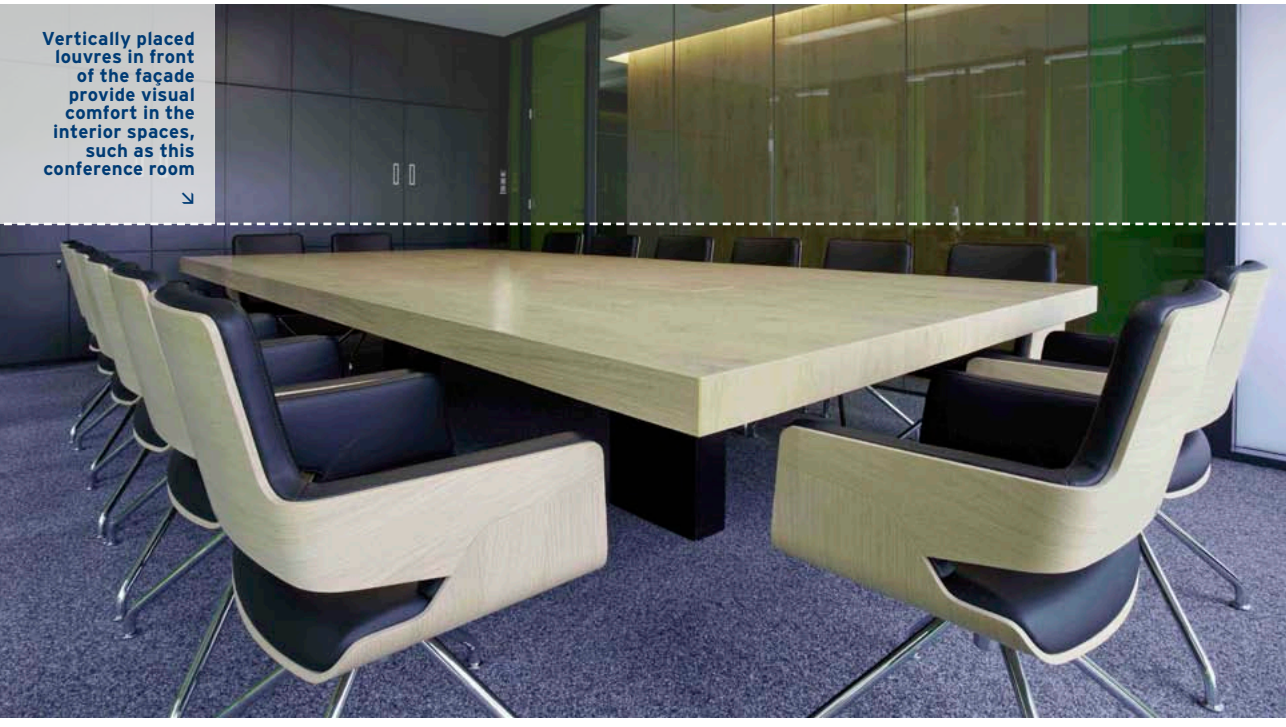
BREITENWANG, AUSTRIA

Text: Ursula Baus
Photography: Architekturbüro Barbist

In the Austrian municipality of Breitenwang, in North Tyrol, a new community centre was inaugurated in July 2010. The client was a bank, and the municipality will be renting the building for the foreseeable future, in order to unite all relevant local institutions under one roof. The residents will benefit the most from this arrangement, because they will no longer have to travel difficult roads between the town office, library, and doctor's practices. All these institutions are now centrally located in Breitenwang in a beautiful new building which also houses apartments.

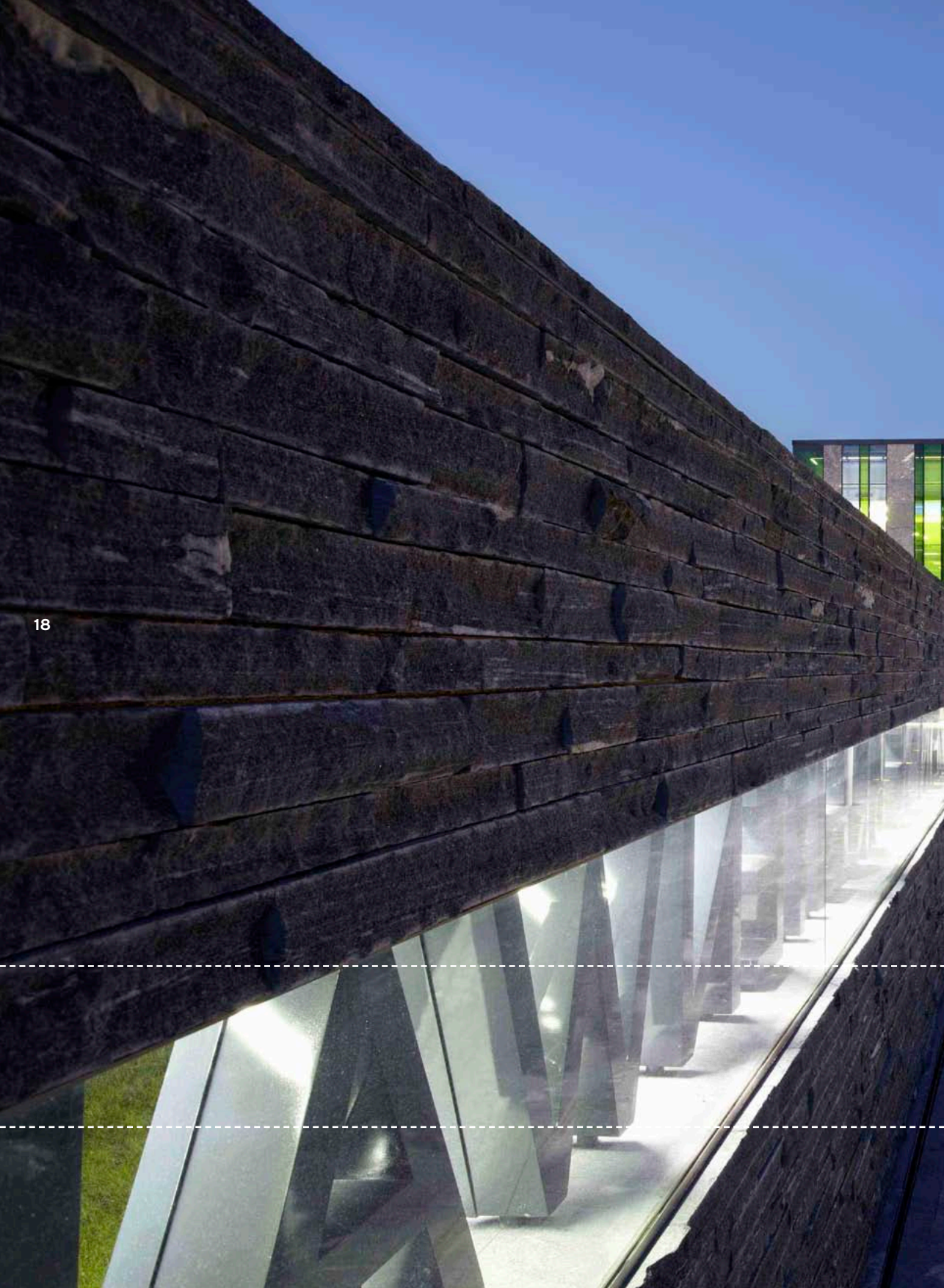
Against the impressive backdrop of the Alps, the community centre, designed by Barbist Architektur, also offers a public space, which does not compete with the traditional town centre around the church. Rather, it supplements the community by creating a secular town centre, offering Breitenwang a generously dimensioned, multi-use open space. Wood, stone, and window slats in the colours of the municipal coat of arms connect the building to the alpine location and the topography of Breitenwang.

What is remarkable is the energetic conception of the building, which offers the employees an uncommon form of comfort, particularly on the ground floor. The transparency of the ground floor does not necessitate cold window areas or sun-heated interiors. Triple glazing keeps the interior surface of the glass from feeling cold – it's almost room temperature. A total of 54 vertically placed louvres made of powder coated aluminium in front of the façade ensure that the interior space is comfortable. Measuring 2.80 metres high and 70 cm wide and with a biconvex shape, these louvres (Reynaers Brise Soleil 100) were made to the architect's specifications. Sun protection, anti-glare protection, daylight redirection, and burglary protection: the louvres fulfil a number of functions. It is worth mentioning that both automatic and manual operation can be achieved through a single control system, allowing the comfort level at the individual workplaces to be optimised. At any season or time of day, regardless of the weather, the system ensures the optimum values for heat regulation, shade, angle of light and degree of light. The twelve motors do more than just adjust the louvres according to the position of the sun, they position them so that the heat and light conditions in the



Vertically placed louvres in front of the façade provide visual comfort in the interior spaces, such as this conference room ↘

A SINGLE CONTROL SYSTEM ENABLES BOTH AUTOMATIC AND MANUAL OPERATION OF THE LOUVRES, ALLOWING OPTIMUM COMFORT AT THE INDIVIDUAL WORKPLACES



←
Evening view of the public zone

interior are optimal. Every change in the exterior weather conditions is picked up by a weather sensor; based on its information the software automatically adjusts the louvres to the best position. The municipal employees appreciate the comfort this offers, especially because they can always change the position of the louvres using manual controls. After one hour the automatic controls are reactivated. During the weekend the façade is completely closed off, which also benefits security. The ability to redirect daylight significantly contributes to the comfortable atmosphere in the offices and semi-public spaces.

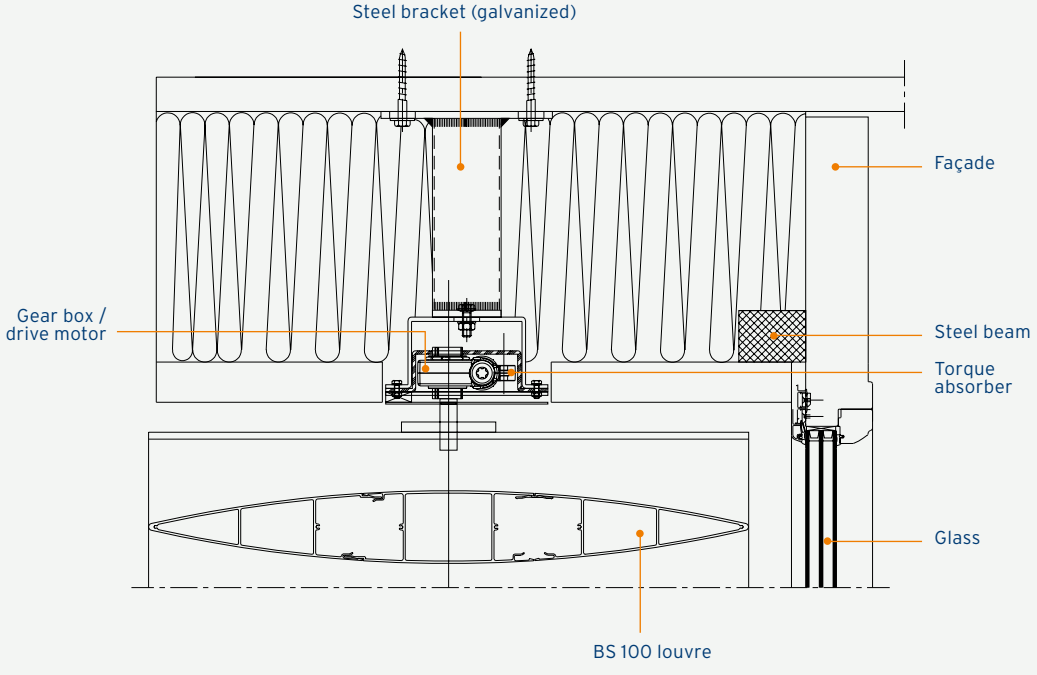
A high-tech construction, primarily motivated by energy issues – including heat recovery and ventilation – is often assumed to be unable to ensure sufficient comfort in the interior. In Breitenwang, the contrary is proved. The employees are the beneficiaries of the 'worry-free package' offered by the automatic control of the system of louvres and their integration into the ventilation and heating systems. Furthermore, the entire Brise Soleil-concept – from the planning and fabrication to the mounting of the louvres – was carried out by Reynaers Aluminium offering the convenience of one supplier for all services. ■

