THE

INSPIRING PROJECTS FROM

REFERENCE

SAPA BUILDING SYSTEM

BOOK

Adding value
and architectural
excellence to every
project has been Sapa
Building System's
mission from the
beginning. That is why
we provide market
leading architectural
aluminium solutions
that are innovative,
energy efficient and
environmentally
sustainable.

sapa:
buildingsystem
ARCHITECTURAL ALUMINIUM SOLUTIONS

FIVE IDEAS FOR A SUSTAINABLE FUTURE

At Sapa Building System, we are not fortune-tellers. But we do have a pretty good idea of what future cities will look like. The five urban trends you are about to read are based on scientific forecasts developed by, among others, Herman Konings (a Belgian trend watcher) and the EU Climate Policy Tracker.

IN THE END, OUR WORK WILL NOT BE JUDGED BY OUR CLIENTS BUT BY OUR CHILDREN.

Consider the above statement carefully. It's our 10th and notably final brand value. Architects and constructors have a great responsibility towards the future. But – as a provider of architectural aluminium solutions – so does Sapa Building System! Our work is built to last. A lot of the projects we are working on today will still be in use in 2050.

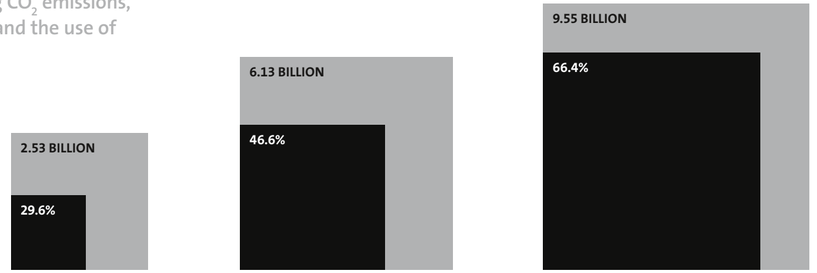
What will our world look like in 2050? You're about to find out.

The ten Sapa Building System Brand values

01. We link Scandinavian design with stunning architecture around the globe.
02. We put your local projects into a global perspective.
03. We take vertical integration from a buzzword to reality.
04. We are committed to give shape to your expectations.
05. We regard preservation of the environment as a belief rather than an obligation.
06. We prefer to rely on facts rather than assumptions.
07. We believe sophistication depends upon ultimate simplicity.
08. We care about your business. Seriously.
09. Comfort is not something we simply provide. It is something you truly deserve.
10. In the end our work won't be judged by our clients but by our children.

IN 2050, THE GLOBAL POPULATION WILL HAVE GROWN TO ALMOST 10 BILLION

Moreover, 66.4% of the population will live in an urban environment. The urban population will have to tackle challenges such as reducing CO_2 emissions, public safety, sustainable transport and the use of dwindling resources.



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2013): World Population Prospects: The 2012 Revision. New York: United Nations

TREND 1. THE FUTURE CITY IS LOW-CARBON

"Global CO_2 emissions will need to drop by some 50 to 80 % by 2050 compared to 1990 levels, even as the world economy is expected to triple."

Source: A roadmap for moving to a competitive, low carbon economy by 2050, 2014 update

People spend almost 90% of their time living and working inside buildings. In Europe, these buildings account for 40% of total energy consumption. Combined with the fast urban population growth, energy consumption and subsequently, CO_2 emissions in our cities are bound to rise.

No wonder buildings are paramount factors in the European Commission's commitment to cut carbon emissions to 80% below 1990 levels. Four initiatives will enable us to live up to this ambition:

- Proper insulation to dramatically cut energy consumption
- Smart building automation systems
- Sustainable power generation
- Full focus on renewables

There are numerous ways to make buildings more energy efficient: from better insulation through automation systems to using renewables.

TREND 2. SMART BUILDINGS IN SMART CITIES

"Focusing on smarter ways to provide what we need: that is the 21th century, information based infrastructure approach."

Source: Shaping sustainable cities in the Networked Society, Ericsson, 2011

Fast urban growth is accompanied by a rapid uptake of broadband and ICT. The result is a networked city, enabling businesses and people to handle scarce resources in a sustainable way. Already in 2020, ICT is expected to reduce up to 15% of emissions, translating into almost USD 1,000 billion of cost savings.

Today, we are only at the eve of the connectivity revolution. As new technology, such as 'the Internet of Things (IoT)', is emerging, buildings start to play increasingly important roles in sustainability. Here are some examples:

- Buildings are becoming energy producers, capturing wind and solar energy.
- Increased connectivity enables them to better manage data security, energy consumption and air-conditioning.
- Sensors help in climate adaptation by warning of pending storms, pollution levels or increased groundwater.
- Building automation systems to gather, track, control and optimise energy resources.

In a networked society, smart buildings help generate energy, manage climate issues and optimise resources.

TREND 3. THE FUTURE CITY IS VERTICAL

"We need to draw lines in the ground and say, 'The concrete stops here.' That forces people to build in and up, rather than out – and there's nothing wrong with high, dense urban environments as long as they're planned correctly. They tend to require less transportation, fewer sewer lines, fewer power lines, fewer roads, and more tightly packed structures, which in and of themselves are more energy efficient."

Patrick Moore, co-founder of Greenpeace

In providing homes for more people, cities face great challenges. But in terms of sustainability, this is good news. Density offers hope: the more harmoniously we can live together in built-up areas, the more we can sustain our surrounding ecosystems. It is no coincidence that New York is one of the world's most environmentally efficient cities.

There is one prerequisite: rather than building outwards, we have to keep building in and up. Smart architectural designs are paving the way for the verticalisation of our cities. A sustainable side-effect is that high-rise buildings are able to capture more wind energy, thus making them power producers.

Quality of life and privacy are principal boxes to tick in highly populated areas – to which innovative materials conveniently respond:

- Innovative acoustic materials in walls, ceilings and windows
- Solutions that are resistant to fire and/or the spread of flames
- Personal safety, thanks to bullet- and burglar-proof surfaces

Densely populated areas are extremely liveable – as long as they're correctly planned and carefully constructed.

TREND 4. RETROFITTING CITIES

"Because we will continue to use most of our buildings, we will have to envisage a systematic retrofit of existing buildings to reduce their carbon footprint."

Herman Konings, Belgian Trendwatcher on the future of our cities

In 2050, we will still be using up to three quarters of the buildings we know today. A systematic retrofit of existing structures is therefore becoming indispensable. Here too, technology is making a remarkable entrance. Enter 'smart façades', super-insulating building envelopes that collect data and consequently respond to environmental conditions, capture energy through photovoltaic coatings and help recover rainwater.

Retrofitting also means reinterpreting public space. Optimal use of available surfaces involves many elements, such as new means of public transportation. Sometimes, retrofitting initiatives are spontaneously emerging bottom-up: food production in cities, for example, is on the rise. An increase in environmental awareness and resource scarcity have hacked the path for the 'urban rooftop revolution'. City farms, beehives and organic cooperatives on rooftops are quickly gaining in popularity in cities that are setting the standards in sustainability.

Retrofitting is all about reinterpreting public space and expanding our building's purposes.

TREND 5. TURNING TRASH INTO TREASURE

"We have the expertise to make the most out of aluminium solutions, so as the world prepares for a low-carbon future we are in a unique position to be part of the solution. In fact, we have only seen the beginning of what aluminium can do to create sustainable value."

Svein Tore Holsether, President and CEO of Sapa

A sustainable design considers all phases in the building's lifetime, from the selection of raw materials right up to final demolition and recycling. These buildings aim to minimise their use of energy, water and raw materials needed throughout the life cycle. Nowadays, sustainability and affordability are two sides of the same coin: a sustainable design brings little or no additional costs.

Aluminium is an excellent exponent of the cradle-to-cradle principle. It can be recycled and reused over and over, without loss of quality. The proof is in the pudding: about 75% of all aluminium produced since the 1880s is still in use, and recovery rates of aluminium from buildings are around 95%. What is more, aluminium is light, strong and non-toxic. Because it is practically maintenance free, and corrosion and pollution resistant, aluminium has a longer life cycle - even in harsh and extreme conditions.

By embracing the cradle-to-cradle principle, we are closing the loop in our buildings.

ABOUT THIS VOLUME

The Reference Book was printed on a combination of Cocoon Offset and Cocoon Silk. These 100% recycled types of paper bear the FSC® Recycled certificate symbol and are EU Ecolabel certified.

By opting for these sustainable kinds of paper, 1358 kg of waste paper got a new lease of life, and 2208 kg of timber was spared. The shorter production process of recycled paper yielded - specifically for this book - a saving of 48 085 litres of water and 2 948 kWh of energy while the emissions were reduced by 184 kg of CO_2.

DEFINING SUSTAINABLE BUILDINGS

Accreditation systems for measuring and assessing the environmental performance of buildings have been in existence since the late 1980s. These systems provide users with a report card describing how sustainable the building is and will be in the future. The goal behind them is to foster sustainable construction methods and promote innovation.

LEED and BREEAM are two of the most widely recognised and commonly used environmental assessment methodologies in construction. They both intend to progressively promote low energy and environmentally sound building systems. Rather than simply coping with local standards, the systems look to raise the bar. Over the past few decades, both systems have become a point of reference for other, newer accreditation systems.

Leadership in Energy and Environmental Design (LEED)
The LEED rating system is a third-party certification program originating from the US and is used, these days, on international markets. It encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

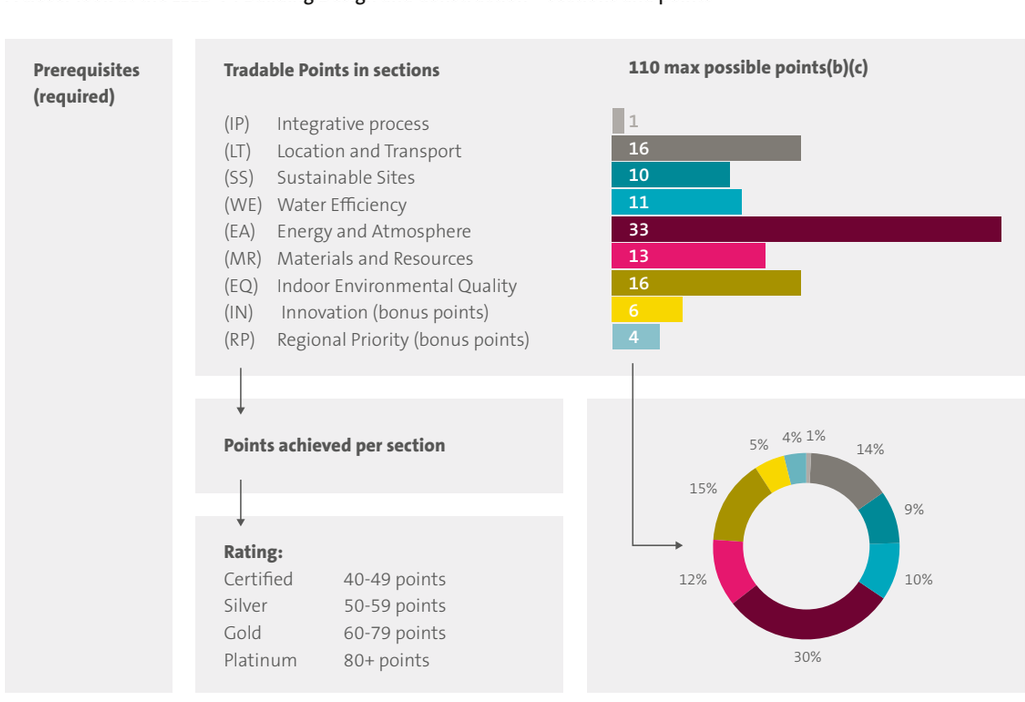
Why is LEED important?
The LEED rating system plays an important role in encouraging key sustainable building techniques:
- Conserve natural resources
- Reduce building operational costs
- Enhance occupant comfort and health
- Less strain on local infrastructure

Building Research Establishment Environmental Assessment Method (BREEAM)
BREEAM encourages and accelerates global adoption of sustainable, green building and development practices through the creation and implementation of understood and accepted tools and performance criteria. Since its launch in 1990, BREEAM has certified over a quarter of a million buildings and is active in more than 50 countries around the world.

Why is BREEAM important?
Today the system serves as a model for numerous national and international certification systems, which base their content and assessment methods on BREEAM.

BREEAM looks to set benchmarks and favour innovation in several key focus areas:
- Conservation of natural resources
- Reduction of building operational costs
- Enhanced occupant comfort and health
- Less strain on local infrastructure
- Enhanced asset value and profits
- Contribution to overall quality of life
- Define benchmark & favour innovation

A closer look at the LEED V4 Building Design and Construction [a] sections and points



(a) For use as 'New Construction' for this example
(b) Distribution of points may vary per building use
(c) Maximum = 100 + 10 bonus = 110 Points

Our product ranges have been developed and designed to address customer interests in green and sustainable building standards.

INTRODUCING
A SUSTAINABLE GEM

The Crystal, the global centre for sustainable urban development built and operated by Siemens, is setting new standards in environmentally friendly and sustainable buildings. This achievement is underscored by the fact that the Crystal received the LEED ‘Platinum’ as well as the BREEAM ‘Outstanding’ certificate, making it the world’s only building to receive the top rating in both accreditation systems.

The Crystal // Location: London - United Kingdom // Architect: Wilkinson Eyre Architects // Metal construction: Waagner-Biro

Photography: Trevor Palin

The Crystal, whose shape and outer shell resemble a rock crystal, is a unique building. Occupying more than 6,300 square metres of space on the historic Royal Victoria Docks in the East of London. The building runs entirely on electricity and consumes no fossil resources such as oil or gas. Instead, it uses renewable energy sources, including wind power coming from the London Array off-shore wind farm. Two pipe systems measuring more than 17 kilometres in length and extending to a depth of up to 150 metres are located in the ground beneath the Crystal. Equipped with heat pumps, they cover all of the building's heating and cooling requirements.

In addition, electricity for the Crystal is generated by a rooftop photovoltaic system. Covering an area of 1,580 square metres, this system generates approximately 20 % of the total electricity demand which roughly covers the demand of the ground source heat pump for the heat and cold preparation. Another 19 square metres of thermal solar panels help produce hot water. Overall, the Crystal consumes 46 % less energy and emits 65 % less carbon dioxide than comparable office buildings.

The passive design that gives the building its extraordinary shape with many angles and sloping walls ensures natural lighting and shading in the interior. Sapa Building System provided 150 different motorized, parallel windows, reducing the cost of mechanical ventilation. The triple-glazed windows, which have a g value of 0.3, maximise the building's insulation. Rainwater as well as graywater and blackwater (waste water having different levels of contamination) are collected and purified right in the Crystal so that the building does not lose a single drop of water.

The Crystal was awarded LEED Platinum by earning a total of 86 points out of the possible 110 points.

All of these innovative, active and passive design, building and operating parameters contributed to the building's LEED Platinum certification in the LEED For New Construction and Major Renovations (V2009) class.

The Crystal earned the maximum number of points in the Water Efficiency (10/10), Innovation in Design (6/6) and Regional Priorities (4/4) categories and fell just short of the highest scores in Indoor Environmental Quality (10/16) and Energy and Atmosphere (28/33) categories.

In addition, the building earned 4 out of 13 points in the Materials and Resources category thanks to its systematic waste management system; this category primarily rates waste avoidance through the reuse of existing building structures and did not apply to the Crystal because the lot was previously undeveloped. Overall, the Crystal earned 86 out of a possible 110 points.

