"The many applications of zinc..."

Ernst Jürgen Pleyer

No other material is as flexible as zinc. From the form of a flying carpet in Spain to a hill-shaped stadium in Hungary, these creations demonstrate that VM ZINC® opens up a wide range of architectural potential.

Whichever country or culture people come from, whatever language they speak, VM ZINC® is a universal choice. It symbolizes modernity and reminds us of tradition. Used for shaping individual living areas, it reveals its pragmatic, aesthetic and durable characteristics.

We are delighted that the first edition of FOCUS ON ZINC was so successful with architects from various European countries. Our objective is to demonstrate the quality of our material, the attention we pay to our customers and our policy of proximity.

With FOCUS ON ZINC No. 2, we aim to meet your demands by showing you a selection of recently completed buildings. Along with traditional or unusual projects from ten different European countries, we are proud to introduce you to two special themes: "Zinc in private homes" and "Parasols and laser", an article about how VM ZINC® is used in Japan. Perhaps it is your turn to apply zinc to a project? 🤔.

Ernst Jürgen Pleyer
Head of International Markets
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A ship’s hull

The Utopia Pavilion is part of a new 330-hectare urban reconstruction programme destined to welcome the last World Expo of this century. The theme is oceans, paying tribute to the Portuguese explorers who left their homeland to discover the New World.

When the festivities are over, this spectacular pavilion will become a 10,000-seat multiple-purpose auditorium. Its huge interior space measures 150 metres long by 120 metres wide under a 45-metre vault. At its summit, the light shines through nine 35-metre long shed roofs.

With a basic 20,000-square metre egg-shaped form, the “ship hull” volume rests on a three-dimensional structure fitted with highly complex asymmetrical trussed arches. Each frame has a different resistance.

The 160 tons of VM ZINC® used for the 24,000 square metres of roofing were laid by the French roofing company U.T.B. A total of 35 kilometres of standing seam in QUARTZ-ZINC were crimped and laid over 400 kilometres of wooden deck.
Drawings: VM.ZINC Design Assistance Office, Bagnolet.
Restructuring urban space

The 1,800 m² of offices and sorting offices inside the Main Post Office of Lessines offer an original and balanced compromise between classical architectural tradition and modernity. The federating elements of the architectural concept involve:
- integrating the building into a heterogeneous and dense urban environment, with the overall objective of blending the project harmoniously into the historical quarter of Lessines, close to the Town Hall.
- voluntarily scattering the buildings, to provide the volumes needed to dynamise the area.
- giving importance to access by creating an alleyway between the restored building and the semi-circular public hall.
- restoring a remarkable building, prized by locals as a testimony to the passionate work of the last century’s master builders, ensuring a coherent transition with the contemporary environment.

The basic materials are polished reconstituted white marble for the façade and steel for the cellular roof frame which adds a special delicacy to the roof volumes. VM ZINC® with the QUARTZ-ZINC surface aspect was easy and efficient to lay, coming into its own for curved roofs and for cladding the gables.
Fan folds

The location of Gildbro Alklub emphasizes the exclusive nature of this unusual school for children and teenagers. The wish of the Danish town of Ishøj, south of Copenhagen, was to highlight this non-traditional building.

Flemming Andersen, the architect, was therefore led to create a circular building including a tower and an indoor climbing wall. This configuration of various shapes enabled him to achieve his goals by using noble and environmentally friendly materials. The circular building, with its red-brick façade, projects upwards toward a low-pitch zinc roof with radiating lines. The asymmetric zinc sheets spread out like an open fan.

This project is the result of close collaboration between the architects, the roofing company and PRO-ZINC technicians.

VM ZINC* was chosen because it is long-lasting and needs no maintenance. The harmonious and aesthetic aspect of this building will remain a testimony to the innovative architecture of the 90’s.

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**Gildbro Alklub (DK)**

*Architect: Flemming Andersen*

Roofing company: Balling VVS A/S

Technique: Standing seam

Aspect: QUARTZ-ZINC

Surface: 2,000 m²
Zinc in private homes

Here we have three examples which illustrate, each in its own way, how VM ZINC® can be used in varying shapes and applications in private homes. Whatever the latitude, the culture or the building techniques, people throughout Europe often share identical concerns. This explains why VM ZINC®, as a durable and aesthetic material, can be considered today as one of the best investments for the quality and protection of family heritage.

