

VENTILATED RAINSCREEN & CURTAIN WALL FACADES



ABET

HIGH-TECH
SOLUTIONS

1937

1937 Metalleido Composite Panels was born in June 2000 from Metalleido s.r.l., an established company specialized in the treatment and impregnation of cotton fabrics with phenolic resins since 1937.

1993 Monocore Line at the end of 1993 Metalleido patents the machine for making the Monocore panel and starts mass production. In those years, the Mitlight panel was the first to be approved according to the IMO 653 standards for fast ferries and enjoyed considerable success with the first ferries of the MDV series by Fincantieri.

2

1993

2008

2008 Honeycomb Line In June 2000 Metalleido Components became part of the Abet Group, a leading company for the production of decorative plastic laminates. The company relocates in Borgo Fornari where it sets up the automatic production line for composite panels with a honeycomb and Nomex core.

2015 Merger with Abet Laminati Merger into Abet Laminati S.p.A. On the 1st of January 2015 Metalleido Composite Panels becomes part of Abet Laminati S.p.A. and all the machinery and offices are transferred to Bra

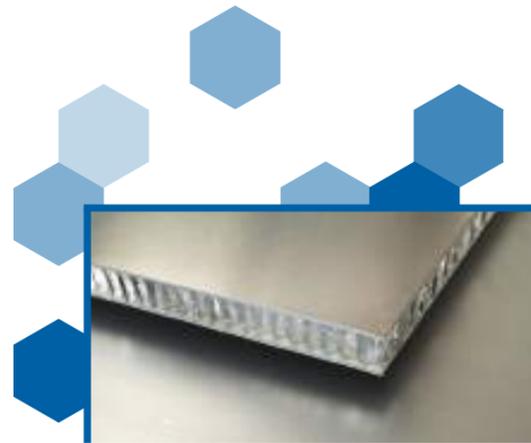
2023 Abet High Tech Solutions In February 2023 in Bra, Abet High Tech Solutions becomes an independent operating company to become in all respects a leader constantly engaged in the research and development of solutions that allow it to keep its products at the forefront both nationally and internationally in the production of sandwich and composite panels.

3

2015

2023

Future



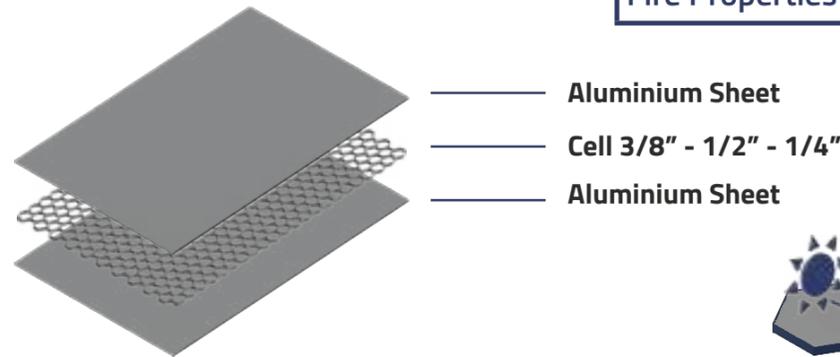
ESACORE

The aluminum honeycomb structure offers an exceptional strength-to-weight ratio and can be covered with anodized aluminum, pre-painted aluminum, HPL, fiber cement, steel, and various other surfaces and finishes.

This versatile panel is suitable for multiple markets, including shipbuilding, railways, construction, and defense. It can also be used in the production of furniture, partitions, ceilings, and floors.

Width	1250mm, 1500mm [4', 5']
Lenght	Up to max. 4000mm (other lenghts on request) [up to 13']
Weight	Refer to the technical sheet
Temperature Resistance	-40°C to +100°C
Fire Properties	DIN EN 13501-1 : A2 s1 d0

COMPOSITION



Aluminium Sheet

Cell 3/8" - 1/2" - 1/4"