COMMUNITY CENTRE BREITENWANG
Architect: **Barbist Architektur, Reutte** Investor: **Raiffeisenbank Reutte** Contractor: **Barbist Architektur, Reutte** Fabricator: **Reynaers AG, Frauenfeld, Switzerland** Reynaers systems: **BS 100 (vertical louvers)**

For more information about this project, please visit us at www.reynaers-solutions.com

Vertical section ↓

→ Ground floor, reception area



↑
Wood, stone and window slats in different shades of green connect the building to its surroundings

The green BS louvres are placed in front of the façade
↓

PROJECT SOLUTION

Louvres
- 54 x BS 100 biconvex vertical louvres
- Width: 700 mm
- Height: 2800 mm
- Thickness: 84 mm
- 3 different shades of green

Management
- 12 motors
- Fully automated system with seasonal steering and connected to the building management system
- Manual or automatic control via touch panel (with distance control)

Energy
- Sun-, glare- and daylight protection
- Estimated energy-savings of 30%

TECHNICAL VOCATIONAL SCHOOL

VISP, SWITZERLAND

Text:
Hans Ibelings
Photography:
Hannes Henz

PURE AND TECHNICALLY CONVINCING

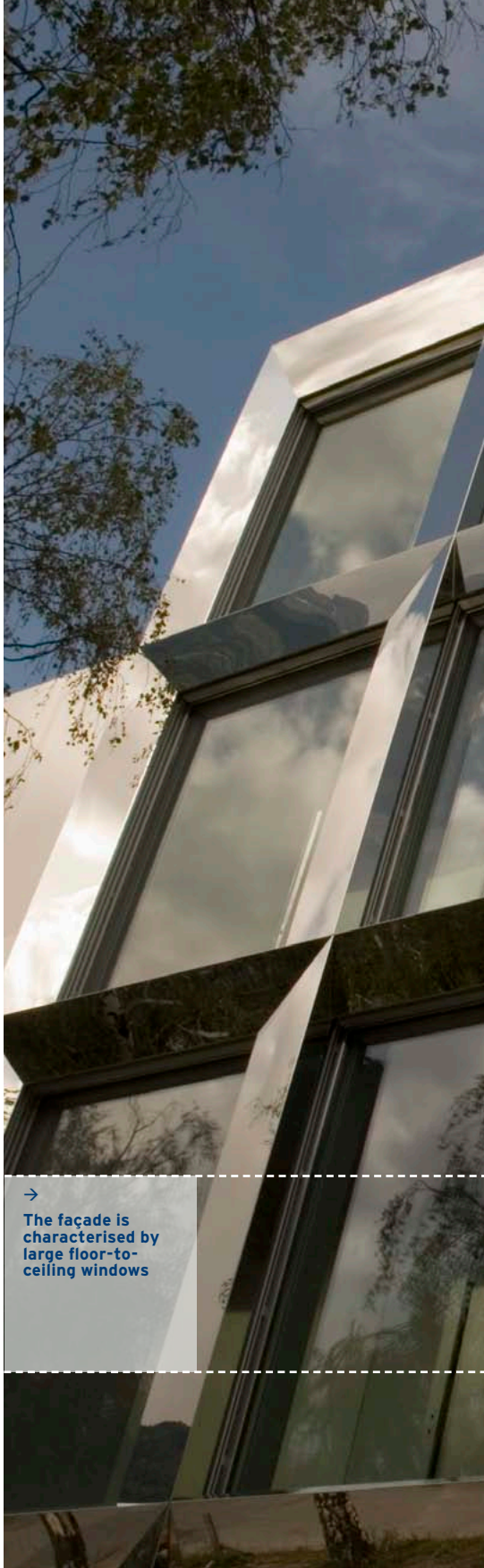
Swiss architecture is world-famous thanks to a number of big names like Herzog & de Meuron, Peter Zumthor, and Valerio Olgiati. But in addition to these famous architects, there is also a significant group of highly talented designers of different generations, who are able to realise most intriguing projects. Often these projects are not particularly prestigious, but rather modest commissions such as a residence, a school building, or a fire station in one of Switzerland's many towns and villages. No matter how varied the work of these architects is, what always stands out is the enormously high quality evident in their work.

In Visp, in the German part of the bilingual Swiss canton Valais (Wallis in German), the office Bonnard Woeffray has realised a technical vocational school. This school building, built from the winning entry in a design competition, perfectly complements its surroundings, consisting of various free-standing buildings including two typologically similar school buildings from the 1960s. The new school building does not deviate from the other two in terms of form and volume; rather the architectonic expression is substantially different from everything around it. This is not merely because of the razor-sharp right angles, but primarily because of the striking façades clad with gleaming steel and aluminium.

The Bonnard Woeffray office was started in 1990 by Geneviève Bonnard and Denis Woeffray, two architects who have been gradually gaining in prominence over the last ten years. Bonnard and Woeffray are increasingly distinguishing themselves by a remarkably precise, minimalist architecture. The school in Visp is a good example of this.

In this school building, the appearance is determined by the framework of the load-bearing concrete construction behind the façade. The façade consists of floor-to-ceiling windows using the CS 86-HI high insulating system. The blind walls, which arise where the rectangular volume of the school building has been cut away, are clad with matt aluminium which offers a subtle contrast to the shining steel.

The simplicity and clarity of the architecture is continued indoors, where the concrete has been left exposed on the walls and ceiling. Classrooms and other rooms are separated from each other by floor-to-ceiling glass walls using the CW 50 system.



→
The façade is characterised by large floor-to-ceiling windows

Cafeteria
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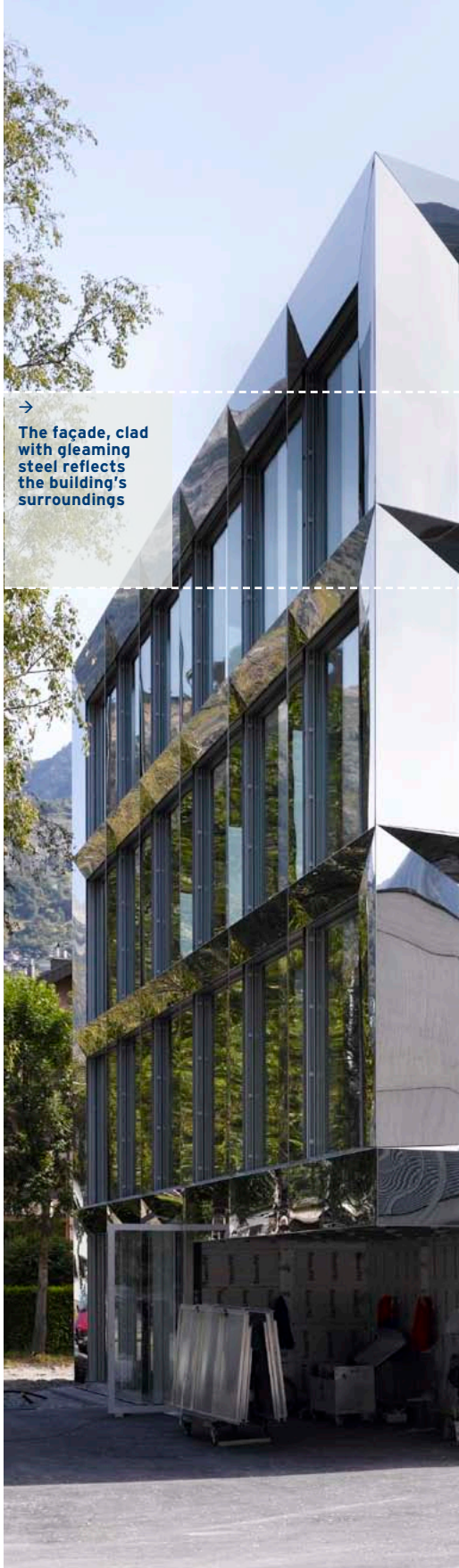
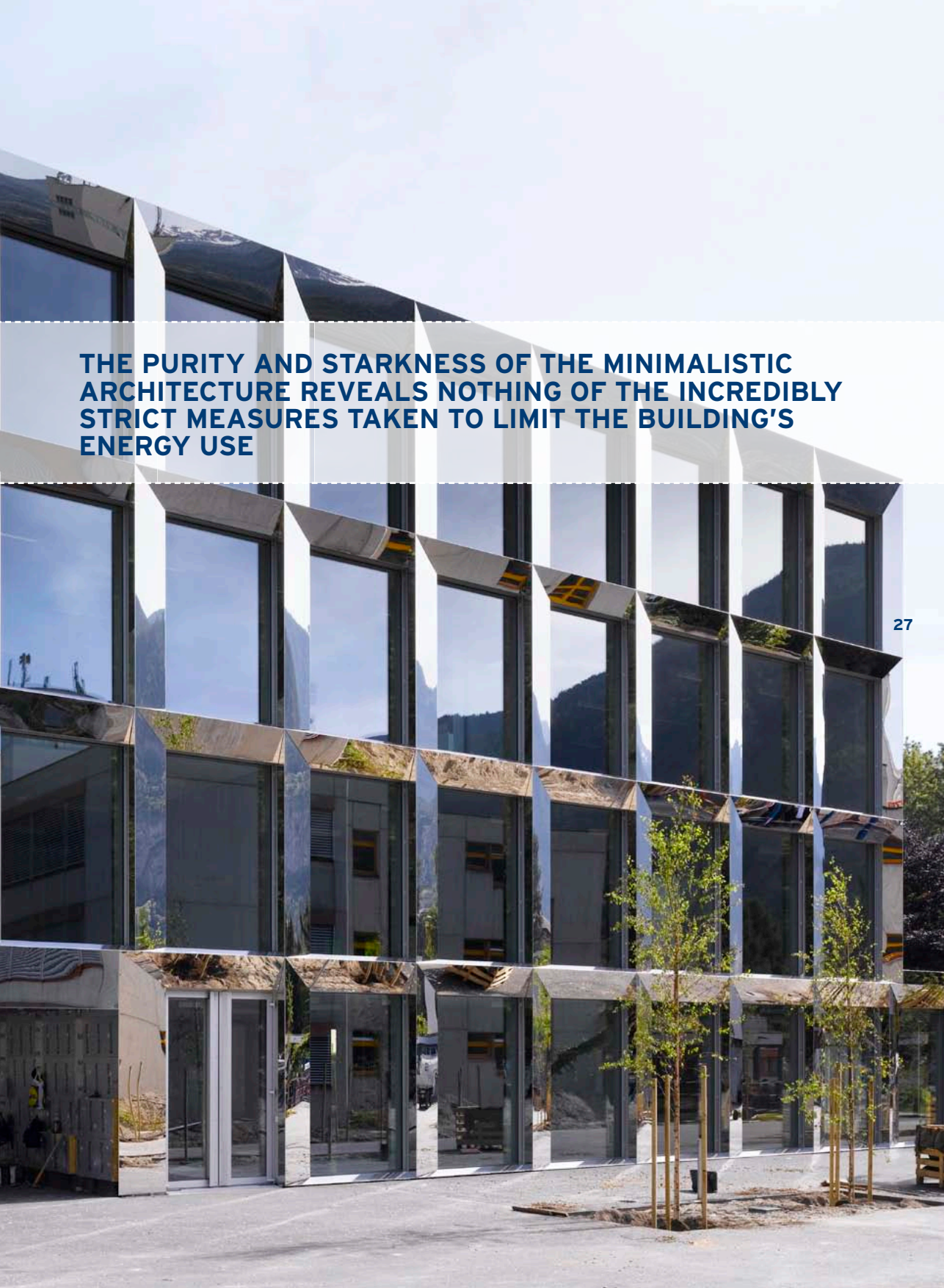