House in Zeberio (E)
In the small Basque village of Zeberio, ten kilometres from Bilbao, Alberto Vizcarrétenaga took his inspiration for this project from the traditional regional hamlet.
Taking into account the local temperate climate with heavy rainfall, the roof overhangs are particularly affirmative. The north-facing façade is covered in QUARTZ-ZINC laid with the standing seam technique.
The architect, who was born in the region, summarizes his idea by saying that “the landscape has always been a part of the project”. This statement is confirmed by the contrast between the colours of the zinc, the wood and the surrounding green environment. The curved roof, reflecting the shape of the local mountains, makes the house blend into the landscape. The downpipes of the rainwater system merge with the metal pillars. This 400-square metre roof was laid by assembling pre-formed curved panels onto the roof deck.

Private house in Temse (B)
This structure in two separate volumes directly expresses the functions it contains. The right-angled volume on the ground floor hosts a service area including the garage, the kitchen and the storeroom. Upstairs, in the loft space, are the two daughters’ bedrooms and their bathroom. The parents’ area is situated above the main rooms in the round section. By midday, whatever the position of the sun, the semi-circular shape of this home lets all the natural light flood in.
VM ZINC® was the best choice of roofing material not only for the covering of flat and curved sections but also for the claddings and parapets.

Photos: Jacky Colliez, Fexhe-le-Haut-Clocher.
Private house in Budapest (H)

Local town planning regulations imposed strong constraints in the neighbourhood of this building. As the owner wished to have two very large apartments, the house plans needed to optimize use of the ground area, because in order to maximize living space, the roof slope had to be so high that the building would have exceeded the authorized height. This determined the shape of the roof.

According to the architect Bodrosi Attila, VM ZINC® was selected for the roofing because of its nobility and elegance.

VM ZINC®'s new system for roofs and façades meets the expectations of home-owners who prefer traditional materials in small elements for private houses.

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Private house in Temse (B)

Architect: Architectuurbureau Koen de Rycke BVBA

Roofing company: Van Steenberghe

Technique: Standing seam

Aspect: QUARTZ-ZINC

Surface: 220 m²
The flying carpet

The town of Vilobi d’Onyar, located near Girona, had been searching for a strong element that would convey its identity. Until now, the town was best symbolized by the church and the school. The town council wanted to erect a construction that would be the vector of the town’s image, a distinctive signal at the entrance of town. This building also had to fit in well with the existing architecture and provide a visual contrast.

Joan Padrosa, the architect, wished to make a break with the vertical geometry of the adjacent church by creating a horizontal roof.

At the same time, this undulating surface suspended in the air is an allegory of Salt airport: a wind-blown field in which the high grass is flattened in successive waves between the mountains. Reminiscent of a flying carpet in mid-air, it has also become a meeting point for both tourists and locals.

A three-dimensional framework supports a pine roof deck, itself covered with VM ZINC® in long sheets using the standing seam technique. This covering, which gives an impression of movement, is supported by four pillars which give it a very lightweight appearance.
Strata of humanity

The famous silver T-square awarded by the French magazine "Le Moniteur du Bâtiment", was presented to the architect Pierre-Louis Faloci in 1996 for his European Archeological Centre in Mont-Beuvray in the Bourgogne region.

Located at the historical site of Bibracte, capital of the powerful Gallic tribe, the Eduns, this museum of Celtic civilization covers a surface of 2,400 m² within the forest of the Morvan Natural Regional Park. The building is a platform installed on wooded slopes, accumulating stratifications which symbolize the different periods of humanity: the chipped stone age, the polished stone age, and the metal age.

The museum includes two main exhibition areas: an upper mezzanine floor and a ground floor made up of thematic alcoves leading off from a main gallery.