Aluminium Sheet



Resistant to sunlight



Resistant to atmospheric agents



Good fire behaviour



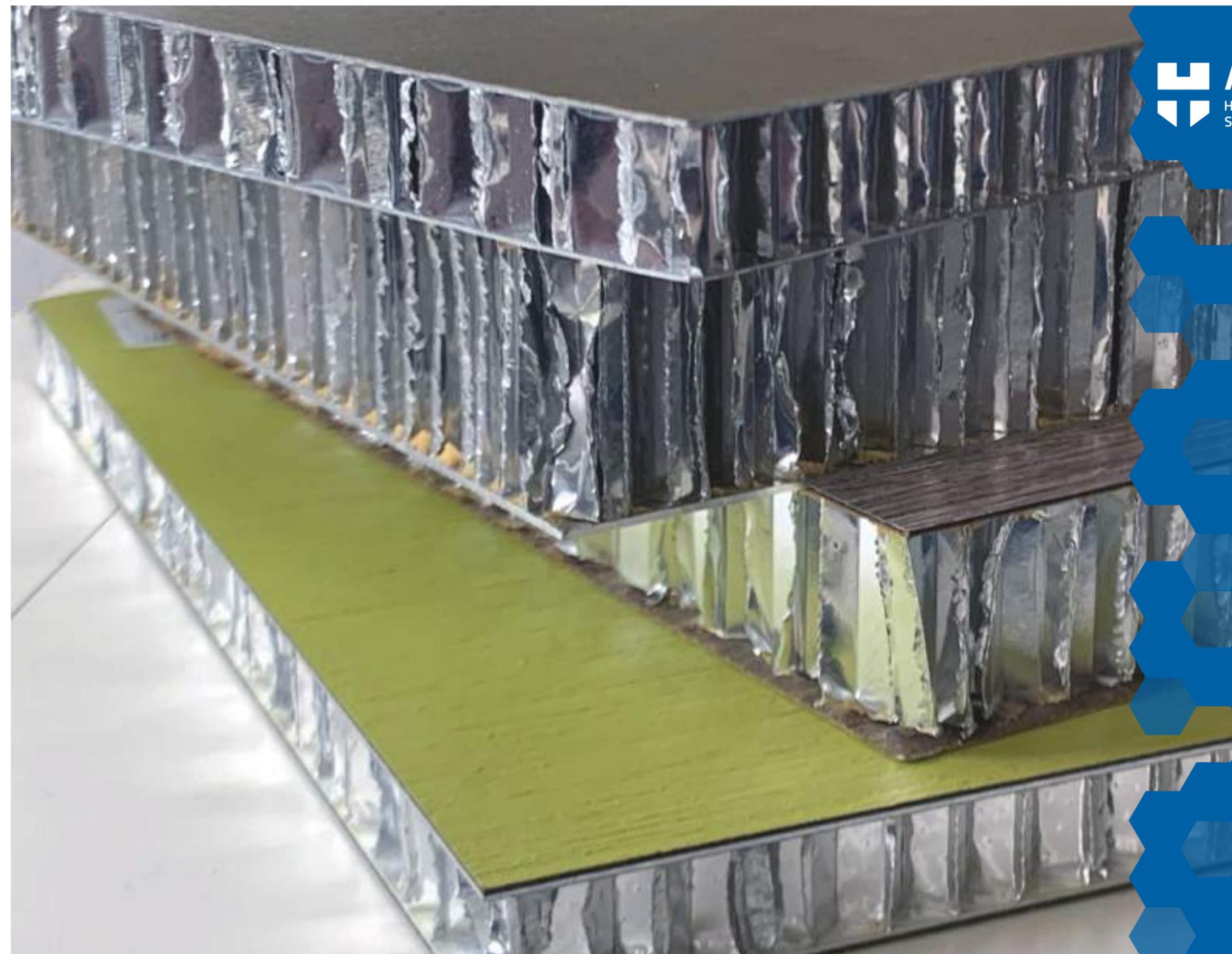
Easy to work

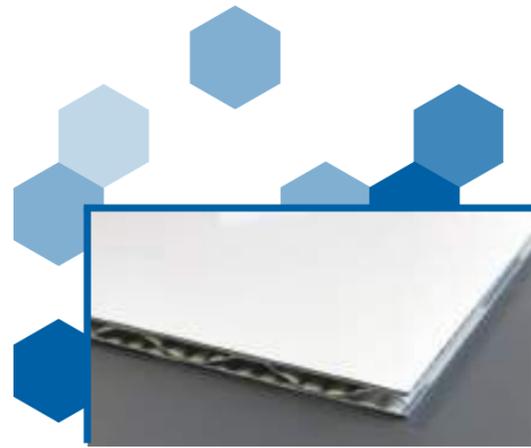


Easy to clean



Eco sustainable





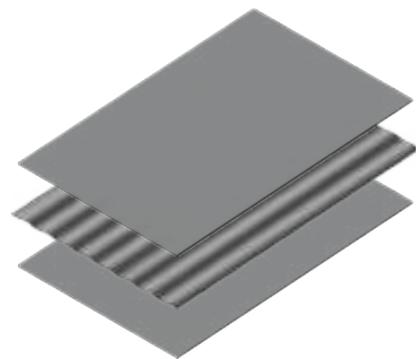
TEBA

This multilayer structural panel features aluminum layers with a corrugated aluminum core. It has a non-slip, scratch-resistant surface that is non-porous to chemicals and grease.

This panel is commonly used in building construction.

Width	1250mm [4']
Lenght	Up to max. 3000mm (other lenghts on request) [10']
Weight	Refer to the technical sheet
Temperature Resistance	-40°C to +100°C
Fire Properties	DIN EN 13501-1 : A2 s1 d0