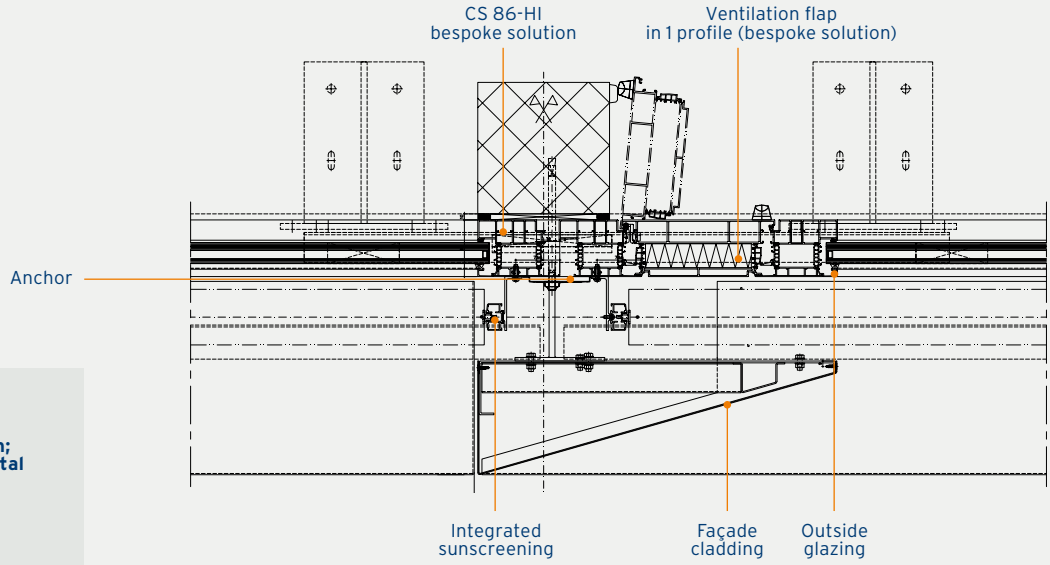
→
The façade, clad with gleaming steel reflects the building's surroundings

The purity and sometimes starkness of the minimalistic architecture reveals nothing of the incredibly strict measures taken to limit the building's energy use. The fact that these measures do not affect the pure architectonic image is an amazing achievement.

Even though the prize-winning design for the school dates from 2004 and the building was completed in 2009, it meets the Swiss MINERGIE standards which came into effect for schools in 2009. This new standard is a good 25% stricter than the former standard from 2000. The new maximum



THE PURITY AND STARKNESS OF THE MINIMALISTIC ARCHITECTURE REVEALS NOTHING OF THE INCREDIBLY STRICT MEASURES TAKEN TO LIMIT THE BUILDING'S ENERGY USE



→ **Façade solution; horizontal section**

standard dictates an energy usage of 40 kWh per square metre for heating, hot water, and ventilation (the previous standard, dating from 2000, required a maximum of 55 kWh for school buildings). In addition to being energy-efficient, the building is also earthquake-proof, for which it received an award.

In order to meet the stringent requirements of the MINERGIE standard for energy use and air quality, the Reynaers façade system has been adapted to deal with the ventilation in a special way. The ventilation is housed in a broad profile which is concealed by the stainless steel façade cladding and which is compatible with both the ventilation flap and the fixed glazing, reducing the number of different profiles required. This kind of attention to detail emphasises the degree to which this building is a classic example of innovative architecture, in terms of both energy and architectonics. ■

TECHNICAL VOCATIONAL SCHOOL
Architect: **Bonnard Woeffray, Monthey** Investor/Contractor: **Canton Valais** Fabricator: **FUXVISP AG, Visp** Reynaers systems: **CS 86-HI, CW 50**

For more information about this project, please visit us at www.reynaers-solutions.com

PROJECT SOLUTION

Element dimensions:
- Total width: ca. 2600 mm
- Total height: ca. 3200 mm
  Divided in: 1 part with ventilation flap on element height (Vent in 1 profile)
  1 part with fixed glazing ca. 2000 mm x 2900 mm
- Total weight element: ca. 500 kg

Fixed glazing:
- Double insulation glass with laminated safety glass (fall protection)
- Glass weight: ca. 300 kg
- Outside glazing

Insulation:
- Uf < 1.4 W/m²K

Mounting of the elements:
- The elements were completely fabricated and glazed in the workshop

→
At night the differently coloured glass partition walls characterise the building's appearance

PROJECT

GRANDS MOULINS DE PANTIN

A SUCCESSFUL LARGE-SCALE CONVERSION OF A FORMER INDUSTRIAL SITE

PANTIN, FRANCE

Text:
Sophie Roulet
Photography:
Thierry Poiblanc,
Luc Boegly

An emblematic industrial heritage site in the northeast of Paris with a remarkable silhouette when viewed from the Paris ring road. Now in the hands of BNP Paribas Group, this former flour mill closed down in 2001. A successful large-scale conversion which was completed after nearly four years of construction.

The winning architectural office of the 2001 competition, Reichen Robert & Associés, took on the challenge of converting the nineteenth-century industrial site 'Grands Moulins de Pantin' into a 50,000 square-metre office complex which would meet the French HQE label (High Environmental Quality label), a national objective for sustainable building aiming at the improvement of the environmental quality of new and existing buildings. Environmental aspects must be integrated into every step of the process, including planning, designing, construction and management. The Grands Moulins project was granted the label for the design and the implementation phase.

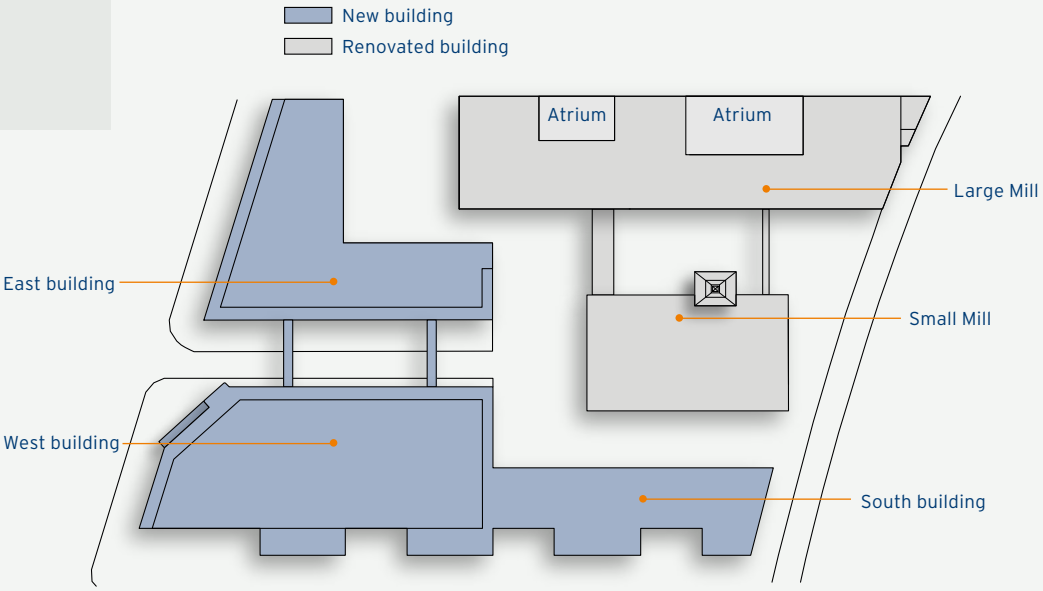
Around 22,000 square metres of the project involved the refurbishment of several retained old buildings. Although it was neither classified nor listed as a historic building, certain elements of the site's industrial heritage had to be preserved, as Bernard Reichen explains. 'We had a clear idea: we needed to find a way to bring the building back to life in the context of a new activity. To this end we preserved all the main architectural structures, the ones that defined the site's image.'

CONCEPT

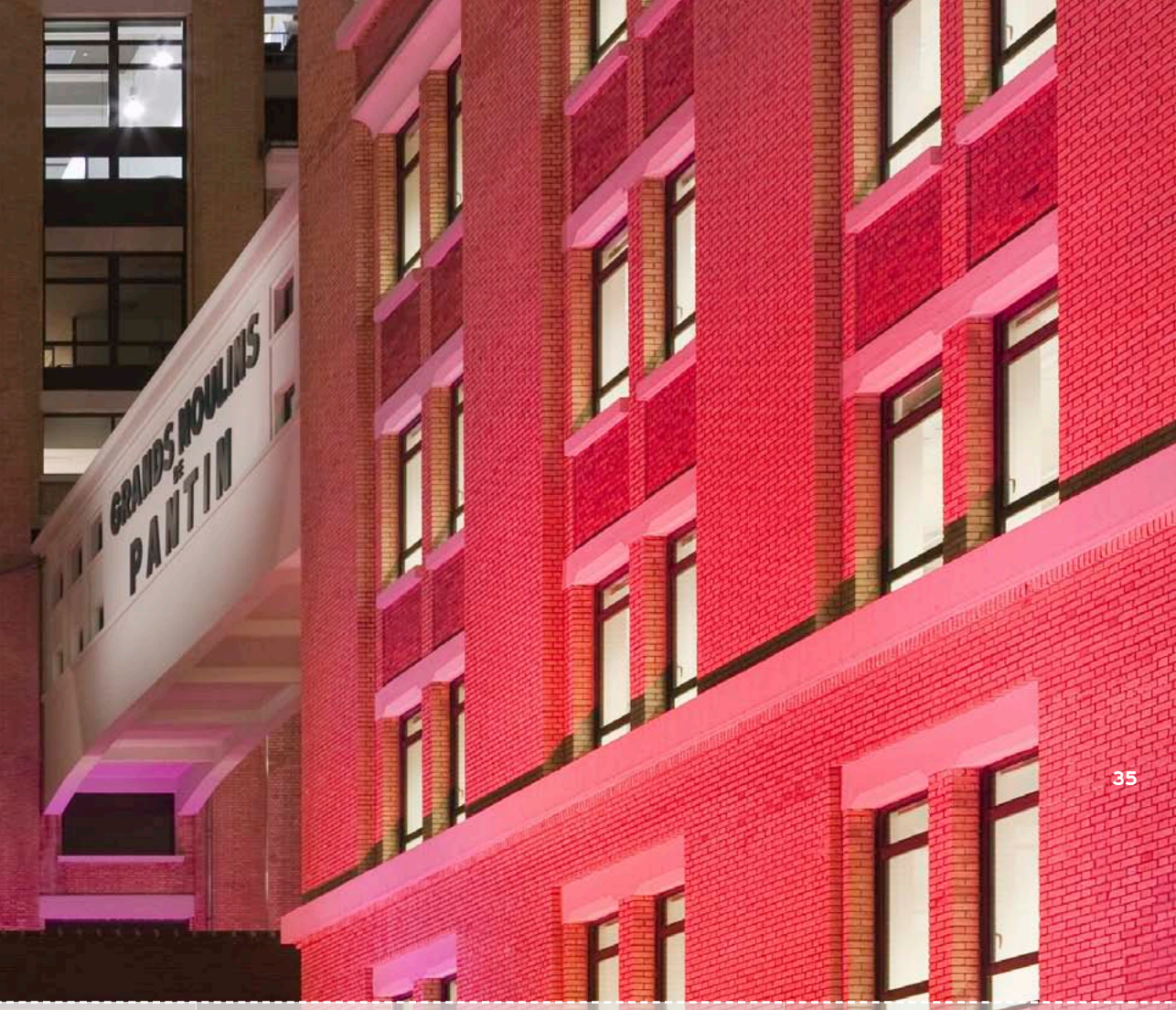
The design was therefore based on the principle of retaining the two oldest buildings, referred to the architects as the small mill and the large mill, as well as the famous transporter bridge, which has today found a new function as an exhibition venue. Through the company Seralu, these three refurbished buildings have been fitted with Reynaers aluminium systems (CW 86-EF/VEC, CW 50-FV and XS 50-VEC) in existing frames, with new openings, curtain walls and inner façades overlooking the atrium.

