VMZINC & **FACADE**

VMZINC
passionate about zinc

INTRODUCTION

The reputation of rolled zinc in the area of roofing has been well established for the best part of two centuries. The durability and flexibility of this resolutely modern material have been well proven.

When VMZINC created new surface aspects, beginning with registers of grey or black (QUARTZ-ZINC® and ANTHRA-ZINC®) and moving on to color (PIGMENTO®), which is added like a veiled nuance over the unique textured base of the zinc, these developments accelerated the trend towards using this material for facades.
Initially this began by extending the roof to run vertically down toward the ground. Logically, roofing techniques were applied almost identically, thereby confirming the adaptability of zinc to any degree of slope.
Architects' imagination did the rest. They appropriated the material and presented it in new applications. They played with effects of flat and relief joints, with smooth and perforated textures, and with the dimensions of panels that can be classified into three main categories:

- tightly meshed grid patterns made up of small regular elements (zinc shingles, VMZ Dexter® or VMZ Adeka® systems)
- horizontal or vertical strips (interlocking panels, flat lock panels, standing seam)
- large scale grid patterns made of large size panels (VMZ Isopli® cassette system or VMZ Composite).

Facade demands aesthetic perfection, often implying the use of prefabricated components which are installed with no further adjustment on site.

With a comprehensive offer of systems and solutions, VMZINC has adapted to these requirements, facilitating and accompanying this major trend, which has been observed in particular in a number of countries outside Europe. Without any doubt, this trend is changing the image of our material.
This document will enable you to discover and understand these applications in a wide variety of registers and typologies of building. It will also demonstrate how VMZINC solutions integrate intelligently into different environments and how they can be elegantly combined with other traditional architectural materials such as wood, glass, terra cotta or concrete, on both new and renovated buildings.

We hope that this document will provide you with solutions and ideas that will continue to surprise you.

CREATING EMOTION

DESIGNING INTEGRATION

PROTECTING THE ENVIRONMENT

PREFERRING SIMPLICITY

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VMZINC | FACADE

CREATING EMOTION

Inside every architect is an artist and their work, like any work of art, should stimulate emotion. This is far from simple as ever increasing regulatory requirements need to be reconciled with the creativity needed to generate the intended reaction. Of course the building envelope is one of the main ingredients of this emotion. When the envelope is entirely made of zinc, the source of seduction is in its soft textures, its colors, its curves and the subtlety of light play.

Project name
Perry and Marty Granoff Center for the Creative Arts at Brown University
Place
Providence, Rhode Island (USA)
Architects
Diller Scofidio, Renfro
Technique
VMZ Composite cassettes
Surface aspect
QUARTZ-ZINC®

"The transparent west facade is open to the campus and to the public space. The zinc envelope is pleated along the sides to allow light into the building and to open it to exchanges between inside and outside."

ORIGIN OF THE PROJECT

"Advancing innovative directions for research, teaching, and production across the boundaries of individual arts disciplines and among artists, scientists, and scholars" is the vocation of the Granoff Center for the creative arts (Brown University). The 3600 m² building includes a recording studio, a multimedia laboratory, a gallery and large multi-purpose production studios. This innovative concept integrates three stacked floor slabs, cut in half and offset vertically in order to create six half-levels that are compartmented by a glass separating wall. The staggered floor levels make each studio communicate with those above and below it, while controlling light, sound and visibility levels. An interior staircase joins all the floors and the landings extend into furnished coffee break areas. This shared-level strategy is also applied externally, with the landscape in front of the building split into two parts – one half sloping away from the entrance hall and the public gallery, the other inclined towards an external amphitheatre which opens onto an auditorium.

THE ARCHITECT'S VISION

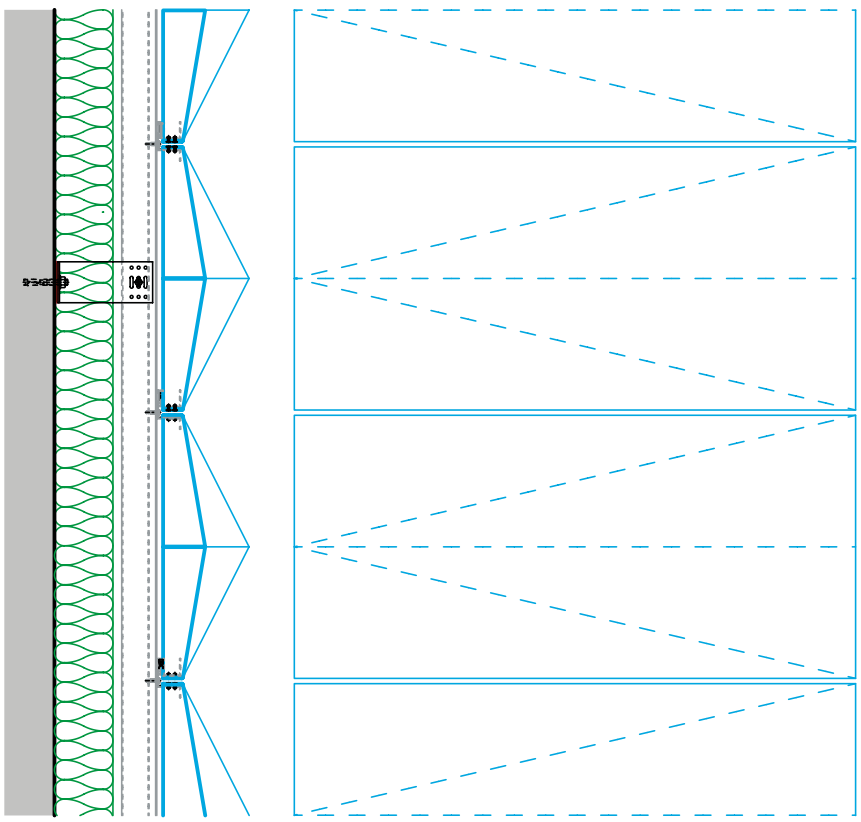
"The Granoff center is a stack of simple lofts, but the ingenious yet practical arrangement gives the impression of a four-storey volume that has been cut in two, with the left-hand part having moved upwards by half a storey. The levels are indeed deliberately misaligned as though shaken by an earthquake... We wanted architectural components that would stimulate the creative process. This mix of architectural design and academic teaching is part of our strategy to encourage and illustrate collaboration at all levels." Charles Renfro

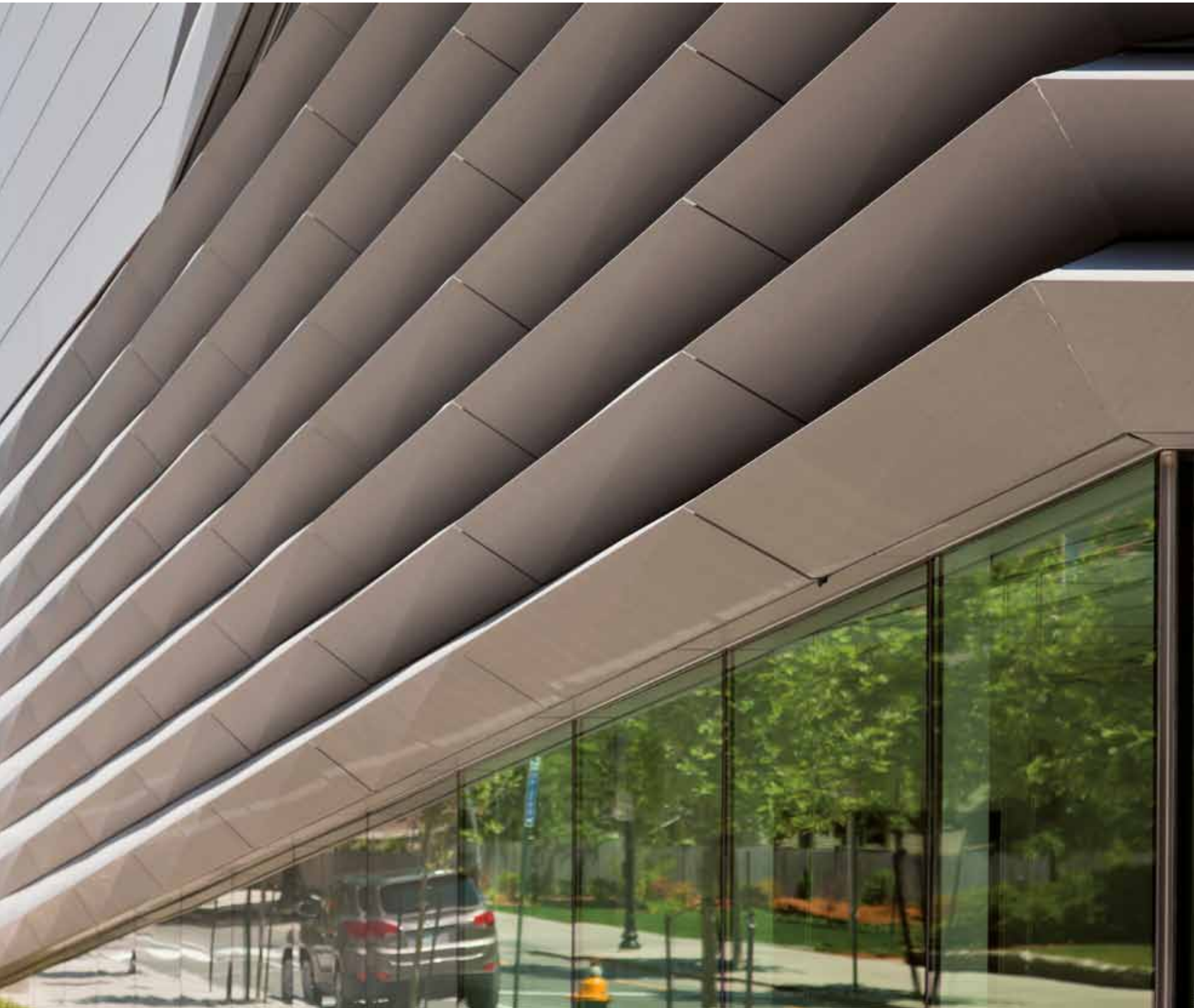
TECHNICAL FOCUS

Composite panels offer a variety of transformation solutions while preserving their exceptional flatness, in particular the possibility of forming three-dimensional cassettes. The architect capitalized on this capacity in order to create the pleated facade effect “It’s like a woman lifting the hem of her skirt”.

THE SYSTEM APPLIED

VMZ Composite is a multilayer panel made up of two 0.5 mm zinc sheets thermally bonded around a polyethylene core which is treated with minerals in order to optimize fire resistance. The VMZ Composite panels are installed on an external frame to form a ventilated facade.





Project name
The Caulfield House
Place
Melbourne (Australia)
Architect
Bower Architecture
Installer
First Impressions Projects
Technique
VMZ Interlocking panel
Surface aspect
ANTHRA-ZINC®

THE ORIGIN OF THE PROJECT

The daring design of this house plays on variations in volumes, clear shapes and the use of durable materials, both raw and refined, and provides a sound balance between the street and the surrounding buildings. The sculptural forms and the internal opening of this residential building attract interest while preserving privacy. This description of the Caulfield House in Melbourne prefigures a successful result for a building combining natural light and passive ventilation. The building envelope combines zinc, wood and concrete, creating a passive yet harmonious shape. The surfaces are interlinked with one another giving the impression of two open "arms" welcoming visitors. The zinc cladding was the key element in the project. While many metals give a depersonalized feel to residential projects, the soft and subtle reflections of zinc here provide a model for the strong sophisticated lines of the building envelope.

THE ARCHITECT'S VISION

The client specified a timeless cladding material that is durable and requires little or no maintenance. We suggested zinc and he was convinced by the samples presented, examples of use of the material and the interlocking panel installation system. Variations in the width of the profiles were used to avoid the risk of the cladding resembling a regular monotonous grid.

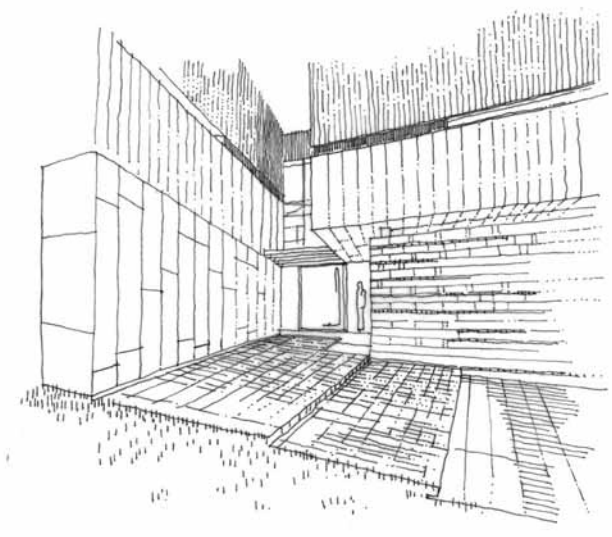
"The subtlety of details softened the volumes, making them powerful but not overpowering."

TECHNICAL FOCUS

The zinc form was designed to wrap around the construction, giving it the appearance of a monolith. The junction details between the various zinc sections were finalized so as to give an impression of continuity.

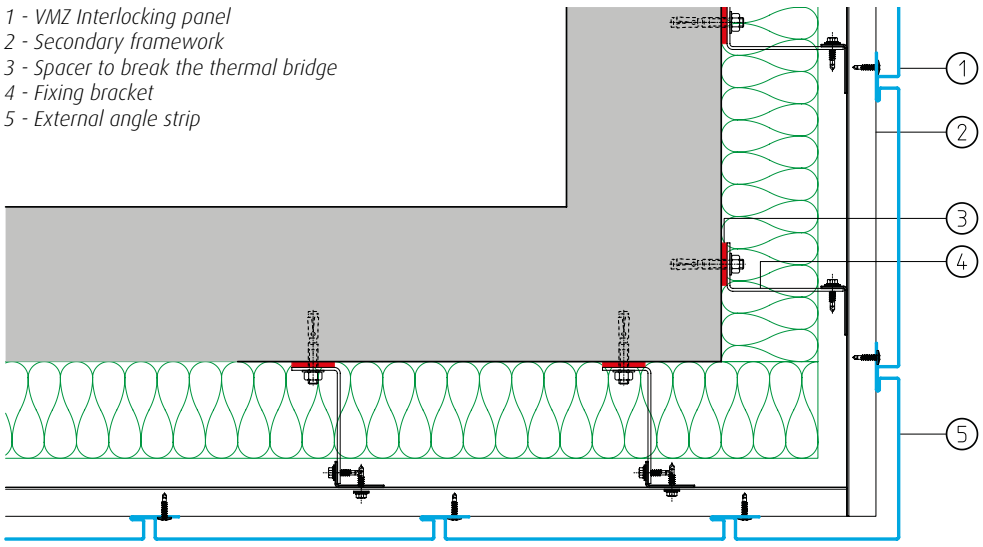
THE SYSTEM APPLIED

The interlocking panel cladding system is suitable for flat facades mounted on an external framework in wood or metal, for new buildings and renovations. It can be installed horizontally or vertically.



Angle

1 - VMZ Interlocking panel
2 - Secondary framework
3 - Spacer to break the thermal bridge
4 - Fixing bracket
5 - External angle strip



Project name
"Horizinc" cultural center
Place
Bouvron (France)
Architect
Atelier Roulleau
Installer
Tallot
Technique
VMZ Standing seam
Surface aspects
Natural, QUARTZ-ZINC®, PIGMENTO® blue

"The building melts into the horizon, with shadows and light playing across the surface of the zinc skin in various shades of grey: Horizinc is worthy of its name."

ORIGIN OF THE PROJECT

The Bouvron cultural center has one important distinguishing feature: "the building is named... after zinc! Horizinc is a mix between concrete and zinc" explains the project architect, Michel Roulleau. The building houses a reception room and a hall with tiered seating for cultural events, both these independent functions being intended for the associations in the town. This emblematic building stands out in the landscape and is the only construction on a wide tract of land located on the edge of town. Its aesthetics were worked out by and with zinc material: "we built the facade with the different tones of zinc, which play with the light throughout the day and give a kinetic effect". The zinc cladding also unifies the two buildings which are separated by a porch.

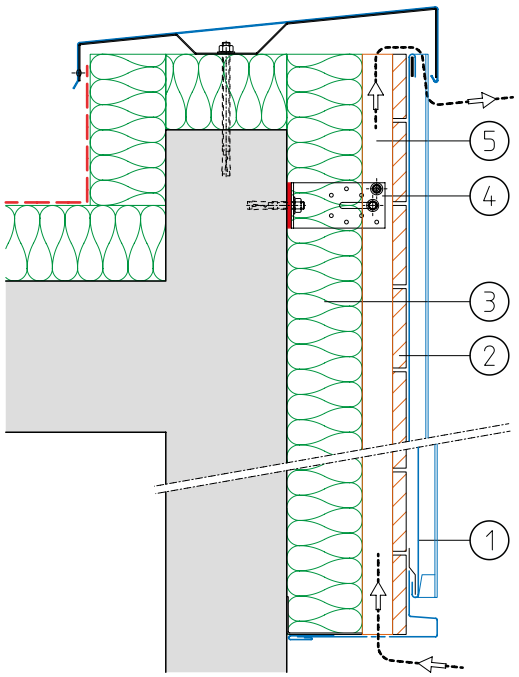
ENVIRONMENTAL STANDARDS

The building was constructed according to the HQE approach (French approach aimed at improving the environmental and sanitary performance of buildings) respecting certain specific target areas: solar and wind energy for lighting, air exchange and thermal comfort provided by an underground heat exchanger, external thermal insulation. In this construction, the zinc skin plays its role fully: "the concrete structure is insulated externally: thermal disconnection is increased by the air gap between the zinc skin installed on a wooden support and the structure enables the thermal phase shift to be increased".

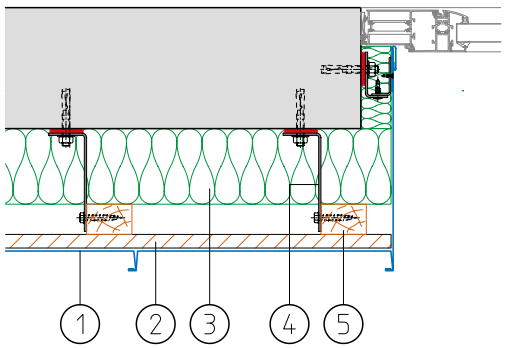
TECHNICAL FOCUS

For this building composed of simple shapes, the standing seam was designed so as to integrate the window surrounds harmoniously into the facade. Technically, the most important feature is the continuity of the air gap at the interface between the zinc skin and the structure, which contributes to the thermal performance of the building and to the thermal comfort of its users.

Wall cap



1 - VMZ Standing seam cladding
2 - Wooden support
3 - Insulation
4 - Fixing bracket
5 - Beam forming the ventilated air gap



Project name
LC & ESSP project (Learning Commons and Exercise Science and Sports Precinct) at Victoria University

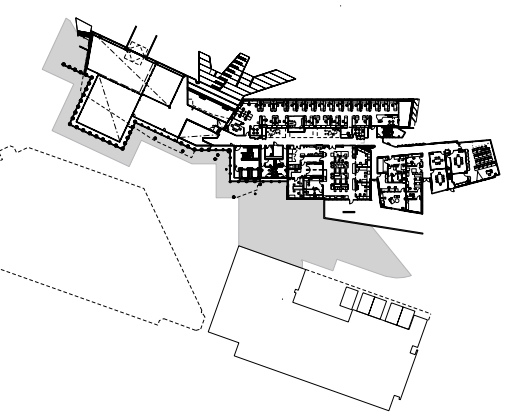
Place
Melbourne (Australia)

Architect
John Wardle Architects

Installer
Hansen Yuncken

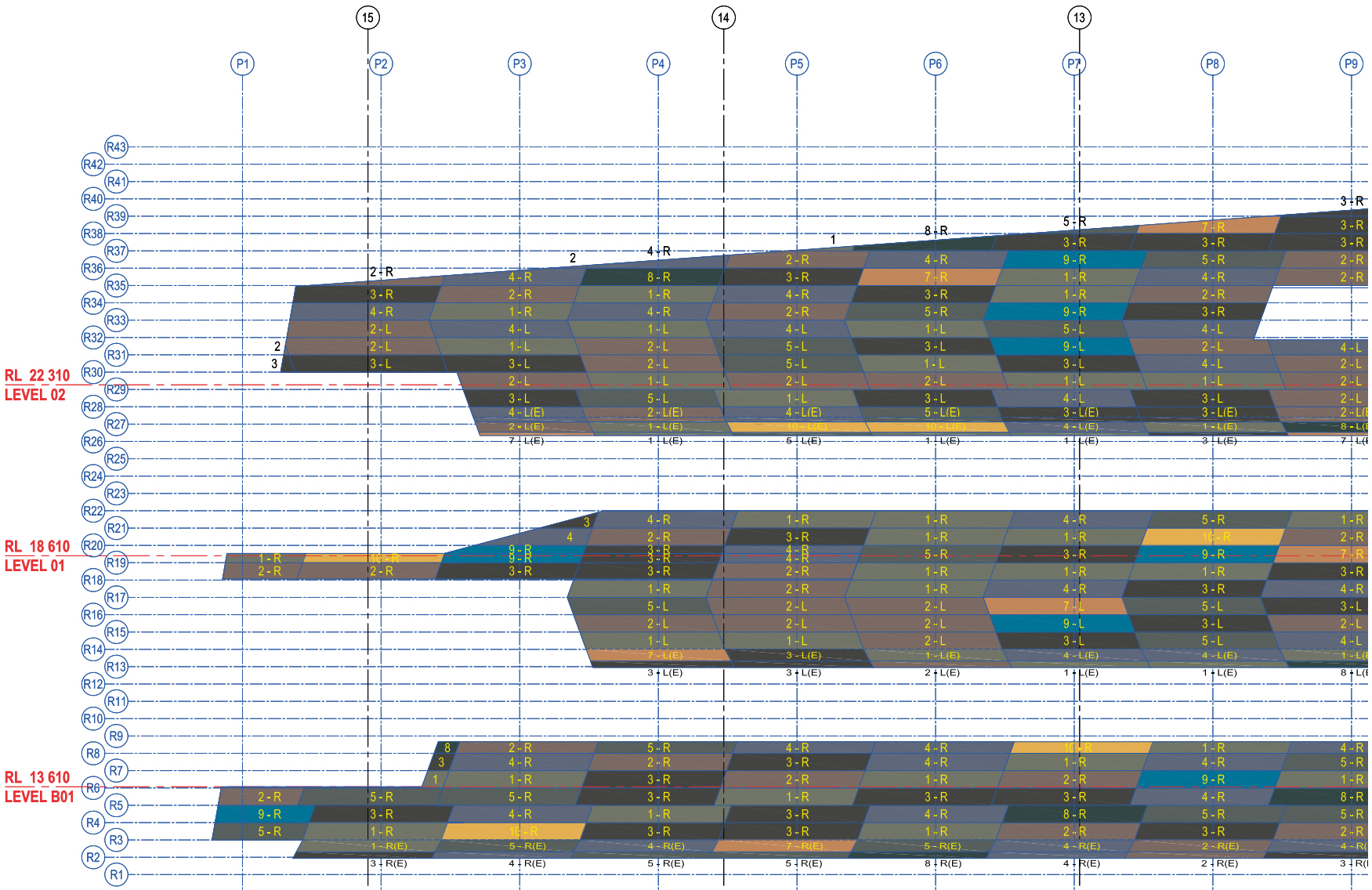
Technique
VMZ Flat lock panel

Surface aspects
QUARTZ-ZINC®, ANTHRA-ZINC®, PIGMENTO® blue, PIGMENTO® red, PIGMENTO® green



ORIGIN OF THE PROJECT

"This university campus is like a small town inhabited by students. The new building redefines the edge of this "town" as did the walls of a roman city", explains John Wardle, the architect and designer of this new learning space in the physical and sports education precinct of Victoria University. The architecture of the building aimed to measure up to the ambition of the university and to acquire a worldwide reputation for sports and biomechanical sciences for the Exercise Science and Sports Precinct. The functions of the building were defined through an in-depth consulting process. As a result, the building benefits from a linear form, stretching out to the north, oriented so that the offices and classrooms passively capture the sun's heat. In order to avoid discomfort due to overheating, the facade is clad in zinc "which forms an integrated sun shield system. The patterns on the facades are a reference to time and motion studies, to sporting activities and to local history". To the north, the facades are fitted with colored zinc and steel panels which reflect the light and change color according to the position of the sun.