COMPOSITION



Aluminium Sheet

Corrugated Cell

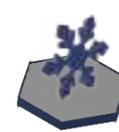
Aluminium Sheet



Curvable panel



Resistant to sunlight



Resistant to atmospheric agents



Good fire behaviour



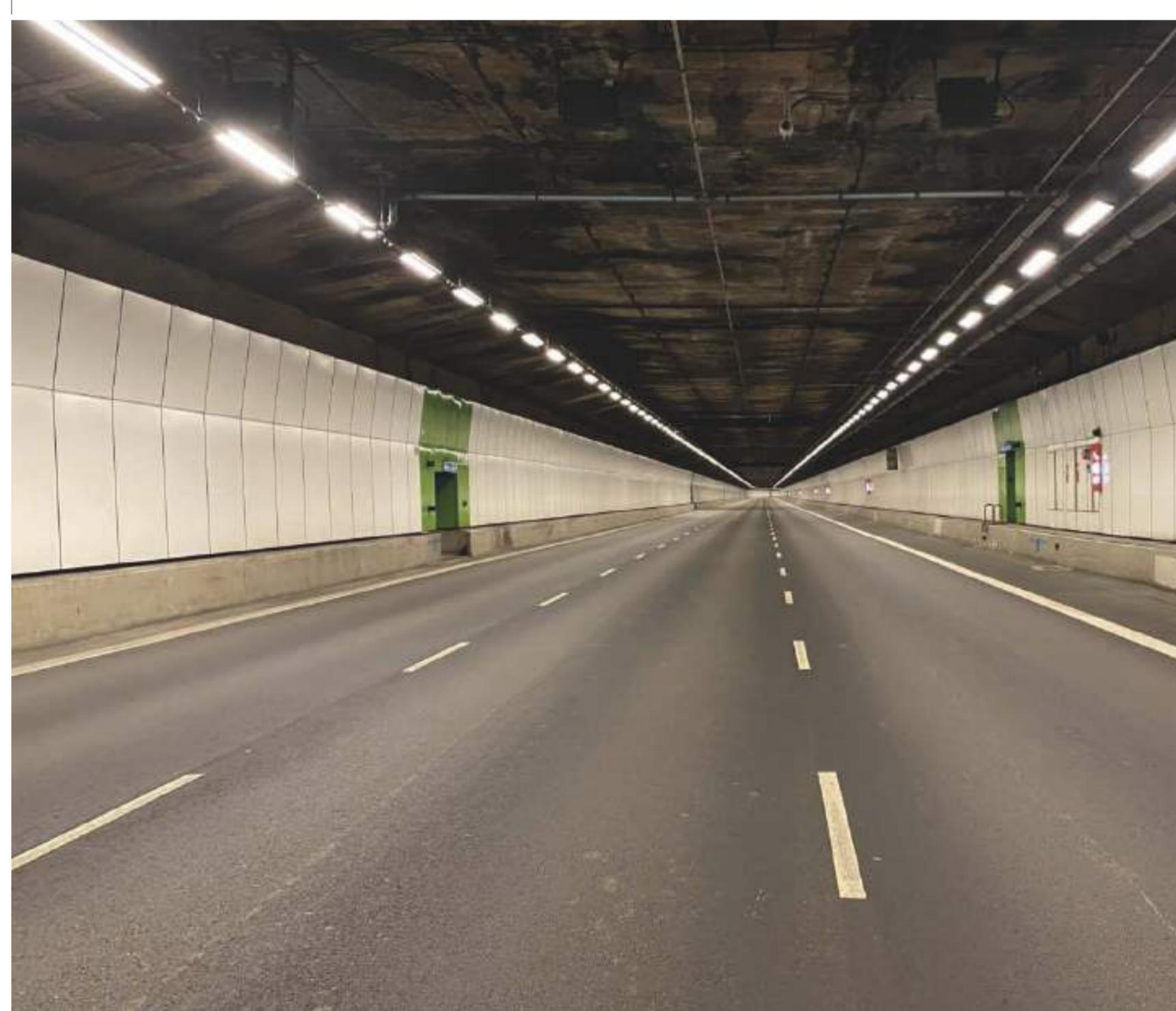
Easy to work

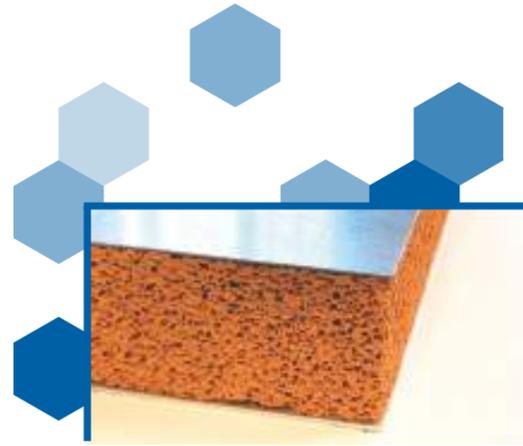


Easy to clean



Eco sustainable



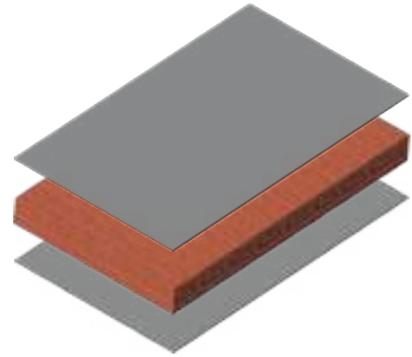


IGNICORE

The multi layered fire-rated insulating panel is typically used in building construction.
It consists of an open-cell mineral foam core and two external aluminum skins, which can be coated with paints or PVC film.

Width	1250mm [4']
Length	Up to max. 3000mm (other lengths on request) [10']
Weight	Refer to the technical sheet
Temperature Resistance	-40°C to +100°C
Fire Properties	DIN EN 13501-1 : A2 s1 d0

COMPOSITION



- Aluminium Sheet
- Open cell mineral foam
- Aluminium Sheet



Resistant to sunlight



Resistant to atmospheric agents



Good fire behaviour



Easy to work

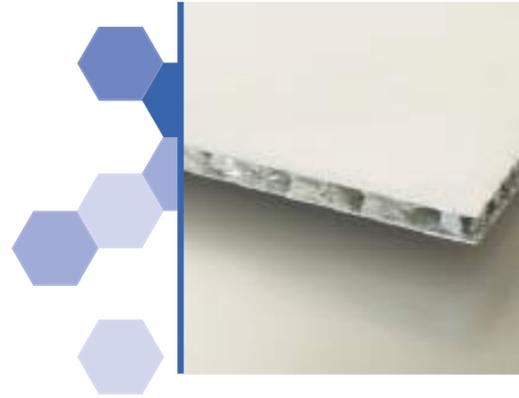


Easy to clean



Eco sustainable





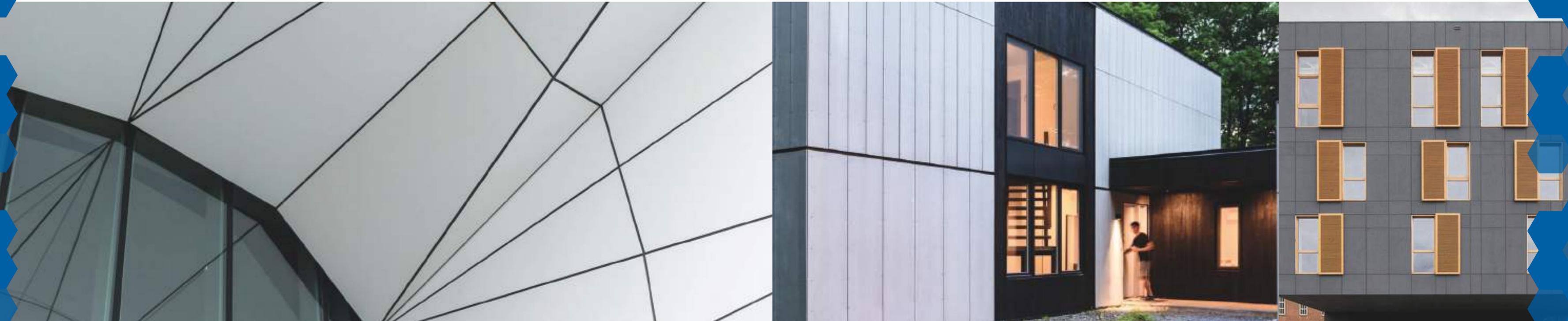
Esacore and Teba panels can be coated with pre-painted aluminum. This means the aluminum sheets are degreased, chemically pre-treated, and painted by the supplier, ensuring excellent performance for both exterior and interior applications.