Three new buildings and two footbridges on two levels, the latter equipped with Reynaers door and window systems CW 50-FV, have been incorporated so that the entire complex is interlinked without the need to go outside. This ensures a very high level

Site plan
↘



‘WE HAD A CLEAR IDEA: WE NEEDED TO FIND A WAY TO BRING THE BUILDING BACK TO LIFE IN THE CONTEXT OF A NEW ACTIVITY‘



THE GRANDS MOULINS PROJECT WAS GRANTED THE FRENCH HQE LABEL (HIGH ENVIRONMENTAL QUALITY) FOR THE DESIGN AND THE IMPLEMENTATION PHASE

of security and comfort to users of this miniature town which operates 24 hours a day. The buildings house the main departments of the company BNP Securities Services, known as BP2S, a subsidiary of the BNP Paribas group, which specialises in asset management and is European leader in its sector.

THE BALANCE BETWEEN REHABILITATION AND NEW CONSTRUCTION

The painstaking work of this project required the interior of the buildings to be stripped, emptying them of their silos and machinery, rebuilding new floors and in many cases lining the façades.

The three tall buildings and their mansard roofs were retained. Two silos were demolished, and the third called the large mill which overlooked the canal was refurbished. Its tall concrete structure faced with small red bricks was pierced with new windows fitted with Reynaers XS 50-VEC sections. The demolished 1950s semolina processing plant was replaced by a new simple three-storey building. Brick, the characteristic material of the complex, has been used to advantage in both the conserved and new buildings. Thus the newly sleek mills have retained their tall silhouette, and the boiler room made of refractory bricks and the former machine room remain visible in the middle of the building that has been opened up with glass.

OUTCOME

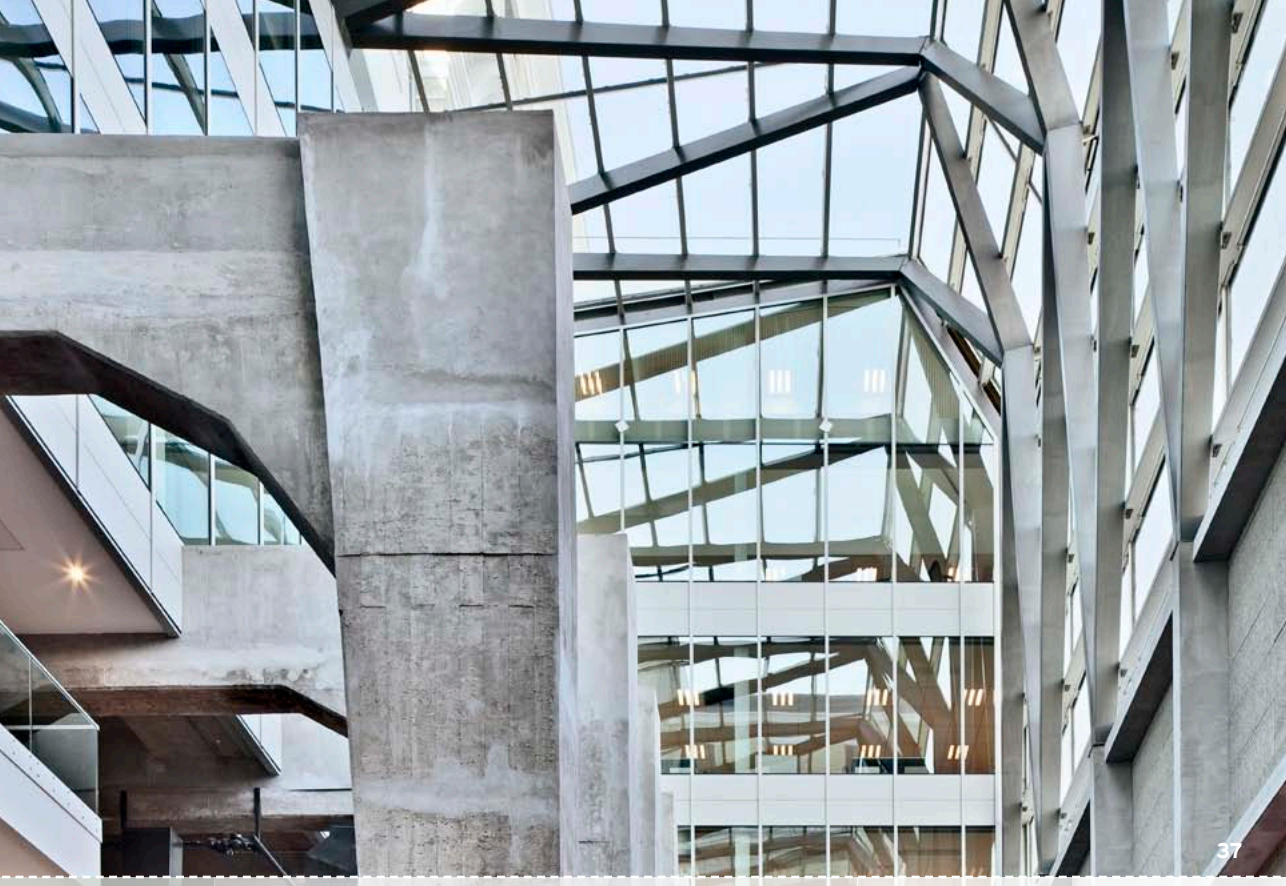
Maximum use of natural light, which is part of the HQE environmental approach, creates a genuinely pleasant atmosphere in the office floors. Their finest feature is without a doubt the atrium formed in what was once the boiler room of the large mill, an open space fitted with Reynaers sections, revolving around the original boiler.

Before it closed down, some 450 staff worked in the flour mill. Today the site is highly secured and contains 3200 work stations, 800 parking spaces and two staff restaurants capable of seating 2200 diners and supplied by a central kitchen. The site no longer stores sacks of wheat but instead houses financial services and their trading rooms, provided with the ultimate in information technology in this sector. There are even those who see in this a continuation of the story of 'wheat' (blé being Parisian slang for money). ■

GRANDS MOULINS DE PANTIN
Architect: **Reichen Robert & Associés, Paris** General contractor: **BNP Paribas Immobilier, Issy Les Moulineaux** Fabricator: **Seralu** Reynaers systems: **CW 86-EF/VEC, CW 50-FV and XS 50-VEC**

← **Curtain wall system CW 86-EF**

Window system XS 50 ↓



→
Atrium fitted with Reynaers systems

MAXIMUM USE OF NATURAL LIGHT, WHICH IS PART OF THE HQE ENVIRONMENTAL APPROACH, CREATES A GENUINELY PLEASANT ATMOSPHERE IN THE OFFICE FLOORS

ZÁPADNÍ MĚSTO (CITY WEST), PRAGUE

THE CENTRAL BUILDING IN THE SHAPE OF A DIAMOND

PRAGUE, CZECH REPUBLIC

Text: Vendula Hnídková
Photography: Filip Šlapal

SIEMENS

↑ The architecture of this part of the complex is based on the intersection of simple, almost cubic volumes

↗ Several new administrative buildings have created more than 100,000 m² of floor space

Until recently in the periphery of Prague there were only fields, an old master plan and big expectations for the future. This changed, at least for the western part, with the plans for the large-scale Západní město (City West) complex. This project, masterplanned by AHK architekti, offers a generous vision for an extensive new urban district with offices, housing and shopping. The economic crisis hit hard and has slowed down the development of the area. So far three parts have been realized, the so-called British quarter, with about 300 apartments and the first of a series of nationally themed residential neighbourhoods, the new metro station - a vital connection with the centre of Prague - and the first part of the business district, which has already attracted several multinationals, including Siemens.

The tower is a striking crystal-like landmark. This characteristic symbol for the whole district houses the headquarters of the Siemens Group in the Czech Republic. Behind its dynamic exterior shape this iconic building offers very rational floor plans and an efficient spatial organisation. A triple-floor glazed walkway connects this tower with the lower offices behind it. The whole complex houses around 1200 employees, who were located in six different locations in Prague before and are now working in a single administrative complex. This has ended the permanent trips back and forth to the different premises, and has improved and intensified the contact and exchange between individuals and departments within the company.

For both the appearance and the energetic performance of the complex, the use of Reynaers systems has been very important. The high spaces on the ground floor of the main building were initially intended to be used for shops and restaurants, but now offer generous, well-lit spaces for the company, thanks to the use of the CW 50 façade system.

THE WHOLE COMPLEX HOUSES AROUND 1200 EMPLOYEES, WHO WERE PREVIOUSLY SPREAD OVER SIX DIFFERENT LOCATIONS IN PRAGUE AND WHO NOW WORK IN A SINGLE ADMINISTRATIVE COMPLEX

The complex of office buildings occupied by Siemens is designed by the architectural office that is also responsible for the masterplan of the whole area. This complex consists of a visually attractive high-rise structure and a row of lower buildings surrounded by green spaces.

↑
Central building with connection bridge

Foyer
↓

→
Reception

NO SPECIAL ACOUSTIC INSULATION WAS NEEDED AS THE DESIRED EFFECT WAS ACHIEVED ALMOST ENTIRELY WITH INSULATED GLASS

Another system, CS 86-HI, was used on the upper floors of the tower. No special kind of acoustic insulation was needed, because the desired effect was achieved mostly by using insulated glass. The glass and aluminium façade is framed by sturdy horizontal steel encasements. To improve the aesthetics as well as the micro-climate, the architects designed protruding garden constructions on these encasements where climbing wisterias could be planted.