Breaking away from linear volumes, concrete curtain walls and pillars set the tempo inside where objects found on the site are exhibited and models describe how the Gallic people lived. A sub-foundation of unpolished stone supports walls covered with polished stone that then extend up to a VM ZINC® roof with long sheets assembled with the standing seam technique.
Meeting of two traditions

The Yunus-Emre mosque, named after a fourteenth century Turkish philosopher, is located in Reutlingen (Baden-Württemberg) in Germany. In Arabic, the word mosque means a place where muslims meet for prayer. The architect Ersin Ugursal, based in Stuttgart, created a mosque with its dome and minaret in a classical Turkish and Islamic style. According to the site manager, Necmettin Uzcl, this is the first mosque in Germany with a dome supported by glulam roof timbers. Its diameter is 9.50 metres for a surface of 283.40 m².

To cover the dome, the minaret and the attic, the architect chose QUARTZ-ZINC. This decision renews in Reutlingen an old Turkish tradition by using a metal roof, this time with VM ZINC® material. Each sheet covering the attic roof was stiffened by two longitudinal mouldings which reinforce its inherent flatness.

A total of 550 square metres of QUARTZ-ZINC were laid using the standing seam technique. This is a fine example of how urban architecture can be enriched by multi-cultural traditions.
A well ventilated roof

In 1994, the University of Manchester announced its intention to have its new Conference Centre designed by the architects Short and Associates (formerly Short Ford and Associates). This choice was made following a tough phase of competition. In July 1997, the 4,000 m² project was finalized.

The national heritage site includes the Vice-President’s villa. The architect used this villa as the starting point and added on a lecture hall that could accommodate a hundred people for dinner, seminar rooms for forty people and a council room.

The lecture hall is dome-shaped with a central neon ceiling light. It is located at the centre of six seminar rooms, all of which are ventilated and lit naturally.

The round roof of the Conference Centre is covered with natural VM ZINC®, laid with the roll cap system, adding a traditional note to the roof lines.

The six ventilation outlets which surround the lecture hall are also covered with natural VM ZINC®, as are the dormer windows on the roofs which stand out from the two-storey sleeping quarters.
Urban dialogue

For the architect Massimiliano Fuxas, this project follows its own conceptual logic, whose federating element is the platform on the G+1 slab. “The Maximilien Perret High School is a very important subject of thought within my working approach”, he says. “A cut, engraved, pierced platform, with light passing through it, so that the days and seasons can cast shadows and images on the ground. Objects are set in plane very gently and integrate with existing architecture into a new urban landscape”.

This architecture opens up to the town and its spaces, on the one hand thanks to a mass of different shapes and on the other through the glassed-in floor-to-ceiling sections on the ground floor. Despite the limited size of the plot, the multiple and complex spaces encourage varying dialogue between the high-school building and the town.

With regard to the surrounding urban context, the building has both an active and reactive attitude: active when it develops vigorous volumes facing up to the vertical rigidity of the neighbouring buildings which wall in the horizon; reactive when the urban morphology of the old quarter of Alfortville and the Seine river topography impose their regulating linearity, and when the building supremely stretches to the classical tempo of its façades.
A school in Takasaki

Located ten kilometres west of the town of Takasaki and halfway from the mountains, this school in the administrative region of Gunma hosts many activities including a library. The whole design of the building and especially the choice of materials take into account the tropical climate in this part of Japan. VM ZINC® was used both to cover the roof and to clad part of the façade of this building, the sheets being laid with the standing seam system. The architect’s choice corresponds to the need to cover long slope lengths using a suitable material. From an architectural point of view, the overall geometry borrows characteristics from the Ichi-monji style, a typical Japanese way of decorating roof edges to make them look like parasols.  

School in Takasaki (J)
Architect: Shin-ichi Okada architectural office
Roofing company: Gantan Beauty Industry Co. Ltd.
Technique: Standing seam
Aspect: QUARTZ-ZINC
Surface: 1,500m²
The Izumino Library

This excentrically shaped building is located right in the centre of Kanazawa, a historical town in the administrative region of Ishikawa. It is a library with a spacious reading area.