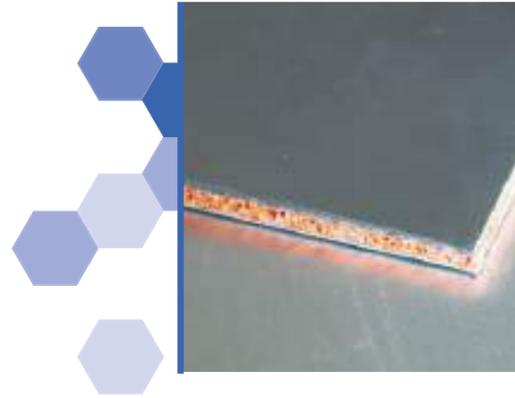
PRECOATED ALUMINUM



Another highly interesting finish for our panels is fiber cement. This finish is ideal for panels used in outdoor infrastructures, offering an excellent decorative yet lightweight solution. Fiber cement boasts impressive compressive strength properties and high resistance to physical impacts.

FIBER CEMENT





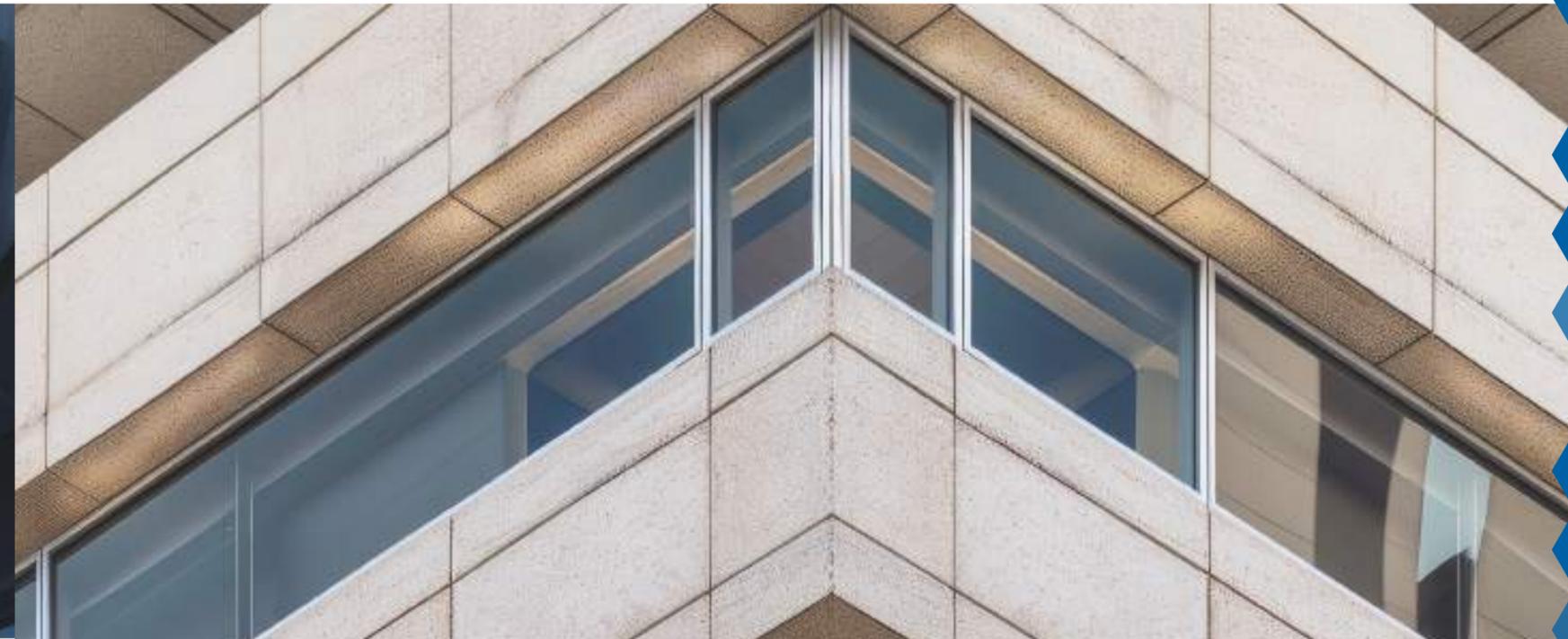
STAINLESS STEEL

Our panels can also be coated with stainless steel. This coating offers an optimal solution for laboratories and clean rooms as stainless steel surfaces are very easy to clean, sterilise and minimise the risk of contamination.



HPL (High Pressure Laminate)

Esacore and Teba panels can also be covered with high pressure laminate (HPL). Similar to wood HPL is even lighter, laminate can be applied to an aluminum or fiberglass base. This versatile application is suitable for both indoor and outdoor areas, making it an ideal choice due to its durability and resistance to wear.



Ventilated rainscreens are exterior cladding systems that create an air gap between the cladding and the building envelope. This gap allows for airflow, moisture management, and thermal regulation, enhancing the building's durability and energy efficiency.

How ventilated rainscreens are typically made and the building sequence:

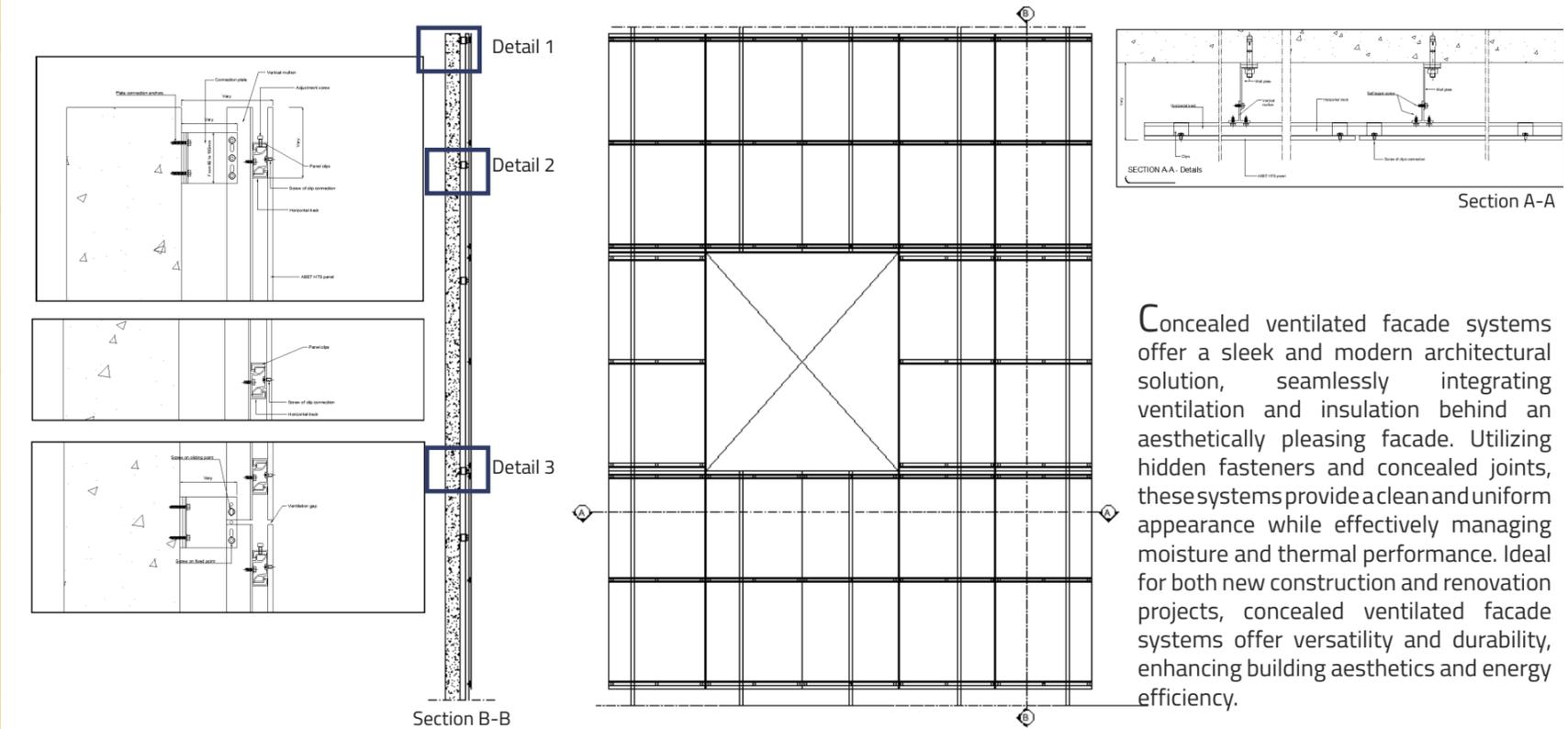
- Design and Planning: Architects and engineers design the system considering aesthetics, climate, and structure.
- Substructure Installation: Provides support and creates ventilated airspace.
- Insulation Installation: Enhances energy efficiency.
- Cladding Panel Installation: Enhances aesthetics and weather resistance.
- Ventilation Openings: Facilitate airflow for moisture management.
- Finishing Touches: Ensure waterproofing and durability.

At ABET HTS, as lightweight sandwich and composite panel producers, we offer a diverse range of lightweight panels, including aluminum honeycomb panels with various finishes from HPL to fiber cement, and featuring different cores, from corrugated to non-combustible, ensuring tailored solutions for your specific requirements.

Moreover, we offer system engineering design services and supply all structural materials for the building envelope. Our expertise covers the entire process, and we focus on collaborative problem-solving, working closely with your team throughout the project's lifecycle.