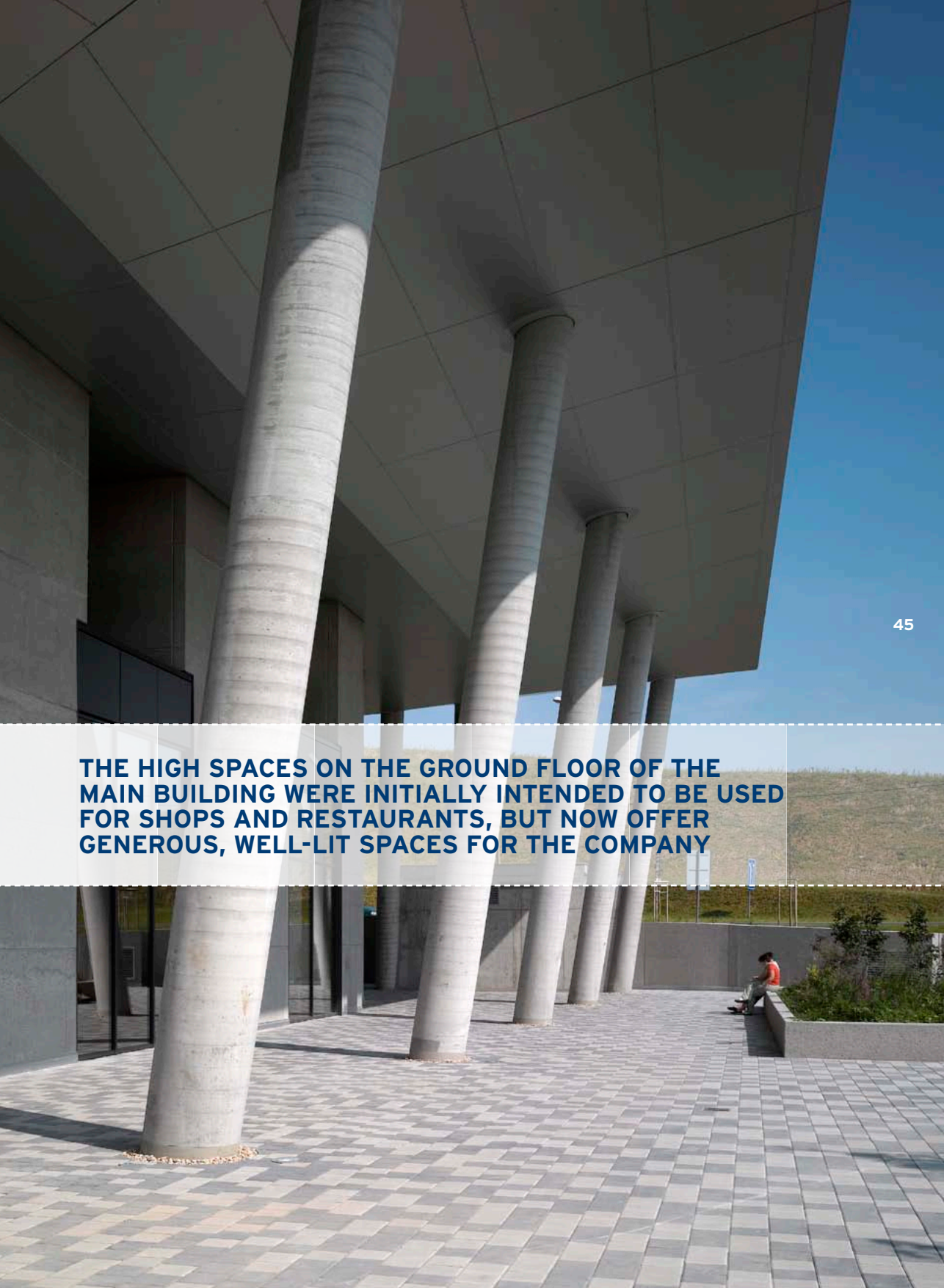
The eye-catching landmark stands out, thanks to the contrast between its unusual shape and the adjacent buildings, which are more straightforward in their design, and the surrounding park, which provides not only a pleasant working environment for the employees but also an important crystallisation point for Západní město. ■

ZÁPADNÍ MĚSTO
Architect: **AHK architekti s.r.o., Zdeněk Hölzel, Jan Kerel, Jan Křivský, Jiří Škopek, Olga Růžičková, Prague** Client/investor: **N.J.B. real a.s., Prague** General contractor: **Skanska a.s., Divize Pozemní stavitelství - závod Čechy, Prague** Fabricator: **Skanska Technologie S.A., Prague** Reynaers systems: **CS 86-HI, CW 50**

←
Base of the diamond-shaped main building

The windows are realised with CS 86-HI
↓

For the lower part of the building, the CW 50 curtain wall system is used
→



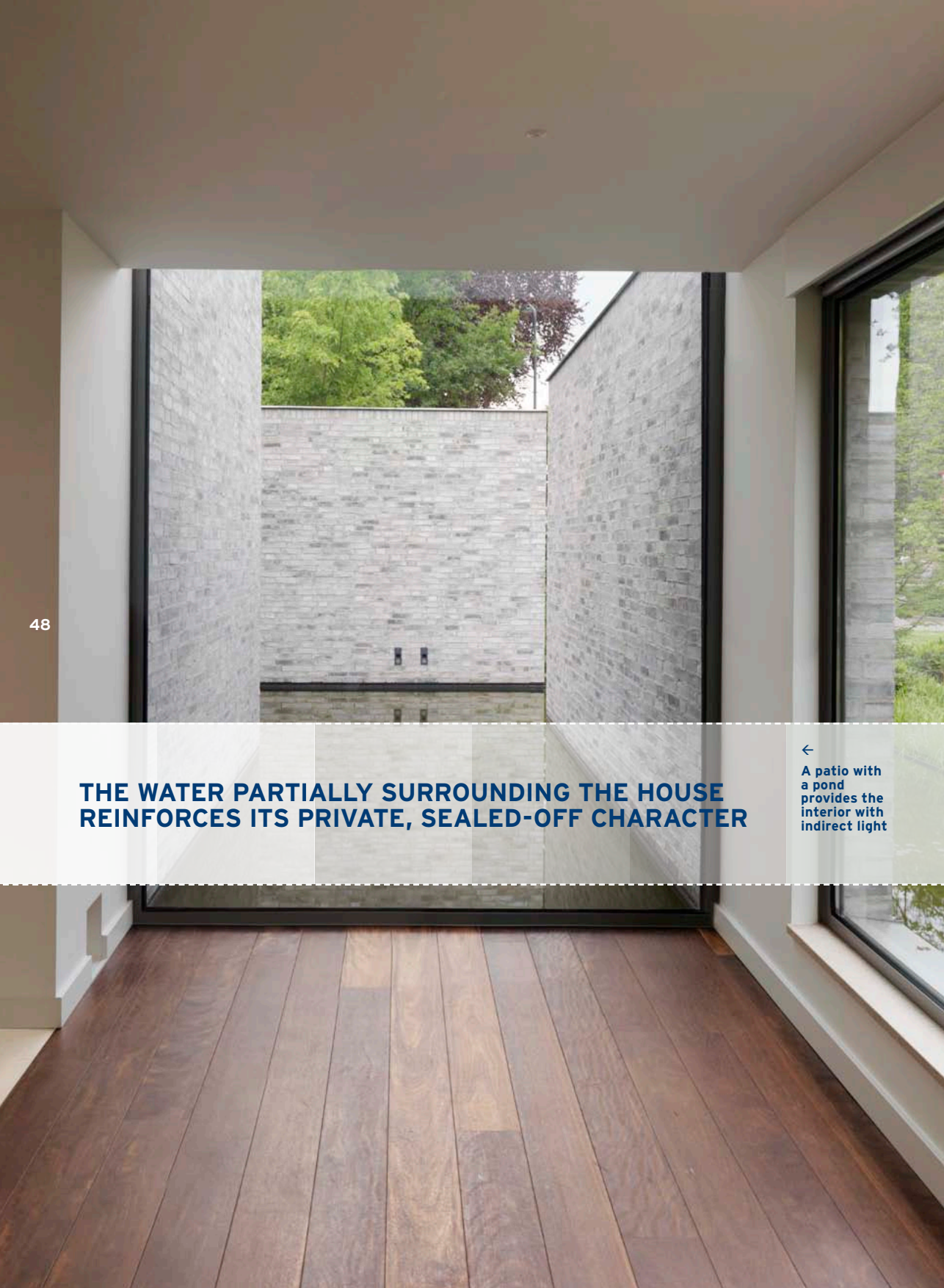
THE HIGH SPACES ON THE GROUND FLOOR OF THE MAIN BUILDING WERE INITIALLY INTENDED TO BE USED FOR SHOPS AND RESTAURANTS, BUT NOW OFFER GENEROUS, WELL-LIT SPACES FOR THE COMPANY

VILLA ROTONDA

GOIRLE, THE NETHERLANDS

Text:
Hans Ibelings
Photography:
Michel Kievits

A REMARKABLE FUSION OF CONTEMPORARY TRADITIONALISM AND ARTISANAL MODERNISM



THE WATER PARTIALLY SURROUNDING THE HOUSE REINFORCES ITS PRIVATE, SEALED-OFF CHARACTER

←
A patio with a pond provides the interior with indirect light

The swimming pool, sauna, and hot tub are clear signs of luxury in this residence in Goirle, a municipality in the vicinity of the city of Tilburg, in the south of the Netherlands. But the comfort of this house is not only offered by these luxurious amenities, but primarily by its architecture.

Villa Rotonda was designed by the young architects Pieter and Thomas Bedaux, who are continuing the tradition of the bureau in Goirle which was started in the 1930s by their grandfather Jos Bedaux and taken over by their father Peer Bedaux. Since the 1950s, the bureau has been focussing on two streams: a contemporary traditionalism and an artisanal modernism. In both areas, security and comfort play a large part. From that point of view, the traditional houses with their pitched roofs and shuttered windows are not so different from the quiet, abstract architecture which the bureau has also been making for years.

The residence in Goirle combines both directions. From the street the house looks traditional and closed, from the garden it reveals itself as an open and modern space. The traditional look was dictated by the zoning plan, which specified a roof which would allow the new building to fit in with the rural atmosphere of Goirle – an atmosphere, incidentally, which has been determined to a significant extent by the work of the grandfather and father Bedaux.

Except for two large windows, the house is closed off to the main street, protecting the residents from the noise pollution caused by the traffic from the nearby busy roundabout. This also explains the name of the house, Villa Rotonda. Rather than a reference to Andrea Palladio's famous villa near Vicenza, Italy, it is an ironic commentary on the house's location next to a roundabout intersection. The water partially surrounding the house reinforces its private, sealed off character.