Photography: Trevor Palin

CONTENTS

REFERENCES

LEISURE & RETAIL

SCOTLAND NATIONAL ARENA
Glasgow - Scotland
Hosting musical stars, global entertainment and sporting events, the Scotland National Arena has a capacity of 13,000 and aims to attract a staggering 1,000,000 visitors a year.

Architect: Foster + Partners
Fabricator: Martifer Aluminios
Contractor: Lend Lease

The new arena is designed to be a level area surrounded by seats, where large-scale events can be fully appreciated.

Photography: Adrian Toon

OFFICES

MOE

Søborg - Denmark

The retail and office functions of the MOE complex can be discerned from the facades. A gap separates the two parts, with four and five storeys respectively, while glass sections provide a view into the connecting stairs.

Architect: schmidt hammer lassen architects

Photography: Adam Mørk

The office complex is distinctly different from the base section, with strips of windows and black parapets stretching all the way round.

OFFICES

C.U.S. HABITAT
Strasbourg - France
The 'pixelated façade' of these new council housing offices symbolises the city's diversity. By daylight, the coloured parts vibrate under different skies. From the moment it's dark outside, they blink as the office lights go on.

Architect: Christian Plisson – Mongiello & Plisson Architectes

The moving blinds enhance the dynamic colour play of the building. When closed, they shed a soft, dipped light into the office spaces.

Photography: Brice Robert

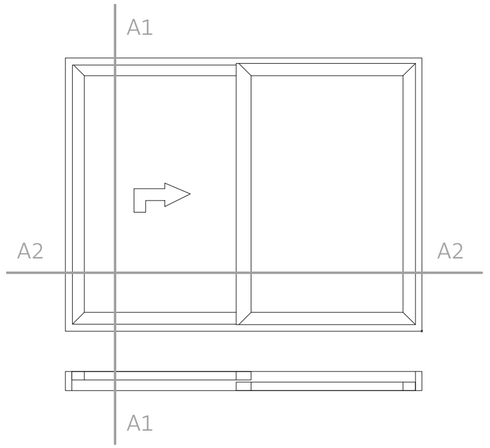
HOUSING

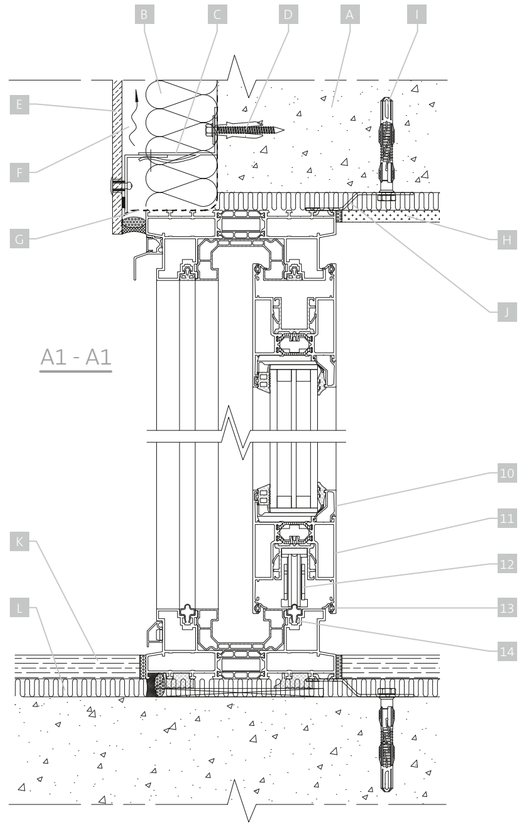
VILLAMA
Turku - Finland
The minimalist design of this detached house provides a natural coupling to the jagged coastal environment. The internal walls are in concrete, the floors are oiled parquet and the ceilings are clad in cement fibre sheeting.

Architect: SAFA Pekka Mäki, Arkitektbyrå Sigge Oy

The large areas of glass on the gable ends and long sides of the house couple the interior spaces with the natural surroundings.

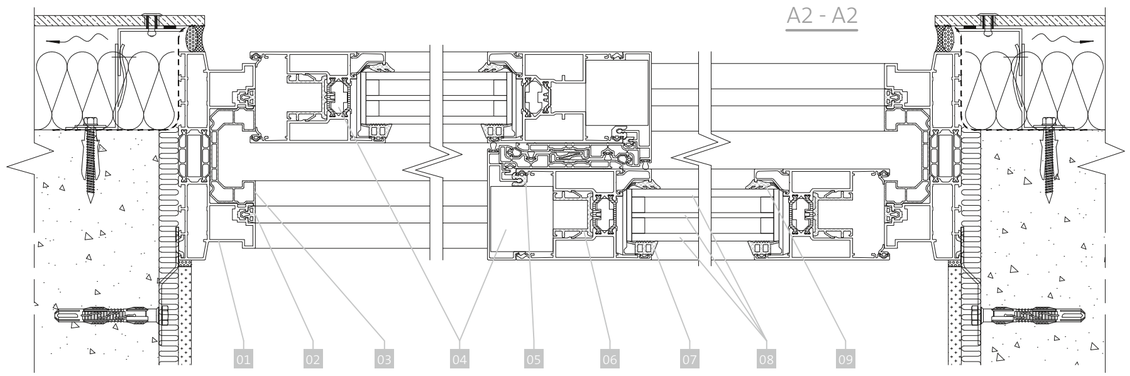
Photography: Vesa Loikas





A Building construction
B Wall insulation
C Supporting element
D Fixing screw
E External cladding
F Ventilation area
G Watertight membrane
H Ceiling
I Fixing bolt
J Anchor of sliding door
K Floor
L Slab insulation

01 Frame
02 Cover cap gasket
03 Insulated gutter profile
04 Thermal insulation foam
05 Positioning gasket
06 Hardware insulation profile
07 Internal glazing gasket
08 Triple glass unit
09 External glazing gasket
10 Glazing bead
11 Vent
12 Roller
13 Rebate gasket
14 Rail



Photography: Scott Shirley

OFFICES

1006 HAY ST
Perth - Australia
This new, modern, nine-story office building, located in the heart of the city perfectly showcases Sapa's curtain wall system.

Architect: DMG
Fabricator: Alcom Fabrications

HEALTH

AZ DAMIAAN HOSPITAL
Ostend - Belgium
The AZ Damiaan hospital in Ostend houses all of its various medical services in one single campus, in a state-of-the-art building containing cutting-edge technology. The entire architectural concept is developed to ensure visitors a top quality stay.

Architect: BOECKX Architecture & Engineering

Photography: Hans Couckuyt

Thanks to Sapa's Confort 125 insulated sliding and lift-sliding system, large areas become easily accessible. The Elegance 52 curtain wall system completes the contemporary building design.

Photography: G8Q | Hugo Salvaterra

HOUSING

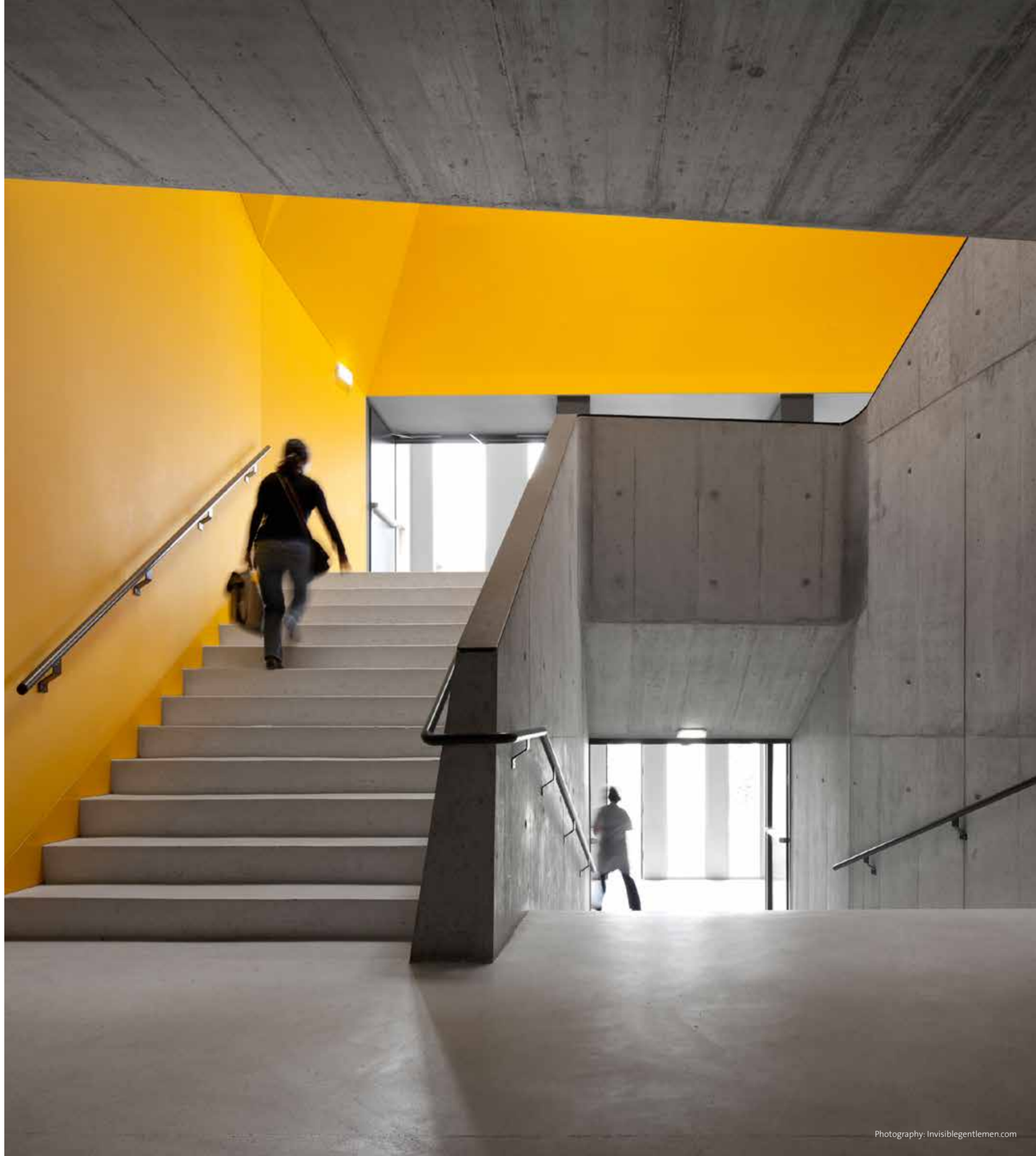
SKY RESIDENCE
Luanda - Angola
Located in the highest part of Luanda, this building has 25 floors of apartments and. Authentic and with a minimalist window design, the Sky Residence is functional yet pleasing to the eye.

Architect: Atelier do Chiado
Fabricator: Efangol
Contractor: Teixeira Duarte

EDUCATION

BRAANCAMP FREIRE SCHOOL
Lisbon - Portugal
Turning five pre-existing buildings into a single, integrated school building. CVDB's architects were on a tight budget to achieve this goal, finishing the walls in concrete, while aluminium doors and windows blend in perfectly.

Architect: CVDB Architects
Contractor: Edificadora Luz e Alves



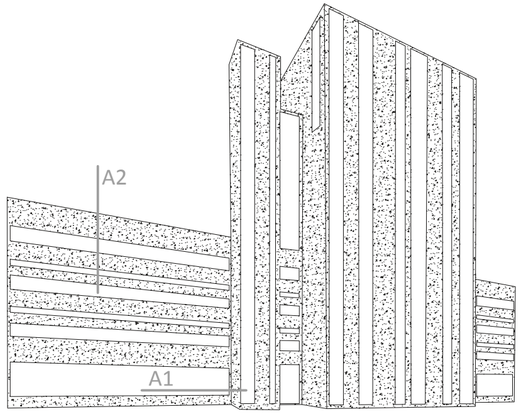
Photography: Invisiblegentlemen.com

OFFICES

PORT TOWER
Karleby - Finland
This building combines a horizontal section, containing service facilities and offices, with a tower that houses conference rooms and a visitor centre. Deep frame sections reach from the outer to the inner wall surface.

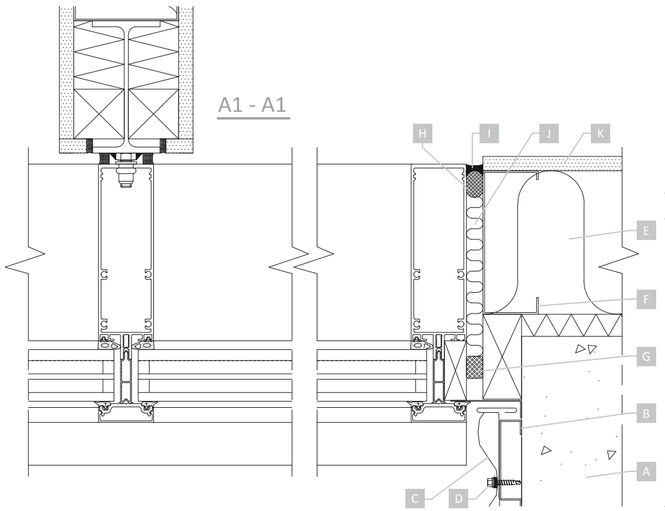
Architect: Arkkitehtitoimisto Antti Luutonen Oy

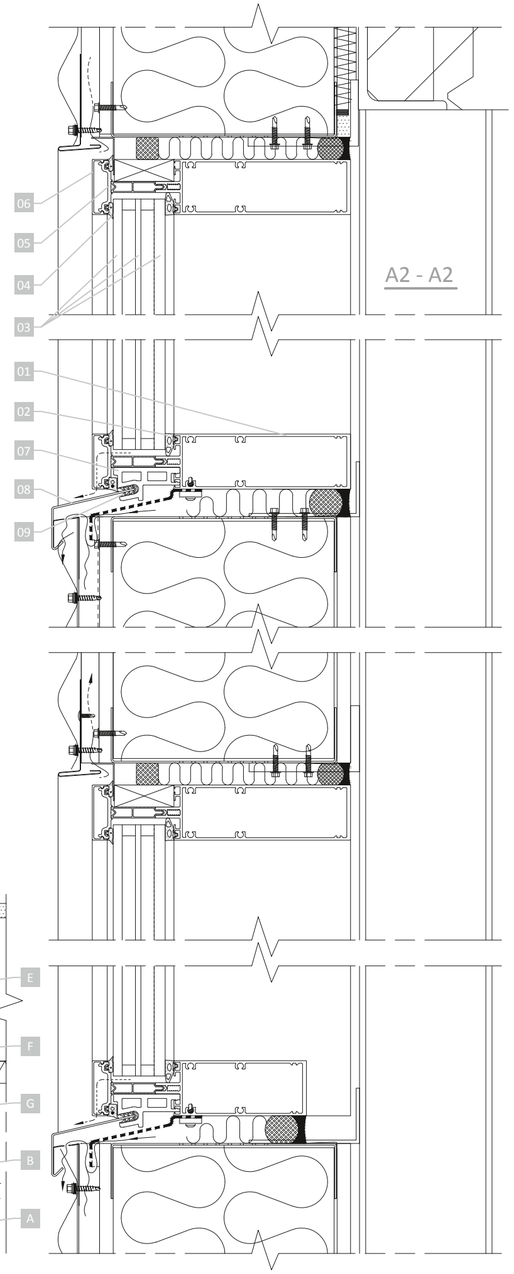
Photography: Antti Luutonen



A Building construction
B External supporting profile
C External cladding
D Fixing screw
E Insulating layer
F Internal supporting profile
G Watertight buffer
H Vapour barrier
I Silicon grout
J Side insulation
K Plasterboard

01 Transom
02 Internal glazing gasket
03 Triple glass unit
04 External glazing gasket
05 Pressure plate
06 Cover cap
07 Spacer
08 External flashing
09 Flashing gasket





OFFICES

ROY HILL MINING HEADQUARTERS
Perth - Australia
This spacious office building has been specifically designed for use by Roy Hill Mining. Sapa's curtain wall system shows its versatility throughout the building.