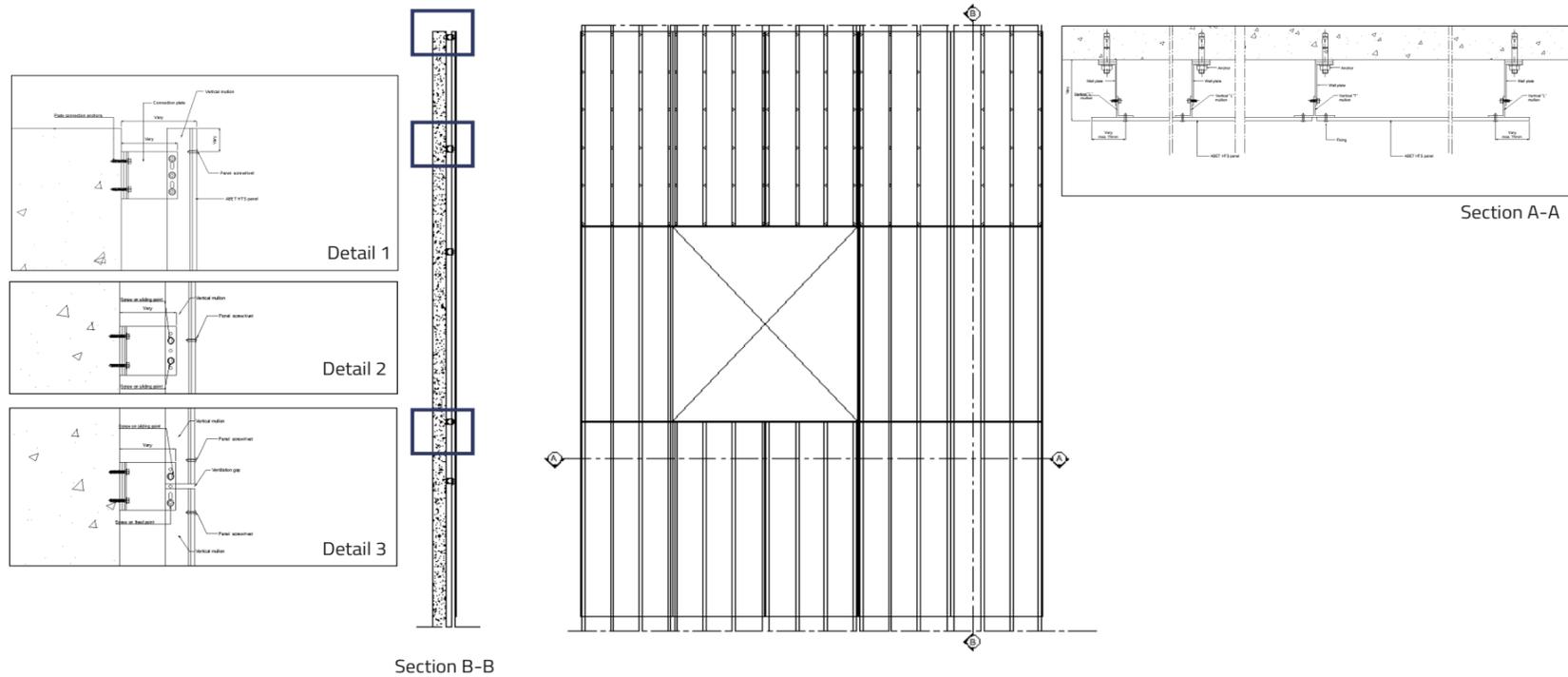


Concealed Fixing Ventilated Rainscreen System



Concealed ventilated facade systems offer a sleek and modern architectural solution, seamlessly integrating ventilation and insulation behind an aesthetically pleasing facade. Utilizing hidden fasteners and concealed joints, these systems provide a clean and uniform appearance while effectively managing moisture and thermal performance. Ideal for both new construction and renovation projects, concealed ventilated facade systems offer versatility and durability, enhancing building aesthetics and energy efficiency.

Visible Fixing Ventilated Rainscreen System



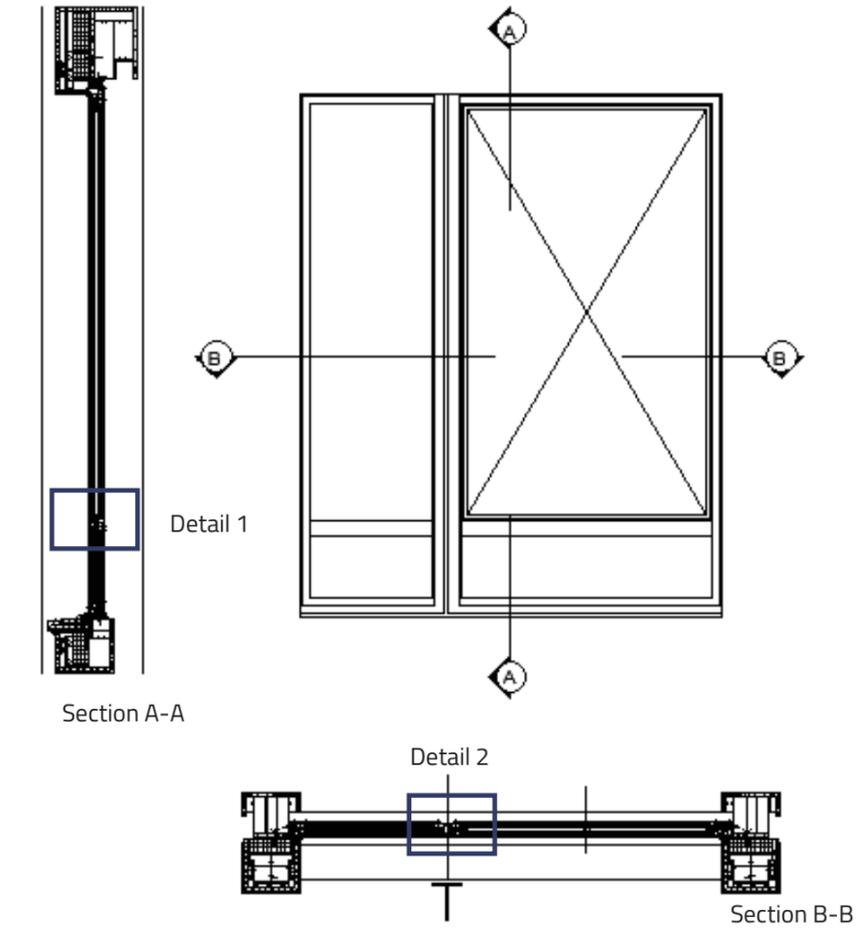
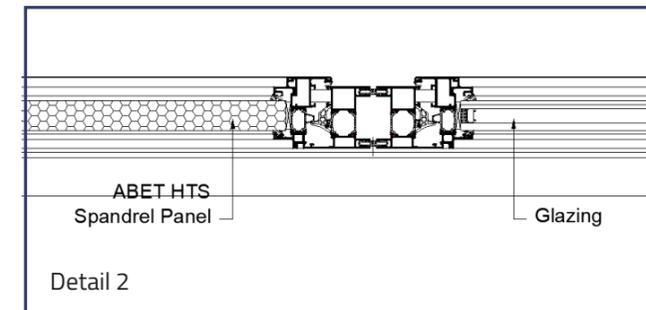
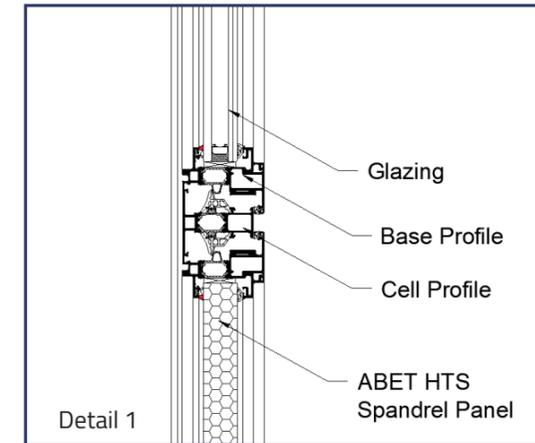
Curtain wall spandrel panels provide a seamless transition between vision glazing and opaque areas within a building facade. Incorporating ABET Panels into curtain wall spandrel designs offers a cohesive aesthetic while providing functional benefits and design versatility.

Key Features:

Panel Variety: ABET HTS offers a wide range of lightweight panels suitable for spandrel applications, including aluminum honeycomb panels with various finishes from HPL to fiber cement, and featuring different cores, from textile to non-combustible.

Benefits:

- **Design Continuity:** ABET Panels for curtain wall spandrels ensure visual consistency.
- **Customization Options:** Architects can choose from various panel finishes, textures, and colors.
- **Durability and Performance:** ABET Panels can offer weather resistance, thermal insulation, and fire protection.
- **Efficient Installation:** Standardized sizes and methods streamline construction, reducing time and labor costs.