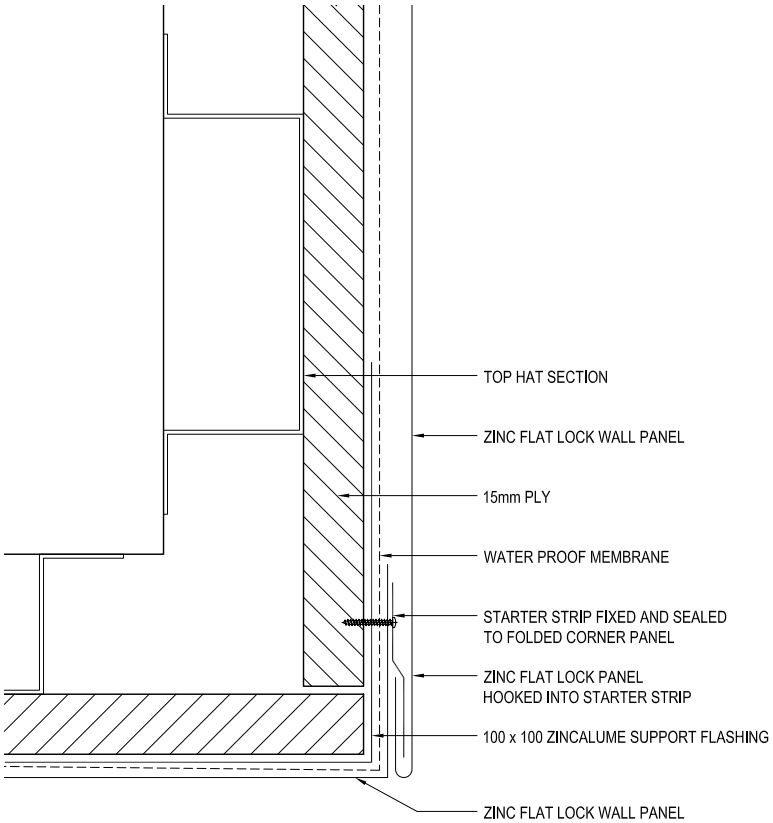


MATERIAL & COLOR	EDGE SPLAY	PANEL LEGEND		
		PANEL - WALL	PANEL - EYELID	PANEL - SUN SHEILD
1 - ZINC LICHEN GREEN	LEFT	1 - L	1 - L(E)	1 - L(S)
	RIGHT	1 - R	1 - R(E)	1 - R(S)
2 - ZINC AUTUMN RED	LEFT	2 - L	2 - L(E)	2 - L(S)
	RIGHT	2 - R	2 - R(E)	2 - R(S)
3 - ZINC ANTHRA	LEFT	3 - L	3 - L(E)	3 - L(S)
	RIGHT	3 - R	3 - R(E)	3 - R(S)
4 - ZINC ASH BLUE	LEFT	4 - L	4 - L(E)	4 - L(S)
	RIGHT	4 - R	4 - R(E)	4 - R(S)
5 - ZINC QUARTZ	LEFT	5 - L	5 - L(E)	5 - L(S)
	RIGHT	5 - R	5 - R(E)	5 - R(S)
6 - STEEL GREEN PEARL	LEFT	6 - L	6 - L(E)	6 - L(S)
	RIGHT	6 - R	6 - R(E)	6 - R(S)
7 - STEEL BRONZE PEARL	LEFT	7 - L	7 - L(E)	7 - L(S)
	RIGHT	7 - R	7 - R(E)	7 - R(S)
8 - STEEL BLACK PEARL	LEFT	8 - L	8 - R(E)	8 - L(S)
	RIGHT	8 - R	8 - L(E)	8 - R(S)
9 - STEEL BLUE PEARL	LEFT	9 - L	9 - L(E)	9 - L(S)
	RIGHT	9 - R	9 - R(E)	9 - R(S)
10 - STEEL GOLD PEARL	LEFT	10 - L	10 - L(E)	10 - L(S)
	RIGHT	10 - R	10 - R(E)	10 - R(S)

(OR APPROVED EQUIVALENT)

"The patches of color call to mind the old walls of a Roman city."

Angles

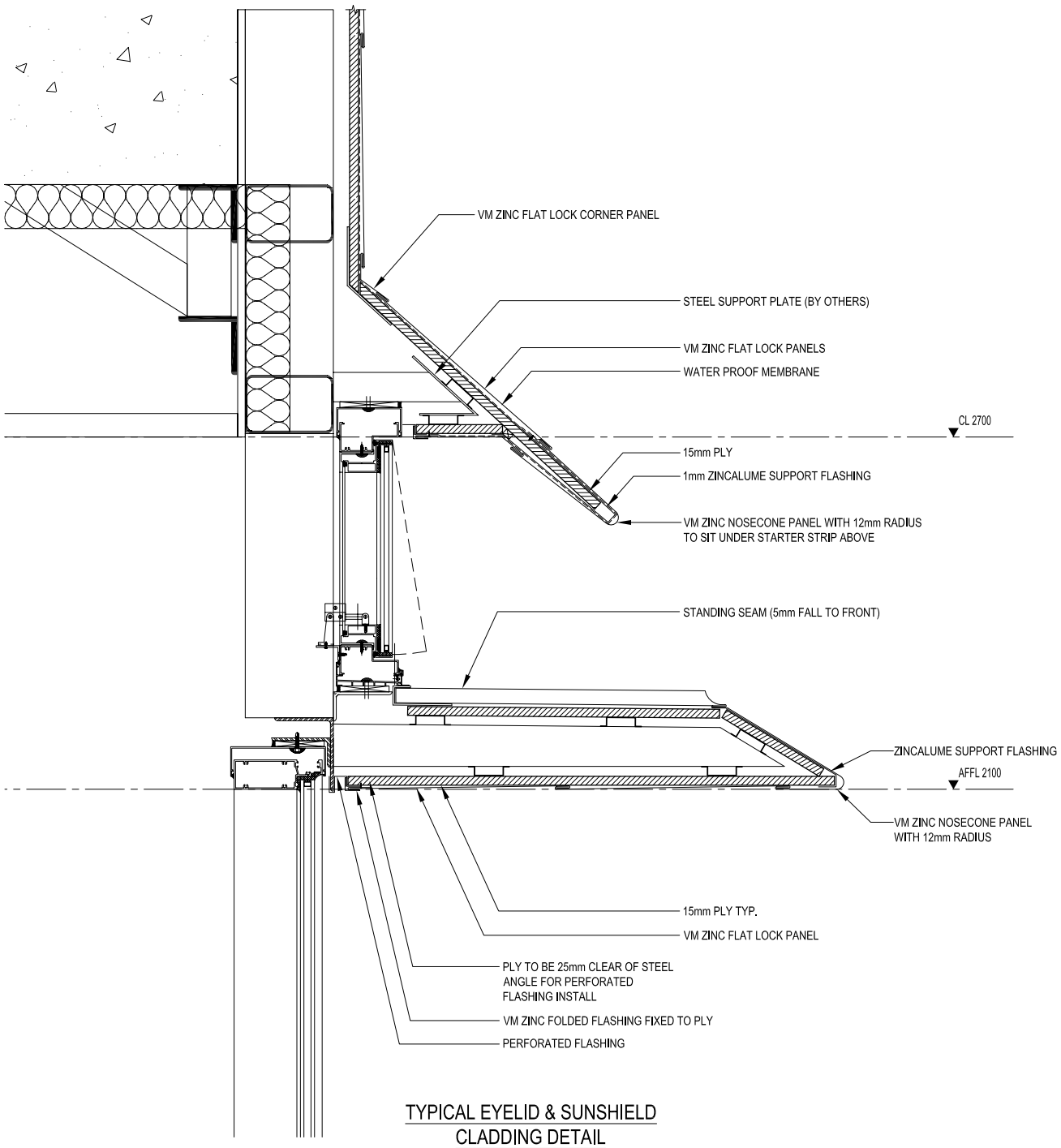


ENVIRONMENTAL STANDARDS

Apart from the specificity of the passive solar facade, the building was designed according to an "integrated approach". As an example, the different ground levels were used to create a thermal labyrinth. The empty spaces act as thermal chimneys, favoring natural ventilation of the offices. The aim is to minimize the need for air conditioning during certain periods of the year.

TECHNICAL FOCUS

Each floor of the facade includes two sun shield screens separated into filtered zinc panels, windows with transoms opened by jacks to complement the air conditioning of the building, and ultra-transparent high-performance double glazing.



TYPICAL EYELID & SUNSHIELD
CLADDING DETAIL
(SECTION)
SCALE 1:5

Project name
Bayjonn hotel
Place
Sopot, ul. Powstańców Warszawy 7, (Poland)
Architect
A-Plan bis Sp. z o.o
Installer
NDI SA
Technique
VMZ Standing seam
Surface aspect
QUARTZ-ZINC®

"The zinc panels laid horizontally on the facade contrast with the wooden volumes of the windows."

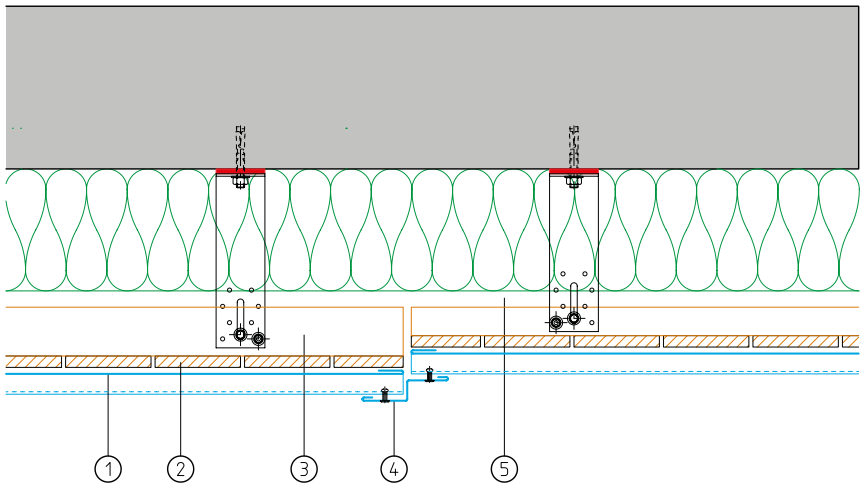
ORIGIN OF THE PROJECT

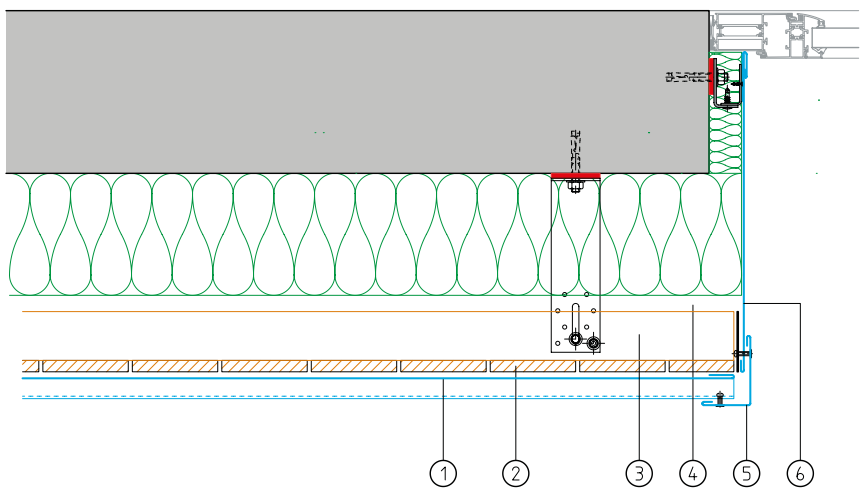
"Extraordinary riches and luxury" are what the investors in this hotel intended to show when they named it bajoński, which means "phenomenal" in Polish. Luxury is represented here by a zinc facade and by wooden windows treated as three-dimensional forms. By contrasting two types of aesthetic and geometry, this building demonstrates the elegance that can be created by juxtaposing two noble materials: zinc and wood.

Zinc was selected for its aesthetic qualities, for its durability and because it is maintenance free. The building also had to be adapted to a strict urbanization plan which in particular demanded that the hotel be aligned with a circular plaza. This meant a special design to form an arc. In order to optimize space, the building was designed "as a compact block with a slight slant, overhanging the ground floor which follows the same alignment". This choice imposed the use of a reinforced concrete structure which also answered the severe constraints imposed for fire safety.

TECHNICAL FOCUS

Horizontally laid standing seam was chosen as a technique to make installation of zinc easier on the curved and inclined sections, and because it allowed for finely detailed finishings on flashings.





1 - VMZ standing seam cladding
2 - Wooden support
3 - Wooden beam
4 - Air gap
5 - Zinc flashing strip
6 - Flashing for the window lintel

MIXED SURFACE ASPECTS

From its discreet and refined origins in shades of grey, zinc has today expanded its palette with a range of finely shaded colors that can be mixed on one facade. This exclusive offer allows architects to play on complementary or contrasted colors.

QUARTZ-ZINC®, PIGMENTO® red, PIGMENTO® blue, PIGMENTO® green

Natural, QUARTZ-ZINC®, PIGMENTO® blue

QUARTZ-ZINC®, PIGMENTO® red, PIGMENTO® blue, PIGMENTO® green

QUARTZ-ZINC®, ANTHRA-ZINC®, PIGMENTO® red, PIGMENTO® blue, PIGMENTO® green

VMZINC | FACADE

DESIGNING INTEGRATION

Designing integration involves unostentatiously fitting the building into its environment, as though it had always been there. In urban environments, architects are often confronted with historical neighborhoods where they wish to maintain the existing harmony. In rural areas, buildings need to achieve a balance with the landscape, blending with their surroundings rather than disrupting them. Designers want envelopes that will enable them to create this balance successfully. Their frequent choice of zinc is not down to chance...

Project name
LOC 290 Office Building
Place
Hamburg (Germany)
Architects
SEHW Architekten GmbH
Behrendt Wohnungsbau KG (GmbH & Co.)
Installer
Fuchs Bauklempnerei
Technique
VMZ Flat lock panel
Surface aspect
ANTHRA-ZINC®

"Zinc is a malleable material and can be used for curved walls forming a circular arc."

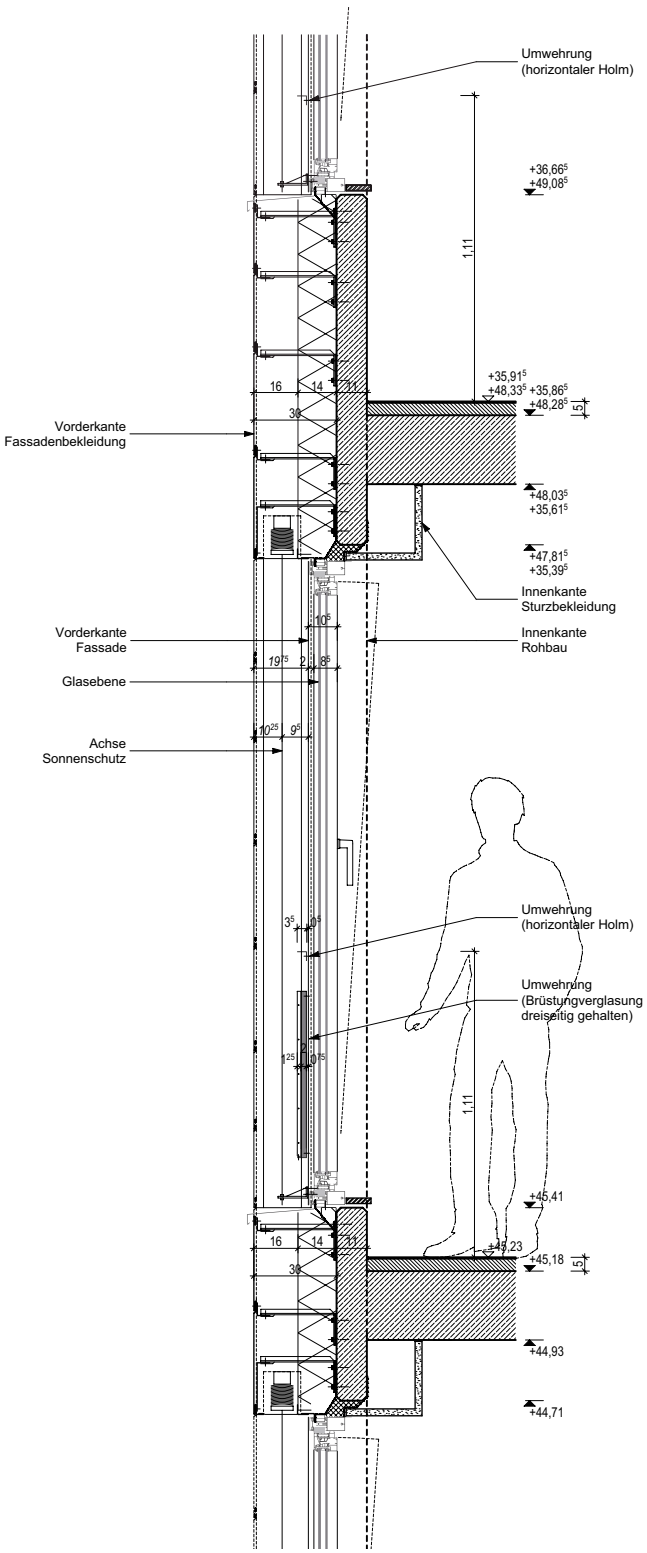
THE ARCHITECT'S VISION

"Although the district of Ottensen became highly industrialized in the 1850s (some old buildings from the period, including the Zeise plant hangars, are still standing) it was originally an agricultural area. These origins are still visible in the meandering streets that replaced the old narrow roads that used to cross the fields and that now form the Ottensen street corners". In order to use every available square meter, buildings were constructed right into the narrowest corners on the old plots, which explains their sharp triangular shapes. We wanted to respect this Hamburg tradition so that the building would blend harmoniously into its surroundings."

ORIGIN OF THE PROJECT

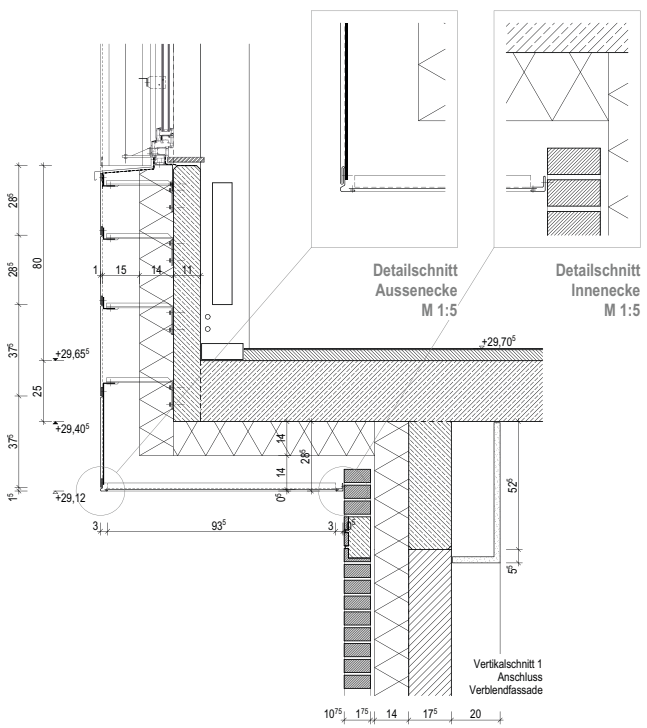
Erected like a sculpture near the Bahrenfeld S-Bahn station in the Ottensen district of Hamburg, the LOC 290 office building commands attention. Here in the suburb of Altona, buildings have typical narrow forms that are vestiges of an agricultural past. The LOC 290 was designed in keeping with this tradition.
The building is a landmark in the urban landscape. The architects opted for a slender form with a rounded corner facilitating the transition between the southern and south-western facades, respecting the local constructive tradition that maximizes floor area, even if it means building on street corners!

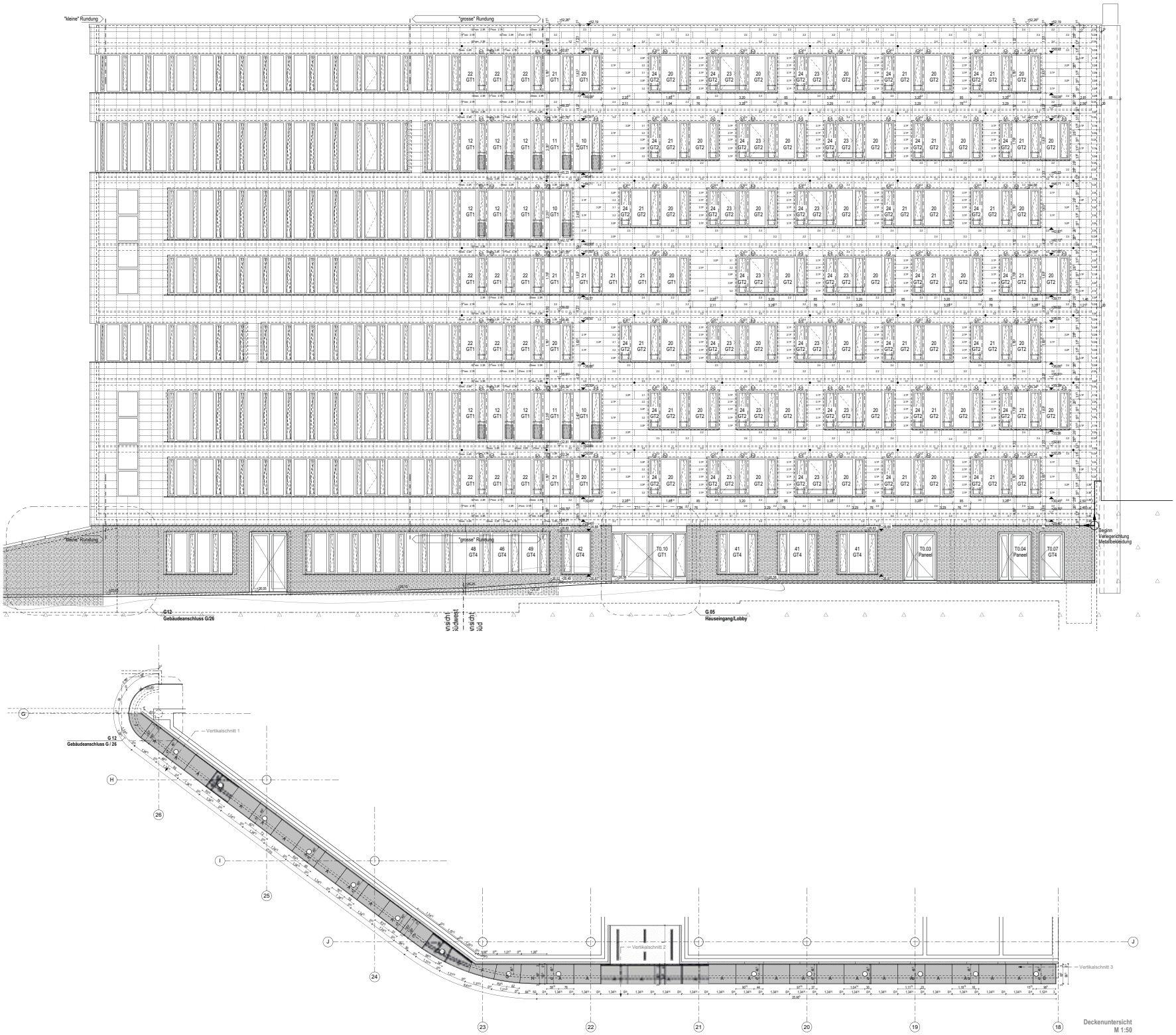
The seven-storey ANTHRA-ZINC® facade cuts a striking contrast with the strips of windows that wrap around the building, and with the paler color of the ground floor that is set slightly further back than the upper floors. The juxtaposition of metal cladding with glass creates a succession of full and empty volumes, of lightness and weight, opacity and transparency.



TECHNICAL FOCUS

For this project, flat lock panels were fixed directly onto horizontal aluminum rails. The profiles were cut into small modules and installed in staggered rows, creating a relief effect on the facade which embodies the perception of architectural volume.