Architect: Peter Hunt
Fabricator: Alcom Fabrications

Photography: Scott Shirley

OFFICES

UNTERFUNTER OFFICE BUILDING
St. Peter am Hart - Austria
The Unterfunter office building can boast a unique structural facade in high-performance, triple insulating glass, finished off with ultra-flat cover caps of just 4 mm high.

Architect: Architekten Färbergasse Dirmayer & Zeilinger ZT OG

Photography: Gernot Muhr

OFFICES

PALLADIUM TOWER
Istanbul - Turkey
The 190-metre high Palladium Tower in Istanbul features an Elegance 72 unitised curtain wall system with custom design details, mixed with the brand-new NRGY 62-SG.

Architect:
SHCA-Swanke Hayden Connel Architects

The Palladium Tower is designed to be one of the tallest buildings in Istanbul and fully complies with LEED Gold standards.

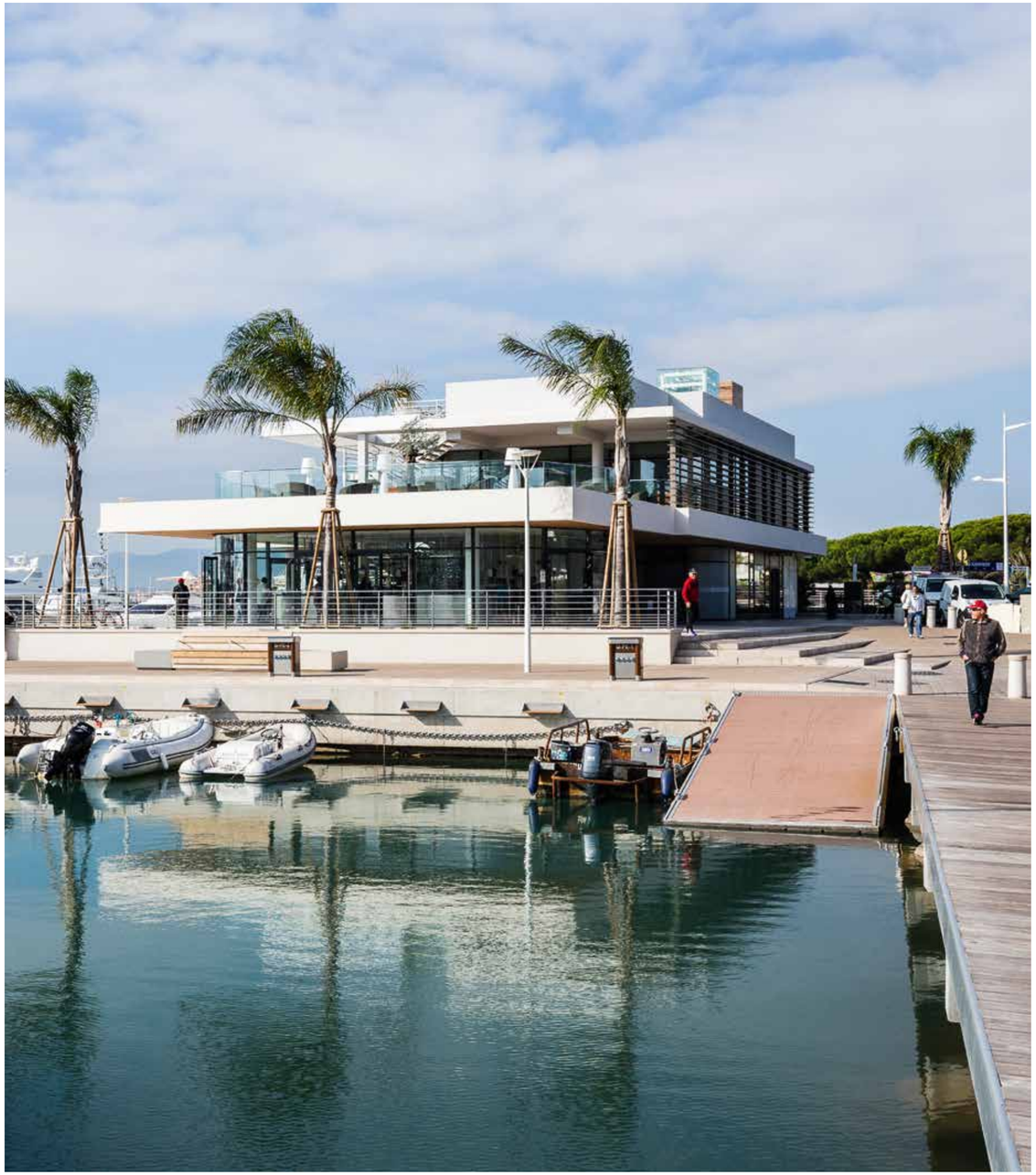
Photography: Hans Couckuyt

TRANSPORT

PORT DE SAINT-RAPHAËL
Saint-Raphaël - France
Saint-Raphaël - the five-port city - revamped its maritime landscape by remodelling its historic Vieux Port, from head to toe. Located in the centre of the city, this one-of-a-kind harbour accommodates both yachting and local fishing activities.

Architect: Jean-Pascal Clément

Photography: Brice Robert



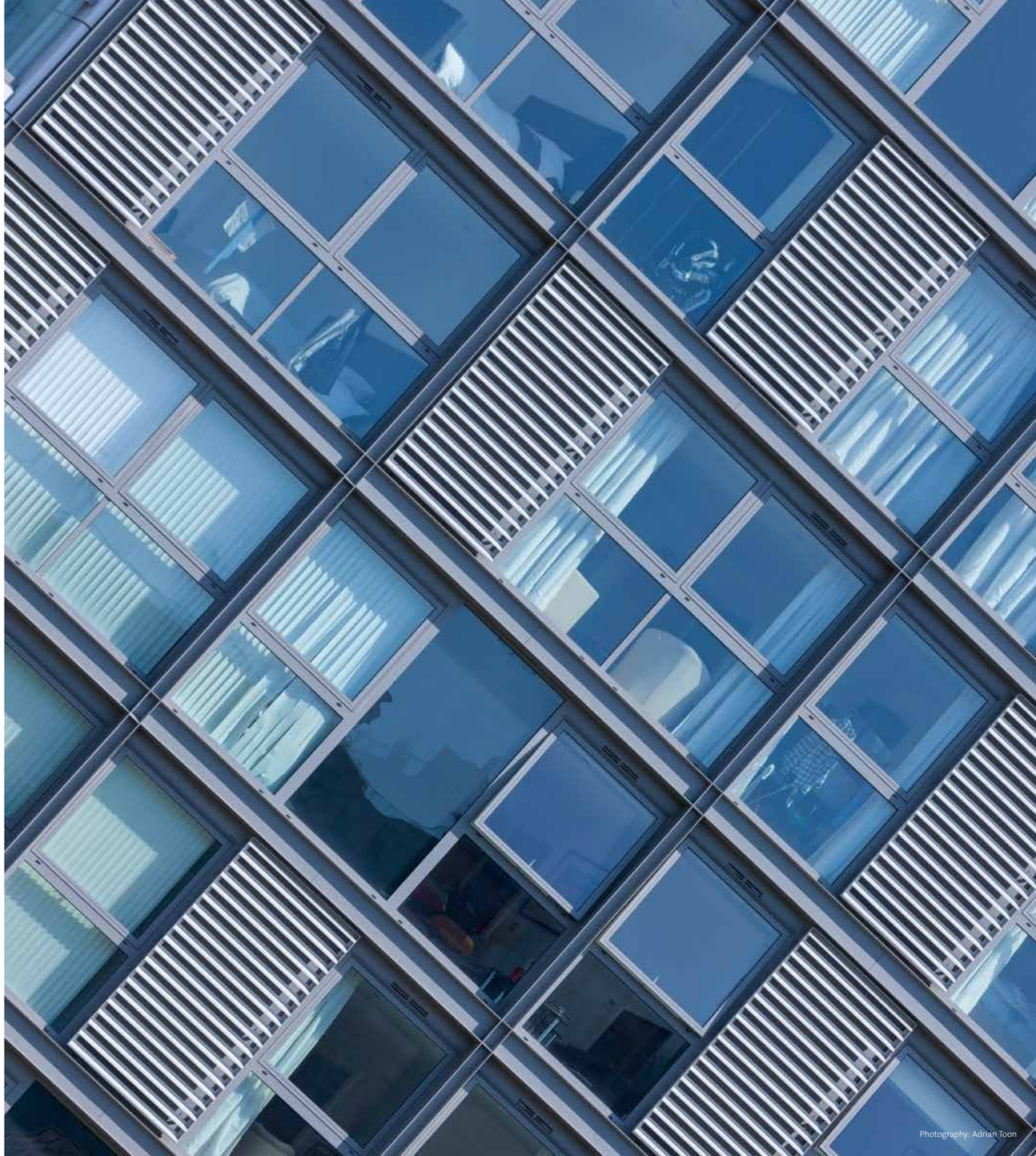
A new holding basin, new pontoons and docks, an underground car park: revamping the Port of Saint-Raphaël required customised building systems.

HOUSING & RETAIL

GREENWICH REACH
London - United Kingdom
The complete regeneration of Greenwich Reach - an exciting new waterfront development on the river Thames - includes residential apartments, shops and restaurants and even public facilities. All surrounded by a riverside walkway.

Architect: BUJ Architects

A perfect fusion of old and new, traditional and trendy, Greenwich Reach offers beautifully designed waterside apartments and comes with a breathtaking setting that mixes modern with historic.



Photography: Adrian Toon

HOUSING

VILLA DE BRITO
Cap Ferret - France
A magnificent mansion on the Cap Ferret headland in southwest France: large and elegant French windows - with excellent thermal performance - bring the beautiful view inside, where it can be fully appreciated.

Architect: De Brito

Photography: Brice Robert

Sapa's stylish sliding windows make the best use of the breathtaking surroundings, while fully complying with the landowner's high quality demands.

LEISURE & RETAIL

MAISON DE LA MUSIQUE
Meylan - France
For the new part of the Maison de la Musique in Meylan, in the French Isère department, the architect stayed true to the original building style. The aluminium doors and windows are unobtrusive, so that the concrete, glass and steel are at the forefront.

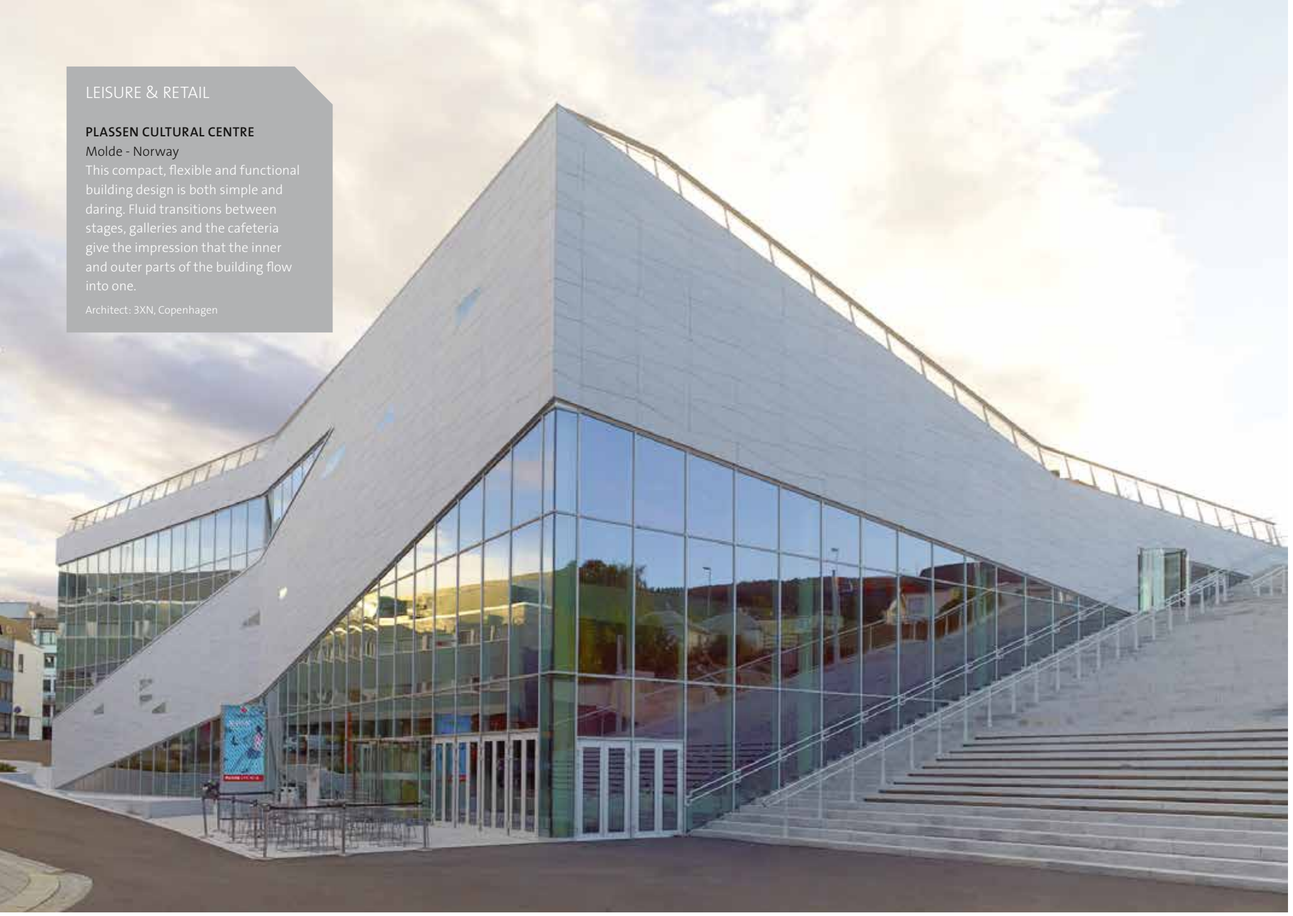
Architect: SANTORO Architectes

The combination of concrete, glass and steel helped create unity between the existing Maison de la Musique and its extension. It creates a spacious look and feel and provides more comfort.