Cité Modèle, located in Brussels, is a significant architectural project recognized for its innovative approach to social housing. Designed by ARCHI+I, A33, Atelier M a+p, and Wessel De Jonge, the project aimed to redefine urban living while prioritizing sustainability and functionality.

BACKGROUND



The primary challenge was to create a solution meeting aesthetic standards while ensuring durability, energy efficiency, and thermal performance for social housing.

CHALLENGE

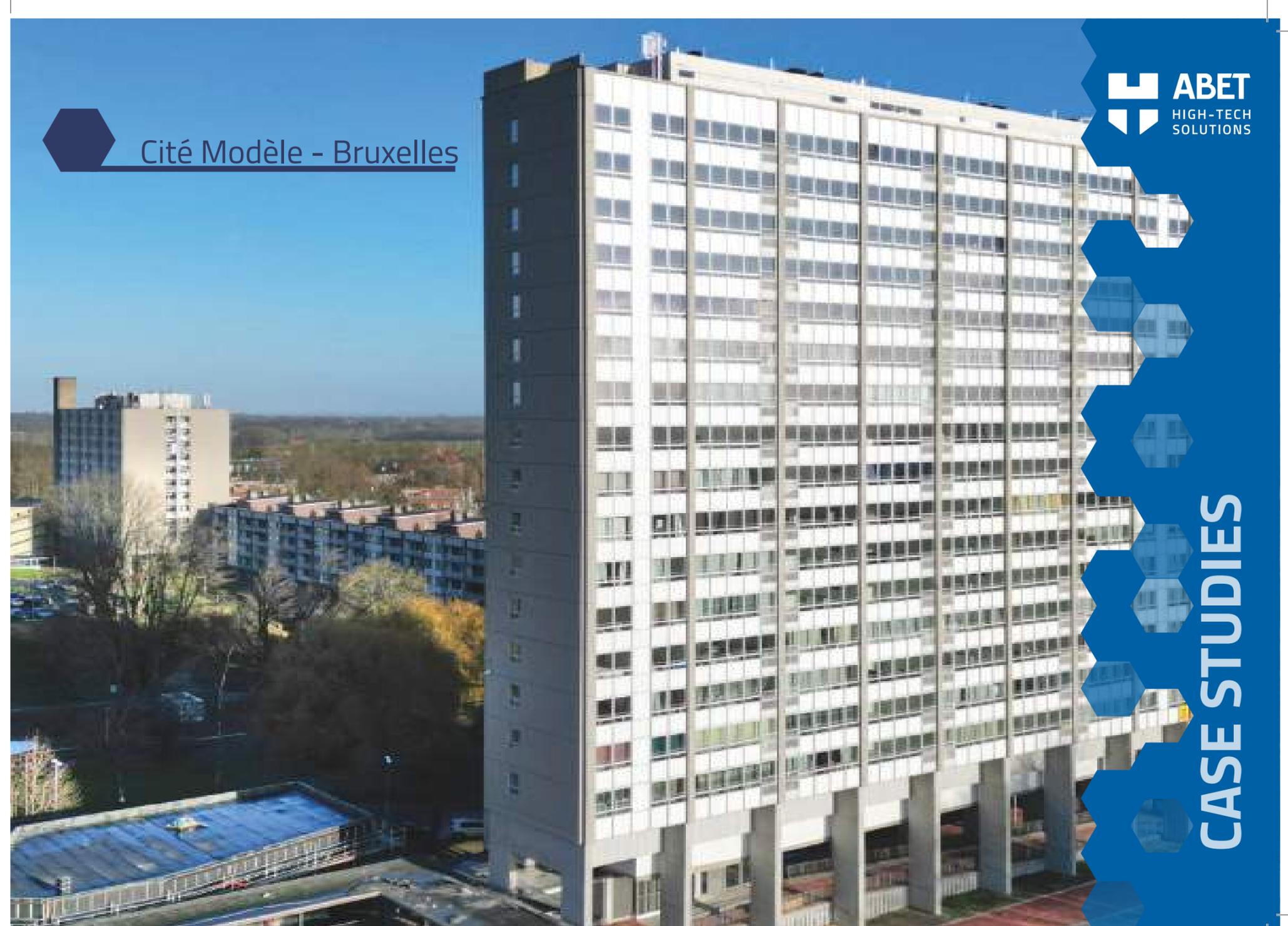


ABET HTS collaborated closely with the project team to supply custom curtain wall spandrel panels. These panels were crafted using IGNICORE, an open-cell mineral foam core and two external custom pre-painted aluminum skin solution with thin white gloss and matte stripes, enhancing the façade's visual appeal and aligning with the project's aesthetic vision.

SOLUTION



Cité Modèle - Bruxelles





Mövenpick Hotel -Abidjan



ABET HTS took on the responsibility for the executive ventilated rainscreen facade design of the prestigious Mövenpick Hotel project located in Abidjan, Ivory Coast. The project demanded meticulous attention to detail and innovative solutions to meet the architectural requirements.

BACKGROUND



The architects had established specific panel layout criteria for the facade design, including under-opening panels. However, a significant challenge arose as oversized HPL finish panels, essential for the project, were not readily available in the market.

CHALLENGE



ABET HTS rose to the challenge by producing custom oversized panels exclusively for the Mövenpick Hotel project. This bespoke approach allowed for the realization of the architects' vision without compromising on design integrity.

SOLUTION

PROJECT OVERVIEW



The Centene Headquarters, situated in Uptown Charlotte's University Research Park, stands as a beacon of innovation and sustainability.

As ABET HTS, we were entrusted with crafting and taking part in the design phase of the sun shadings and wood finish exterior panels for the Centene Headquarters project. Our expertise extended to creating real-size prototypes to ensure precision and quality prior to full-scale production. By delivering these elements, we contributed to the aesthetic appeal and functionality of the building facade, enhancing the overall architectural vision.