"kleine" Rundung
"grosse" Rundung
Beginn Verlegerichtung Metallbekleidung
G 12
Gebäudeanschluss G/26
G 05
Hauseingang/Lobby
Vertikalschnitt 1
Vertikalschnitt 2
Vertikalschnitt 3
Deckenuntersicht
M 1:50

Project name
Archaeological Museum

Place
Turó de Ca n'Olivé, Cerdanyola del Vallès (Spain)

Architect
Toño Foraster and Victoria Garriga with collaboration from architect Blanca Pujals

Installer
AV62 Arquitectos slp

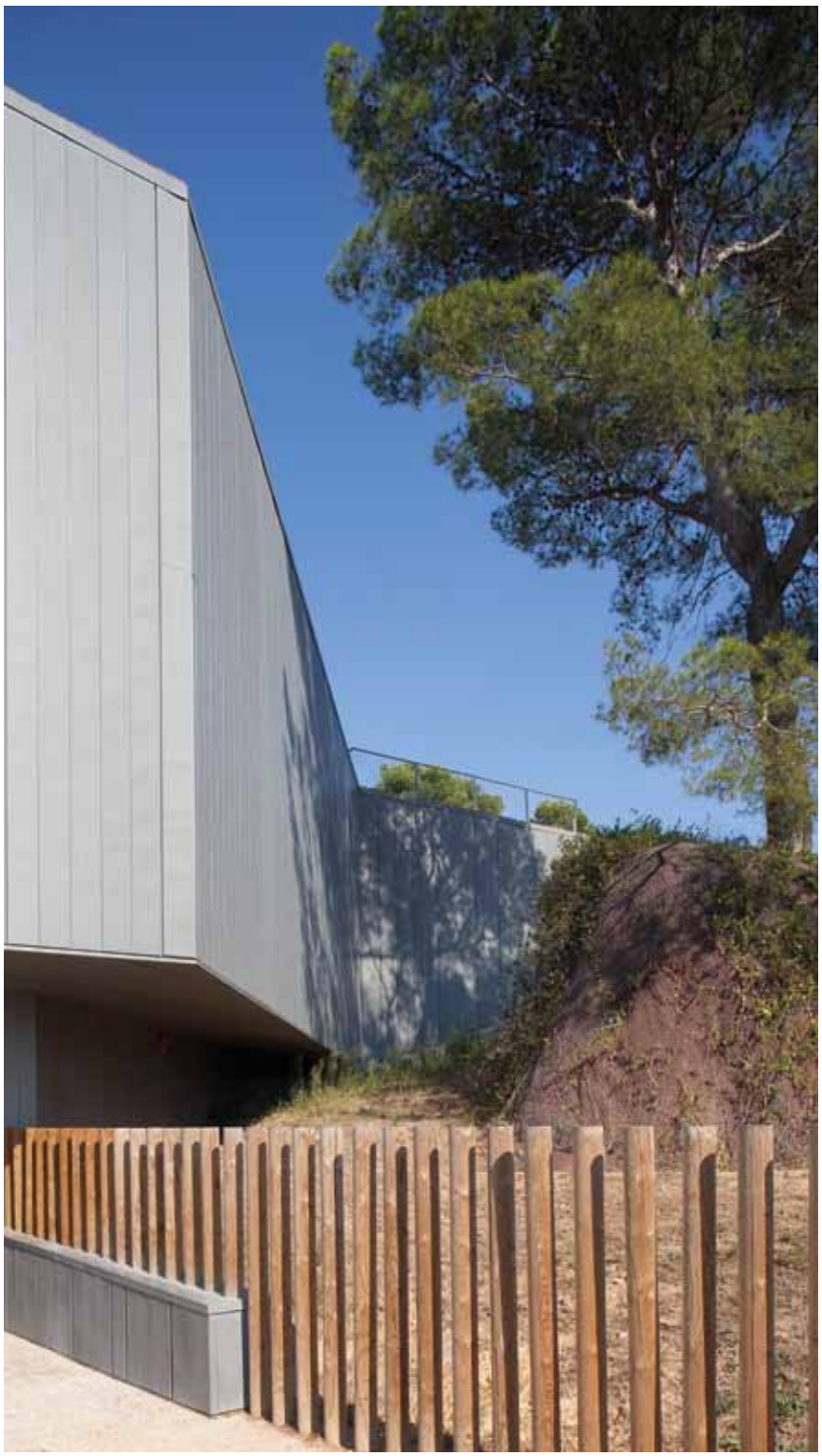
Technique
VMZ Interlocking panel

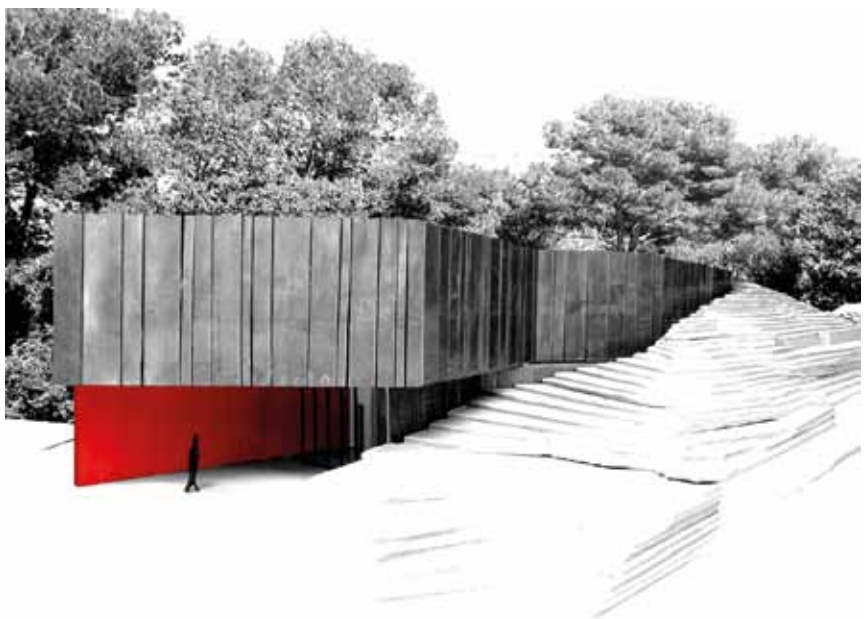
Surface aspect
QUARTZ-ZINC®

"The zinc gives the building a continuous opaque skin that helps it blend harmoniously into the environment"

ORIGIN OF THE PROJECT

In a space hollowed out of a mountain (an old quarry) architects Toño Foraster and Victoria Garriga built the Archaeological museum of the Iberian village of Turó de Ca n'Olivé. The mountain and the building nestle into each other in this project: "From the outset, we envisaged an active, delicate dialogue between both. But we didn't want the project to be falsely mimetic, on the contrary, we wanted it to be the product of an almost physical battle. The result is a graphic building", the architects explain, featuring two metal vertical planes that penetrate through a fissure into the mountain and break it apart. Under pressure, the walls slowly distorted to house the activities of the museum. This metaphorically violent method of disrupting the mountain gave shape to a construction that is now inseparable from it.



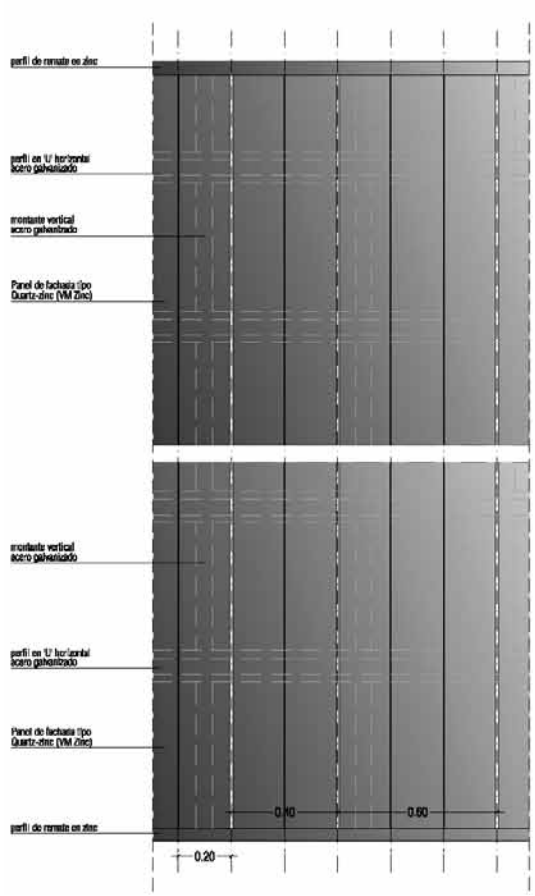


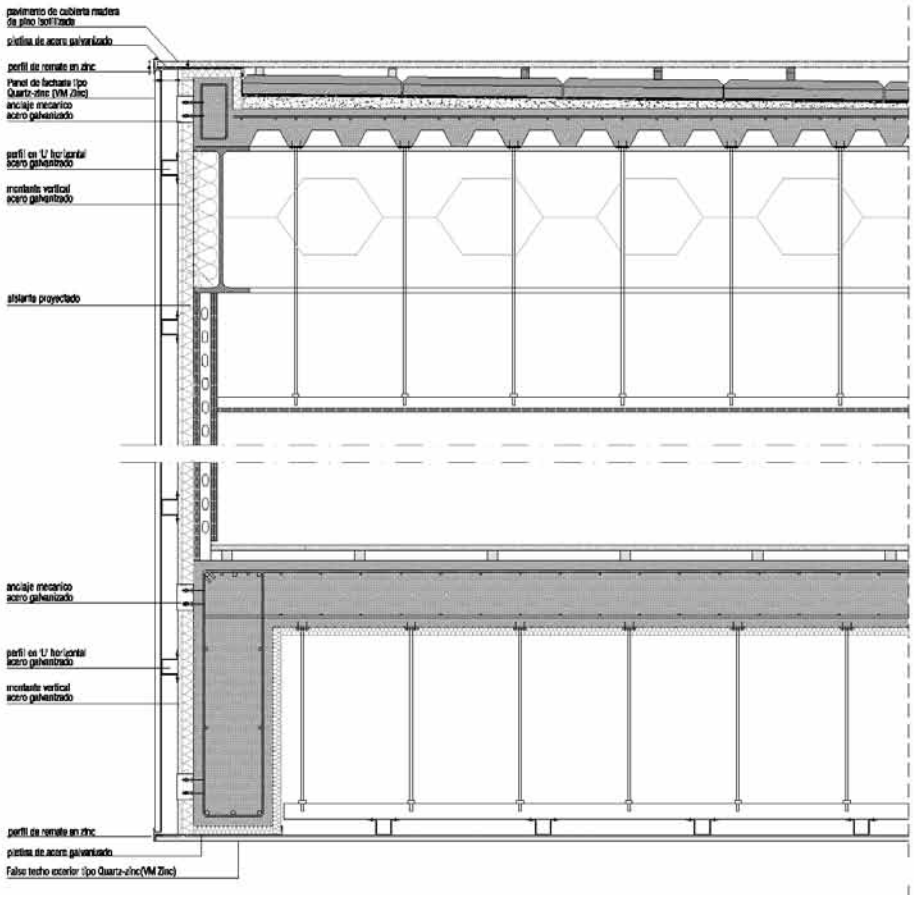
TECHNICAL FOCUS

"The building is part of a volume featuring irregular geometry and we wanted it to have very low exposure to view.
To create the opacity required for the external skin, we installed the zinc continuously using the interlocking panel technique. Laid vertically, this technique made it possible to play with variable modulation and variable joints."

CONSTRAINTS OF THE PROGRAM

As well as blending harmoniously into its surroundings, the building meets stringent requirements in terms of lighting and thermal regulation. For optimum conservation of the pieces on exhibit, certain walls are blind and natural light is provided via skylights. Facades are clad with QUARTZ-ZINC®, and contribute to the thermal stability of the building.


perfil de remate en zinc
perfil en 'U' horizontal acero galvanizado
montante vertical acero galvanizado
Panel de fachada tipo Quartz-zinc (VM Zinc)
montante vertical acero galvanizado
perfil en 'U' horizontal acero galvanizado
Panel de fachada tipo Quartz-zinc (VM Zinc)
perfil de remate en zinc
0.10
0.60
0.20


pavimento de cubierta madera de pino tratado
plafón de acero galvanizado
perfil de remate en zinc
Panel de fachada tipo Quartz-zinc (VM Zinc)
anclaje mecanico acero galvanizado
perfil en 'U' horizontal acero galvanizado
montante vertical acero galvanizado
aislante proyectado
anclaje mecanico acero galvanizado
perfil en 'U' horizontal acero galvanizado
montante vertical acero galvanizado
perfil de remate en zinc
plafón de acero galvanizado
Falso techo exterior tipo Quartz-zinc(VM Zinc)

Project name
Headquarters of J. Van Breda & Co bank
Place
Ledeganckkaai, Antwerp (Belgium)
Architect
Conix Architects cvba
Technique
VMZ Interlocking panel and perforated profiles
Surface aspect
ANTHRA-ZINC®

"The new headquarters of the J. Van Breda & Co bank: a modern building that embraces the industrial heritage of an old railway station."

ORIGIN OF THE PROJECT

As an integral part of the major Nieuw Zuid urban renewal project in Antwerp, the conversion of this old freight station into the headquarters of a large bank plays on the contrasts between industrial and contemporary architecture: "The main theme of the design resides in the tension between the new elements and the original structure", explain cvba architects. The final result is one of consistency between the past and the present: "the new building revisits elements of the old station - height and horizontal subdivision – while playing on a succession of open and closed levels for greater modernity." The zinc skin plays a key role in this project: "this material heightens the contemporary interpretation of the railway station and reminds us of its industrial nature. The complex blends very elegantly into the environment", the architects conclude.

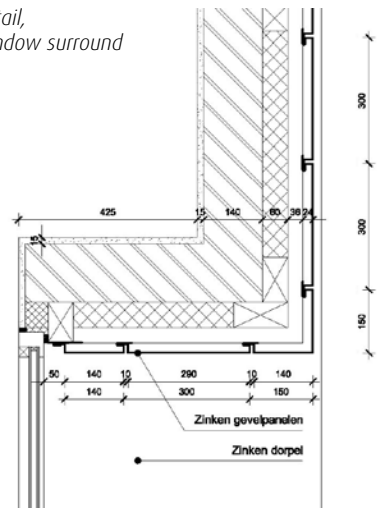
ENVIRONMENTAL STANDARDS

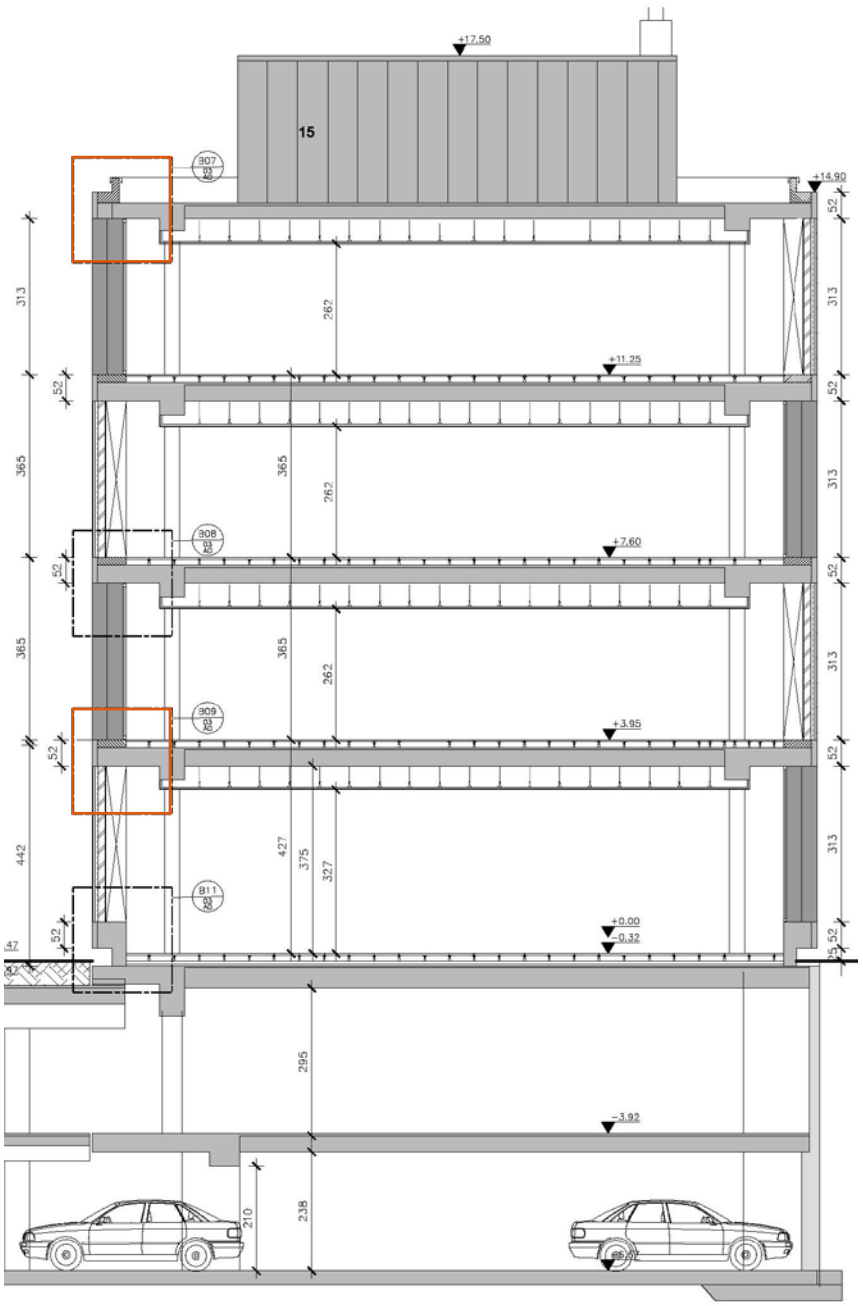
This project meets all the environmental criteria for contemporary buildings.
Renovation rather than destruction is the first of these. By choosing zinc, the architects offered a compact volume to the building and a 100% recyclable material that equally contributes to environmental requirements.

TECHNICAL FOCUS

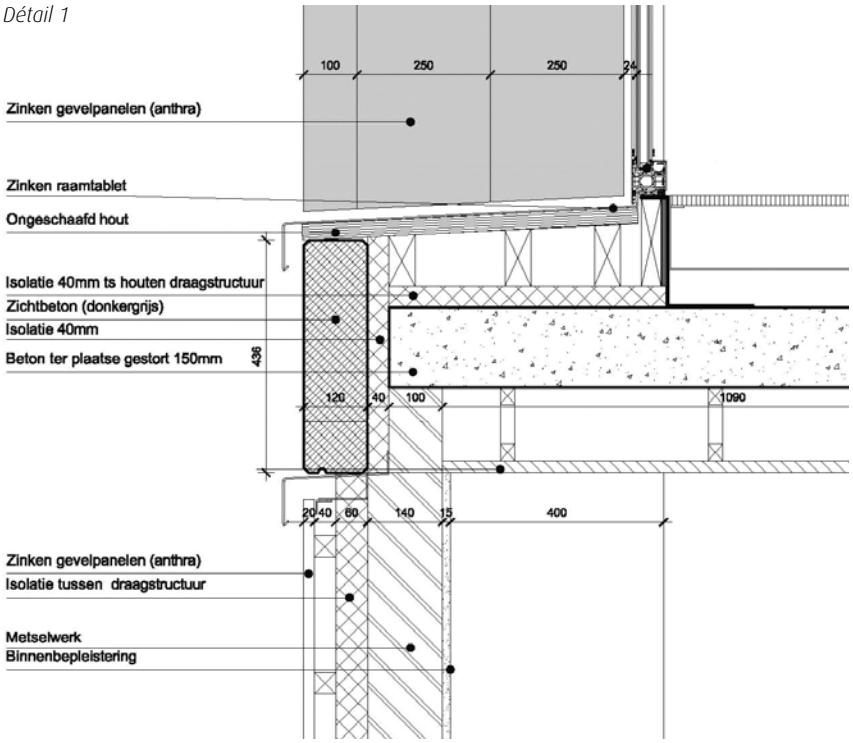
In Belgium, fire safety regulations require a certain distance between the windows of different firewall compartments. By moving certain window frames back 60 cm, this distance was complied with, even for full length windows. The use of zinc profiles made this easier for the designers, who were able to comply with regulations and “create a vivid architecture that captures attention”.

Detail, window surround

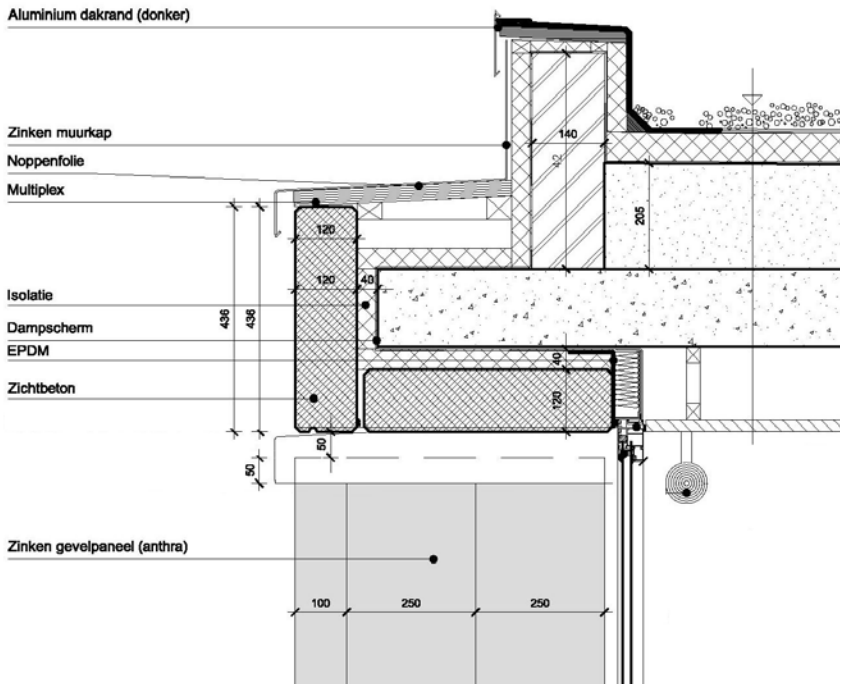




Détail 1



Détail 2

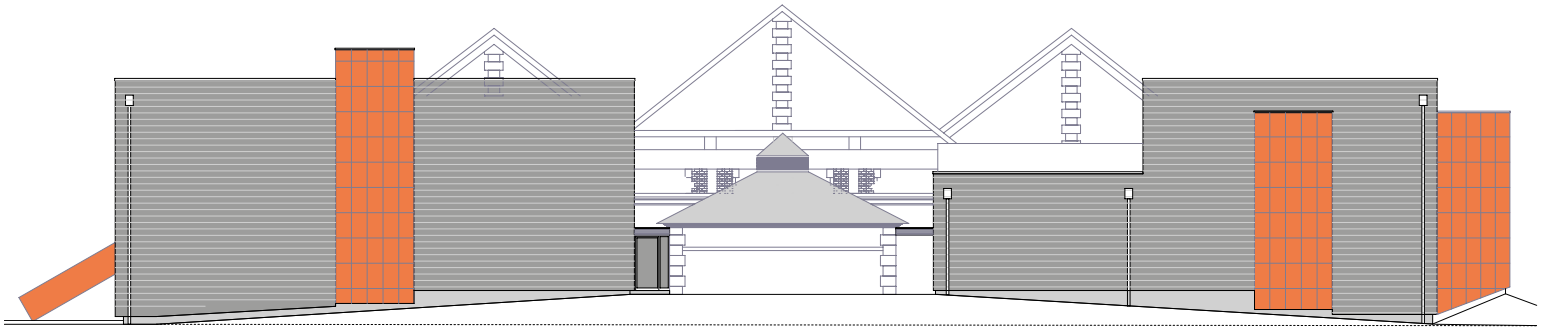


Project name
College of music
Place
Bernay (France)
Architect
ARCarchitecture, architect: Philippe Lachapelle
Installer
Boutel
Technique
VMZ Interlocking panel
Surface aspect
QUARTZ-ZINC®

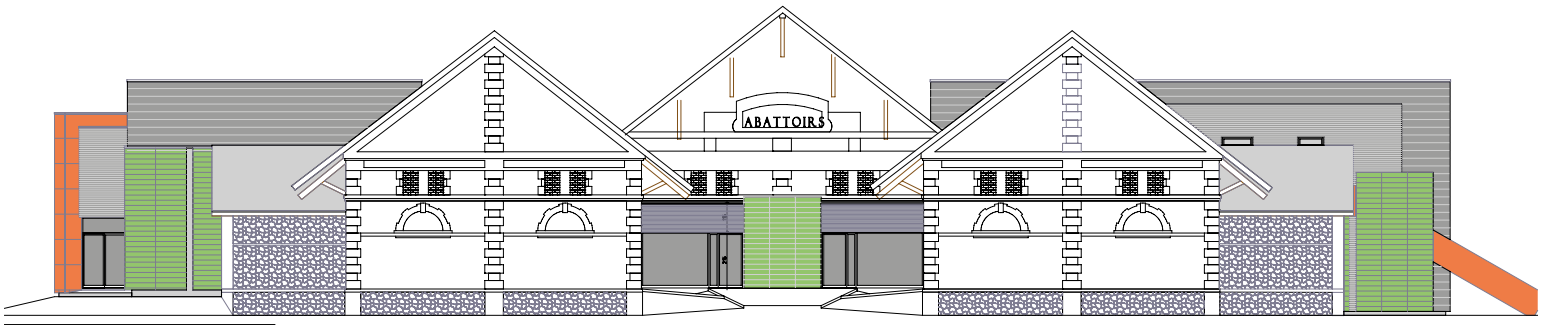
"A strong contemporary identity that gives expression to the old abattoir building"

ORIGIN OF THE PROJECT

The building had been unused since the end of the 1960s, until when it housed the former abattoirs of the small town of Bernay. Since classes began here in September 2010, the sound of music can be heard from within it. After major renovations, the building now houses the Conservatory of Music of the greater Bernay area. Four hundred and fifty pupils and their teachers benefit from these brand new premises, where brick buildings dating back to 1891 cohabit with two new wings clad in zinc and green walls.