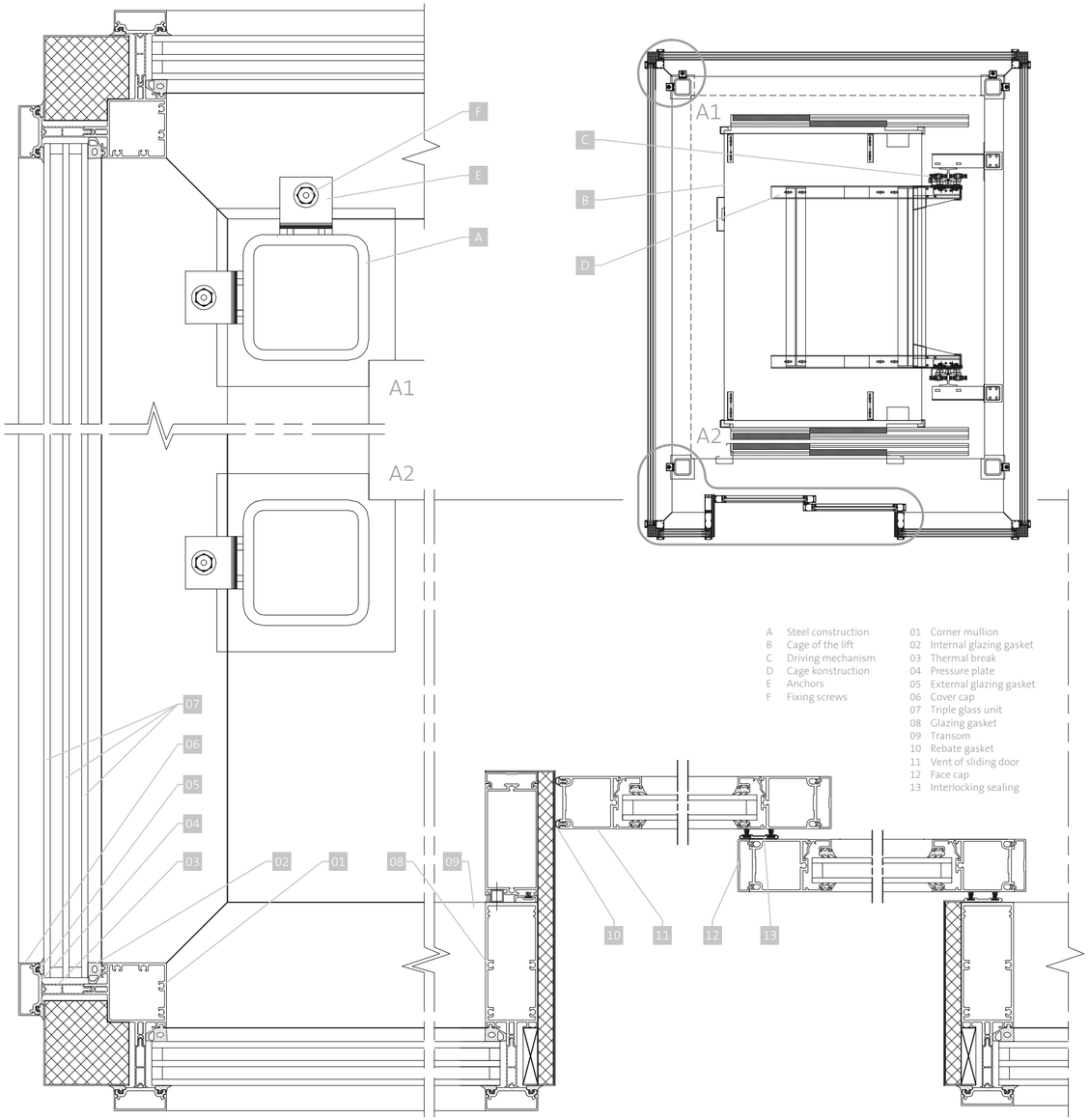
Photography: Brice Robert

PLASSEN CULTURAL CENTRE
Molde - Norway
This compact, flexible and functional building design is both simple and daring. Fluid transitions between stages, galleries and the cafeteria give the impression that the inner and outer parts of the building flow into one.

Architect: 3XN, Copenhagen



Photography: Hans L. Bonnevier



A Steel construction
B Cage of the lift
C Driving mechanism
D Cage konstruction
E Anchors
F Fixing screws

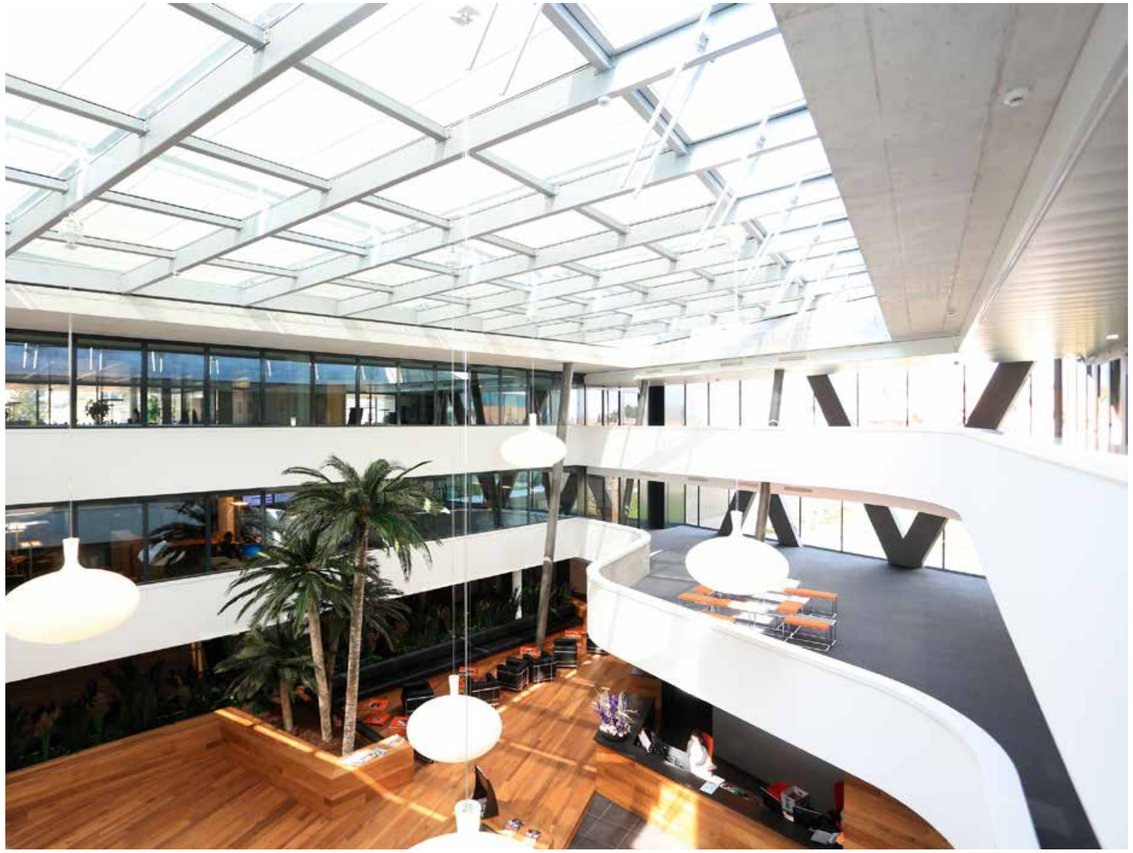
01 Corner mullion
02 Internal glazing gasket
03 Thermal break
04 Pressure plate
05 External glazing gasket
06 Cover cap
07 Triple glass unit
08 Glazing gasket
09 Transom
10 Rebate gasket
11 Vent of sliding door
12 Face cap
13 Interlocking sealing

Photography: Heinz Altorfer

OFFICES

SWISSQUOTE OFFICES
Gland - Switzerland
To support its growth, bank group Swissquote decided to expand its office building, adding 4,700 square metres of office space. An extended patio forms the central link between the two buildings, with footbridges physically connecting them on each floor.

Architect: LINK Architectes sa



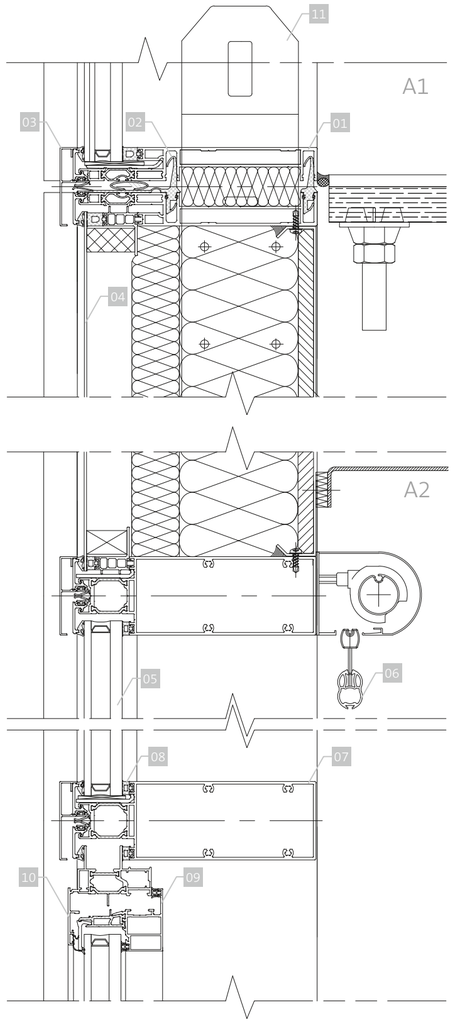
The Elegance 52 curtain walls make best use of the patio's abundance of natural light.

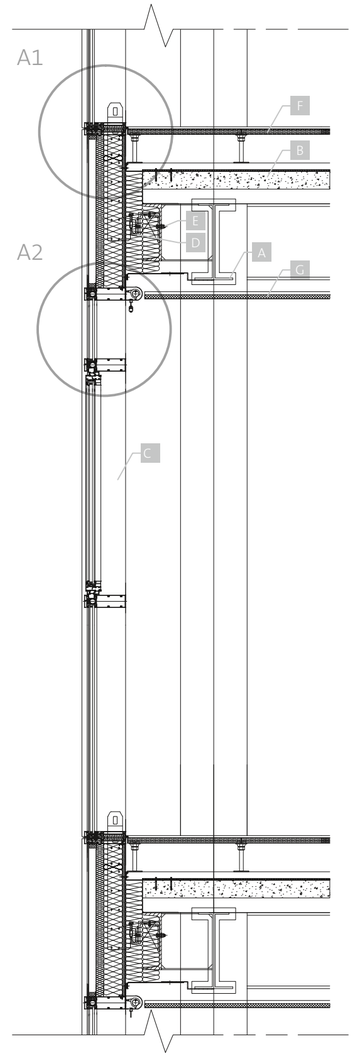
OFFICES

EURONEWS
Lyon - France
The new HQ for the international Euronews channel is designed to meet extra needs in terms of space for its 800 employees. This audacious building with its luminous green perforated skin is one of the most visible buildings at the heart of Lyon.

Architect: Jakob + MacFarlane

Photography: Brice Robert





A Steel construction
B Concrete
C Unitised facade
D Anchors
E Fixing screws
F Floor
G Ceiling

01 Unit frame
02 Dilatation gasket
03 Cover cap
04 Opaque panel
05 Glass pane
06 Shader
07 Transom
08 Glazing gasket
09 Window vent
10 Window frame
11 Lifting hook

Photography: Trevor Palin

OFFICES

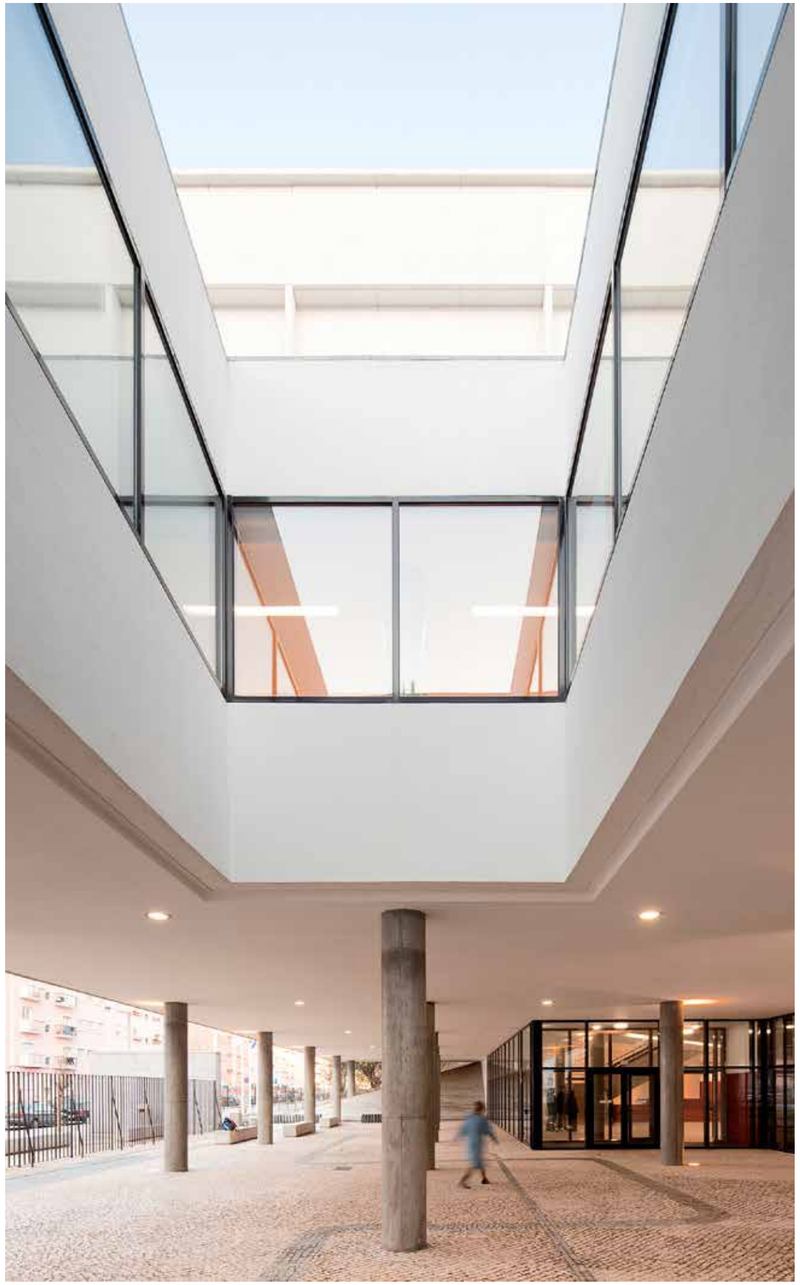
THE CRYSTAL
London - United Kingdom
The Crystal is a sustainable cities initiative by Siemens. The challenge was to supply Waagner-Biro, which was the metal constructor, with 150 different motorised, parallel windows in a wide range of different shapes and positions.

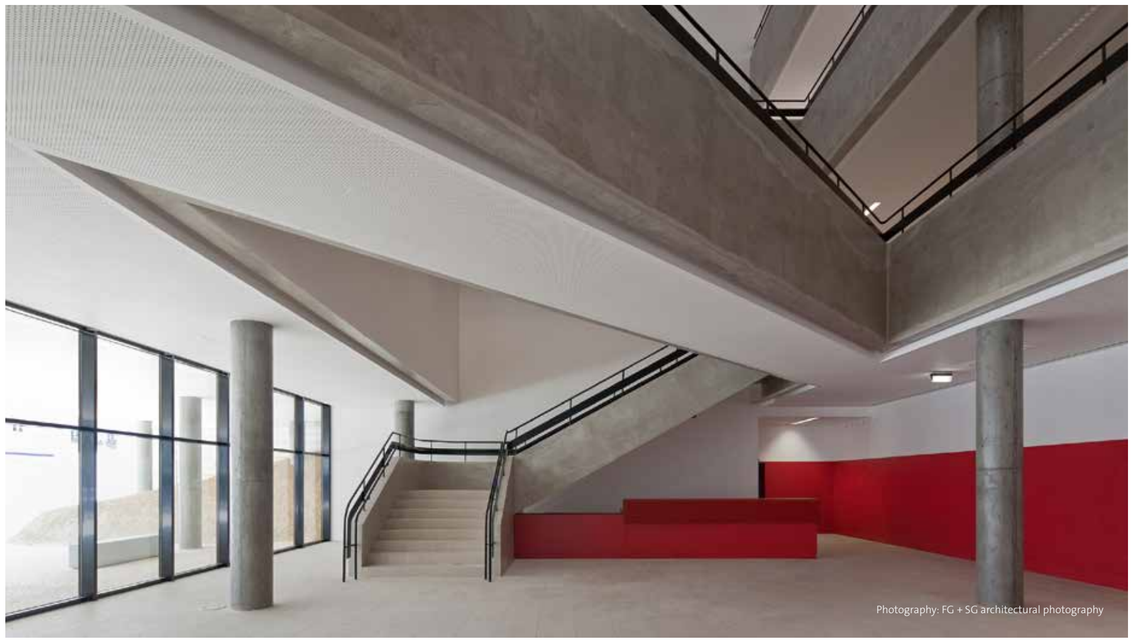
Architect: Wilkinson Eyre Architects

EDUCATION

RAINHA DONA LEONOR SCHOOL
Lisbon - Portugal
This high school was expanded with a brand-new block, connecting the original structure with the school gym. The existing buildings remained true to the original 1950s architectural style.