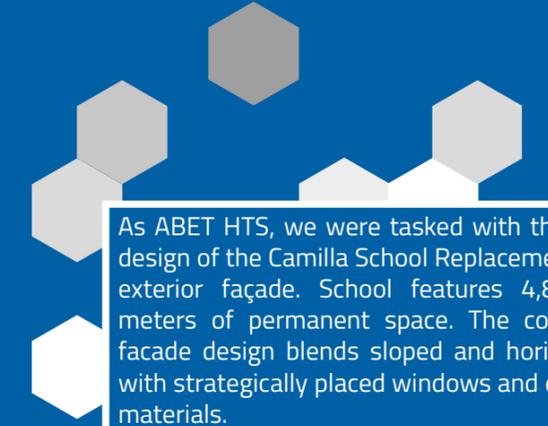


Centene Headquarters - Charlotte NC



Camilla School- Canada

CASE STUDIES



As ABET HTS, we were tasked with the executive design of the Camilla School Replacement project's exterior façade. School features 4,849 square meters of permanent space. The contemporary facade design blends sloped and horizontal lines with strategically placed windows and earth-toned materials.

PROJECT OVERVIEW

CASE STUDIES



LA VALÉRIANE – VAL THORENS (FR)



Panel layout design services entail optimizing panel placement and arrangement to maximize space utilization and efficiency in various applications. This process involves careful consideration of multiple parameters, including loads, substructure, mechanical capabilities, production capabilities, and other project requirements.



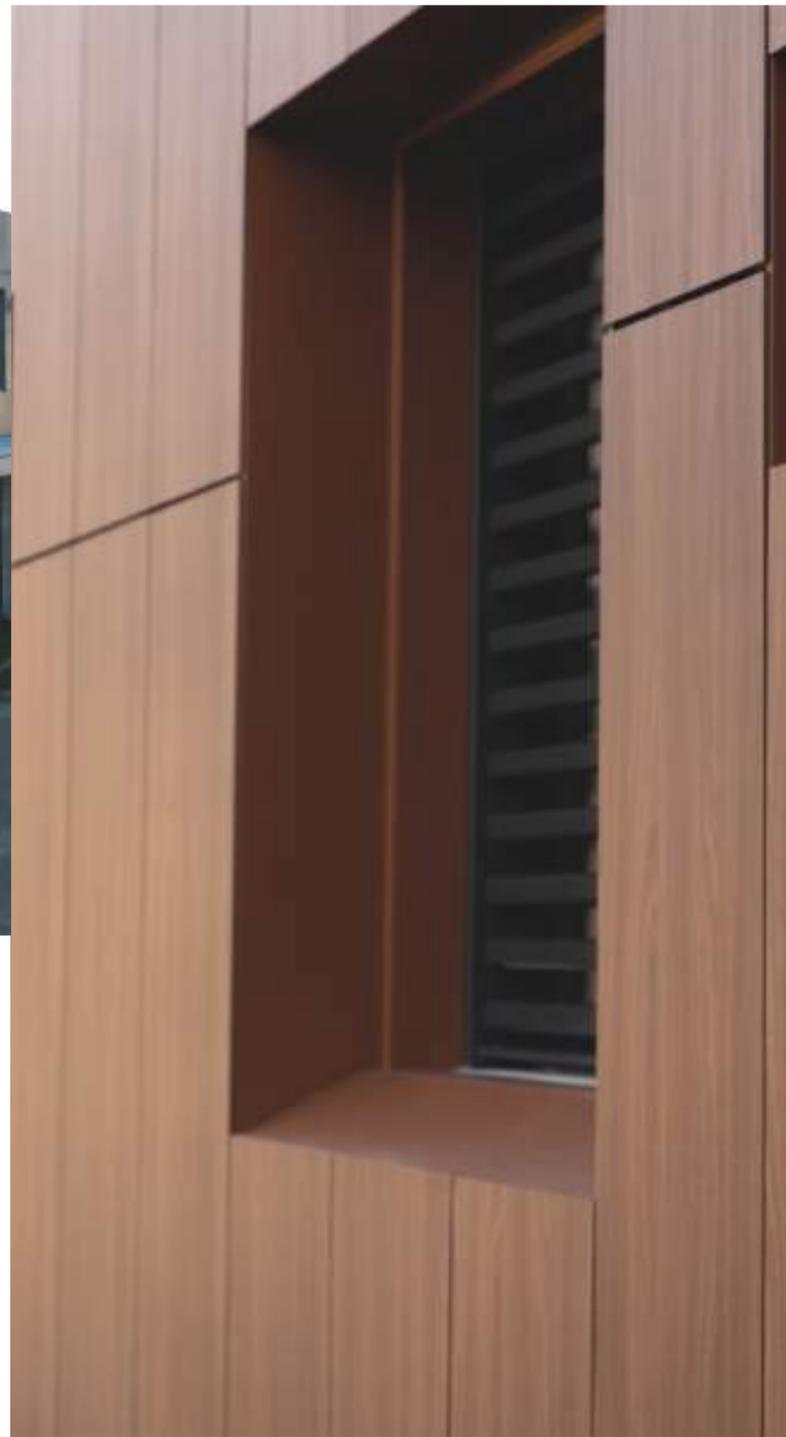
VILLE SÉZANNE– FRANCE

We prioritize the initial design concept provided by the client while optimizing the layout, ensuring that our clients' projects are optimized for performance, efficiency, and cost-effectiveness, while always keeping the initial design concept of the client in mind. Examples include our work on the renovation of "La Valériane" in Val Thorens, and the design optimization of the Sézanne Multidisciplinary Health Center.



POZIELLO EVOLUZIONE - NAPOLI (IT)

ABET HTS led the executive facade design projects involving self-supporting structures refreshing the buildings' exteriors. This comprehensive approach aimed to give structures a fresh identity while improving their functionality.



Overcoming the challenge of integrating self-supporting structures into the facade, ABET HTS delivered innovative designs that seamlessly combined structural integrity with aesthetic appeal, resulting in a modern and revitalized appearance for the buildings.

CAMOCA - PISA (IT)

Abet HTS is committed to environmental sustainability.

The raw materials used in our panel production comply with international safety standards.

We are actively researching ways to reuse materials whenever possible and minimize the use of difficult-to-discard components. Our ongoing investment in a CSR policy aims to reduce environmental impact throughout the entire product life cycle. Additionally, our manufacturing process ensures that no toxic substances are released during or after production.





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