EAST FACADE



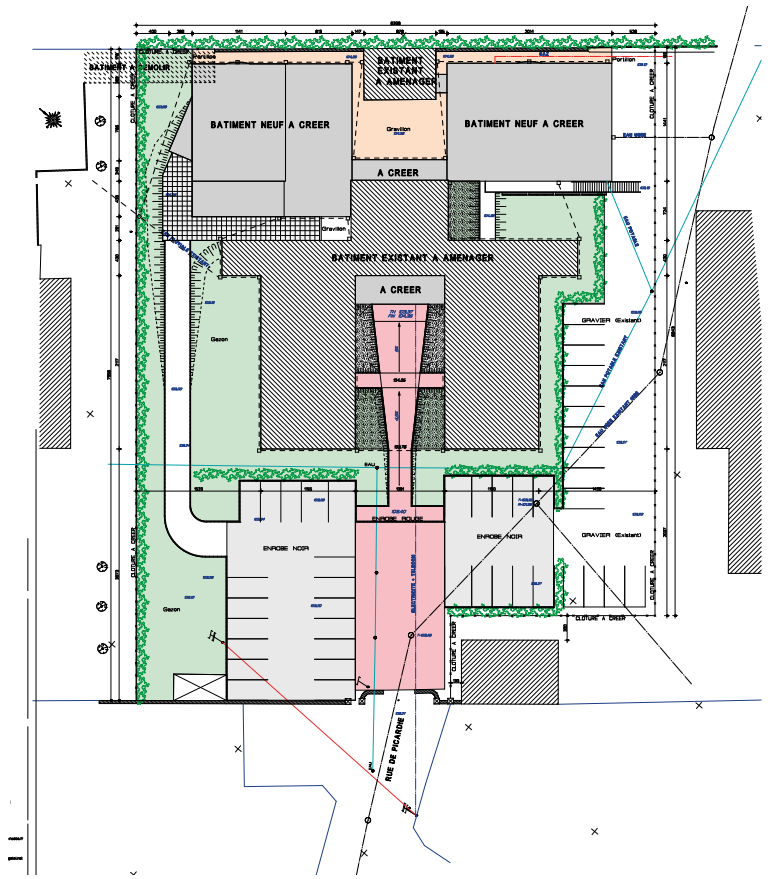
WEST FACADE

ARCHITECTURAL CHOICES

Philippe Lachapelle, the architect, played on the contrasts between the two buildings, each of which has a strong character. The sobriety and modernity of zinc enabled him to create this variation, this break between two spaces. The old building asserts its traditional personality and the new building asserts its contemporary identity, which is accentuated by its green facades whose plants soften the overall effect and broaden the palette of colors.

TECHNICAL FOCUS

Particular care was given to the various flashings, enabling tricky details to be handled with precision. The zinc interlocking panel cladding was chosen by the architects to highlight the modernity of the extensions.



GREEN FACADES

The concept of planting greenery on roofs is now being extended to facades. As well as creating a grid of greenery and contributing to better thermal regulation in buildings, these facades are often chosen for their aesthetic qualities. When combined with zinc, they create a natural effect with contrasting and complementary colors.

Varel Europe Headquarters, Pau (France)

“The Hedgehog“, a green urban kiosk, Milan (Italy)

“BHV Homme“ store, Paris (France)

Mint Hotel Tower of London (UK)

VMZINC | FACADE

PROTECTING THE ENVIRONMENT

Respect for the environment has moved far beyond mere green-washing and is now integrated by architects as a natural part of the act of construction, from design through to building. Environmental awareness has been concretized by specific regulations and labels in a number of countries, with the common goal of controlling environmental impact during both construction and the entire life cycle of the completed building. Within this context, zinc has a strong role to play, as a durable and 100% recyclable construction material.

Project name
ZAC Armor office building
Place
Saint-Herblain (France)
Architect
Yann Lescop and Agence Magnum
Installer
Tallot
Technique
VMZ Interlocking panel
Surface aspects
QUARTZ-ZINC®, ANTHRA-ZINC®, PIGMENTO® red

The compact form and materials used made it possible to reach energy efficiency targets.

ORIGIN OF THE PROJECT

"Simple, functional and timeless" is how architect Yann Lescop describes this office building, which was designed for low energy consumption and awarded an A rating for its energy performance. Hence the choice of compactness. The building has a green roof and an envelope perforated by skylights and clad with a facade of wood and zinc. Each material plays a distinct role but both are natural, untreated and recyclable. "Zinc is used for sections exposed to harsh weather and wood is used on sheltered sections". The elegance of the zinc and the interlocking panel technique enabled the architect to play with a varied palette of shades and textures that command attention and make the building an integral part of the surrounding landscape.

ENVIRONMENTAL STANDARDS

The energy efficiency objectives for this office building are 50 kwh/m²/year, i.e. an A energy rating for low consumption buildings (French BBC award). This objective was reached thanks to an energy efficient envelope in zinc and technical fittings powered by renewable energy: photovoltaic panels, double flow ventilation (DFV), air/water heat pump and low consumption lighting.

TECHNICAL FOCUS

For the architect who designed the project, the interlocking panel technique was an obvious choice. The succession of different surface aspects (QUARTZ-ZINC®, ANTHRA-ZINC®, PIGMENTO®) gives variety to the reflection of light. This effect is enhanced by the highly textured appearance of the flatlock profiles.

Project name
Acciona Solar offices and warehouses

Place
Innovation centre, Sarriguren, Navarra (Spain)

Architect
Miguel Angel Garaikoetxea Urriza and Pedro Ansa Inglés

Technique
VMZ Interlocking panel

Surface aspect
ANTHRA-ZINC®

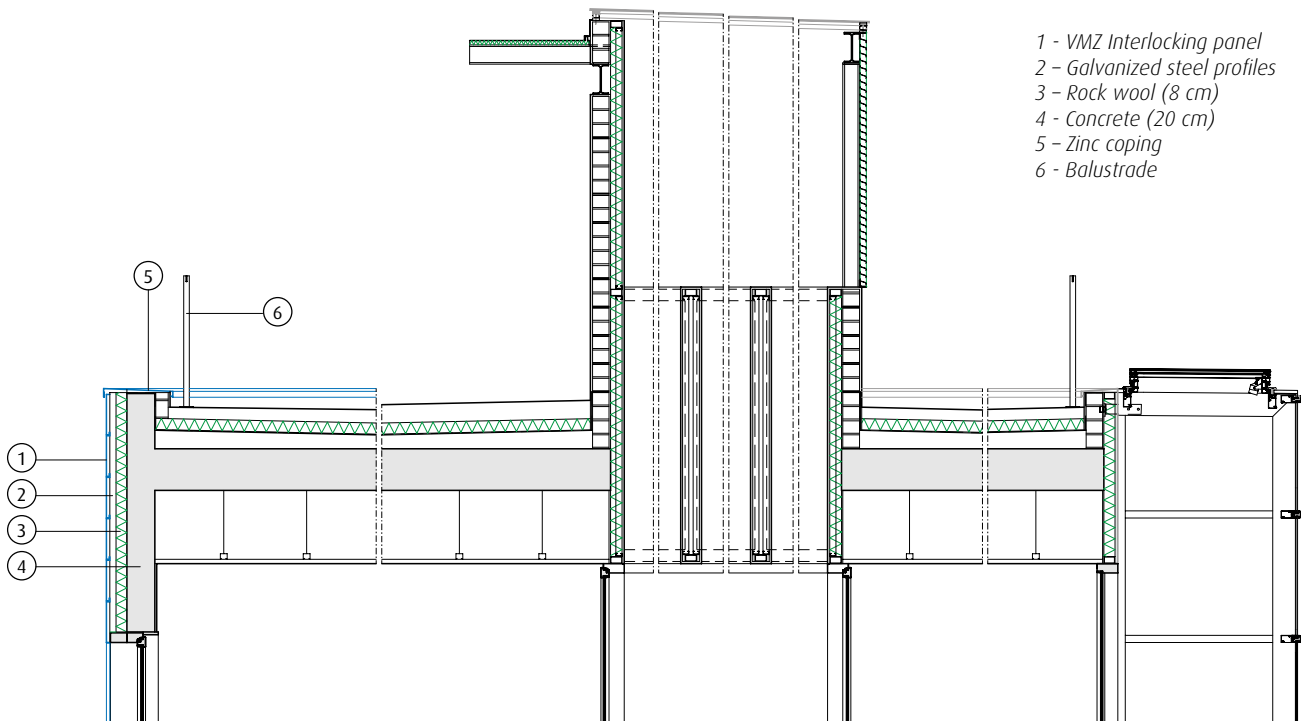
ANTHRA-ZINC®, combined with the colored wooden surrounds of the openings, endows the building with elegance and simplicity.

ORIGIN OF THE PROJECT

For the new offices and warehouses of the Acciona Solar company, which specializes in solar installations, architects Miguel Angel Garaikoetxea Urriza and Pedro Ansa Inglés opted for efficiency with a compact bioclimatic building. To the south, the program benefits from a double solar facade which allows it to produce electricity and creates a greenhouse effect to collect heat produced between the two skins. Over 85% of energy requirements are produced by this installation. The three other facades are less complex and alternate zinc cladding and openings: "on the outside, the building looks like an openwork box, formed by horizontal panels of ANTHRA-ZINC®, translucent glass and openings with wooden surrounds that brighten it up and give it a warm, colorful note", explain the architects.

ARCHITECTURAL CHOICES

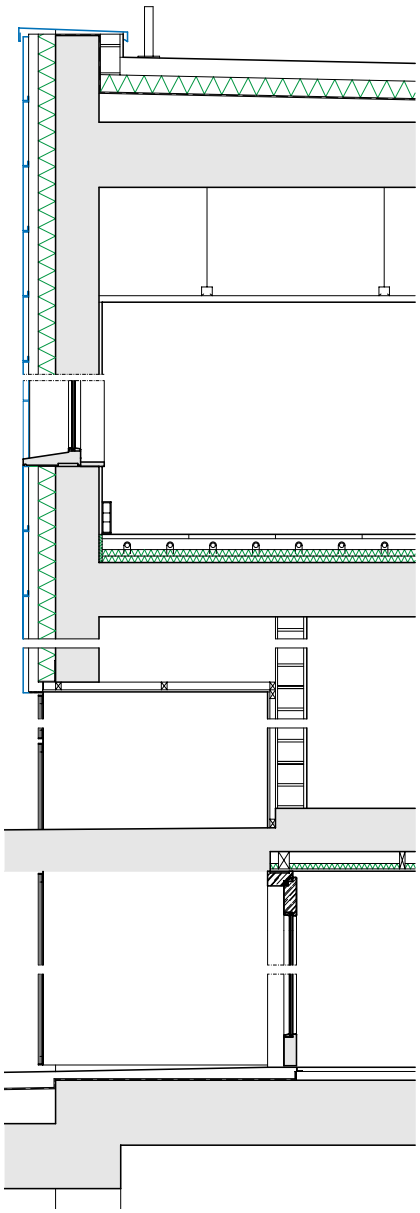
"The compactness of the building – a result of the constraints imposed by the plot and urban regulation – is just one of the bioclimatic choices we made for this project." We wanted to create a balance between spaces exposed to sunlight and blind wall sections, to reduce energy consumption. So we opened the building to the south, with glass, to make the most of accumulated heat in winter. In summer, the glazing is always ventilated. The interior facade is protected from direct sunlight thanks to strips of photovoltaic panels on the facade. ».



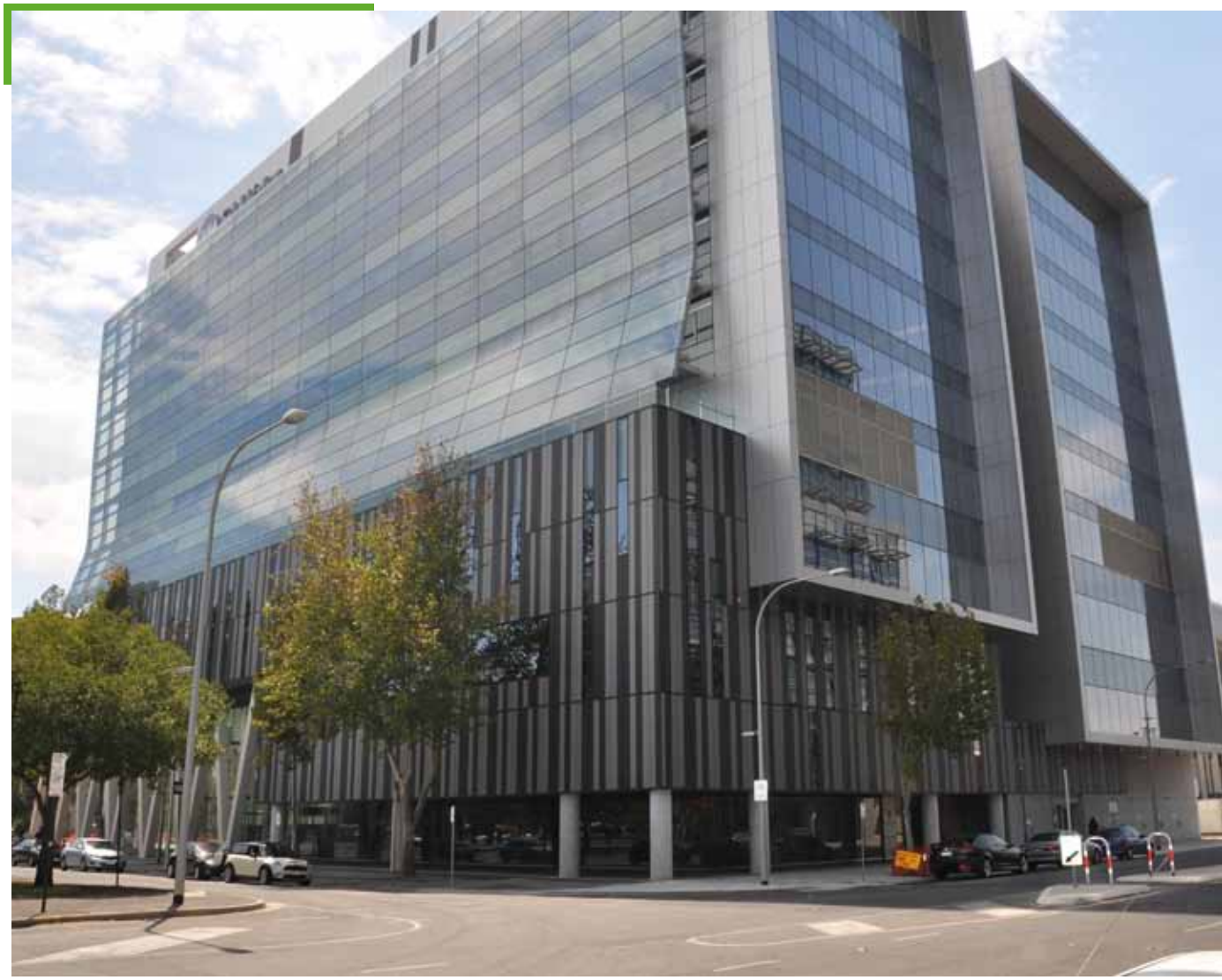
1 - VMZ Interlocking panel
2 – Galvanized steel profiles
3 – Rock wool (8 cm)
4 - Concrete (20 cm)
5 – Zinc coping
6 - Balustrade

TECHNICAL FOCUS

The interlocking panel technique was used to further accentuate the compactness of the building. Its monolithic structure is enhanced by the linearity of the ANTHRA-ZINC® cladding and strips.



Project name
SA Water Head Office
Place
Adelaide (Australia)
Architect
Hassell architects
Technique
VMZ Interlocking panel
Surface aspects
QUARTZ-ZINC®, ANTHRA-ZINC®, PIGMENTO® blue



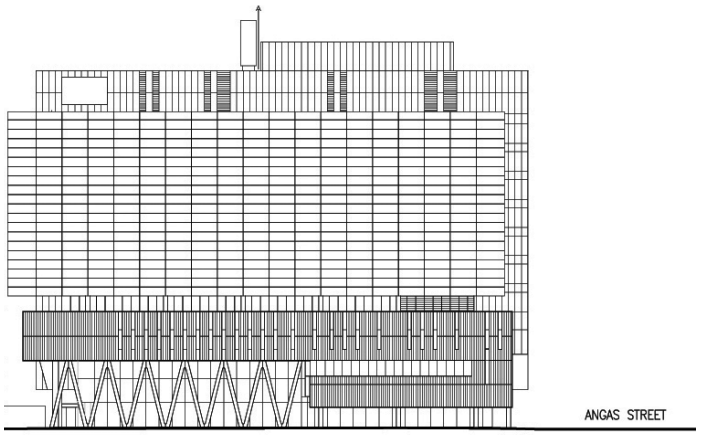
ORIGIN OF THE PROJECT

For its new headquarters, SA Water wanted a sustainable workplace reflecting the values of transparency, flexibility and innovation that characterize this leading water treatment company. This ambition was achieved and the building received several awards. Designed by Hassell Architects, the building is located close to Saint Francis Xavier's cathedral, in the middle of a large public square in Adelaide. "The building is an integral part of Victoria Square and gives it character" explain the architects. The ground floor is totally transparent and accessible. Activity inside the building is visible to passers-by and animates the square.» The style and architectural elements echo those of the neighboring cathedral, creating harmony between the new building and the classified monument.» The zinc on the interior and the exterior of this program meets the four fundamental criteria that characterize the project: sustainability, environmental protection, integration and aesthetics.

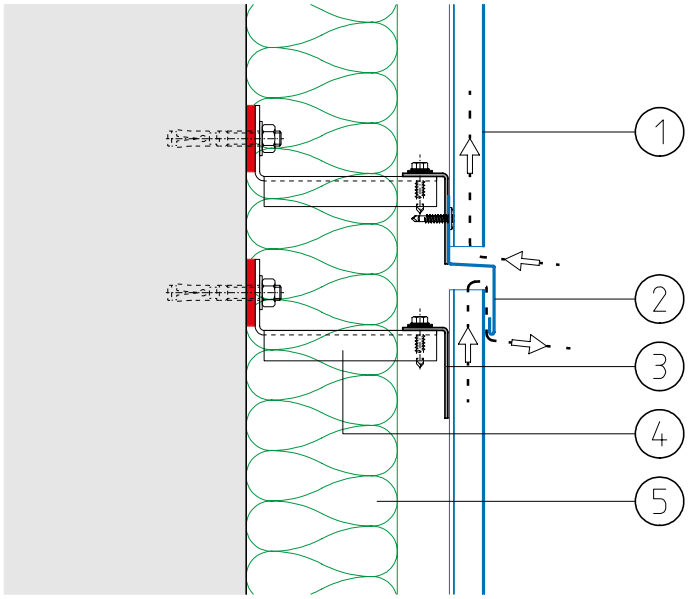
"Zinc is a natural, sustainable material that blends harmoniously with the neighboring cathedral while meeting the environmental requirements of the project."

ENVIRONMENTAL STANDARDS

To obtain the 6 star rating of the Australian "Green Star" environmental standard, awarded by the Green Building Council of Australia (GBCA), the building was equipped with cutting edge facilities in terms of water consumption and energy efficiency. These requirements were met by using 100% recyclable zinc cladding, a passive solar facade – a double facade in glass allowing optimum use of daylight while at the same time avoiding overheating – and by the installation of heat recovery systems.

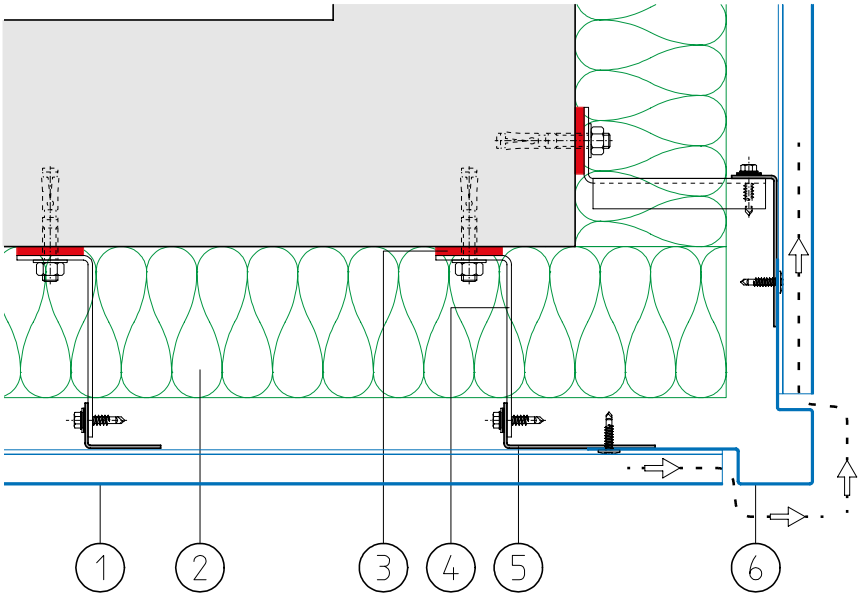


Horizontal junction



1 - VMZ Interlocking panel
2 - Divider
3 - Wall-mounted framework
4 - Fixing clip
5 - Insulation

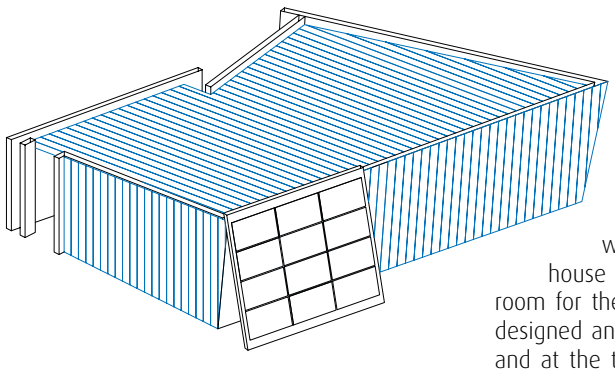
Junction between facade and underside



1 - VMZ Interlocking panel
2 - Insulation
3 – Spacer for breaking thermal continuity
4 – Fixing clip
5 – Wall-mounted framework
6 – Corner accessory

Project name
School
Place
Percy (France)
Architect
Michel Gourion
Installer
Le Gallet père et fils
Technique
VMZ Interlocking panel, VMZ Standing seam
Surface aspect
QUARTZ-ZINC®

"Colors, volumes, dynamic forms, plays of light": such were architect Michel Gourion's design choices for this project.



ORIGIN OF THE PROJECT

"This project goes quite a long way back", explains Michel Gourion, the architect who designed this extension to house an arts room and a motricity room for the school in Percy. "In 2002, I designed an extension for the pre-school and at the time I used zinc for the roof. I like the material: it is malleable, it feels like velvet or concrete to touch, it catches the light and provides a dynamic that suits the shape of the buildings." The school extension is almost entirely covered with a zinc skin. But not quite, because Michel Gourion likes to play with materials: "I opted for solar panels and solid laminate cladding, which echoes the tone of the zinc but has a different layout. The great thing about zinc is that it blends well with a lot of materials."

ARCHITECTURAL CHOICES

"When designing a building for children, one has to see things from their point of view and avoid stereotypes. I designed this extension like a game of jackstraws, with dynamic, atypical forms", explains Michel Gourion. The wooden structure of the building and the wood fiber panel insulation contribute to users' comfort: "the wood provides thermal and acoustic comfort, which is extremely important in a school." As for the facade: "the zinc dynamizes the forms of the building and provides contrast between hollow and empty shapes." Technically speaking, "almost everything is possible with zinc!"

TECHNICAL FOCUS

The architect wanted the photovoltaic solar panels on the facade to appear slightly separate from the structure: "I wanted the panels to look as though they were placed on top of the facade." This necessitated a specific installation system on the standing seam facade.

ENVIRONMENTAL LABELS

Some examples of sustainable building benchmarks that can lead to certification. Architects and clients refer to these benchmarks for the design, construction and life cycle of buildings that are increasingly respectful of their environment and their users.
Buildings with zinc envelopes are certified the world over, proving the contribution of VMZINC® solutions to obtaining recognized sustainable building certification.

The French system "Haute Qualité Environnementale" (HQE®)

The HQE approach is a French method for architects and their clients. It aims to improve the environmental and health & safety performance of buildings:
- by controlling the impacts of buildings on the surrounding environment,
- by minimizing consumption of natural resources,
- by creating a healthy, comfortable interior.

It features 14 environmental preoccupations called "targets", organized in 4 sub-categories: eco-construction, eco-management, comfort and health.

The American system "Leadership in Energy and Environmental Design" (LEED)

"Leadership in Energy and Environmental Design" (LEED) is a North American system for assessing the environmental performance of buildings. This is the most broadly used system in the world and the model on which most new benchmarks are based. The first level of assessment is based on the 3 Rs:
- Reduction of waste and resources used,
- Re-use of materials,
- Recycling of materials.

The LEED system assesses projects according to 6 major categories: ecological design of sites, water, energy, materials and resources, quality of interior environment, innovation and design process.
The assessment can lead to 4 different ratings: certified, silver, gold or platinum.