Architect: Atelier dos Remédios
Installer: Irmãos Travessa
Contractor: MRG





Photography: FG + SG architectural photography

OFFICES

SKY BUSINESS
Luanda - Angola
20 floors and 80 metres high: this majestic office building comes with a unique view over the bay. Its façade is made up of many small caps giving it a dynamic appearance as the sunlight reflects on the outer blades.
Architect: Risco
Fabricator: Seveme
Contractor: Teixeira Duarte

Photography: G80 | Hugo Salvaterra

The façade’s design is tailor-made from head to toe, a level of customisation which was only possible thanks to an intense and close-knit collaboration of many different teams.

HOUSING

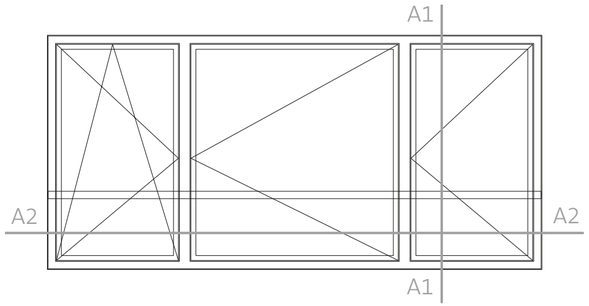
DE REGENBOOG

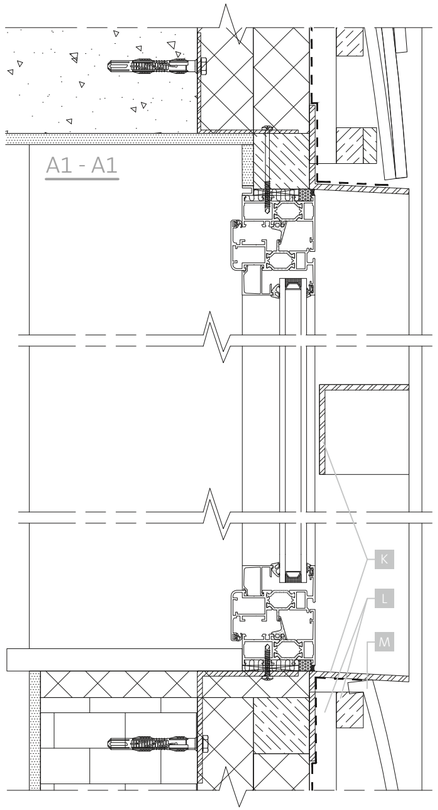
Roeselare - Belgium

In the centre of West-Flanders, De Regenboog Roeselare is a successful renovation project. The building houses 54 luxurious assisted living units, commercial premises and communal areas with a magnificent view over the beautiful green courtyard.

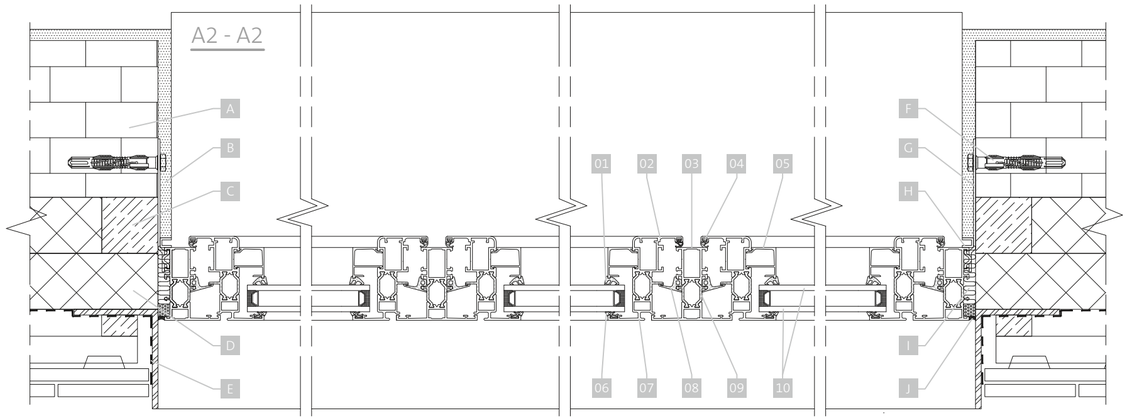
Architect: URA Architecten - 3architecten

Photography: Hans Couckuyt





A	Drywall	01	Internal glazing gasket
B	Plaster	02	Vent
C	Vertical rafters	03	Transom
D	Mineral wool	04	Rebate gasket
E	Damp proofing foil	05	Glazing bead
F	Anchor bolt	06	External glazing gasket
G	Side anchor	07	Frame
H	Facing bar	08	Internal gasket
I	Side insulation	09	Thermal break
J	Watertight barrier	10	Glass unit
K	Steel frame with angle bar		
L	Vertical & horizontal battens		
M	Roof tiles		



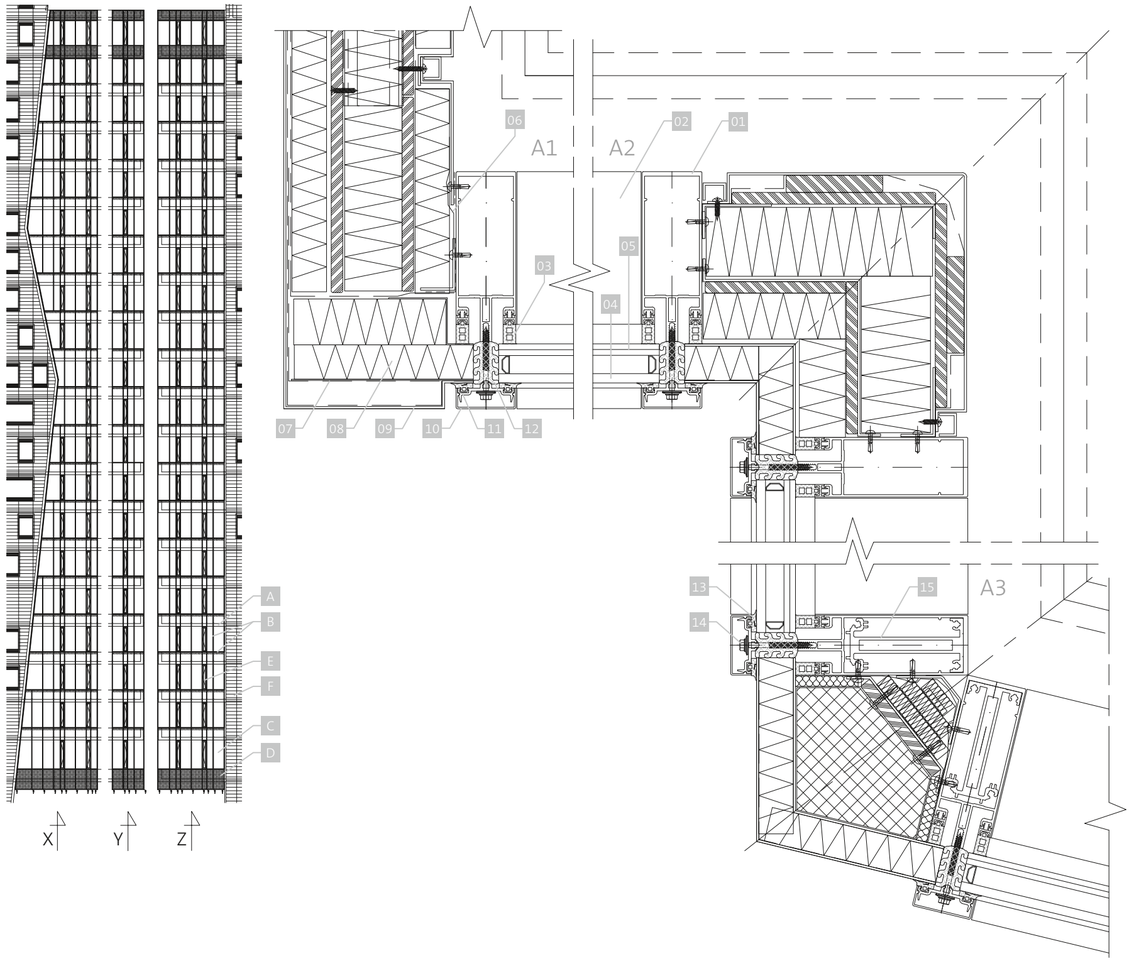
OFFICES

AZ TOWER
Brno - Czech Republic
The AZ TOWER is the tallest building in the Czech Republic. Both the administration part of the skyscraper and the retail part of the adjacent, two-story building consist of a glazed Sapa façade.

Architect: Burian - Křivinka Architects
Contractor: Ingsteel s.r.o.

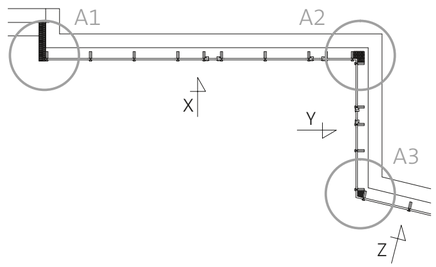
The Elegance 52ST façade and 52EI fire system were completely customised. The Avantis 75SHI and 70SHI series ensured well-insulated doors and windows, not to mention the Sapa partition walls.

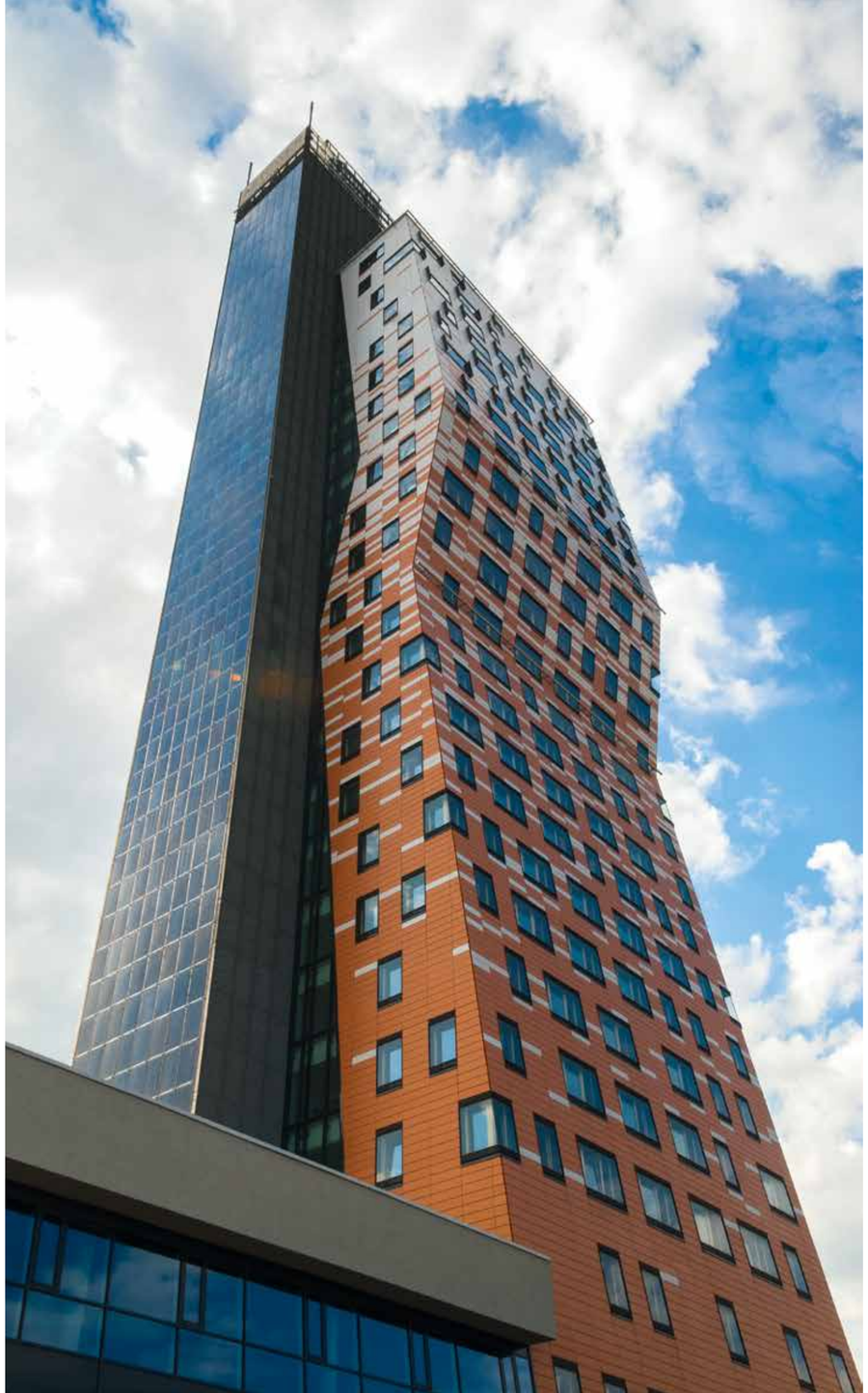
Photography: Jiří Zahradnický



A Building construction - slabs
B Stick curtain walling
C Glazed area
D Opaque area
E Facade integrated windows
F Ceramic lining

01 Mullion
02 Transom
03 Internal glazing gasket
04 External tempered glass
05 Internal laminated glass
06 Vapour barrier foil
07 Watertight foil
08 Insulating panel
09 External flashing
10 Cover cap
11 Pressure plate
12 Thermal break
13 External glazing gasket
14 Fixing screw
15 Reinforcement profile





Photography: Frank Wollinger, Germany

Transparency was ensured by a two-storey high curtain wall with anodised profiles and insert elements.

HOUSING

PRIVATE MANSION
Rheine - Germany
This modern one-family home was designed to accommodate three generations with up to three children each. The target was to combine ambitious architectural demands with a feasible layout.

