CREATIVE ARCHITECTURE WITH ALERIS ALUMINUM

Working with aluminum can be inspiring.

A building is in many ways a work of art and an original and imaginative façade can give it real character and originality. New construction or renovation projects today, both in the private and public sector, are increasingly designed using aluminum.

The special characteristics of aluminum allow it to be creatively shaped to your exact designs. Its capacity to be bent, perforated, punched and expanded has made it the modern material of choice for creative wall cladding. And the fact that aluminum has a long useful life and afterwards can be recycled repeatedly without any loss of quality underlines its credentials for sustainability and “green” construction.

Better still, aluminum has many attractive functional properties. Aluminum is both light and strong. After anodizing it is resistant to corrosion and UV radiation. And it doesn’t burn, so conforming to the Euroclass A1 fire standard.

The Aleris aluminum rolling mill in Duffel, Belgium, produces innovative aluminum solutions that are optimized for their architectural end-use. Aleris 55HX® can be differentiated by providing color uniformity and unique look. It is the state-of-the-art material for architectural applications.

In this magazine we show you a selection of international projects – from roofs, to façades to interior walls – which illustrate where our aluminum innovations can be applied with impressive effect.

We hope this book inspires you to develop still more creative architecture.

Sincerely,

Alain Dufour
Commercial Director
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The neighborhood of Saussure was rejuvenated by the addition of a bright and creative aluminum wall cladding to the Rézo offices which now stand out from the otherwise dull environment of heavily frequented railway land. This eye-catching building was designed by Anne Démians architects.

For this unique façade, the architect combined full panels, perforated panels and large cut-out designs in anodized aluminum. In addition to the design aspect, this construction choice had some functional benefits as well. The curtain-like façade serves as a light shield which breaks the direct sunlight shining through the large window areas, and therefore prevents heat accumulation in the window area.

To ensure its stability a minimum thickness of 5 mm was needed. At present, Aleris’ 55HX® is the only alloy in the market that meets that stringent requirement.

Eiffage Métal, a leading engineering and construction firm, responded successfully to the architects’ tender, having already taken 55HX® into their portfolio. Thierry Le Lay, Key Account Manager at Aleris further explained that they immediately recognized the benefits of the metal, such as its rigidity, durability and light weight. The partnership continues to grow between Eiffage Métal and Aleris with the new “Les Halles” project, downtown Paris.

ANYTHING BUT EVERYDAY:

THE RENAISSANCE OF THE RÉZO BUILDING IN PARIS WITH ALUMINUM FAÇADE IN ALERIS ALLOY 55HX®
Built to welcome the UEFA Euro 2012 football championship, the national stadium in the Polish capital has a spectacular aluminum façade: the white and red rectangles made of fine aluminum mesh resemble a waving national flag and appear to float weightlessly in the air.

A total of almost 800 rectangular aluminum panels surround the actual structure of the stadium, giving it an almost playful lightness. Aleris supplied the natural aluminum for the innovative façade construction – the 5005 alloy – while construction and assembly was handled by the Polish company Mostostal Zabrze S.A..

The distinctive metallic look perfectly captures the project designers’ vision. The silver and red tones, are achieved by color anodizing the aluminum mesh panels.

“Because of the stadium’s great height (max. 70 m), the engineers anticipated particularly high wind pressure. So right from the start, we conducted wind channel tests to eliminate stability problems. The 5005 alloy aluminum mesh has proven to be up to the challenges,” explains Krystian Heisig, Aleris Sales Director Eastern Europe.

“Indeed despite its light, open feel, the façade performs a heavy-duty function, for it supports the entire stadium roof.”

A DREAM IN WHITE AND RED

POLAND’S TALLEST STATE-OF-THE-ART STADIUM IN NATIONAL COLORS
ALUMINIUM TRANSFORMS MASSIVE SILOS INTO BRIGHT APARTMENTS:

55HX® PUTS A NEW COAT ON THE “KANAALZONE” IN WIJNEGEM (BELGIUM)

The outer silos of a former malting plant still stand as a recognizable beacon in the landscape, but the center towers have been replaced by a new transparent square volume thus creating living spaces.

For the facade the architect envisioned a contemporary look featuring aluminum cladding with straight, sharp cut edges. Since the corners were not to be flanged, the panels had to have a “natural flatness.” Therefore Cuprochimique (Ghent) recommended Aleris’ 55HX® sheets in 3 mm thickness which provided the required result.