The British System "BRE Environmental Assessment Method" (BREEAM)

BREEAM (BRE Environmental Assessment Method) is the British sustainable building benchmark. It is based on the management and assessment of 8 areas of environmental impact: management, comfort & health, energy, transport, water, materials & waste, site management & ecology, and pollution. A building can be awarded one of five ratings according to this benchmark: pass, good, very good, excellent and outstanding.

The Australian "Green Star" system

The Green Star system is an Australian benchmark for building contractors and clients that aims to promote greater respect for the environment in terms of building design and construction. This benchmark is organized into 9 categories: management, energy, water, use of site and ecology, quality of interior environment, transport, materials, emissions and innovation. Environmental ratings range from 1 to 6 stars. The 6 star rating is awarded for outstanding environmental performance.

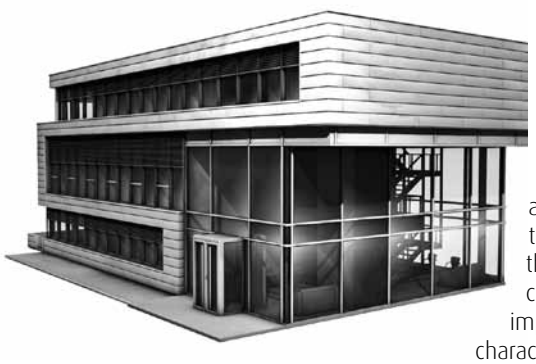
VMZINC | FACADE

PREFERRING SIMPLICITY

While some architects favor complex forms, others delight in simplicity. Simple, however, does not mean easy. By contrast to a grand gesture, the aim is to convey discretion, modesty and conviviality. Simplicity is, as often as not, only in appearance and achieving it requires art and delicacy. By its very nature zinc is suited to this approach. What other material achieves this degree of simplicity through sober shades, refined texture and pure forms?

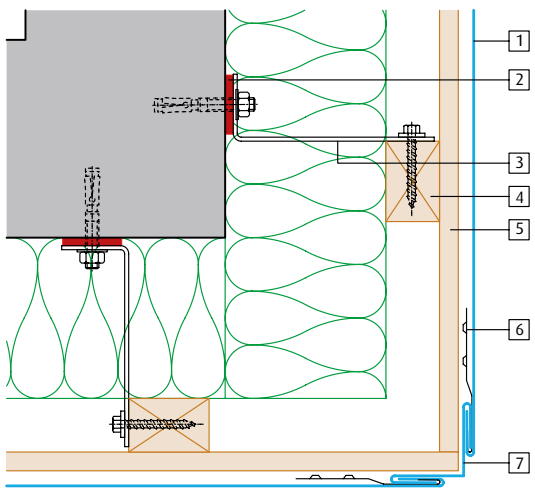
Project name
Office building
Place
Münster (Germany)
Architect
Ulrich Kiefer, Heyen - Lippross + Partner
Installer
Hubert Plenter GmbH
Technique
VMZ Flatlock panel
Surface aspect
QUARTZ-ZINC®

A striking example of the contrasts that can be created by combining glass and metal surfaces.

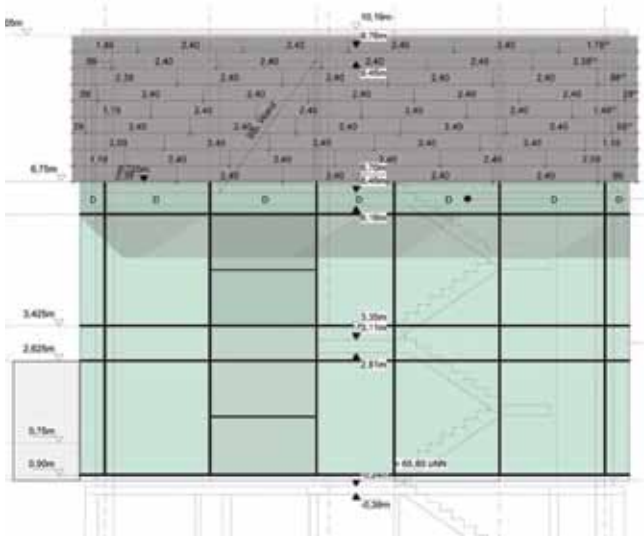


ORIGIN OF THE PROJECT

This project grew out of the need for new headquarters that would provide sufficient space to accommodate growth in activity and the recruitment of extra staff. For this three-storey building, the architects created a concept conveying an impression of superimposed strips, characterized by the juxtaposition of glass and metal. The zinc cladding gives structure to the building, while the glass reflects changes in weather and light. QUARTZ-ZINC® installed in Flatlock panels demarcates each floor, making it appear slightly misaligned with the next. Glass and zinc alternate at the buildings extremities, creating the impression of a roll of ribbon winding up towards the sky.

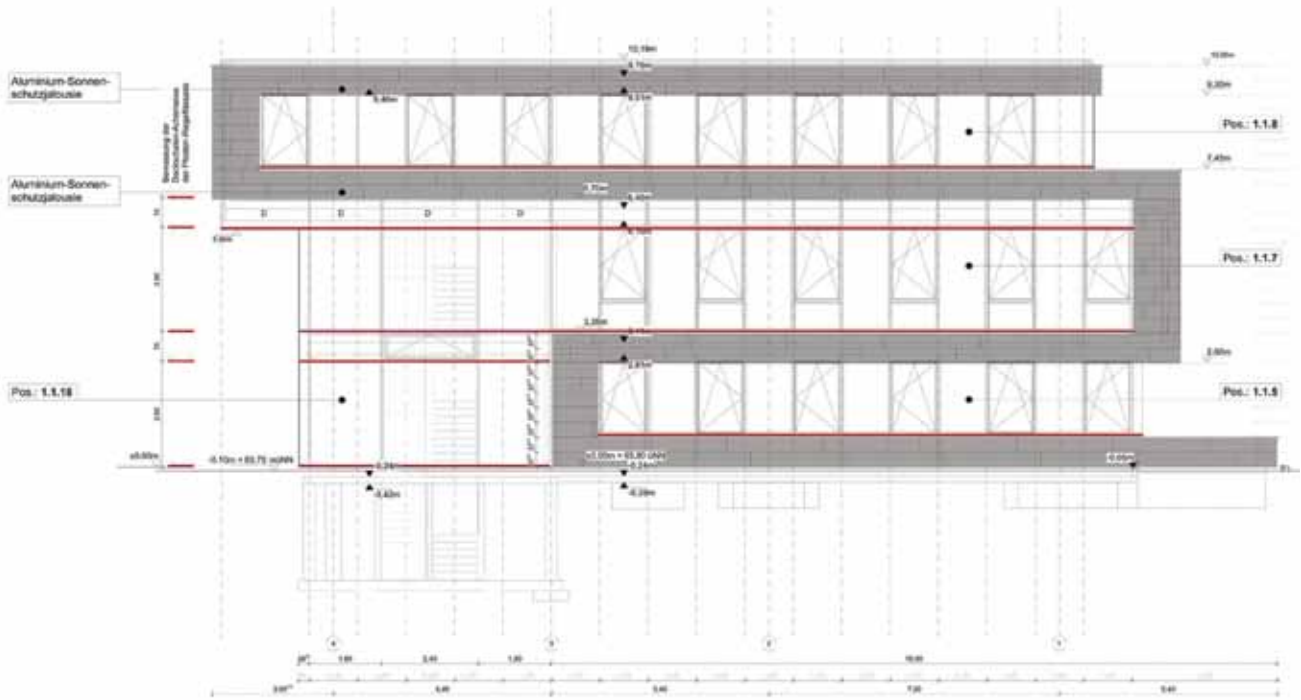


1 - Insulation
2 - Spacer for breaking thermal continuity
3 – Fixing bracket
4 - Spacer
5 - Decking
6 – Fixing clip
7 – Corner slider



ARCHITECTURAL CHOICES

"We chose zinc for its texture. It frames the glazed facade perfectly and its color, aspect and lower reflectivity contrast with the glass. While the surrounding environment reflected in the glass provides constantly renewed images, the strip of zinc anchors the building to the ground, giving it stability and continuity."



Project name
Military hospital
Place
Fort Belvoir, Virginia (USA)
Architect
HDR Dewberry - Dan Friedman
Installer
Turner Gilbane
Technique
Dri-Design Panels (VMZ Mozaik® in Europe)
Surface aspect
QUARTZ-ZINC®

Natural light is used everywhere in the building and gives occupants visual cues that guide them through the hospital.

ORIGIN OF THE PROJECT

"The opening of the large military hospital in Fort Belvoir (Virginia, USA) marked the completion of five years of inter-departmental collaboration to implement one of the largest and most motivating restructuring projects of a medical military base (BRAC – Base Realignment and Closure)", explain the architects.

The design of the five buildings that make up the complex includes zones exposed to view and others that are less visible in order to prevent patients and visitors being exposed to the daily activities of the hospital. Each building has a facade system combining glass, terracotta panels and a zinc cladding system of Dri Design cassettes, known in Europe under the VMZ Mozaik® brand. As it is highly cost-effective, the system was also used on the inside of the building, notably in the stairwells of the entrances.

ENVIRONMENTAL STANDARDS

Fort Belvoir military hospital has already been awarded silver LEED certification (Leadership in Energy and Environmental Design) which certifies environmental performance and is internationally recognized. As well as zinc, selected for its environmental characteristics, the building has a heating and cooling system designed for approximately 30% energy savings. The theme of nature is used to contribute to the healing process of patients. The roofs are planted with shrubs, water is collected, the entire site is planted in lawn and natural materials such as zinc and terracotta clad the facades.

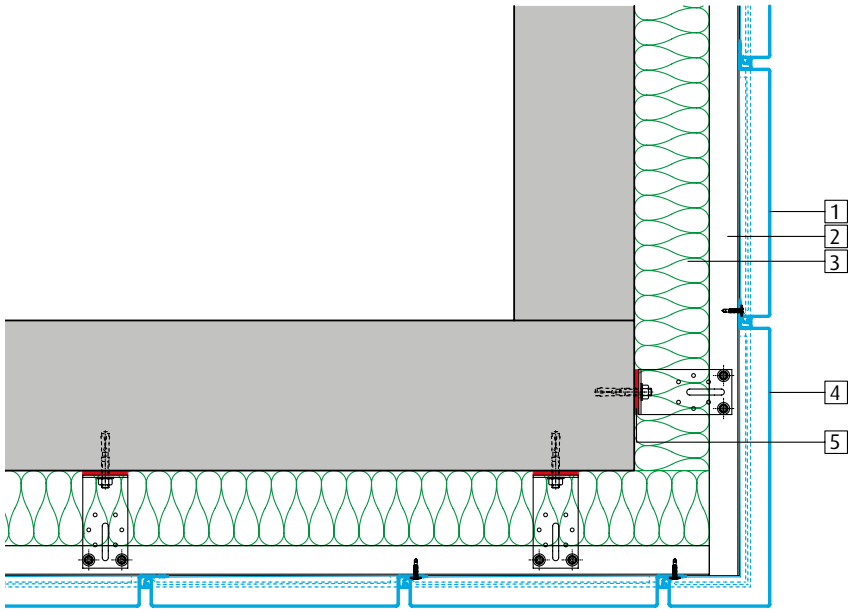
TECHNICAL FOCUS

The facade is made up of glass curtain walls combined with terracotta panels and VMZ Mozaik® cassettes in QUARTZ-ZINC®. In all, some 36,000 panels - manufactured using zinc that is one millimeter thick – were used to cover a surface of approximately 11,000 m².

THE SYSTEM APPLIED

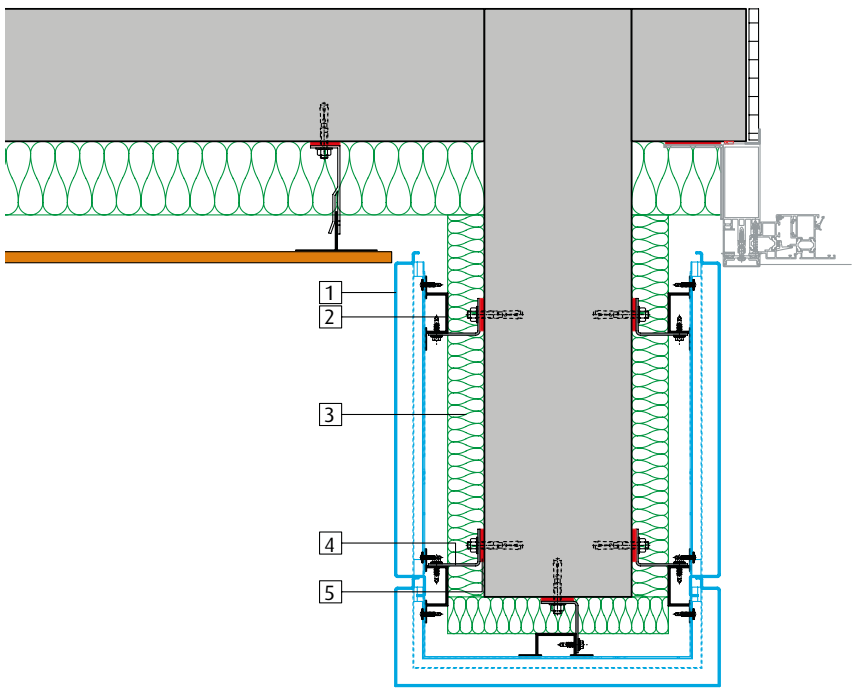
The Dri-Design panels (VMZ Mozaik®) are made up of rectangular and square elements installed on Omega or T aluminum frame rails, and featuring neat folds that ensure continuity with joints and conceal all construction elements.

Detail of fixing between facade and substructure



1 - VMZ Mozaik® Cassette
2 – Secondary framework
3 – External insulation
4 – Fixing bracket
5 – Spacer for breaking thermal continuity

Detail of the column



Project name
Instituto tecnologico de los juguetes
Place
Ibi, Alicante (Spain)
Architects
José V. Jornet Moya - Nuria Vicent Blanes
J. Francisco Picó Silvestre
Installer
Zinculine
Technique
Cassettes
Surface aspects
QUARTZ-ZINC®,
PIGMENTO® blue/red/green

"This extension features a deliberate play on contrasts featuring colored zinc"

The use of different surface aspects gives a touch of originality to the conventional form of the building, which was initially monochrome.

ORIGIN OF THE PROJECT

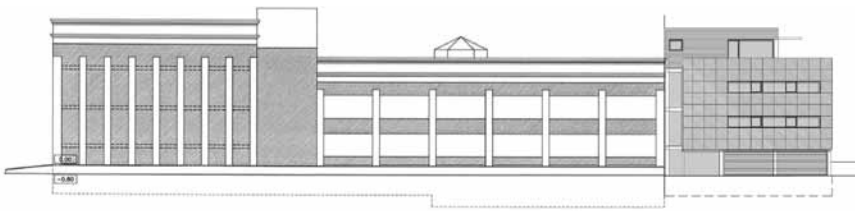
This project for the extension of the AIJU Institute of Technology laboratories in Alicante, Spain, is a perfect example of harmonious blending of a pre-existing building with a new extension covered in zinc. The original facade is not closed off and remains permeable to light thanks to the interposition of a central courtyard providing natural light and - for security reasons - retaining access via the original building. Vertical "slabs" clad with a limestone veneer join the two buildings. "These enabled us to mark the transition between the two blocks, which have extremely different exteriors in terms of aspect and composition". Openings in the extension are horizontal, as in the original building. The new construction is clad in zinc: "the elegance of its aspect and its durability are two factors that made us opt for zinc. It gives the building greater elegance and a vivacity that is heightened by the variations in color".

ENVIRONMENTAL STANDARDS

In compliance with current thermal regulations in Spain, this project meets all criteria in terms of energy saving, thus reducing maintenance and operational costs. The concrete structure, which is insulated externally, provides a high level of thermal inertia in the walls. The interior courtyard is fully glazed, providing natural light and stable temperatures and humidity in the laboratories. Hot water is produced by a thermal solar system installed on the roof and interior lighting and air conditioning are automatically regulated according to the research center's opening hours.

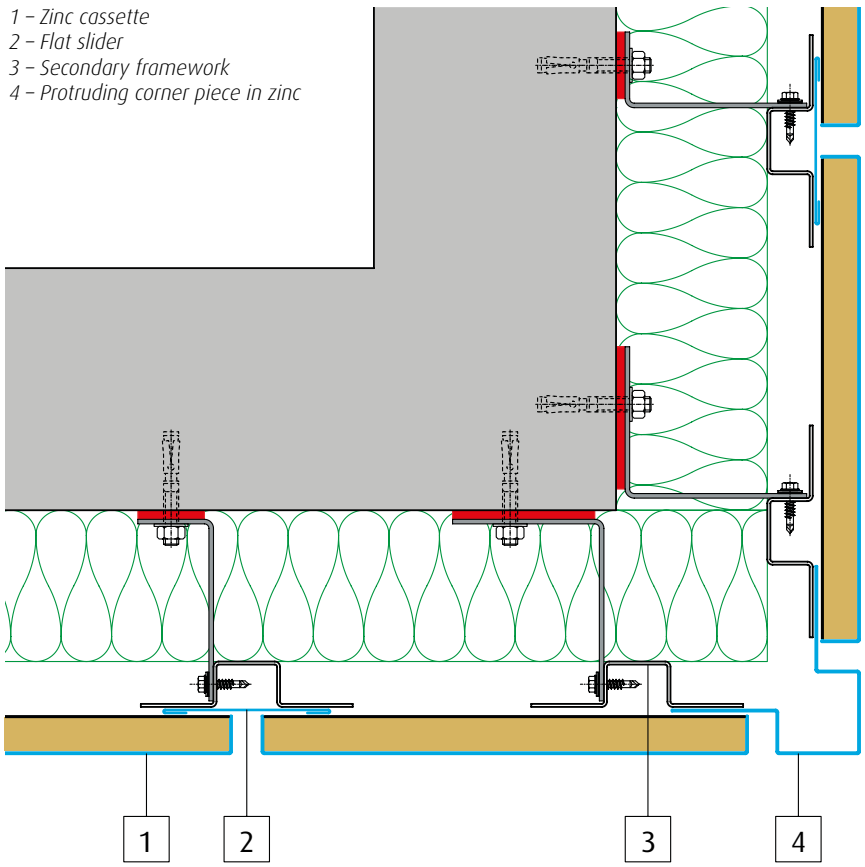
TECHNICAL FOCUS

To make cassettes with the large dimensions required by the architect, each element of the facade was reinforced with a polystyrene panel.
Another option would have been to use the rigidity of VMZ Composite panels to obtain the desired formats or the VMZ Mozaik® cassette system for a more modular installation (see page 68).



Corner detail

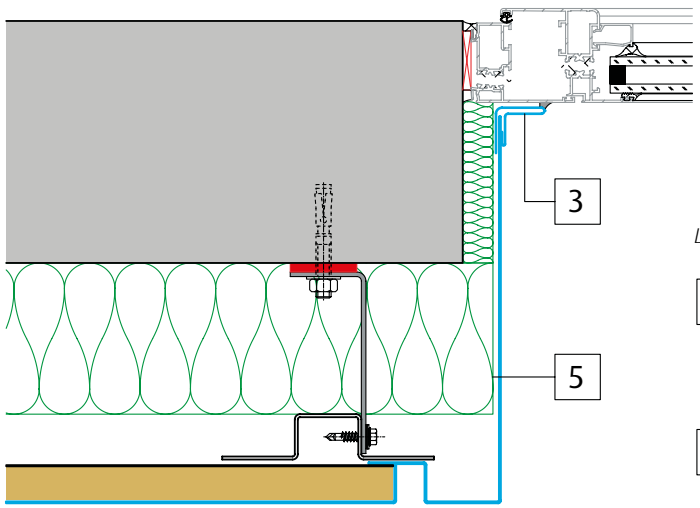
1 – Zinc cassette
2 – Flat slider
3 – Secondary framework
4 – Protruding corner piece in zinc



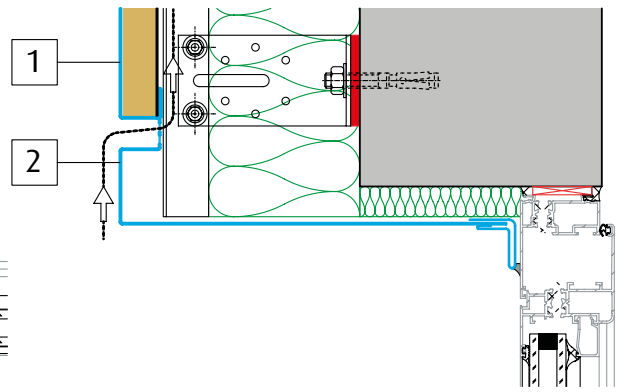
Window detail

Reveal

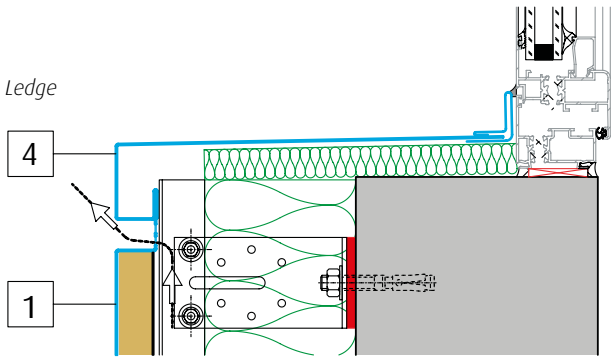
1 – Zinc cassette
2 – Lintel cladding
3 – Adjustment clip
4 - Divider
5 – Reveal cladding



Lintel



Ledge



Project name
Staff accomodation, Van Dongen Senior School
Place
Lagny (France)
Architect
Atelier Bauve
Installer
Entreprise Couppe
Technique
VMZ Interlocking panel
Surface aspect
QUARTZ-ZINC®

"The play on volume and the creation of "intimate" spaces are strengthened by the choice of facade materials."

PROJECT ORIGIN

The Bauve architecture studio designed a program of seven houses to accommodate teaching staff at the Van Dongen Senior School in Lagny for the Conseil Régional d'Ile-de-France (Ile-de-France regional authority). Following the demolition of an old unattractive building, a terrace of seven HQE (1) two-storey houses were built.

(1) *Haute Qualité Environnementale (French High Environmental Quality standard)*

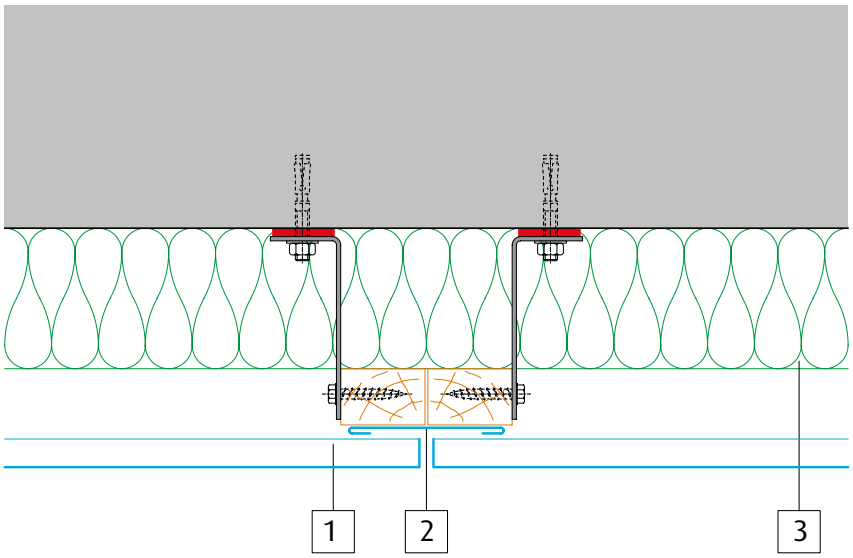
ARCHITECTURAL CHOICES

To successfully integrate the project into its environment, the architect used the themes developed for the Senior School and opted for similar materials: wood and zinc cladding for the facade and standing seam zinc for the roofing. He had a very clear vision of the design he wanted: "we worked on volumes and sections so that the units would look like private houses even though they are not. We wanted to preserve residents' privacy. The juxtaposition of different materials on the facade – wood and zinc – and the play on volumes contributed greatly to this."