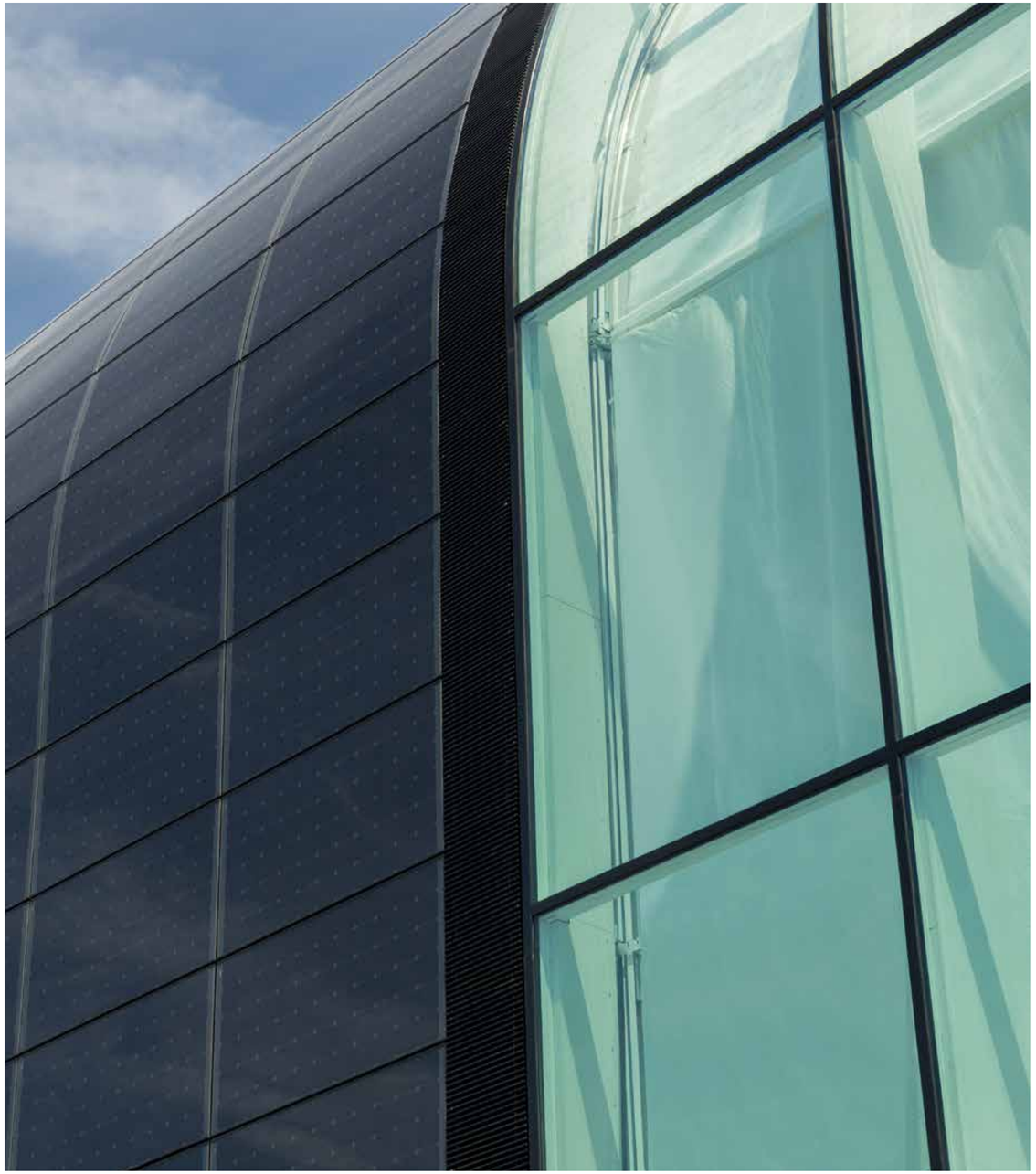
Architect: GRAI Architects, Germany
Fabricator: B&S Rheine, Germany

OFFICES

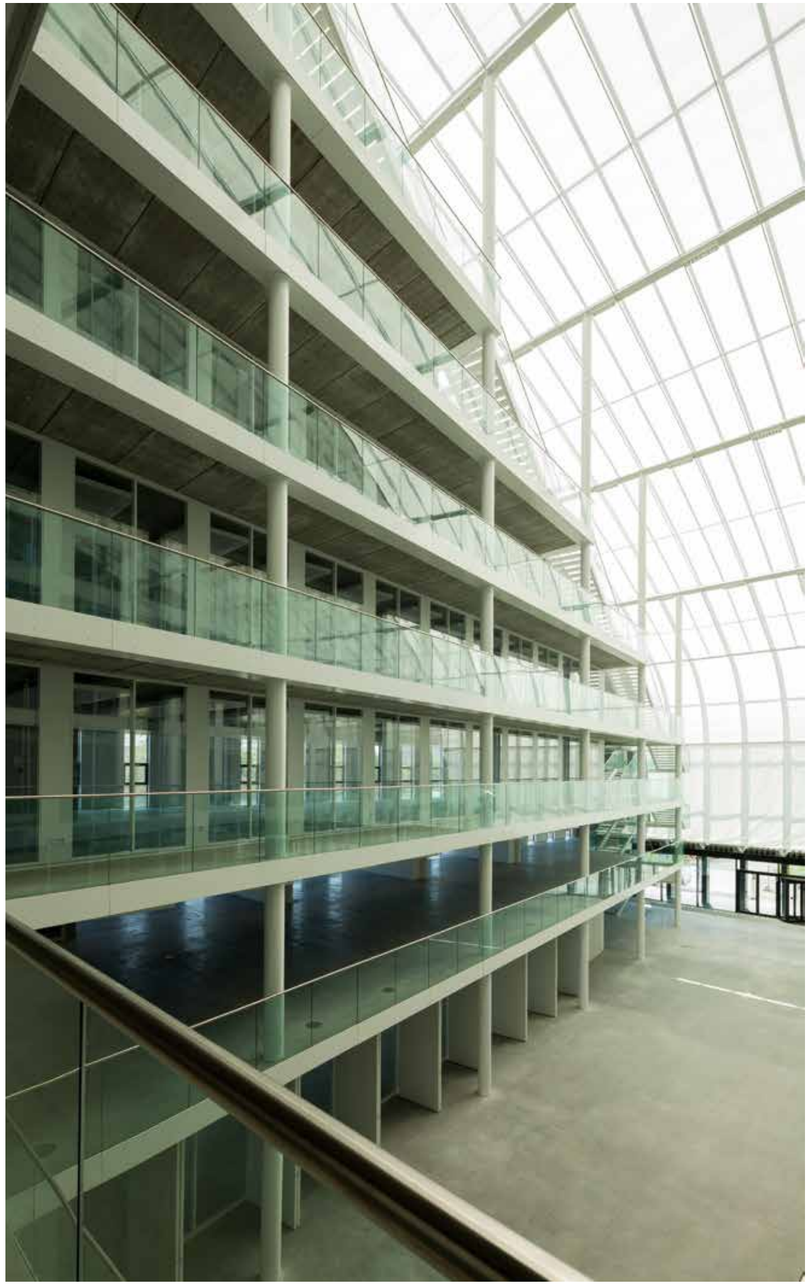
BIM – BRUSSELS INSTITUTE FOR ENVIRONMENTAL MANAGEMENT
Brussels - Belgium
This is a BREEAM-certified passive building. Sapa's innovative systems helped create a headquarters in line with the values conveyed by BIM.

Builder: Project T&T NV
Architect: cepezed with local support from Samyn and Partners

Photography: Hans Couckuyt



A mix of triple glazing and a unitised curtain wall with outstanding thermal characteristics significantly reduces heat loss via the façade and results in a U-value below 1.0 W/m^{2}k.



OFFICES

PIXEL PARK
Poznań - Poland
Every aspect of this five-building office complex was designed to meet the highest eco-standards. Fully glazed facades make maximal use of natural lighting, while each building is embedded in a calm, green environment.

Architect: JEMS Architekci

Photography: Maciej Dunajewski

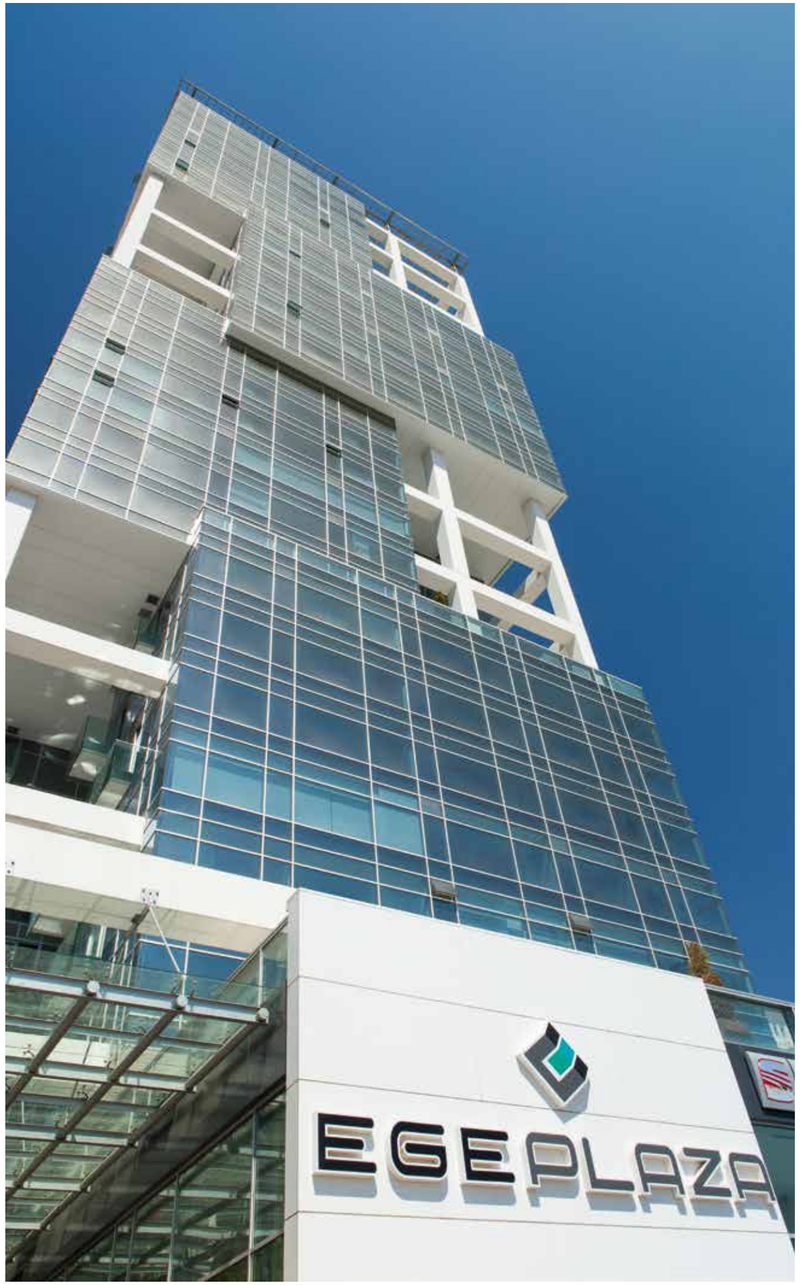
Photography: Carlos Fernandes

HEALTH

CMIN HOSPITAL
Porto - Portugal
This building for the maternity and infant hospital is located right in the middle of historic healthcare facilities. Its broad windows and curtain walling provide an abundance of natural light.

Architect: AIDHOS | Vitor Martins Arquitectos
Fabricator: Ribeiro e Rocha
Contractor: Tomás de Oliveira | Conduril | MRG

Special aluminium blades ensure that the CMIN building has excellent solar control features.



OFFICES

EGE PLAZA
Ankara - Turkey
The Ege Plaza office building in Ankara showcases several innovative facade solutions, including the Elegance 52 curtain wall system, the Confort 125 sliding system and the Avantis 55 window and door system.

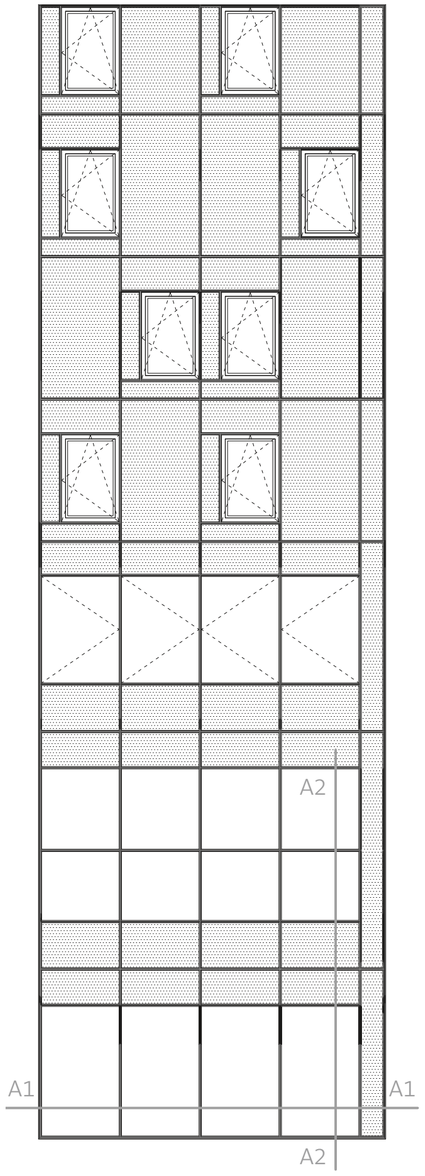
Architect: Hatırlı Architecture

Photography: Hans Couckuyt

HOTEL TRYP
Lisbon Airport - Portugal
A distinct façade with no shadow: this hotel building features the Elegance 52 curtain walls with a stunning, tailored design. The result? A breathtaking structure with the touch and feel of a genuine diamond.

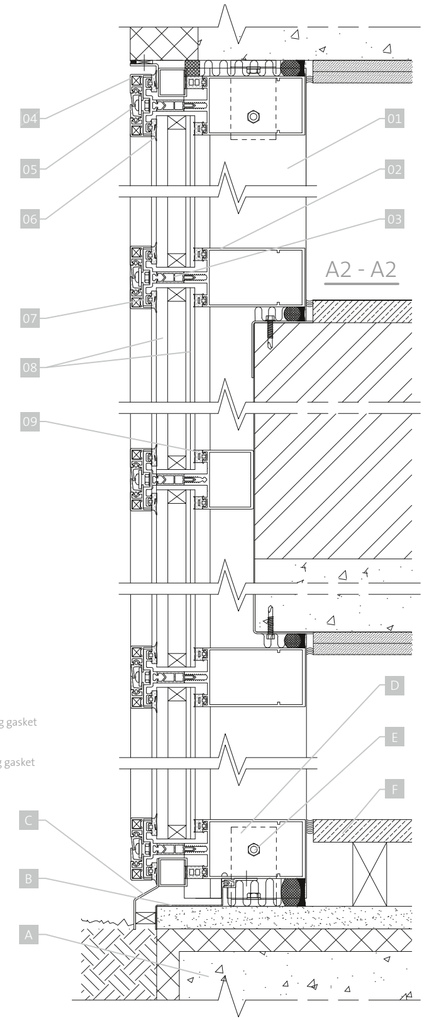
Farbricator: Edimetal
Contrator: Britalar

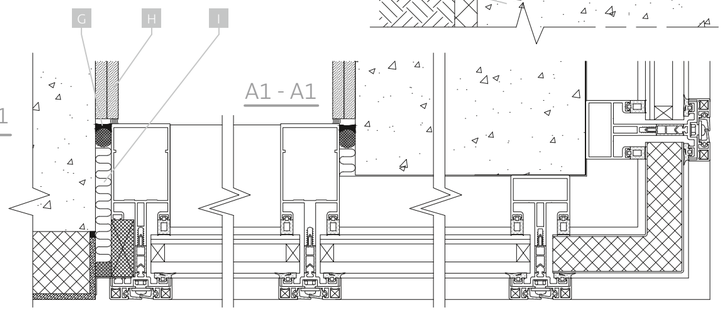
Since the hotel is so close to the airport, its glazing and window system received special attention and care, which - in turn - gives rise to idiosyncratic acoustics.