The cladding was “invisibly” fixed to the rear construction on-site by Wuyts Gevelbouw which designed a new profile specifically for the project.

To complement the color of the concrete towers the aluminum panels have been anodized in a light bronze tone. “When proposing two samples of aluminum in the required anodized color (C31), the architect decided that the color sample based on Aleris’ 55HX® provided the best look,” said Remco Baartmans of Alumet.

Kanaalzone · Wijnegem · Belgium
- 55HX® panels of 3 mm thickness
- Further processing: 20 μ batch anodized in bronze C31
- Architects: Stéphane Beel

ALUMINIUM TRANSFORMS MASSIVE SILOS INTO BRIGHT APARTMENTS:

55HX® PUTS A NEW COAT ON THE “KANAALZONE” IN WIJNEGEM (BELGIUM)
More than just a façade: Perforated aluminum sheets provide a unique brand experience

High glass front panels and façades made of perforated aluminum sheets characterize the architecture of Audi showrooms around the world. Audi, a pioneer in using aluminum in automotive manufacturing, features the light metal with its matte silver sheen in its brand communications, including the look and design of the dealerships and branches.

Audi is particularly demanding when it comes to the color of the finished façade elements. “There cannot be even the slightest variance across the entire façade of an Audi terminal,” explains Hans-Ulrich Koch, Managing Director of Dillinger Fabrik Gelochter Bleche GmbH (DF).

Aleris provides this high-level uniformity across different batches. 55HX® can be easily shaped, giving architects and designers the chance to create objects in various styles with a unique visual impact.

“Aleris 55HX® is the perfect starting point, especially for subsequent decorative anodizing,” Mr. Koch adds, "55HX® offered us a technically irresistible proposition and outstanding value."
The colorful, shimmering look of the façades in the new residential complex in Zug’s Riedpark is attributable to filigree profiles made by the Swiss Tata Steel subsidiary, Montana Bausysteme AG.

Everyone involved agreed that the attractiveness of the residential complex should also be evident from the outside. By using aluminium with a width of 1,250 mm, and modern folding machines capable of forming almost any conceivable profile, Montana created a curtain façade of angular or circular shapes in three different colors that upon completion shimmers in dark red, dark blue and dark brown.

“As the latter color effect plays a particular role, Montana opted for S55H® that was developed by Aleris for the contemporary requirements associated with modern decorative and outdoor architecture. S55H® provides color consistency,” commented François Van Engeland from Aleris.

SHIMMERING FAÇADES AS EYE-CATCHERS:

A RESIDENTIAL COMPLEX NESTLED IN THE SCENIC LANDSCAPE OF ZUG, SWITZERLAND
The new car park in Addenbrooke, an otherwise simple and straight forward cubic structure, now stands out in its neighborhood thanks to a playful façade of cut, colored and twisted aluminum made from Aleris’ 151EX quality.

James & Taylor, façade specialists, have a well-established expertise and trust in 151EX. Samples were tested and met the expectations of formability envisaged by the designers, which had been unattainable with classic architectural specifications.

The aluminum plates were guillotined lengthwise and twisted until a helical shape mimicking the form of DNA was achieved. The material was then anodized natural before being powder coated on just one face in bright yellow to match the crops grown in the surrounding area.

The final result is an elegant and highly distinctive landmark, winning it the RIBA East Award 2015.
The new conference center truly seems to have been pulled straight from the future into the northwest Chinese economic and leisure metropolis of Dalian. Both the interior and exterior contain Aleris aluminum alloy 55HX®.

This icon and symbol of urban development is designed by COOP HIMMELB(L)AU and combines the rational elements of a modern congress center with the flowing lines of traditional Asian buildings and the smooth forms of the ocean.

Sustainability – as a philosophy – partly prompted the use of aluminum for the interior and exterior wall cladding. The distinctive aesthetics of aluminum also played a key role, just as in many other contemporary and ambitious architectural projects around the world.

Some 700 tons of Aleris 55HX® were used both for the inside and outside paneling of the Dalian International Conference Center. There were a few reasons for choosing this Aleris alloy. First, the anodized aluminum has a high surface quality and is excellent for shaping. Additionally, Aleris 55HX® not only provides color uniformity across numerous casting batches but also long-term color stability under all weather conditions, which is an important factor when so close to the ocean.

RESEMBLING ARCHITECTURE FROM ANOTHER PLANET:

THE INTERNATIONAL CONFERENCE CENTER IN DALIAN