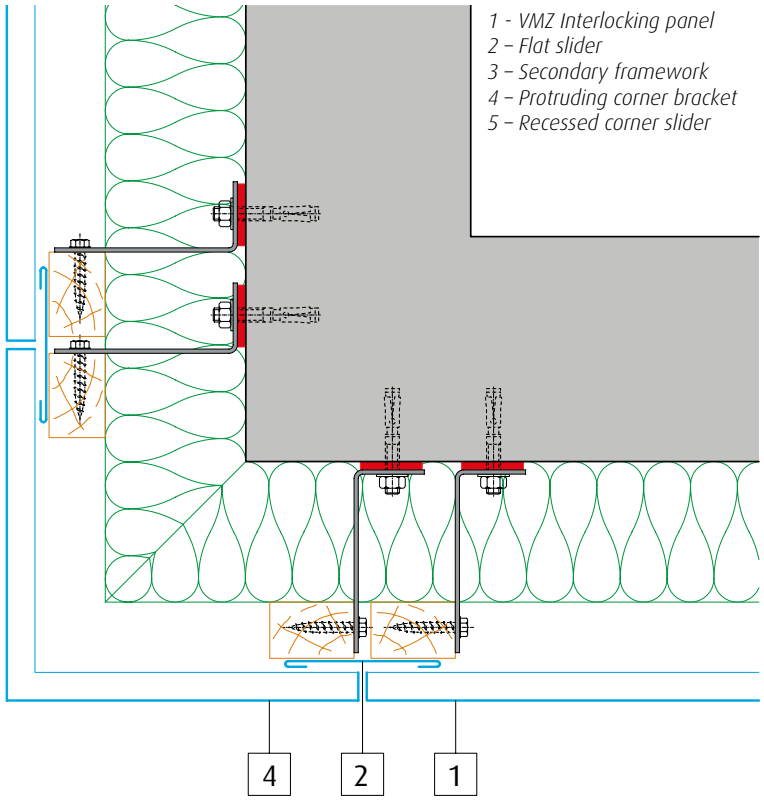
TECHNICAL FOCUS

Special attention was given to the aesthetic aspect of the layout plan for the facades. Early discussions between the architect, the installation company and VMZINC led to harmonious blending of the different facade materials and elements.

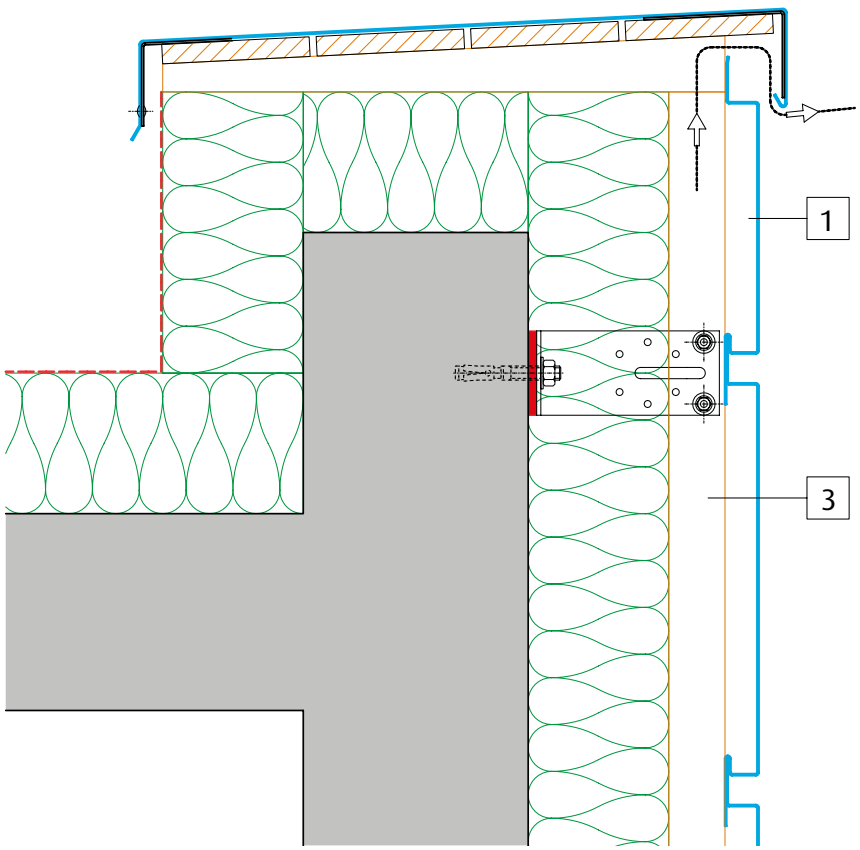
Transversal junction



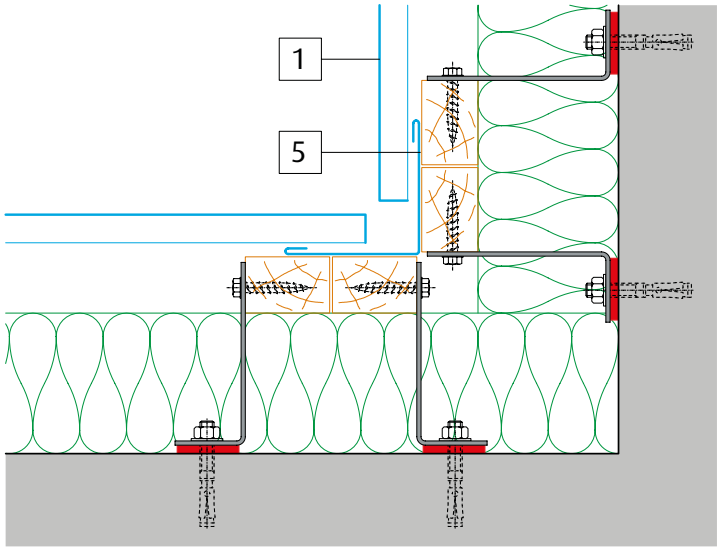
Protruding corner



Roof parapet – Vertical upstand



Recessed corner



FLASHINGS

A recurrent argument put forward by architects in favor of zinc is that its ductility, without breaking when folded, makes it easy to work on the specific penetrations and edge flashings of a facade, thus guaranteeing a perfect finish that is consistent with the building as a whole.

University, Barcelona (Spain)

Extension to the Institute of Technology, Sarcelles (France)

Wine store, Penthalaz (Switzerland)

Franklin Roosevelt Senior School, Auray (France)

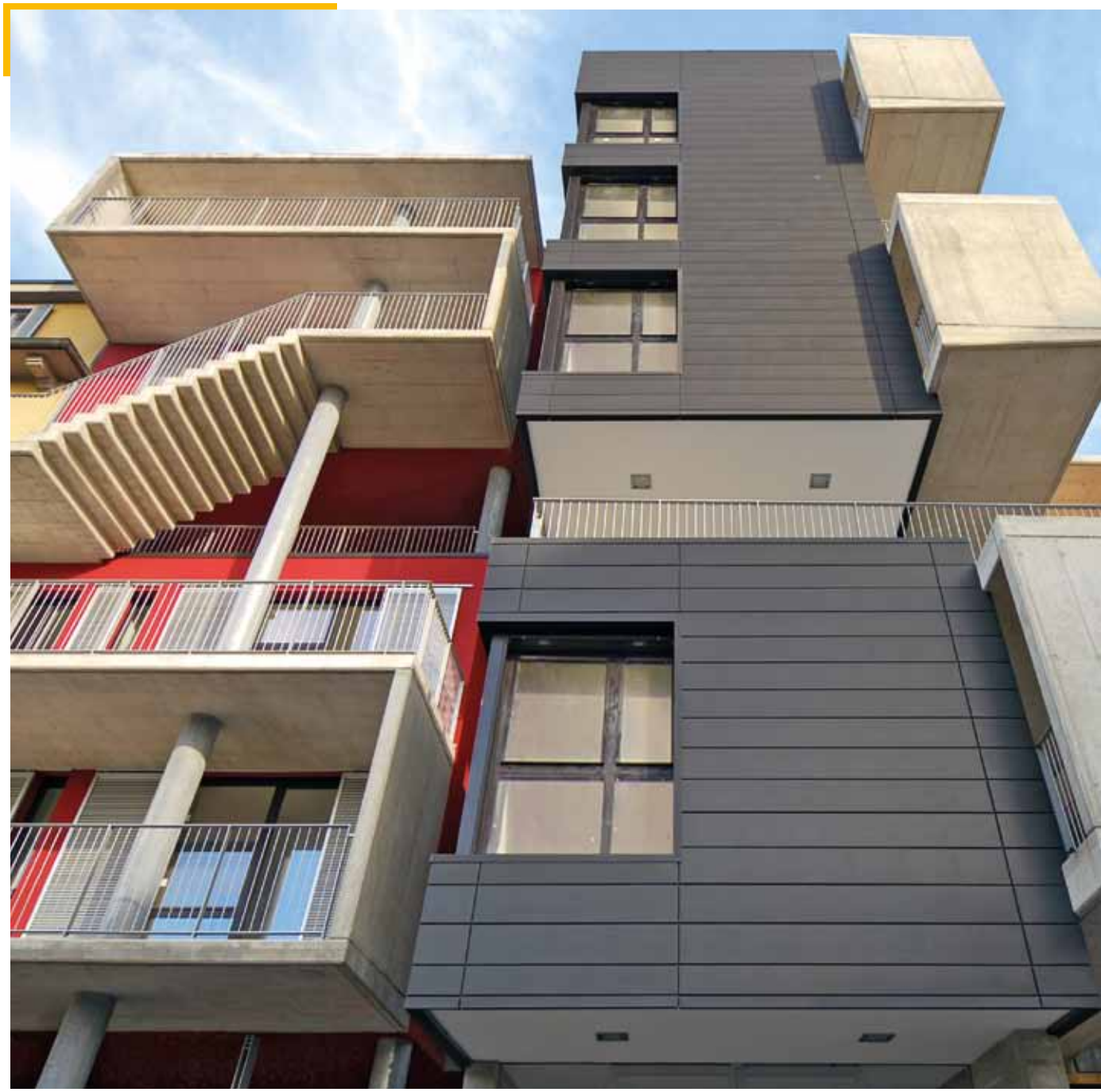
DHUB, Barcelona (Spain)

VMZINC | FACADE

PLAYING ON CONTRASTS

Colors, volumes, materials, transparency, opposing styles...
Facades express their individuality and architects have a wealth of choice when composing them. Facades play on originality by combining materials, contrasting with existing cityscapes, or breaking up space. There are no limits so long as the harmony of forms and materials is respected. The various shades and application possibilities of zinc, used alone or in combination with other materials, make it ideal for this approach.

Project name
ERA 3 Collective housing
Place
Luogo, Milan (Italy)
Architect
Studio LPzR
Installer
Simon Spa Technique
Technique
VMZ Interlocking panel
Surface aspect
ANTHRA-ZINC®



The facade is characterized by vertical partitions combining both volumes and materials.

ORIGIN OF THE PROJECT

Located on one of the main streets in the Northern suburbs of Milan, in an area with a rich industrial past, this apartment building features a degree of complexity. A deliberate choice on the part of the architects at Studio LPzR: "The project was designed as a manifesto of complexity in contemporary architecture. The articulation of volumes is highlighted by a combination of several different materials and solutions, identifying the main geometric elements of the building." The result is an atypical building with numerous overhangs and with different facades featuring rough concrete, mineral plaster, "pietra piacentina" stone, larch cladding and zinc. The central section, which is "the most exposed to atmospheric agents and the most visible", is clad in ANTHRA-ZINC®. "This zinc skin is characterized by its horizontal installation. The facade is supported by pillars, making the zinc cladding appear to float", explain the architects.

ARCHITECTURAL CHOICES

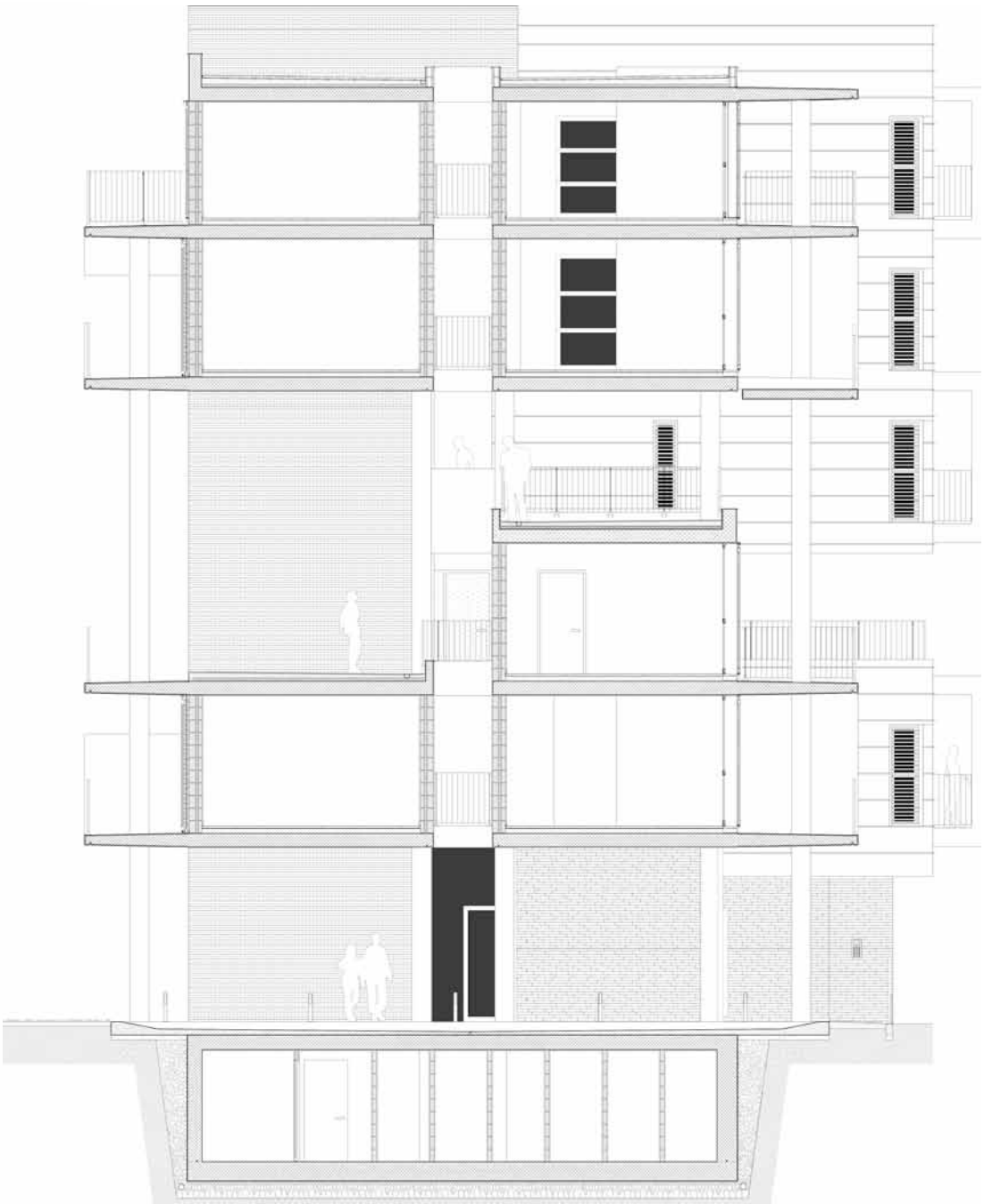
"We chose to divide the facade into three sections, in terms of both volumes and materials. The two outer sections are covered in mineral red plaster and larch and connect the complex to the neighboring buildings, whereas the central section in ANTHRA-ZINC® is the strong element that makes the building stand out as an urban landmark, while highlighting its durability."

TECHNICAL FOCUS

Paradoxically, this apparently complex project did not present any major technical challenges: “the engineering and design department created an installation diagram and the installer applied it. This ventilated facade is highly satisfactory from both technical and aesthetic points of view.”

THE SYSTEM APPLIED

The architects chose an interlocking panel cladding system. This system is available in several widths, with invisible fixing. Here its streamlined horizontal lines highlight the slender style of the buildings.



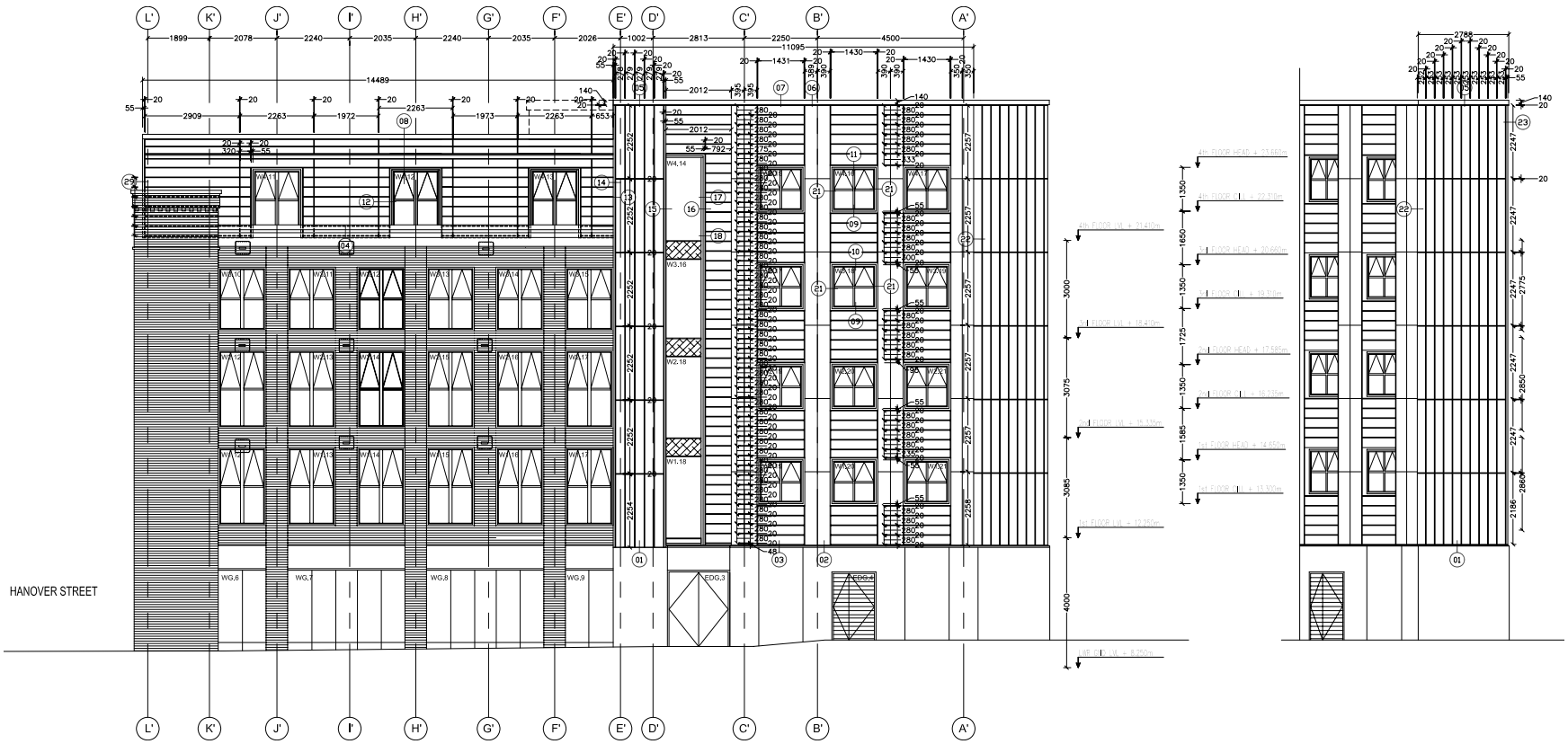
"Zinc protects the external volume of the complex from harsh weather conditions."

Project name
Paradise Project Site 4B (Edmund Rushton House)
Place
Hanover Street, Liverpool (United Kingdom)
Architect
Brock Carmichael Architects
Installer
Mansell Build Limited/ Longworth Metal Roofing
Technique
VMZ Interlocking panel
VMZ Standing seam
Surface aspect
ANTHRA-ZINC®

"The clearly defined, precise aspect of the interlocking panels contrasts with the vertical standing seam cladding."

ORIGIN OF THE PROJECT

Built at the heart of "Liverpool ONE", the largest open air shopping centre in the United Kingdom, Edmund Rushton House comprises 550 m² of commercial premises in two sections on the ground floor and twenty eight apartments on the upper floors. "The building on Hanover Street combines the original brick facade of one of the old buildings with modern sections in ANTHRA-ZINC® and creates a style that both contrasts and blends with the industrial heritage of the area. It echoes architectural features of the period such as saw-tooth gables and the large-scale use of red bricks.
Zinc was the obvious choice for the envelope: "We opted for zinc because it suited the building design and because of its historic semi-industrial context. In aesthetic and technical terms, it gave us the opportunity to create variety and originality by using two different installation systems, while maintaining uniformity of material and color."

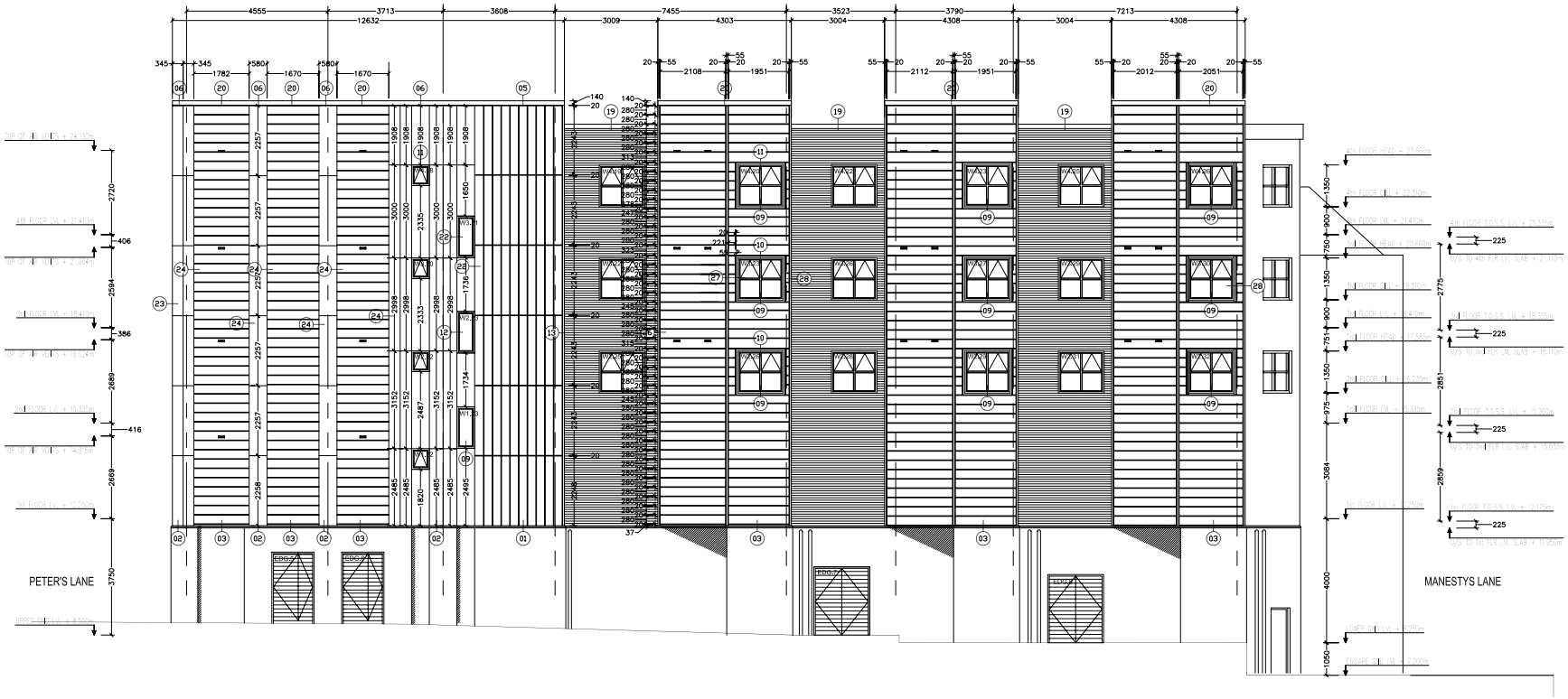


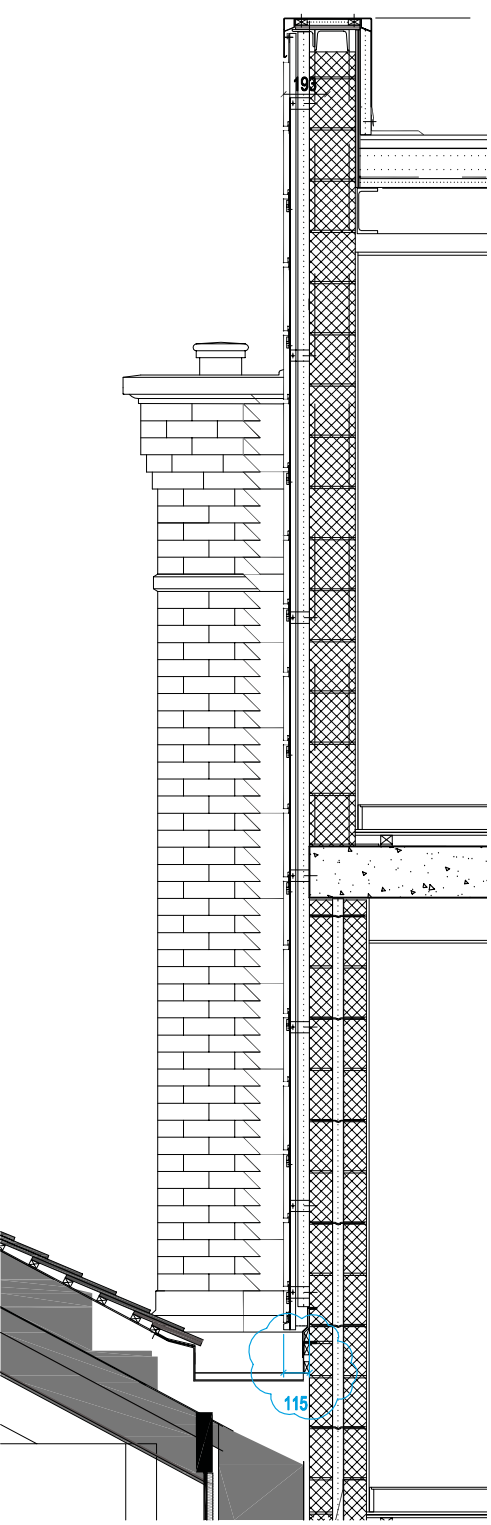
MATERIAL SELECTED FOR RESILIENCE

The building complies with the quality standards and regulations of Liverpool Psda, which requires a 75 year lifespan for new buildings. Hence the materials, which were chosen for their resilience, durability and the fact that they require little or no maintenance. The project obtained "very good" in its Breeam certification, which is the most common method used to assess and improve the environmental performance of buildings, for both residential and commercial areas.