On the street side, the house appears to be a variation on the archetypal Dutch residence, with a pitched slate roof and grey brick walls. On the garden side, that idea is toppled, and the atmosphere changes. The southern side of the house looks out onto the deep garden. Here, the façade is nearly completely transparent. The Reynaers sliding system CP 155-LS was used

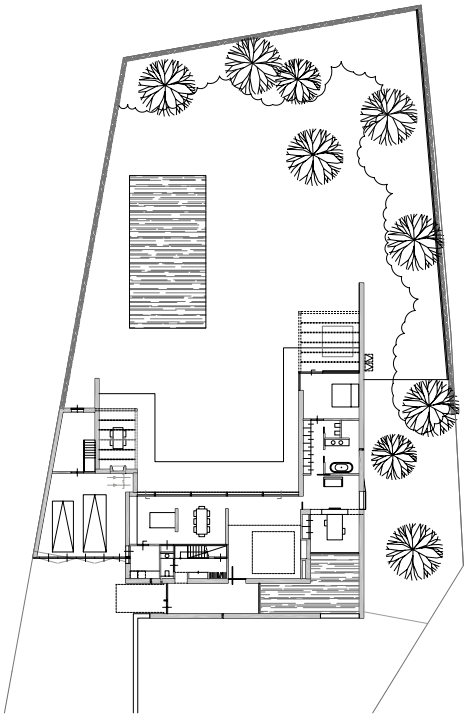
The large pool in the garden is just one of the comforts this villa offers ↓

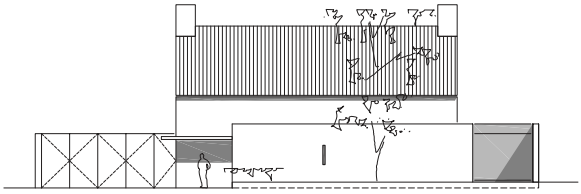
FROM THE STREET THE HOUSE LOOKS TRADITIONAL AND CLOSED; FROM THE GARDEN IT REVEALS ITSELF AS AN OPEN AND MODERN SPACE

↑
Almost every room in the house faces the large garden

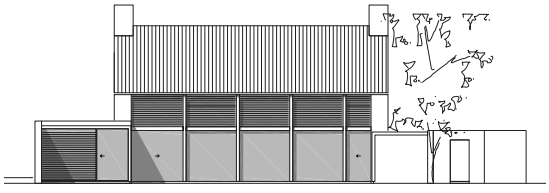
View from the street: a pitched slate roof and grey brick walls
↓

→ The generous CP 155-LS sliding doors can be operated automatically





Street side



Garden side

WITH THE CLOSED-OFF STREET-SIDE FAÇADE GUARDING THE REAR OF THE HOUSE, IT IS POSSIBLE TO ENJOY UTTER PRIVACY AND LIGHT, OPEN LIVING

↑ **Floor plan (left), elevations (right)**

for the façades and can be operated automatically. This allows the living room-kitchen to be opened onto the garden so that indoors and outdoors form a continuous whole.

The tilt-and-turn windows, made using CS 68-HV (hidden vent), can also be operated automatically. The decision to use the minimalist variant of CS 68 with hidden vents emphasises the abstract look of this house with its understated design, in which the appearance of simplicity is not only seen in the windows. This returns in the abstract detailing of the point where the wall meets the roof.

The automatically operated sliding doors and windows are part of an impressive array of home electronics which serve to further increase the comfort level already inherent in the architecture itself.

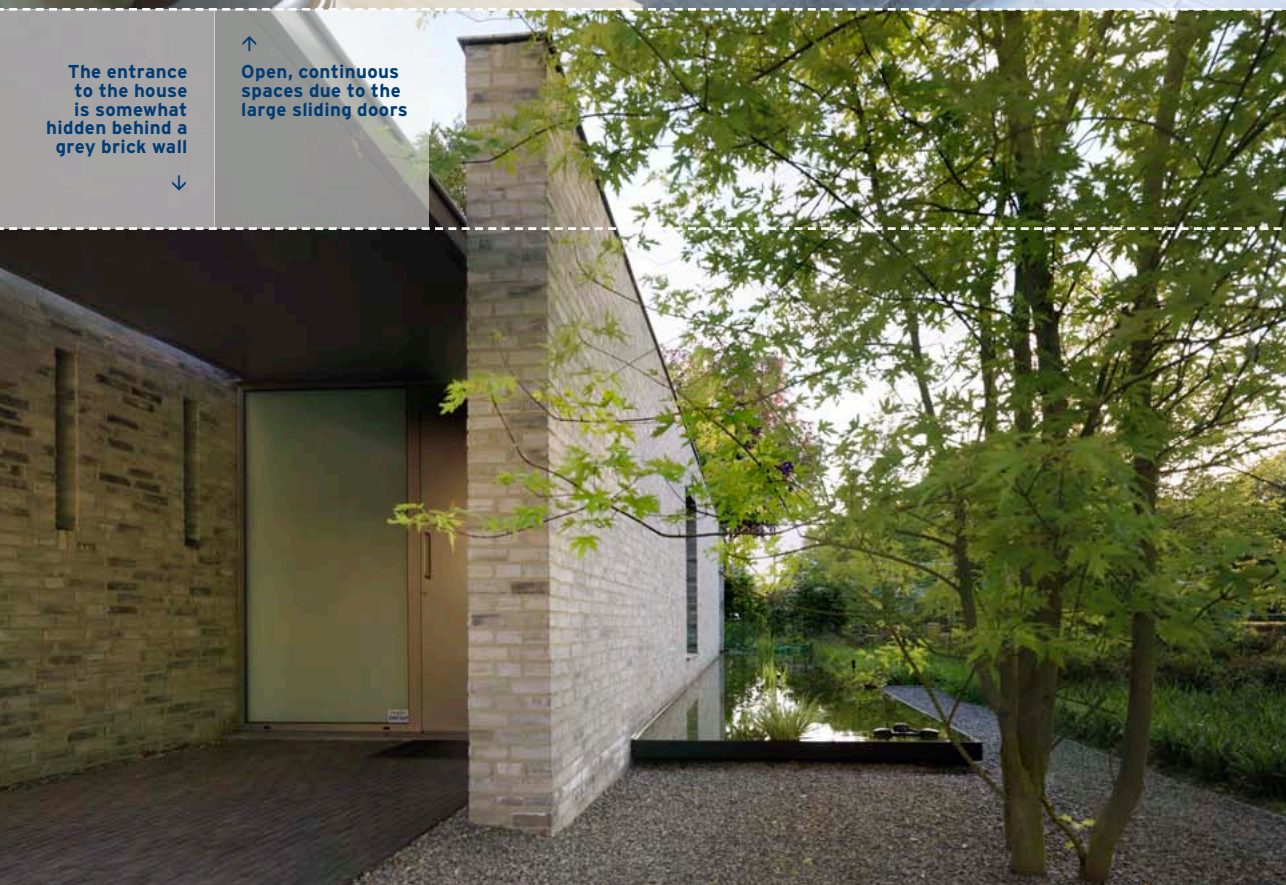
Almost every room in the house faces the large garden. With the closed-off street-side façade guarding the rear of the house, it is possible to enjoy both utter privacy and light, open living. As such, with the design of the house, the two young architects have achieved an optimal combination of two worlds, modern and traditional, thereby proving that they are worthy of following in the footsteps of their predecessors in the office. ■

VILLA ROTONDA
Architect: **Bedaux de Brouwer Architecten B.V., Goirle**
General Contractor: **Aannemersbedrijf Houtepen B.V., Goirle**
Fabricator: **Aluminiumbouw D'n Boeij B.V., Schaijk**
Reynaers systems: **CS 68-HV, CP 155-LS**

↑
Open, continuous spaces due to the large sliding doors

The entrance to the house is somewhat hidden behind a grey brick wall

↓



Reynaers Aluminium is continually searching for ways to further improve its systems. Here are some examples of recent product innovations and refinements.

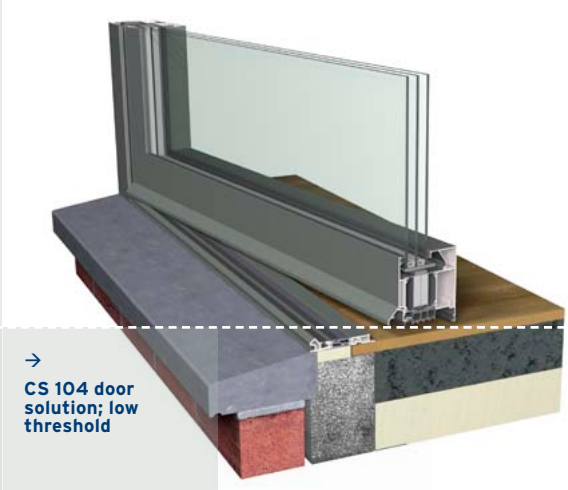
ENHANCING COMFORT: LOW THRESHOLD SOLUTIONS

Besides its strong environmental focus, other Reynaers' priorities are comfort and quality of life. Comfort can be understood in a psychological sense (open, continuous spaces are appealing), but there is also a more functional side.

The low threshold solution which Reynaers offers for a variety of its door and sliding door systems serves both: a low threshold creates perfect continuity between indoor and outdoor spaces and improves accessibility to and within a building. The latter is particularly important in specialised contexts such as a hospital where strict building regulations and norms exist to ensure a smooth operation.

For its thermally insulated system **CP 155-LS** (Lift & Slide) [2-rail], Reynaers offers a low threshold solution that conforms to the norm for disabled access. The threshold is a maximum of 18 mm high and the sliding door is also available in an automatic opening version for optimal comfort.

Optimum space utilisation is guaranteed with the **CF 77-SL** (Concept Folding) system, with its narrow visible width of the profiles. The folding door features two decreased threshold solutions for different performance levels. The flat bottom variant can smoothly be embedded in the floor, thus creating a continuous surface allowing easy passage.



→
CS 104 door solution; low threshold

CF 77 low threshold
↓

CF 77 flat bottom
↘

As it has been designed without drainage, the solution is ideal for covered surfaces such as terraces. With its 18 mm height, the low threshold option for CF 77 corresponds to the norm, offers a drainage solution and is watertight up to 600 Pa.

CP 130 is a comprehensive sliding door system that offers – besides an excellent Air-Wind-Water performance and enhanced burglar resistance – a wide choice in design and functionalities, also including a convenient low threshold variant.

Reynaers' door and window system **CS 104** features profiles with superior insulation values down to 0.88 W/m²K (Uf), making the system suitable for passive and low energy houses. The low threshold of the CS 104 door solution ensures easy access to these forward-looking constructions while still providing extensive airtightness (Class 3, 600Pa) and watertightness (Class 7A, 300Pa).

OUTDOOR LIVING COMFORT: GP 51

The potential to extend the living space outdoors creates a higher quality of life for most people.

The GP 51 (Glass Patio) is an innovative modular sliding system for glazing balconies and terraces that provides protection against wind, rain, cold and noise, making it an ideal solution for enjoying the surroundings all year long. The system is unique due to its flat bottom rail for maximum accessibility while the absence of vertical profiles around the individual glass panes increases its transparency.