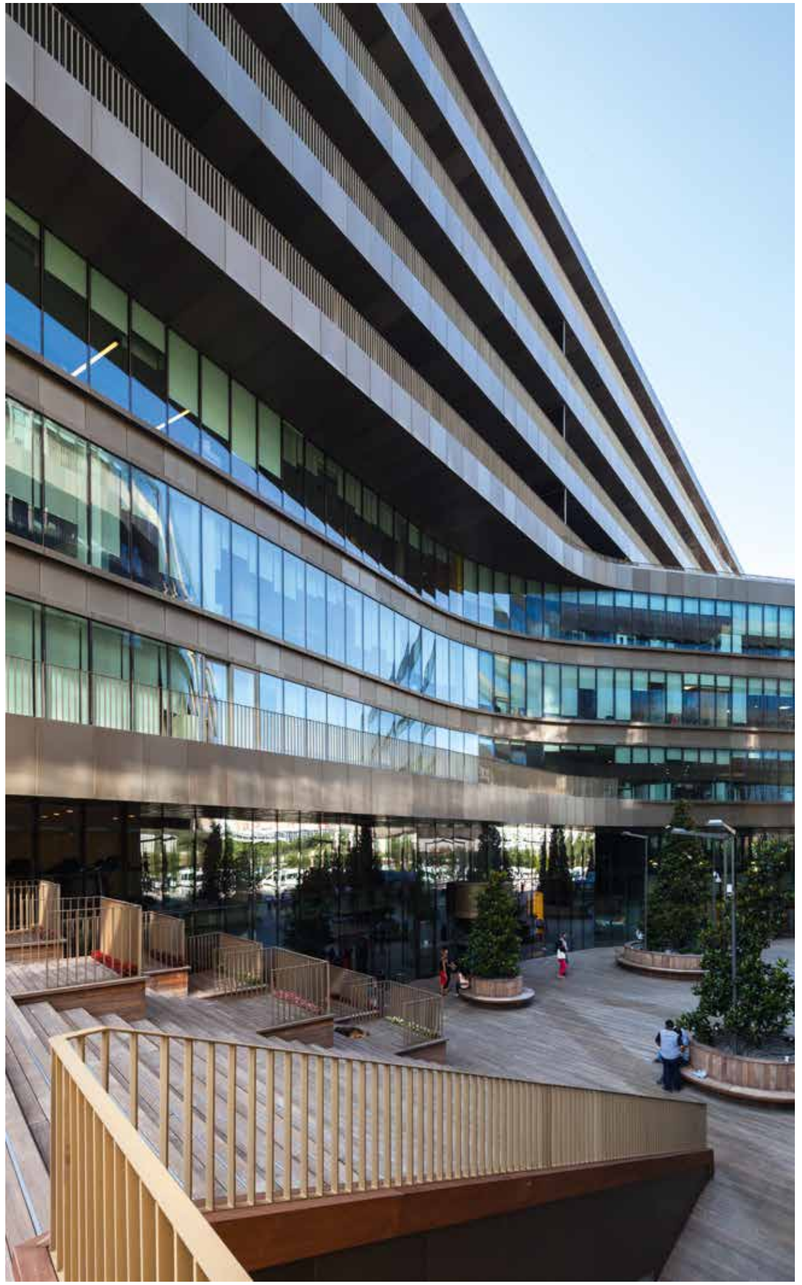
A Building construction
B Watertight membrane
C External flashing
D Bottom anchor
E Fixing bolt
F Floor
G Vapour barrier
H Plasterboard
I Side insulation

01 Mullion
02 Transom
03 Thermal break
04 Cover profile
05 Central gasket
06 External glazing gasket
07 Pressure plate
08 Glass unit
09 Internal glazing gasket





Photography: Hans Couckuyt



OFFICES

ESAS AERO PARK
Istanbul - Turkey
The Esas Aero Park features 28,000 m² of rentable office space. The two buildings' eye-catching facades consist of the Elegance 52 curtain wall system with custom design and the Confort 125 sliding system.

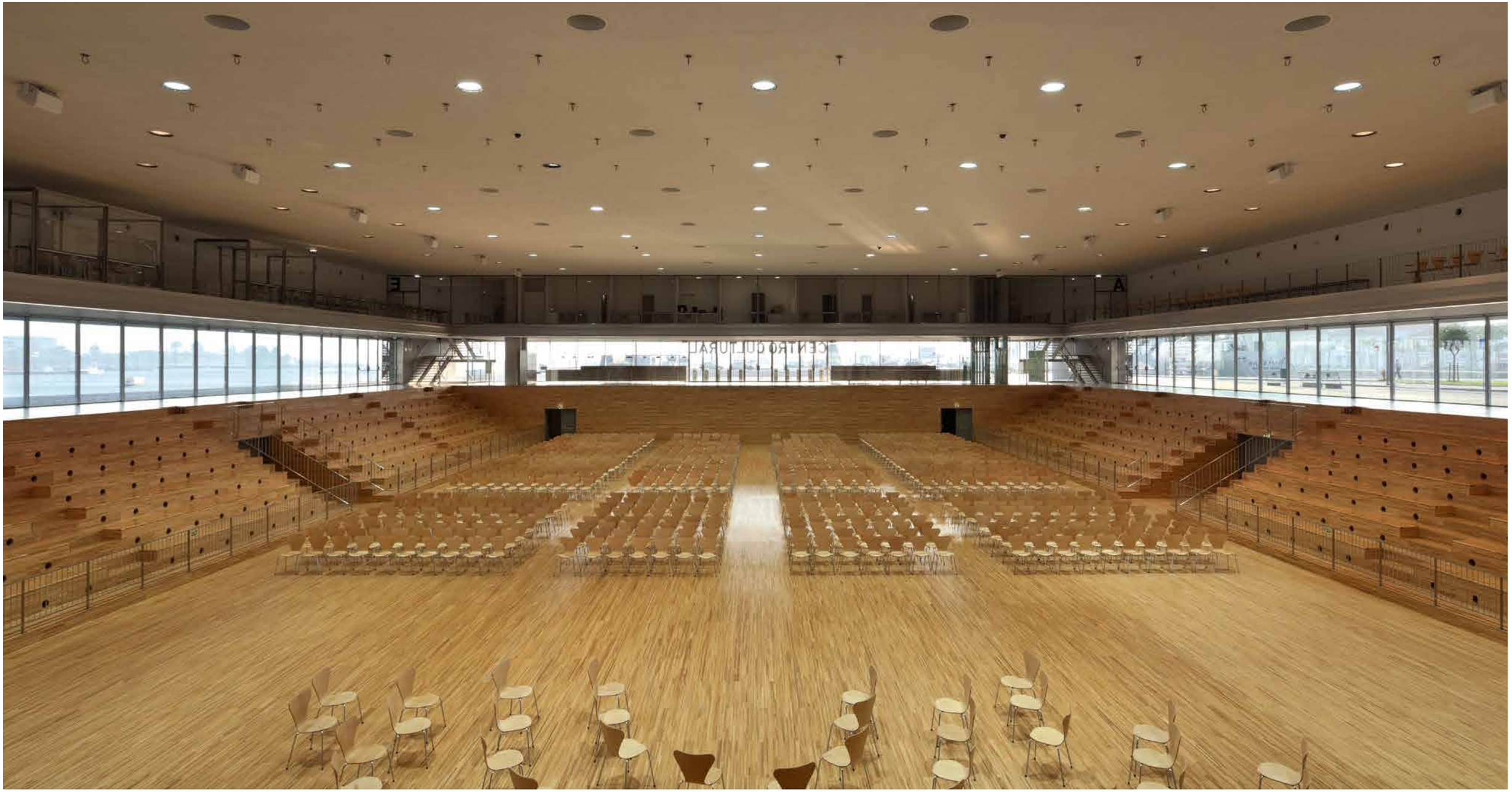
Architect: Tabanlioğlu Architecture

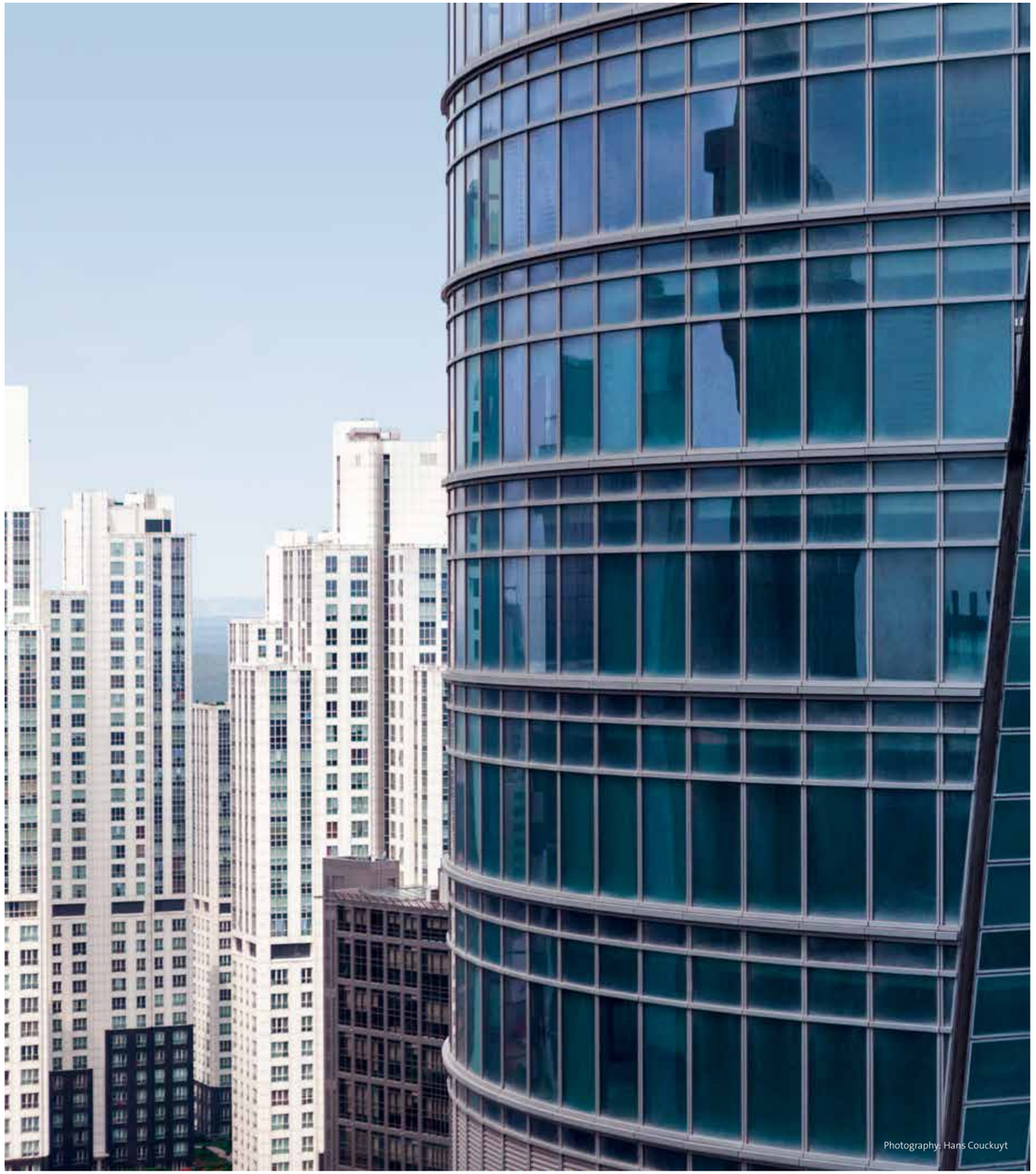
LEISURE & RETAIL

CENTRO CULTURAL
Viana do Castelo - Portugal
These landmark facilities - offering both a cultural centre and a sports arena - plays the transparency card, as their main entrance opens up to the outside through vast sliding doors.

Architect: Souto Moura Arquitectos
Fabricator: Janelas da Gândara
Contractor: Martifer Construções

For the unrestricted sliding doors, a sophisticated flexible lintel was designed, to ensure that the vents open fully and smoothly.





Photography: Hans Couckuyt

OFFICES & HOUSING

SPINE TOWER
Istanbul - Turkey
Sapa Building Systems developed a custom-designed Elegance 72 unitised curtain wall to match the specific radial building concept. Special sensors automatically close the vents in the case of heavy winds.

Architect: 2Design Group

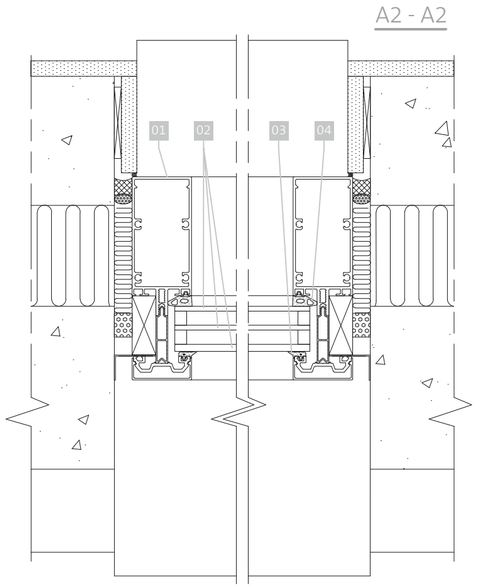
A well-balanced mix of Elegance 72-SG and Elegance 72-ST panels creates a unique facade for this 57-storey office and residential building.

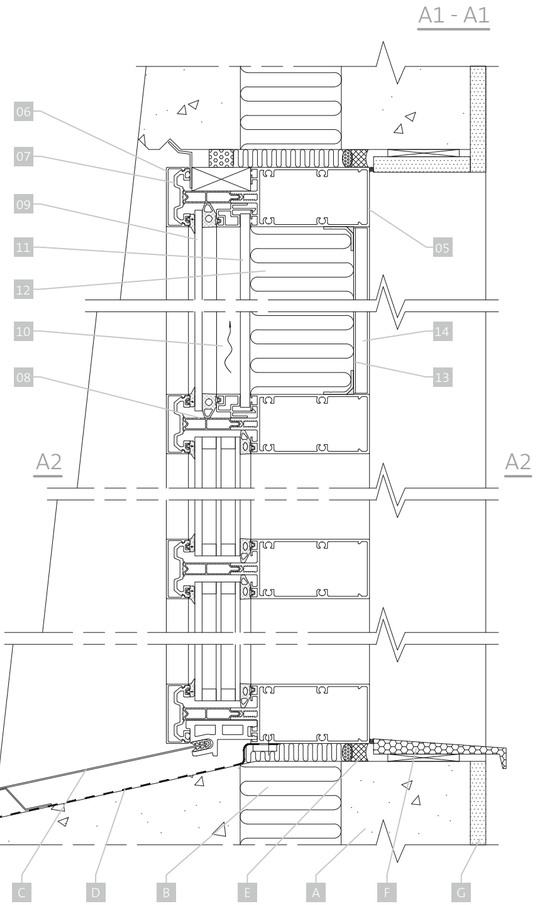
LEISURE & RETAIL

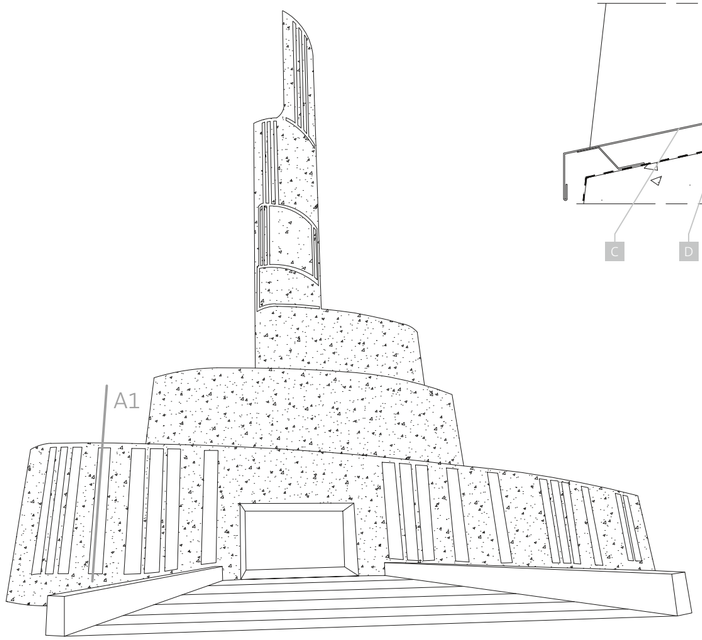
THE NORTHERN LIGHTS CATHEDRAL
Alta - Norway
As Europe's most northerly cathedral, this architectural landmark is inspired by the northern lights. The titanium-clad church is a sculpture with a spire capturing and reflecting the special light all year round.