TECHNICAL FOCUS

Two techniques were used: VMZ Interlocking panel and VMZ Standing seam. Prior to installation, a series of studies was conducted to prepare the interfaces between the two techniques and provide specifications for protection against rainwater, airtightness and the vapor barrier.


PETER'S LANE
MANESTYS LANE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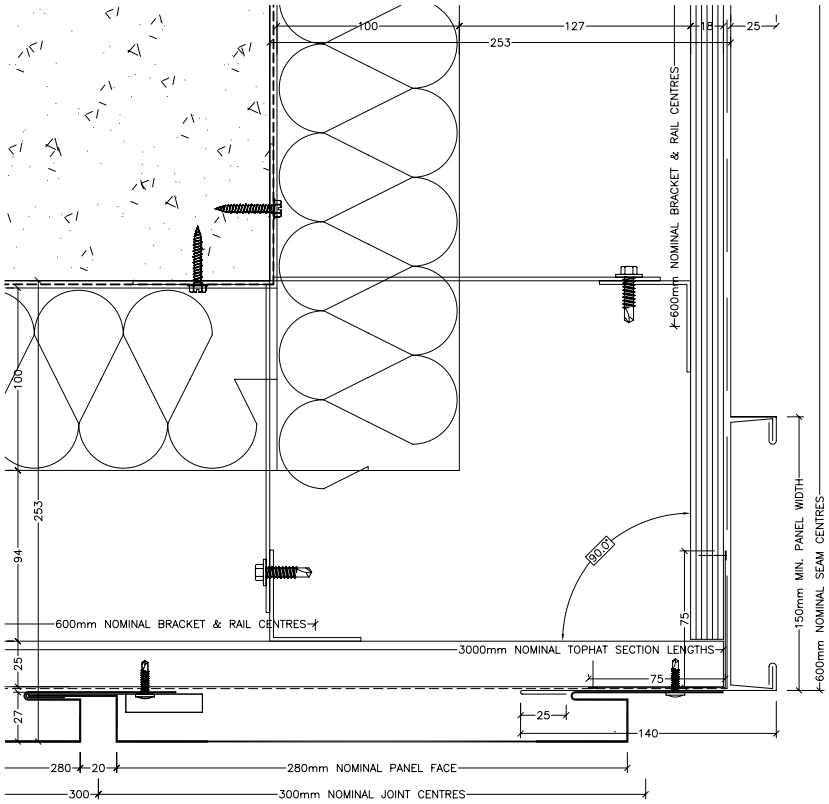
115

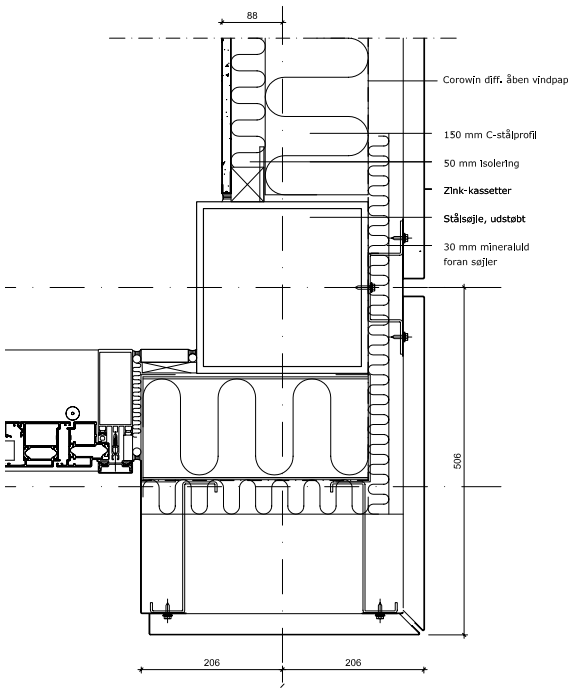

100
253
127
18
25
600mm NOMINAL BRACKET & RAIL CENTRES
100
253
94
600mm NOMINAL BRACKET & RAIL CENTRES
90.0
3000mm NOMINAL TOPHAT SECTION LENGTHS
75
75
25
27
25
140
150mm MIN. PANEL WIDTH
600mm NOMINAL SEAM CENTRES
280
20
280mm NOMINAL PANEL FACE
300
300mm NOMINAL JOINT CENTRES

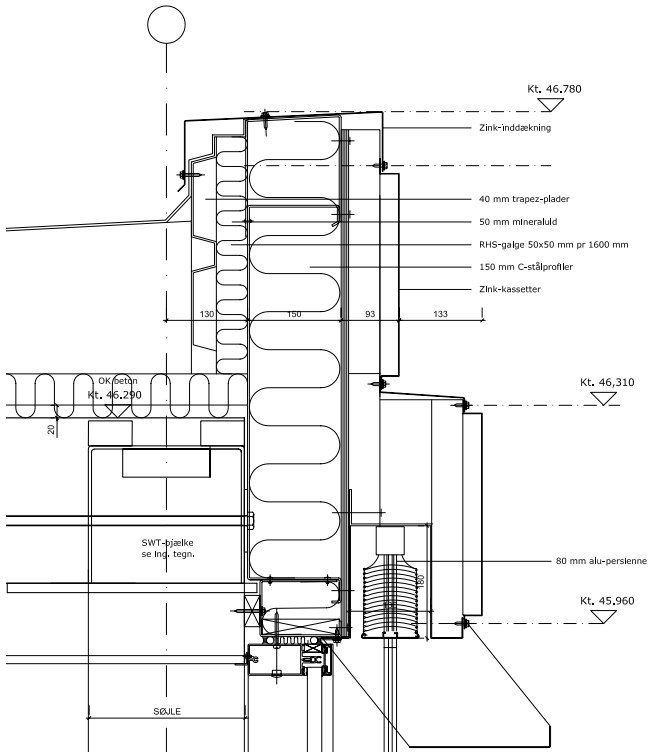
Project name
CMC Biologics Headquarters
Place
Søborg (Denmark)
Architect
Holsøe arkitekter a/s
Installer
MT Højgaard/Birch & Krogboe
Technique
VMZ Interlocking panel
Surface aspect
ANTHRA-ZINC®

The design team had lengthy discussions with the municipality and other parties regarding the aspect of the facade. Finally zinc was chosen for the harmonious contrast it creates with the transparency of the glass.

ORIGIN OF THE PROJECT

For this building, which is the first stage of the new CMC Biologics headquarters in Copenhagen, Danish architects Holsøe Arkitekter had a dual objective: "Create a work place that is pleasant, active and busy while at the same time conveying a strong, dynamic image for this biotechnologies company." The activity of the company also generated constraints: it was vital that the technical installations be located at ground level. "The existing height difference facilitated this approach". On a mixed steel-concrete structure, the building has a light, modular facade: "The juxtaposition of transparent facades and opaque panels of ANTHRA-ZINC® cladding ensures that the building commands the attention of passers-by."

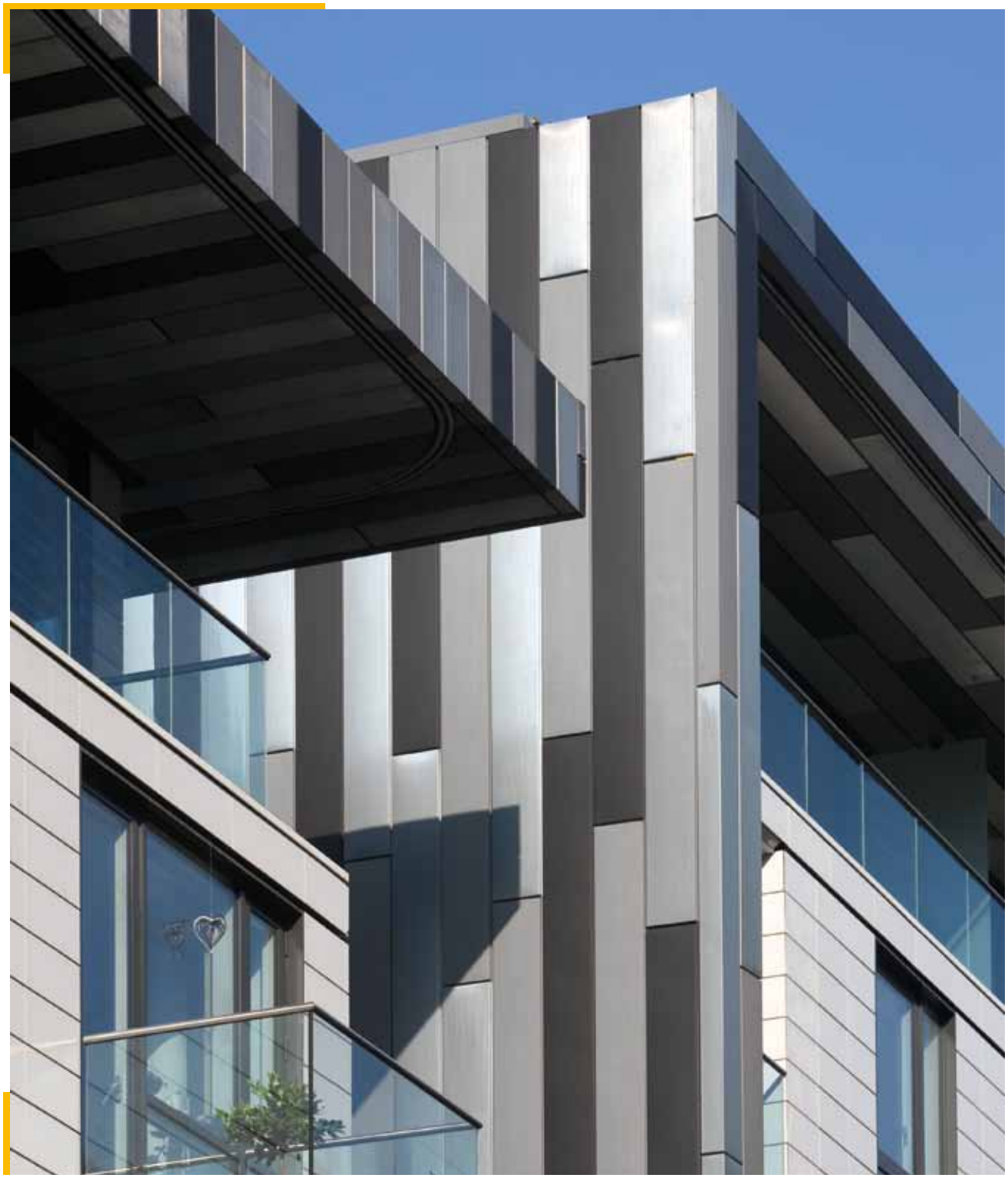




THE ARCHITECT'S VISION

"We proposed zinc for the facade during the design phase. It gives the right signal for this type of company and for the area.
Zinc seemed particularly apt given the specific requirements of this biotechnologies company ; zinc created a strong rhythm on the facade and made the building appear lighter."

Project name
City Quarter collective housing
Place
London (United Kingdom)
Architect
Sheppard Robson
Technique
VMZ Interlocking panel
Surface aspects
Natural, QUARTZ-ZINC®, ANTHRA-ZINC®



Each block has prefabricated balconies with wooden floors.

ORIGIN OF THE PROJECT

Designed by Sheppard Robson architects, City Quarter is made up of five buildings positioned around a huge water garden and a courtyard. Cladding on the facades differs according to their position. The walls overlooking the garden are clad in white shingles that echo the glazed bricks on the rear facades of the existing industrial buildings. Different colored zinc profiles are installed on the gable ends . The overall effect is one of natural shades that contrast with the bright colors of the former brick factory incorporated in the complex.

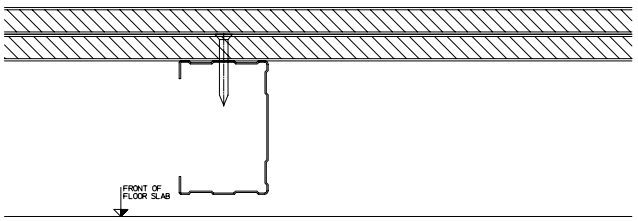
ENVIRONMENTAL STANDARDS

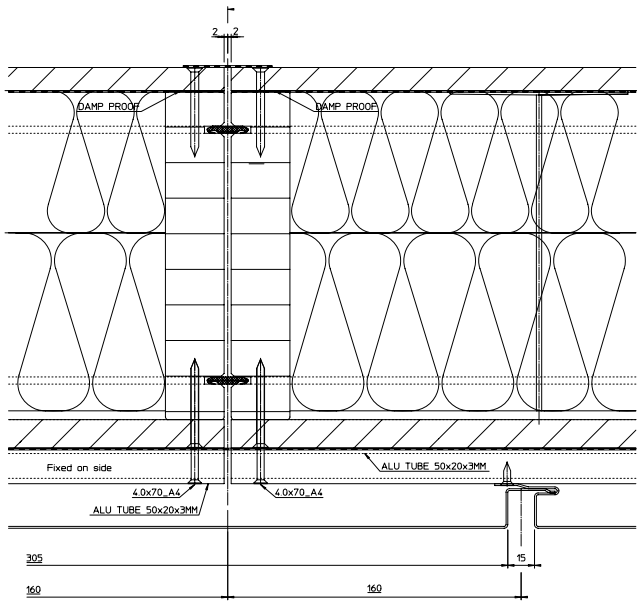
The most recent construction methods were used for interiors and exteriors. On the exteriors, prefabricated balcony elements were simplified using innovative structural solutions for cladding. Terraced apartments are supplied with hot water by solar water heaters, the buildings feature integrated bio-diverse roofing, the pond is used as a basin to collect rainwater and the zinc facade provides the final touch to the environmental vocation of the complex.

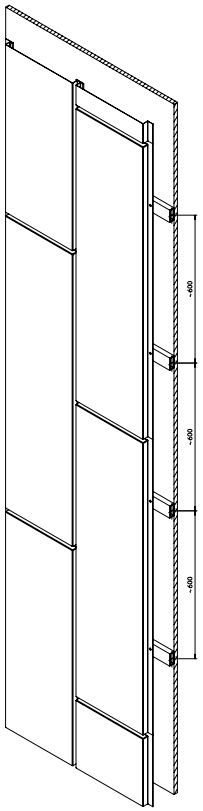
TECHNICAL FOCUS

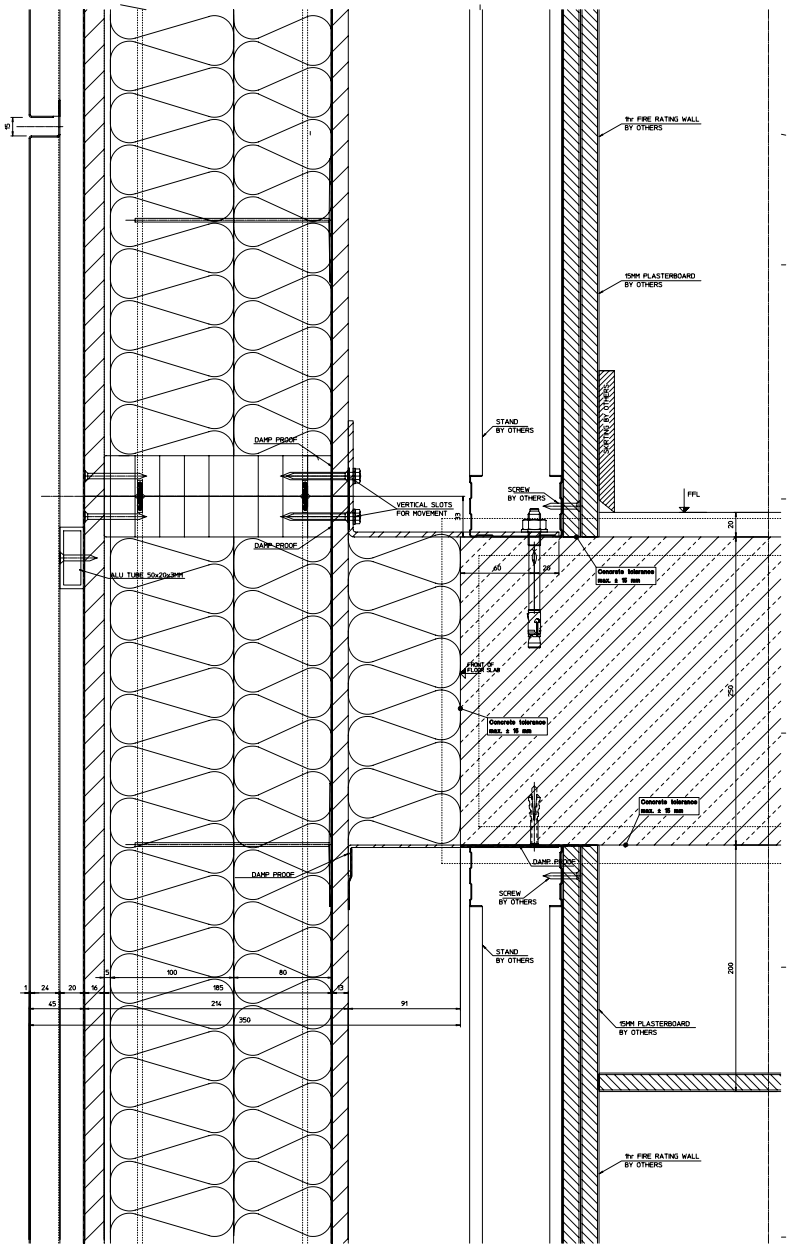
Zinc clads not only the facades but also the underside of the roofs, creating spectacular overhangs. The continuous strip of zinc, made up of different colored interlocking panels in natural zinc, preweathered QUARTZ-ZINC® and preweathered ANTHRA-ZINC®, doubles over to shift from the vertical to the horizontal plane.

Section of main part of building









INTERIOR-EXTERIOR CONTINUITY

Continuity between interior and exterior is widespread today.
Zinc has a solid reputation for exteriors and can be applied to interior walls in the same way. In this case the material is formed in modules adapted to the scale of rooms.

Private house, Mungia (Spain)

Private house, Sydney (Australia)

Health Design and Technology Institute, Coventry (United Kingdom)

School, Birkenfeld (Germany)

Theatre, Grande Synthe (France)

VMZINC | FACADE

DARING TO INNOVATE

Innovation is a key word in the building industry. This sector is constantly innovating and creating new architectural trends using materials to form the most complex shapes imaginable - circular, angular, overhanging, concave and convex - the scope of imagination seems to know no boundaries. Each building is a prototype where techniques must adapt to the architect's design. The exceptional malleability of zinc facilitates the creation of constructions that are both unique and durable.

Project name
Madame Tussauds Wax Museum
Place
Los Angeles, California (USA)
Architect
Michael Rotondi and John Ash, JAG-RoTo Architects
Installer
GES Sheet Metal
Technique
VMZ Flatlock panel
Surface aspect
PIGMENTO® red

"The zinc cladding creates a lasting impression. Its color changes constantly on the south facing wall. We believe it will become even more beautiful over time!"

ORIGIN OF THE PROJECT

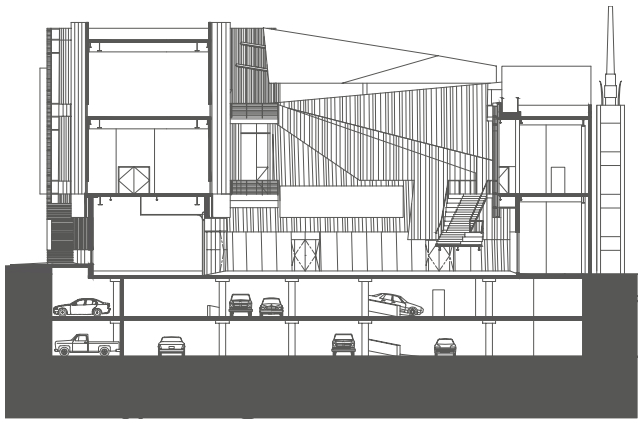
The new Madame Tussauds wax museum in Los Angeles caused quite a surprise. This highly sought after site was earmarked for an office building. "The original concept was abandoned and we took over at the client's request. We proposed a museum designed to be as attractive as the works it would exhibit, likely to attract one million visitors a year."
The building certainly commands attention and marks the urban landscape of the boulevard. It has a brickwork structure arranged in staggered straight lines, creating trapezoidal forms which are mounted on a steel substructure. On the courtyard side, the walls are made of reinforced steel covered with panels of zinc and glass. "Zinc was our first preference, it is an elegant, durable material that requires little or no maintenance. We were also interested in working with zinc for its malleability and its capacity to mould perfectly to the contours of the building." PIGMENTO® red is flexible and technical and blends harmoniously with the other materials used.

ARCHITECTURAL CHOICES

The architects designed a program that plays on deconstruction and collision, a controlled chaos of zinc-covered trapezoidal wall sections with large windows and metal shade structures. A fore-court between the two main wings of the building provides a space where visitors can meet.

THE SYSTEM APPLIED

VMZ Flatlock panel is a cladding system made of tailored panels available in two standard joint gaps. The panels can be installed horizontally or vertically, with aligned or staggered joints, giving the facade a highly textured appearance.



Project name
Da'An Sports Complex
Place
Taipei, Taiwan
Architect
Archasia Design Group
Installer
Chungan Wellsun Co., Ltd
Technique
VMZ Standing seam
Surface aspect
QUARTZ-ZINC®

This exceptional facade in Taiwan, with its geometric forms and curves, stands out in the urban landscape.

ORIGIN OF THE PROJECT

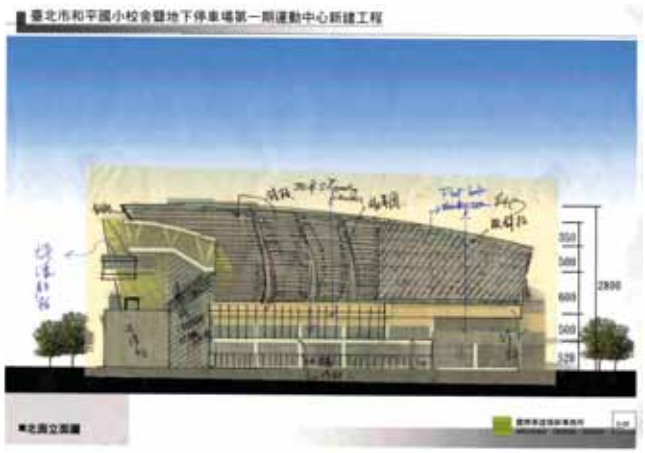
Located in the Da'An area of Taipei (Taiwan), this sports center houses two swimming pools, a gym, a basketball court, several badminton courts and a golf practice court. It stands out thanks to its original design combining an assortment of geometric shapes: cylinders, concave and convex forms, and a slightly curved roof. With this variety of forms, the architects at the Archasia Design Group wanted to "use the exterior image of the building to express the functional spaces on the inside of the complex".
The architects also wanted to "integrate the project into its environment, while creating a highly visible architectural concept in the city". Zinc was perfect to convey this expression and give coherence to the program as a whole.