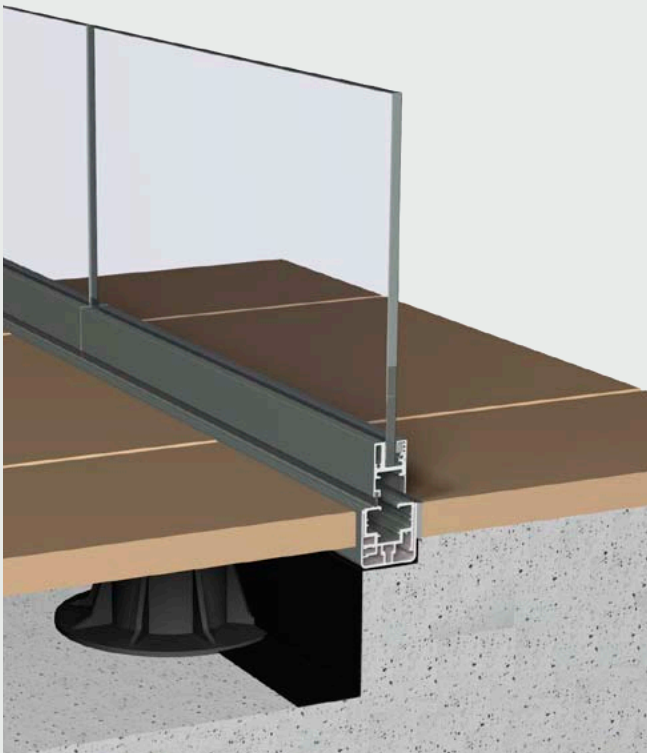
INSECT SCREEN: MOSQUITO

To enjoy the benefits of fresh air and natural ventilation undisturbed, Reynaers offers Mosquito. The wire screen can be fitted to the entire range of Reynaers windows, doors and sliding doors and keeps insects out. Advanced ordering software makes it possible to choose exactly the same colour as the door and window frames for a perfect match, making this comfort layer almost invisible.

Mosquito is also compatible with series from other suppliers.

↑
CS 155-LS 2-rail low threshold

GP 51 flat bottom
↓



BESPOKE SOLUTIONS: REYNAERS DOUBLE FAÇADES

Double skin façades provide many benefits compared to conventional, single skin curtain wall façades, particularly in terms of insulation and ventilation. They consist of a thermally insulating glass façade, doubled inside or outside, depending on the concept, by a second essentially glazed skin. The gap between the two layers acts as a thermal buffer zone and is used for natural ventilation.

However, not every building needs a double skin in every geographical direction to benefit from the advantages – as in the case of the new Dredging and Maritime Management headquarters in Luxembourg (design: Tetra Architectes Paul Kayser & Associés) which combines façades of dark brick and glass (also see page 6).

ALUMINIUM - LOW MAINTENANCE

Aluminium fittings require very low maintenance. This applies to cleaning as well as to the material's strength and durability.

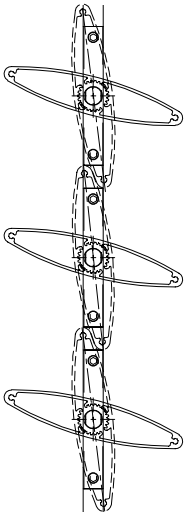
In rural settings, it is sufficient to clean the joinery twice a year; in harsher environments, such as urban settings near industrial areas, four times a year is advisable. Due to its strength, aluminium does not break or deform and in the case of serious damage it can usually be repaired. Combined with the material's durability, maintenance costs are kept to a minimum.

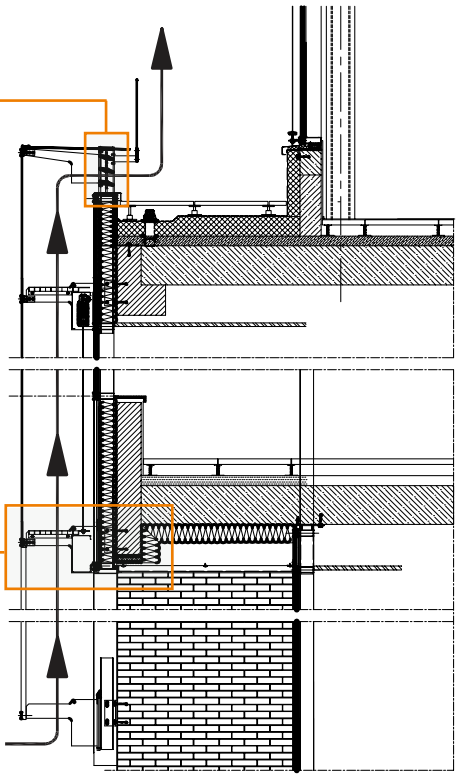
These characteristics make aluminium profiles an easy and convenient choice.

THE GAP BETWEEN THE TWO LAYERS ACTS AS A THERMAL BUFFER ZONE AND IS USED FOR NATURAL VENTILATION

Reynaers offers a wide range of double façade solutions custom-made for your individual project.

In the case of the DMM headquarters, the double skin façade is based on Reynaers well-known system CW 50 featuring double glazing on the inside and single glazing on the outside achieving insulation levels of 0.9 W/m^{2}K (Uw). Natural ventilation between the two façades takes place by means of automated BS 100 (Brise Soleil) louvres installed on top of the façade. In summer, the louvres are opened to allow fresh air to circulate and provide cooling. In winter and spring the louvres are closed. This prevents the air in the gap to circulate, so it can heat up and act as an energy-efficient heating system. Another advantage of the innovation, besides its energy-efficiency, is the double façade's acoustic insulation.

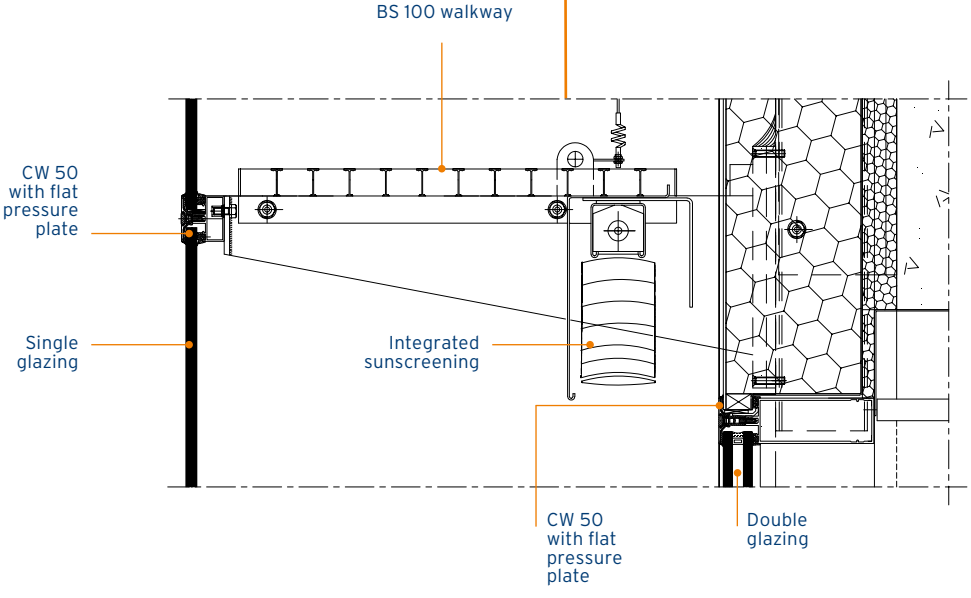




Detail; vertical section ↓

↑ **Detail; BS 100**

DMM double façade solution with natural ventilation →



JIUJIANGTANG, CHINA P.R.

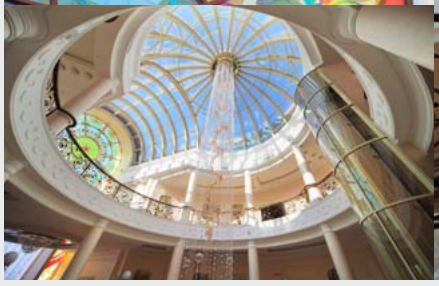
This beautifully renovated villa with its large garden and modern design provides a peaceful oasis in the bustling city of Shanghai.

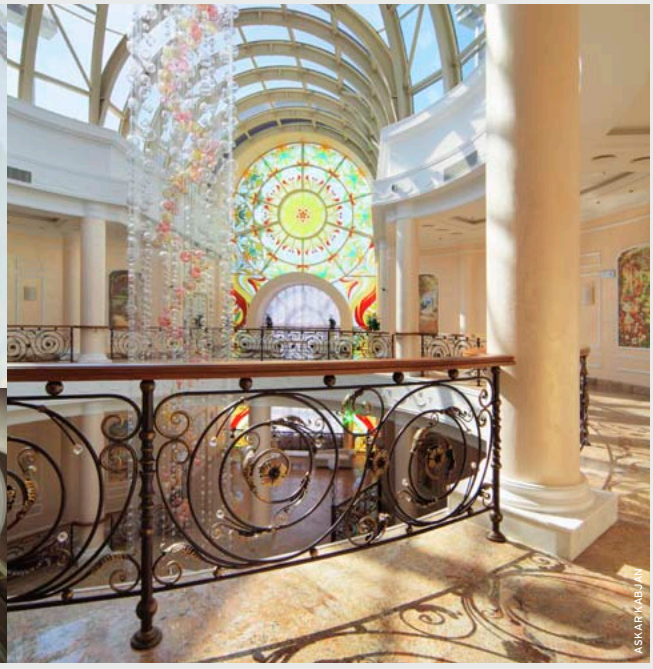
JIUJIANGTANG VILLA
Architect: **VVG concept, Tabei**
Investor: **Ms. Lou, Shanghai**
Reynaers systems: **CS 68, CW 50, CP 155**

TUMEN', RUSSIA

A monumental community centre with an ecclesiastic ambience.

COMMUNITY PALACE
Architect: **Adom Ltd, Alexander Sonin, Tumen'**
General contractor: **Mostostroy 11, Surgut**
Fabricator: **Tumen' DesignService Ltd, Tumen'**
Reynaers systems: **CW 50, CS 77-HV**





ASKAR KABJAN

SEEF AREA, KINGDOM OF BAHRAIN

This luxurious office tower in the commercial hub of Bahrain provides clients with a first-class business environment.

PLATINUM TOWER
Architect: **Habib Modara Art & Architecture, Bahrain**
Main contractor: **Dadabhai Construction, Bahrain**
Principal developer: **Mr. Mohammed Ahmed Ali Dadabhai, Bahrain**
Fabricator: **Abdul Aziz Aluminium, Bahrain**
Reynaers systems: **CW 50**

MOHAMED AL NAJJAR

MEISE, BELGIUM

The classical look of this villa was obtained using CS 38 Slim Line profiles and the CS 68 Renaissance variant.