VM ZINC®, laid with the standing seam system, was used on the roof. The VM ZINC® sheets used to clad the façade were cut with a laser, owing to the specific shape of many of the elements.

Library, Izumino (J)
Architect:
Shin-ich Okada
Architecture Office
Roofing company:
Fugen-Shojo Co. Ltd.
Technique: Standing seam, panels
Aspect: QUARTZ-ZINC
Surface: 2,500 m²

Photos: Sabinoski Roof and Mitsui, Tokyo.
A green hill

This stadium is the central element of the sports complex at the Polytechnic University of Budapest. The architects' goal was to create a space where a special atmosphere would prevail to encourage the practice of sports and leisure activities.

According to the initial plans, a green island within the city was to be made up of functional units buried beneath vegetation-covered hills which would blend perfectly into the environment. However, this innovative idea could not be retained because of high building costs and maintenance expenses. Nevertheless, the architects insisted on keeping a green-coloured roof. This explains why lacquered green VM ZINC* was selected.

The inside of the building is lit by eighty-four glass pyramids measuring 3 m by 3 m. These ventilate the space and help evacuate fumes.

The stadium's oval-shaped running track is four and a half metres lower than the entrance level. Two thousand and eighty spectators can be seated in the stands which are divided into several sectors.

According to local town planning, a swimming pool, with the same shape but on a smaller scale, will be built close to the stadium. 🏆
High-tech zinc

The Ångström laboratorium of the University of Uppsala is one of the most modern research centres for material science in Sweden. It was named after the famous Swedish physicist Anders Jonas Ångström (1814-1874). This University Research Centre is located in Uppsala, the oldest historical city in the country, situated eighty kilometres north-west of the capital Stockholm. With its reputation for durability and environmental qualities, VM ZINC® was used on both the roof and the façade. The architect chose QUARTZ-ZINC for its grey-blue surface aspect which can be enjoyed immediately without having to wait for the patina to form. The main identity of this building is given by the use of perforated zinc panels, which match high-tech aesthetics with an ingenious ventilation system.
Drawings: Arkab Arkitekt AB, Uppsala.
Hoops and hangers

Mixing old-fashioned style with contemporary architecture is a shrewd exercise which requires both talent and a sense of aesthetics. Therefore, so as to highlight the historically classified façade of the Telecom Centre in Biel, dating from the turn of the century, the architect chose VM ZINC®.

The exterior design of the building is strongly marked by the brown-red colour of the brick. After the renovation work, the visual harmony was respected by using curved roofs. The roof deck is made up of pre-formed concrete slabs, insulated on the outside. The VM ZINC® is laid on an additional wooden structure.

From the outset of the project, the complex roof volumes restricted the choice of roofing material. QUARTZ-ZINC was specified because of its elegant grey shade which matched beautifully with the brown-red colour of the original façade.
Drawings: Andry & Partner Architekten AG, Biel.
Continuous roof-façade envelope

In one of the areas in the 20th district of Paris, this group of seventy-two apartments is made up of two distinct buildings. The main building is U-shaped and borders with three streets. Behind it, in the centre of the island, a second building is located between two courtyards.

The tempo of the façades which look onto the Rue des Vignoles is set by a succession of cusps and recesses which form natural extensions of the VM ZINC® roof. On the Rue de la Réunion, the whole façade is clad in zinc, forming a continuation of the roof.

This volumetric diversity is a response to the variety of proportions and outlines of neighbouring façades. The lower floors include traversing flats, where the light enters simultaneously from two façades. Under the attic, split-level apartments extend vertically up to the roof and onto private terraces.
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FOCUS ON ZINC
INTERNATIONAL CREATIONS WITH VM ZINC® No. 2 – June 1998

FOCUS ON ZINC is the international architecture review from VM ZINC. It is published in Danish, Dutch, English, French, German, Hungarian, and Spanish.

- Chief editor: Vivienne Gaskell.
- Editorial committee: Isabelle Ferrero, Roch Lemercier, Ulle Nagel, Emmanuelle Rohou, Christopher Smith, Franck Verchin
- Design and printing: Konzerlierte Werbung GmbH.

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