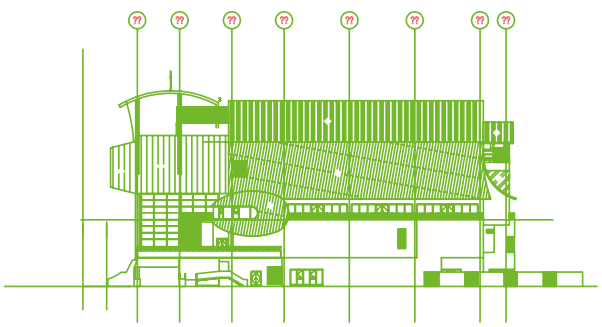
REGULATORY CONSTRAINTS

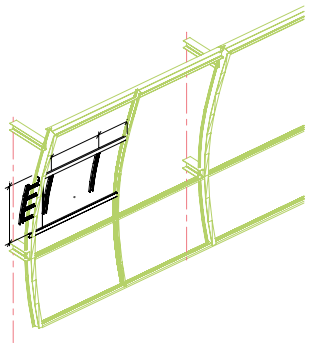
In order to comply with stringent seismic regulations, the building has a steel structure. Fire regulations require metal cladding systems to be protected. To meet this requirement, a first layer of metal cladding was installed and the zinc cladding was laid on top of it. As a result, the cladding system is not ventilated, which led to the choice of QUARTZ-ZINC® PLUS, which has a protected underside.

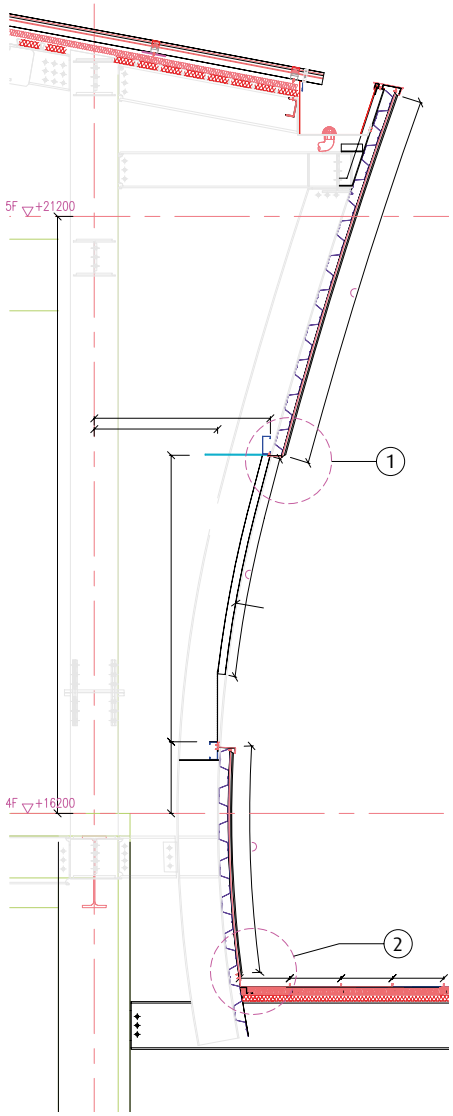
TECHNICAL FOCUS

The architects opted for the standing seam technique, having initially considered combining it with flatlock panels. This technical choice made two things possible: a perfectly watertight envelope and - despite the variety of forms - uniform cladding of the building. “The malleability of zinc also made it easier to work on the different shapes.”
The oblique layout of the standing seam facade made things rather tricky for the installers, especially when it came to installing the zinc panels on the lower part of the curved facade.

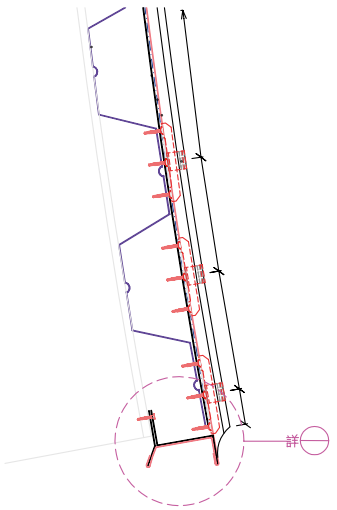




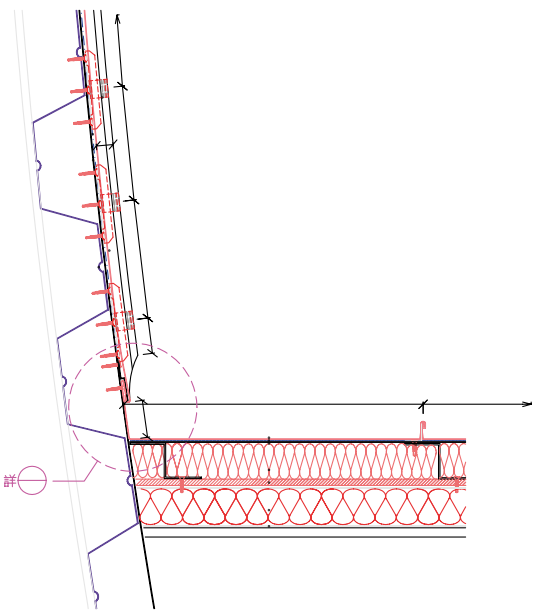




Détail 1

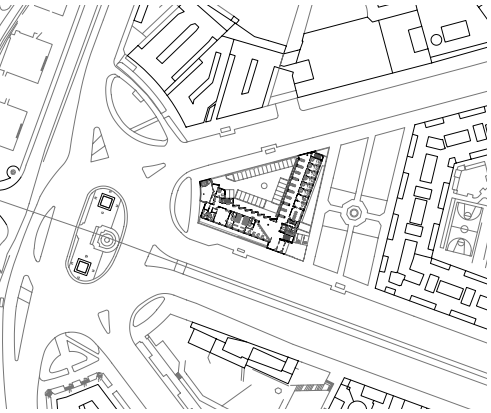


Détail 2



Project name
«Imperial» health center
Place
Madrid (Spain)
Architects
Carlos Ferrán, Fernando Navazo, Luís Herrero and Carlos Ferrán Aranaz
Architectural team
Francisco Navazo and Andrés Perea
Techniques
VMZ Interlocking panel, VMZ Standing seam
Surface aspect
QUARTZ-ZINC®

"Zinc complies amply with thermal regulations and the Building Code in Spain."



ORIGIN OF THE PROJECT

In a protected environment in the historic center of Madrid, the "Imperial" health center features all the characteristics of a responsible building: low energy consumption, management of passive solar gains, and accessibility to all departments... For this project that is "isolated in an open space", the architects benefited from ideal urban conditions: "we had total freedom with regards to the design of the project and its layout on the plot."

The L-shaped building they designed occupies the entire available surface area. The facades are a reflection of the environmental choices made by the architects. The blind wall sections of the facade are made up of strips of QUARTZ-ZINC®. The smooth finish of the zinc heightens the noble character of this material that is omnipresent in historical areas and is here applied to a new model of ventilated facade providing an excellent aspect-quality-price ratio.

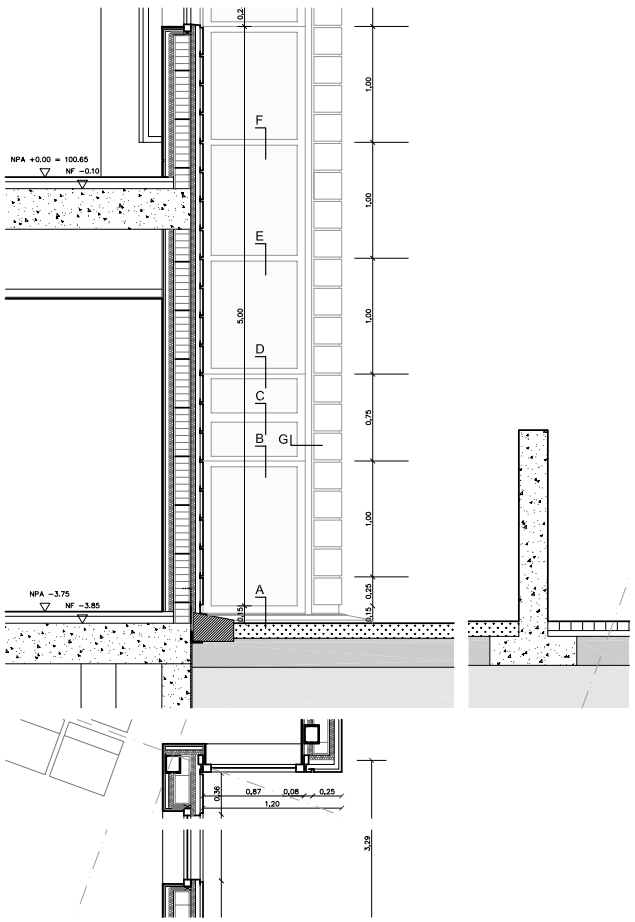
As it reduces energy requirements, zinc contributes amply to compliance with regulations in this regard. The system applied for the envelope also ensures that the facade complies with the Spanish Building Code.

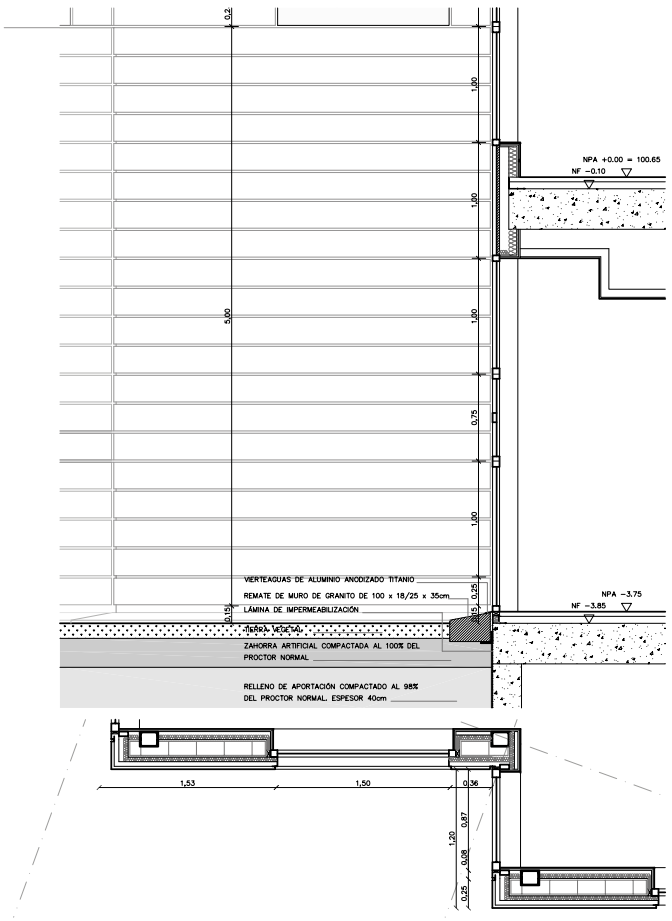
THE ARCHITECT'S VISION

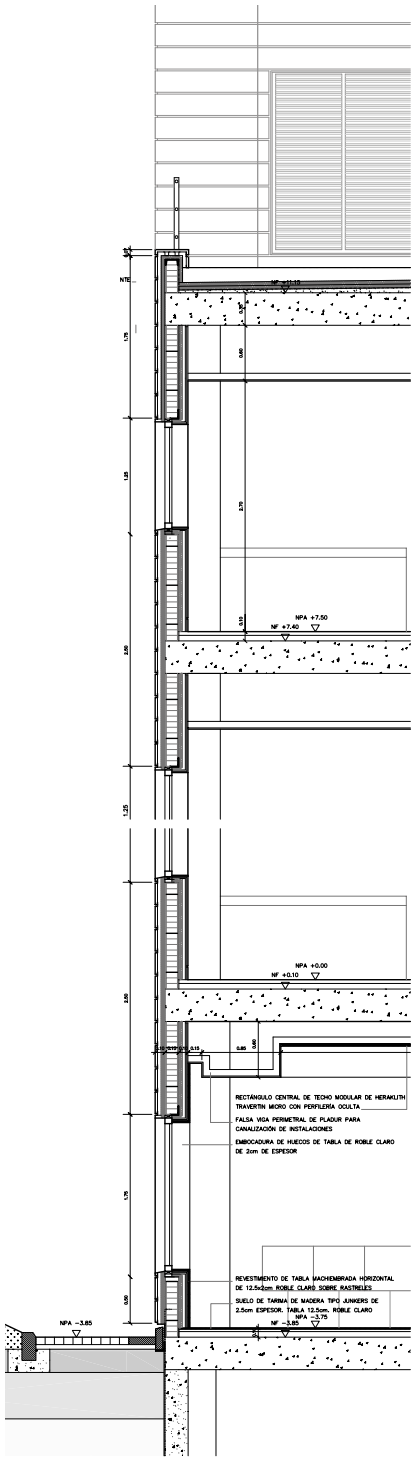
"Compared to alternative ventilated facade models in stone, ceramic or composite products, zinc has the added advantage of contributing to the overall creativity of the project from the outset. Its contribution includes optimum integration in a prized environment, and creation of a graded modular element with repetitions that fit with openings in the facade. Zinc also made it possible to create a facade in a single material, which contributes to the harmonious appearance of the building."

TECHNICAL FOCUS

From a technical point of view and for the installation of the cladding on the facade, the architects followed recommendations in our technical data sheets and received technical assistance from our teams. Meetings were conducted with the installers to define the general conditions and details of installation. This project was particularly demanding because of the need to define precisely its horizontal and vertical modulation, but this made it possible to work simultaneously on all facades, ensuring exceptionally quick installation.







Project name
Mar Shopping Mall
Place
Matoshinhos (Portugal)
Architect
Adriano Callé Lucas
Technique
VMZ Cassettes
Surface aspect
QUARTZ-ZINC®

Make the building homogenous yet differentiate interior spaces: such was the challenge faced by the architect when designing this multi-purpose shopping mall.

ORIGIN OF THE PROJECT

When designing the shopping mall in Matoshinhos, a town north of Porto in Portugal, architect Adriano Callé Lucas sought to combine opposites : "under a single roof we had to accommodate two major retail brands offering radically different products, several small stores and a leisure area with restaurants and a cinema." To make the project homogenous while at the same time facilitating easy identification of the different spaces, the architect decided to play on volumes: "using a mixed concrete-metal substructure, we laid out and organized a series of volumes coherently so as to separate and distinguish their purposes clearly." The facade plays a central role: "by using zinc, we tried to break the effect created by the concrete panels." But there was no question of breaking the harmony: "we wanted to create an impression of continuity, with no dominant traits, in order to create an uninterrupted architectural effect."

A TAILORED PROJECT

With the local VMZINC technical teams, using his sketches and a model, the architect developed a unique cassette system with a specific profile: "we had to find a compromise between what I wanted and the physical capabilities of zinc." The cassettes were superimposed to obtain the desired effect: "an impression of continuity on the cladding." This effect was continuously created throughout the project: "when we were working on the site, we reformulated and readjusted the compromise between the dimensions of the panels, their profile and their thickness."

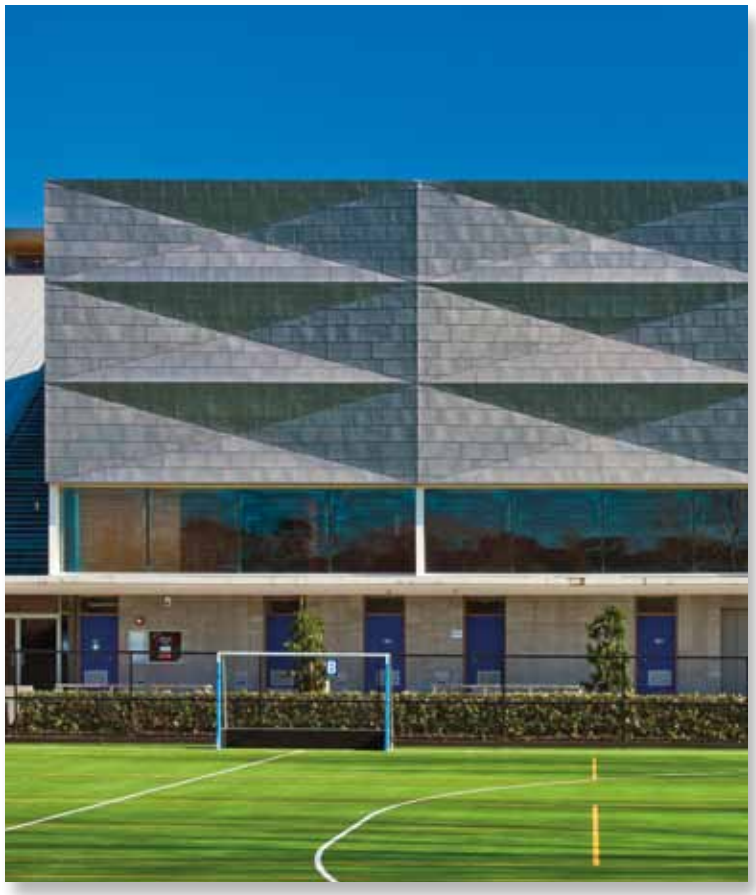
TECHNICAL FOCUS

To make installation of the cassettes easier, the architect and the VMZINC technical teams designed a fixing system allowing direct installation onto the substructure. This made it possible to minimize trimming without hindering expansion and contraction of the zinc cladding.

TAILORED PROJECTS

Our standard offer of zinc facade products meets the majority of configurations for architectural projects. In cases where these are not suitable, VMZINC offers tailor-made solutions. Please do not hesitate to contact us for further information.

Conference center, La Ferté (France)



Gymnasium, St Kentigern College, Auckland (New Zealand)

Police station, Saint Raphaël (France)

Private house, Los Angeles (USA)

Office annex, Polytechnic University, Cartagena (Spain)

VMZINC | FACADE

VMZINC SOLUTIONS

SURFACE ASPECTS

Preweathered QUARTZ-ZINC® and ANTHRA-ZINC® highlight the geometry of the many buildings in which they have been used in recent years. The red, green, blue and brown shades of the PIGMENTO® range are highly successful with architects wishing to give individual style and character to their buildings.

NATURAL ZINC

PREWEATHERED

QUARTZ-ZINC®

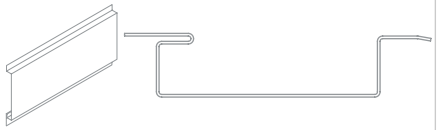
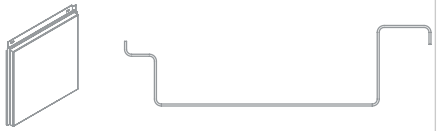
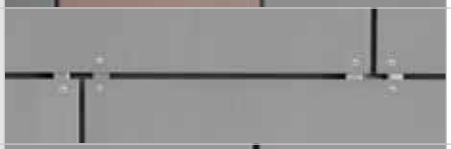
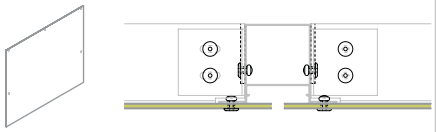
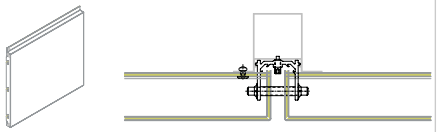
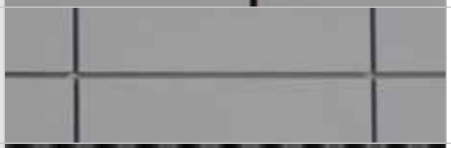
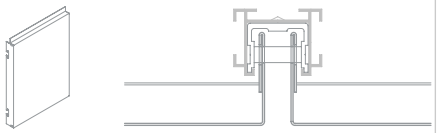
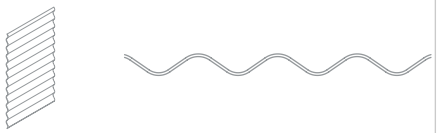
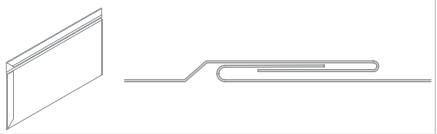
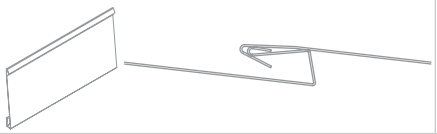
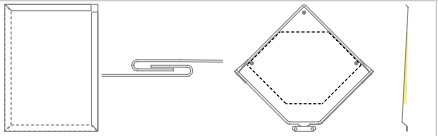
ANTHRA-ZINC®

PIGMENTO® red

PIGMENTO® blue

PIGMENTO® green

PIGMENTO® brown

VMZINC SYSTEMS	APPEARANCE	PROFILE	DESCRIPTION
VMZ Interlocking panel			Narrow strips with hollow joints for regular horizontal or vertical lines
VMZ Mozaik®			Modular square or rectangular cassettes with pure continuous lines. Can create relief effects
VMZ Composite (rivets and screws)			Large panels, extremely flat with high level of rigidity and visible fixing
VMZ Composite (cassettes)			Large cassettes, extremely flat with high level of rigidity and visible fixing
VMZ Isopli®			Cassette system, individual cassettes can be easily removed and replaced
VMZ Sine wave			Corrugated panels with discreet fixing
VMZ Standing seam			Long elements, joints 25 mm in height, for continuity with roofing
VMZ Flat lock panel			Medium sized elements with flat, aligned or staggered joints
VMZ Overlapping panel			Narrow strips, slope creates contrasting shadows
VMZ Dexter®			Small elements with rounded joint
VMZ Shingle/VMZ Adeka®			Small rectangular/lozange-shaped elements

	SHAPE/INSTALLATION	STANDARD DIMENSIONS	SUBSTRUCTURE AND FIXING
VMZ Interlocking panel	Flat, horizontal or vertical	Centre distance width: 200 - 250 - 300 - 333 mm Length: from 500 mm to 6000 mm	Fixed with clips or screws onto a substructure
VMZ Mozaik®	Flat, horizontal, vertical or oblique	Width: 450/600/900 mm Length: 450/600/900/1200/1800/2400 mm Depth: 40/60/80/100 mm	Fixed with screws onto a substructure
VMZ Composite (rivets and screws)	Flat or curved, horizontal, vertical or oblique	Width: 1000 mm (1250 mm in QUARTZ-ZINC®) Length: from 1000 mm to 6000 mm	Fixed with screws or rivets onto a substructure
VMZ Composite (cassettes)	Flat, horizontal or vertical	- Horizontal: Height 730/930/1180 mm, Length 2000/3000/4000 mm - Vertical: 1150/2000/3000/4000 mm, Width 700/930/1180 mm	Lateral fixing onto substructure
VMZ Isopli®	Flat, horizontal or vertical	- Horizontal: Height from 350 to 850 mm, Length from 350 to 2400 mm - Vertical: Height from 250 to 2450 mm, Width from 350 to 750 mm	Adjustable lateral fixing onto rails (included)
VMZ Sine wave	Corrugated, horizontal or vertical	Overall width of panels: 836 mm (18/76), 805 mm (25/115) or 720 mm (43/80) Length from 1.80 m to 6.00 m.	Fixed with screws onto a substructure
VMZ Standing seam	Flat or curved, horizontal, vertical or oblique	Max width: 430 mm Max length: 4000 mm	Fixed with clips onto a continuous framework
VMZ Flat lock panel	Flat, horizontal or vertical	Width: 285 mm & 375 mm Length: from 500 mm to 4000 mm	Fixed with clips onto a continuous framework
VMZ Overlapping panel	Flat, horizontal	Width: 200 mm Length: 2000 mm or 3000 mm	Fixed with screws onto a substructure
VMZ Dexter®	Flat, vertical or oblique	Width: 400 mm Length: 835 mm	Fixed with clips onto a continuous framework
VMZ Shingle/VMZ Adeka®	Flat or curved, horizontal, vertical or oblique	• VMZ Shingle: variable according to thickness (contact us) • VMZ Adeka®: 400 x 400 mm	• VMZ Shingle: fixed with clips onto a continuous framework • VMZ Adeka®: fixed with screws onto a continuous or semi continuous framework

	THICKNESS OF ZINC	SURFACE ASPECTS
VMZ Interlocking panel	1 mm	QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® green/red/blue/brown
VMZ Mozaik®	1 mm	QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® green/red/blue/brown
VMZ Composite (rivets and screws)	4 mm (2 x 0.5 mm of zinc)	QUARTZ-ZINC® ANTHRA-ZINC®
VMZ Composite (cassettes)	4 mm (2 x 0.5 mm of zinc)	QUARTZ-ZINC® ANTHRA-ZINC®
VMZ Isopli®	1.5 mm	QUARTZ-ZINC® ANTHRA-ZINC®
VMZ Sine wave	0.8 mm or 1 mm	QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® green/red/blue/brown
VMZ Standing seam	0.7 mm or 0.8 mm	Natural zinc QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® green/red/blue/brown
VMZ Flat lock panel	0.8 mm	QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® green/red/blue/brown
VMZ Overlapping panel	0.8 mm	QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® green/red/blue/brown
VMZ Dexter®	0.7 mm or 0.65 mm	QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® green/red/blue/brown
VMZ Shingle/VMZ Adeka®	VMZ Shingle: from 0.65 to 1 mm VMZ Adeka®: 0.65 mm	Natural zinc (VMZ Shingle only) QUARTZ-ZINC® ANTHRA-ZINC® PIGMENTO® green/red/blue/brown

Most of the products listed here are manufactured by VMZINC.
Manufacturing by a local transforming contractor may be considered.
Please contact us for further information.

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