Architect: Link Arkitektur AS in cooperation with schmidt hammer lassen architects

Photography: Adam Mørk







A Building construction
B Insulation layer
C External flashing
D Watertight membrane
E Vapour barrier
F Window sill
G Plasterboard

01 Mullion
02 Triple glass unit
03 External glazing gasket
04 Internal glazing gasket
05 Transom
06 Cover cap
07 Pressure plate
08 Thermal break
09 Single glass sheet
10 Ventilation
11 Waterproof board
12 Mineral wool
13 Vapour barrier
14 Interior board

HOUSING

MATCHMAKERS WHARF
London - United Kingdom
Located near the Queen Elizabeth Olympic Park in London, this modern building block not only consists of 132 one-, two-, three- and four-bedroom apartments, it also offers 49 purpose-built artist studios, as well as retail and commercial units.

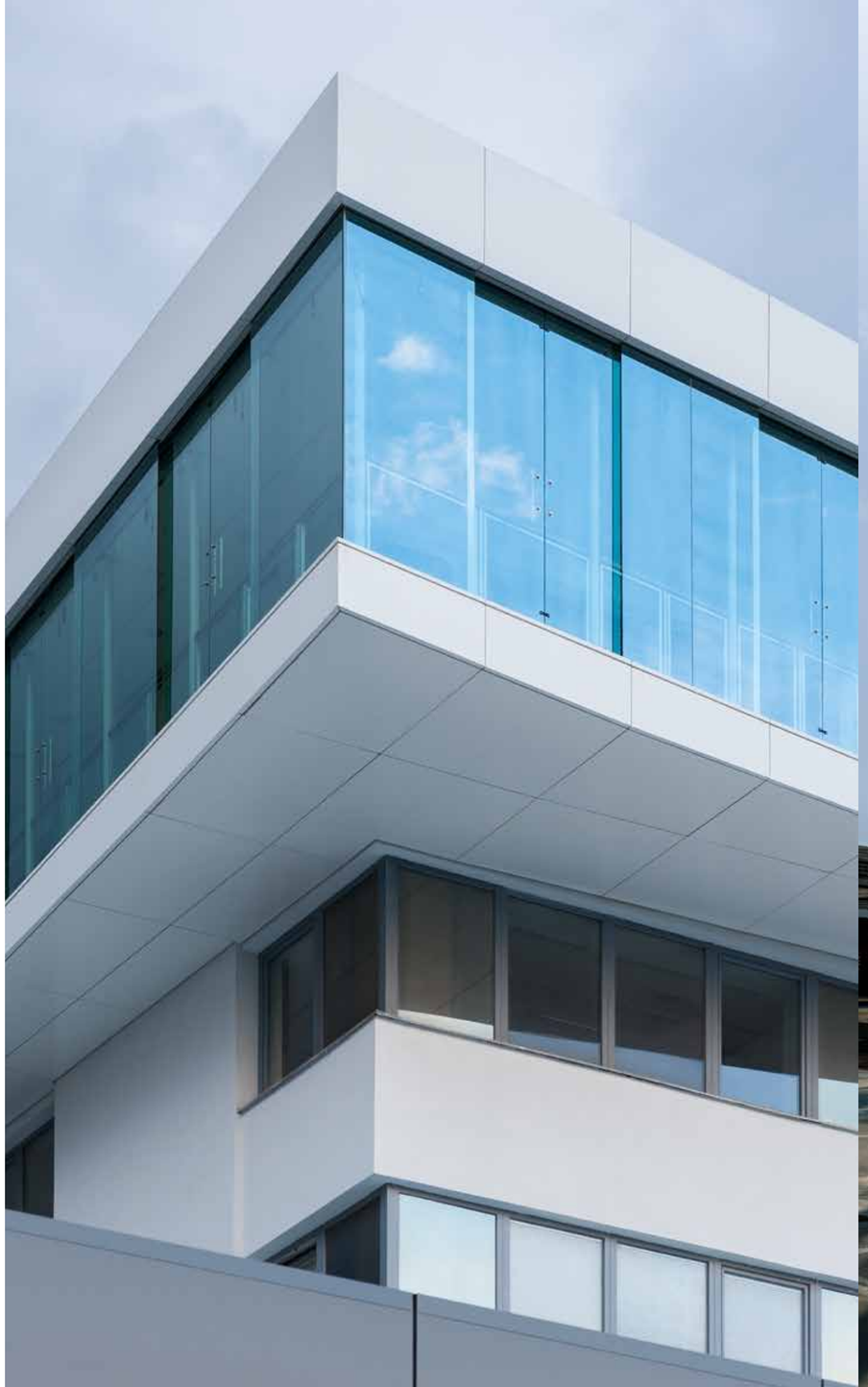
Architect: Telford Homes

Photography: Adrian Tion

OFFICES

MATADOR GROUP HQ
Bratislava - Slovakia
This automotive specialist used a wide variety of Sapa solutions to modernise its headquarters. The company's restaurant, administrative and conference buildings were revamped from A to Z.

Architect: Jančina architekti
Fabricator: Ingsteel s.r.o.



Photography: Andrej Lesay

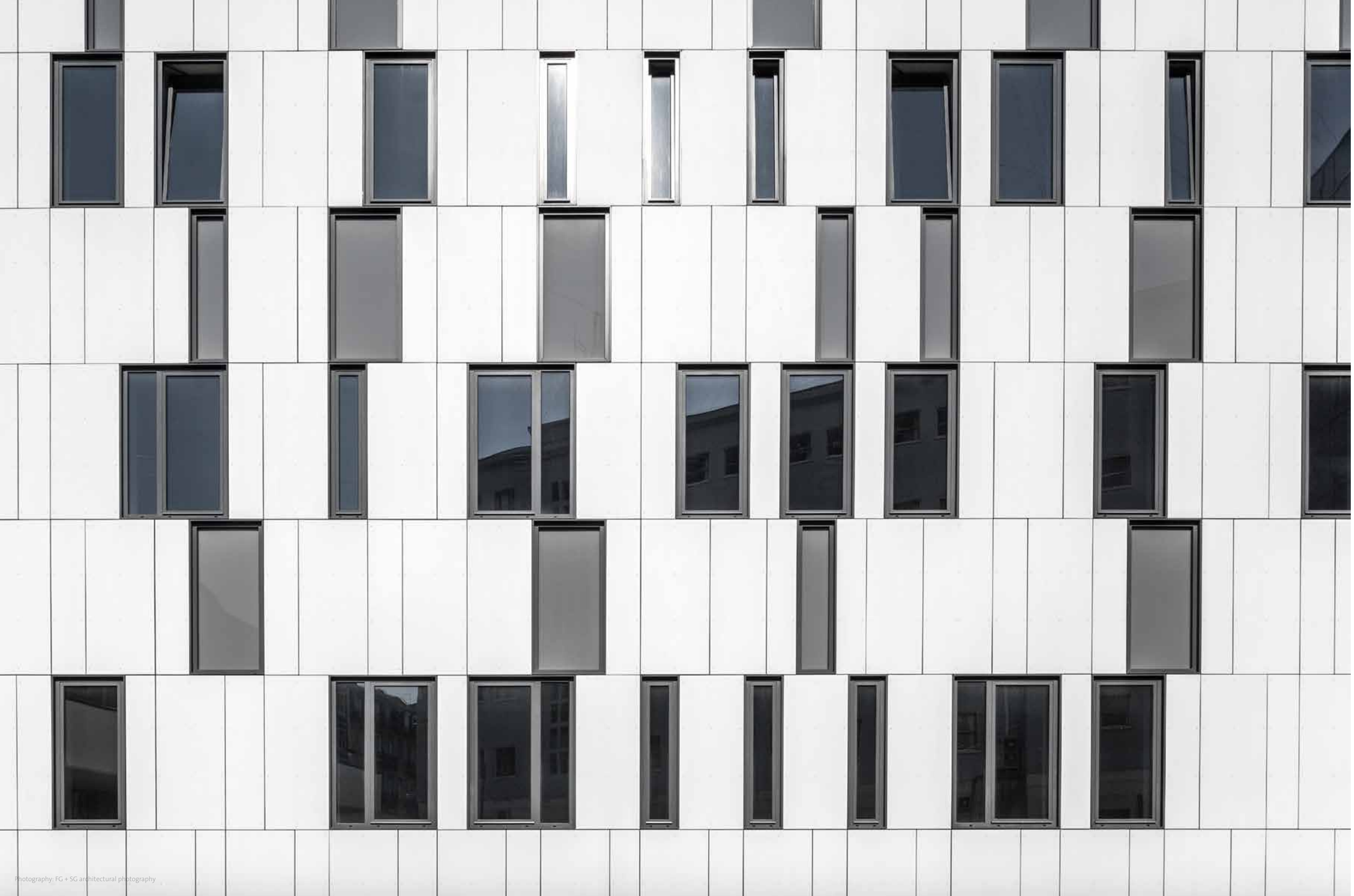
Photography: Adrian Toon

TRANSPORT

GATEWAY PORT TERMINAL
London - United Kingdom
The London Gateway Port Terminal is one of the latest quayside structures (by DP World) on the outskirts of London, accommodating the largest cargo vessels in the world. The large glass panels and their walling are a major feature of the building.

Architect: Chetwoods Architects

The frameless Elegance 52 curtain walling system emphasises the flooring levels, while maintaining the thermal bridge.



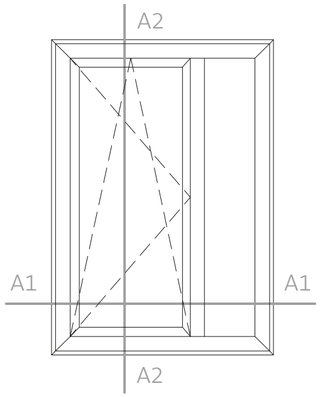
OFFICES

CRIME POLICE HQ
Lisbon - Portugal
Extremely safe and secure, yet open and bright: that's the head office building of Lisbon's Crime Police in a nutshell. The structure is an upright celebration of (day)light and life.

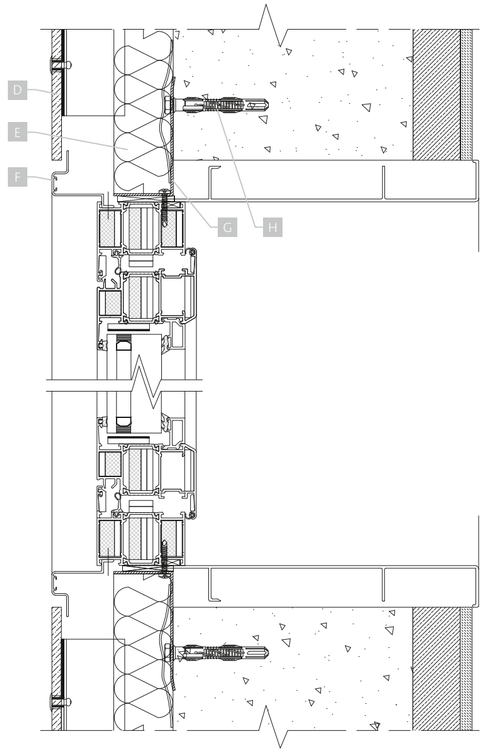
Architect: Saraiva + Associados
Fabricator: Seveme
Contractor: Opway

The building's Elegance 52 curtain walls and Thermo 74 doors have a welcoming appearance, but - at the same time - they are the epitome of bulletproof security.

Photography: FG + SG architectural photography



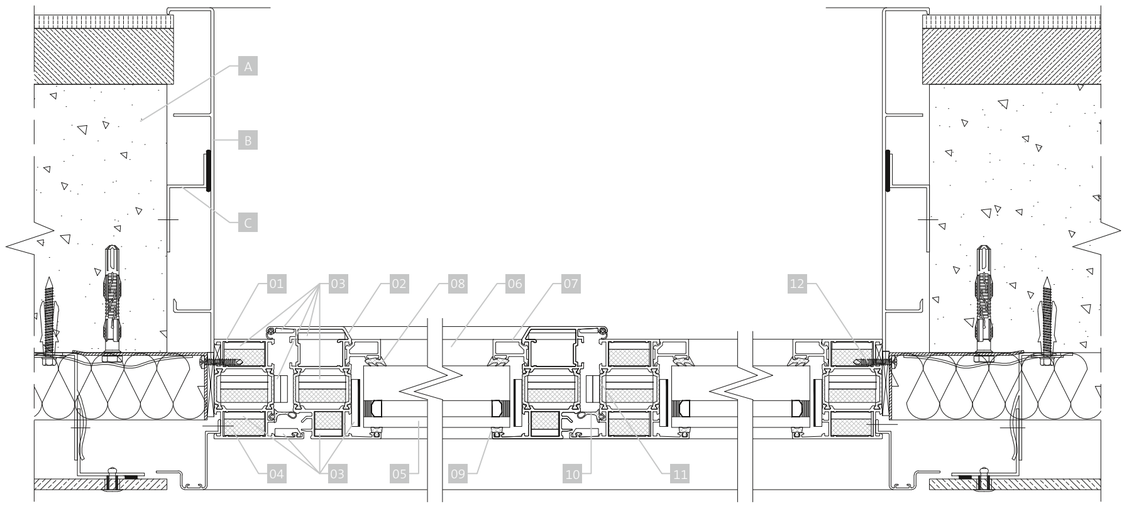
A2 - A2



A - Building construction
B - Internal finishing profile
C - Supporting element
D - External cladding
E - Insulating layer
F - External finishing profile
G - Window bracket
H - Fixing anchor

01 - Frame
02 - Vent
03 - Reinforcement bars
04 - Insulating strips
05 - External glass
06 - Bulletproof glass
07 - Glazing bead
08 - Internal glazing gasket
09 - External glazing gasket
10 - Central gasket
11 - Thermal break
12 - Bracket fixing screws

A1 - A1



OFFICES

ASTELLAS HQ
Leiden - Netherlands
A tailored solution proved to be the key to a successful execution. An entirely new system was developed to meet the exceptional design needs and high demands in wind- and watertightness, and burglary protection.

Architect: Ben van Berkel, UN-Studio & Van den Oever Zaaijer and Partners

Photography: Bart Van Hoek

The placement of literally every bolt and screw in this 20-m^2 facade was the subject of an intensive engineering process.

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