PRIVATE HOUSE MEISE
Fabricator: **Thielemans & Co, Brussegem-Merchtem**
Reynaers systems: **CS 38-SL, CS 68-Re**

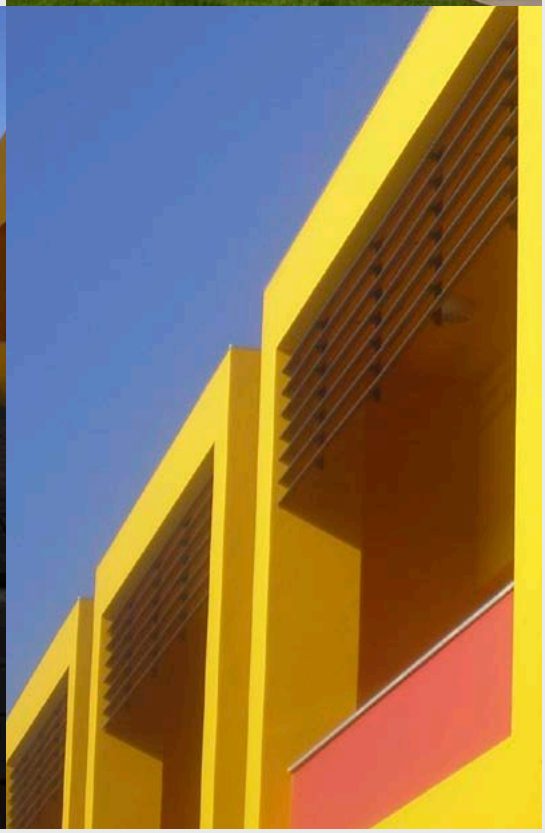
DEBBIE DE BRAUWER

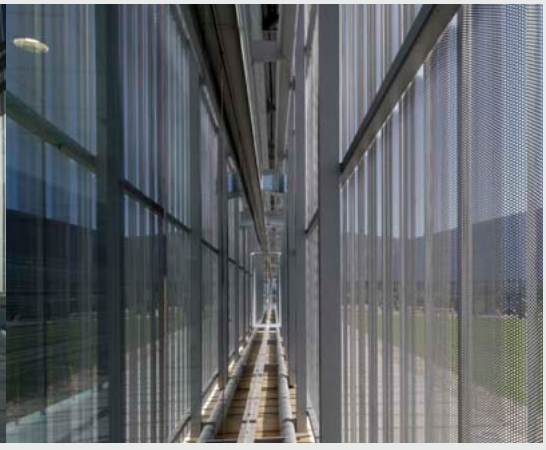
ALMANCIL/ALGARVE, PORTUGAL

This recently completed school building in the south of Portugal is fitted with features ensuring a good interior climate, including Reynaers' BS 100 sunscreening system and the thermally insulated roof application CW 50.

SCHOOL ALMANCIL
Architect: **Vasco Reis, Loulé**
Investor: **C.M. Loulé/Ministério da Educação**
General contractor: **Constructora San José S.A., Lisbon**
Fabricator: **Alves Carmo & Romão Lda, Almancil/Loulé**
Reynaers systems: **CW 50, CR 120, CS 77, BS 100**

JOÃO ARCANJO

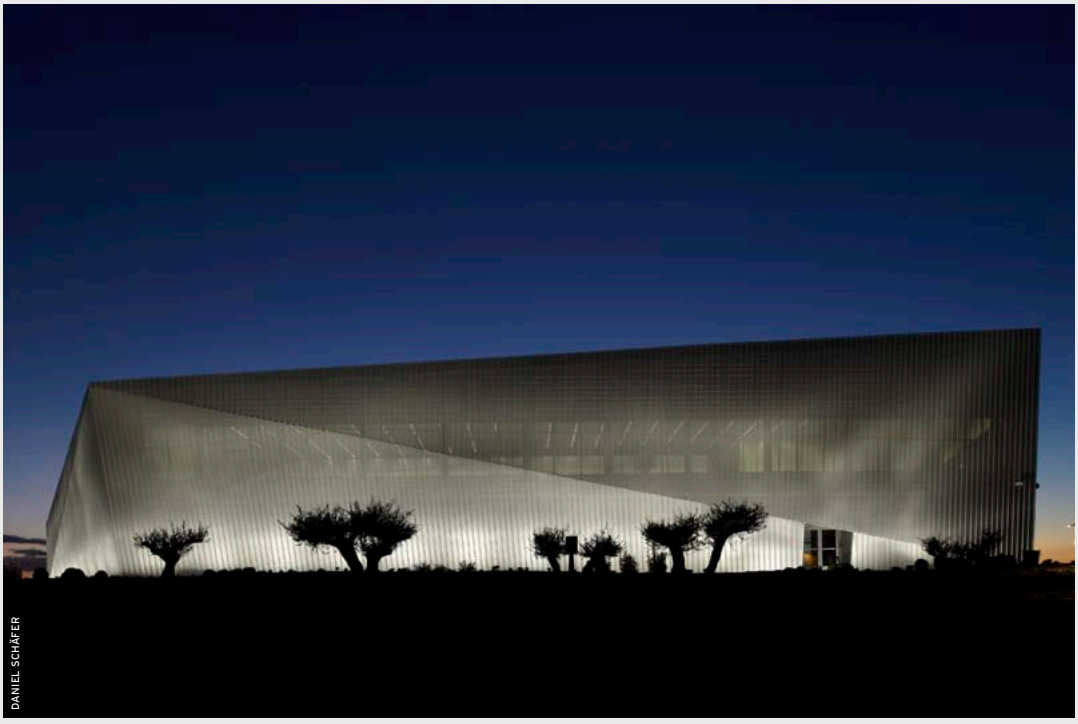




PARLA, SPAIN

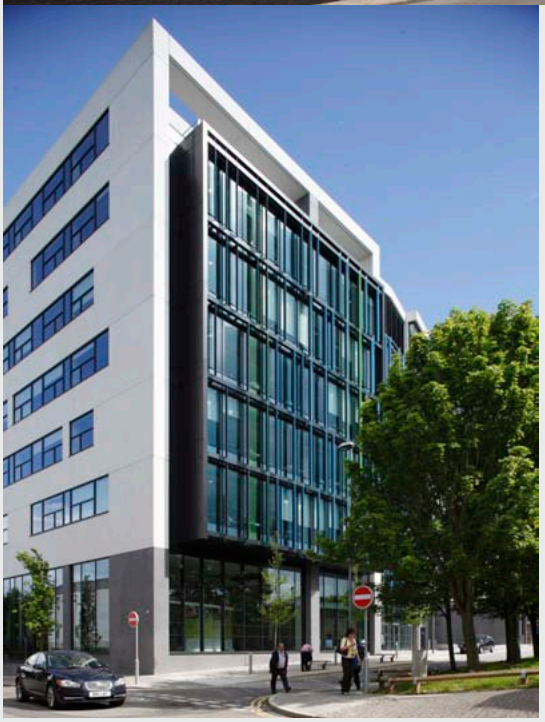
An architectural highlight for the well-established company John Deere in central Spain.

SEDE JOHN DEERE
Architect: **Estudio Lamela Arquitectos, Madrid**
Investor: **John Deere**
General contractor: **Acciona**
Fabricator: **Aluminios Eugenio Hidalgo e Hijos Cerrajeria S.L., Fuenlabrada**
Reynaers systems: **CS 68, CW 50**



DANIEL SCHÄFER

NICK SHORT



COVENTRY, UNITED KINGDOM

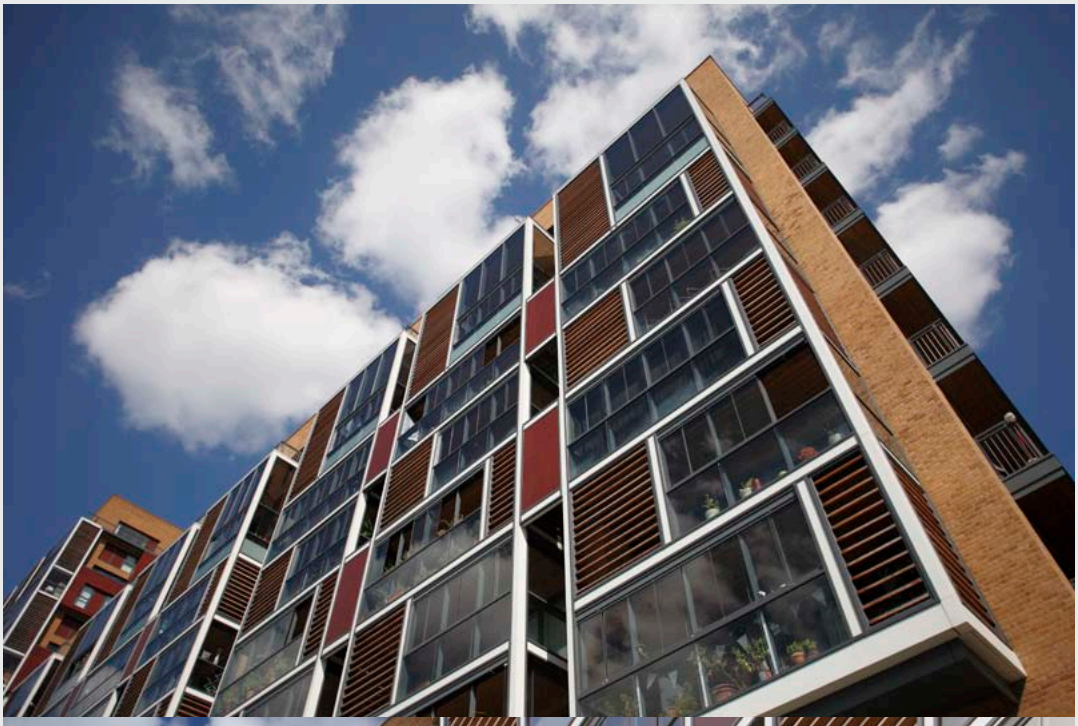
The many sustainable features, including an absorption cooling plant, biomass boilers and around 300 m² of photovoltaic panels, firmly justify the 'excellent' BREEAM rating of the new Severn Trent HQ building in Coventry.

SEVERN TRENT HEADQUARTERS
Architect: **Webb Gray Architects, Birmingham**
Investor: **Severn Trent Water**
General contractor: **BAM Construct UK Limited**
Fabricator: **Solaglas Contracting Midlands**
Reynaers systems: **CW 50, CS 68 (windows), Vision 50 (doors), bespoke solution capping profile**

LONDON, UNITED KINGDOM

DALSTON LANE
Architect: **Goddard Manton, London**
Investor: **Barratt Homes, London**
General contractor: **Barratt Homes, London**
Fabricator: **M Price, London**
Reynaers systems: **CS 86-HI, GP 51, CW 50, CP 155**

The balconies of the multi-use complex Dalston Lane in East London are fitted with Reynaers' modular sliding system GP 51 allowing the residents to use the extra space all year round.



STEFAN SCHILLING FOTOGRAFIE

BONITZBERG, GERMANY

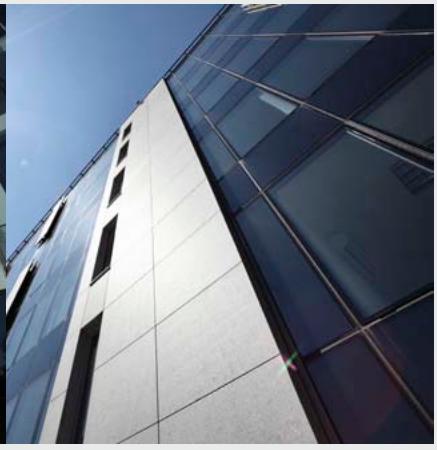
Generously sized panes of glass open up this villa to its beautiful surroundings, thereby not only taking advantage of the superb topographical situation of the building site but also creating light and spacious interior areas.

VILLA BONITZBERG
Architect: **Oxen & Partner, Hürth-Efferen**
Fabricator: **Schreinerei Keidel GmbH, Neunkirchen- Seelscheid**
Reynaers systems: **CS 86-HI, CP 155**

RADWAR, POLAND

Smooth sections of curtain wall give this renovation project a distinguished and special character.

RADWAR BUSINESS PARK
Architect: **Grafit Architekci, Warszawa**
Investor: **CNPEP Radwar S.A.**
General contractor: **Budimex, Warszawa**
Fabricator: **Elkam, Olsztyn**
Reynaers systems: **CW 50-SC, CS 86-HI**



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