

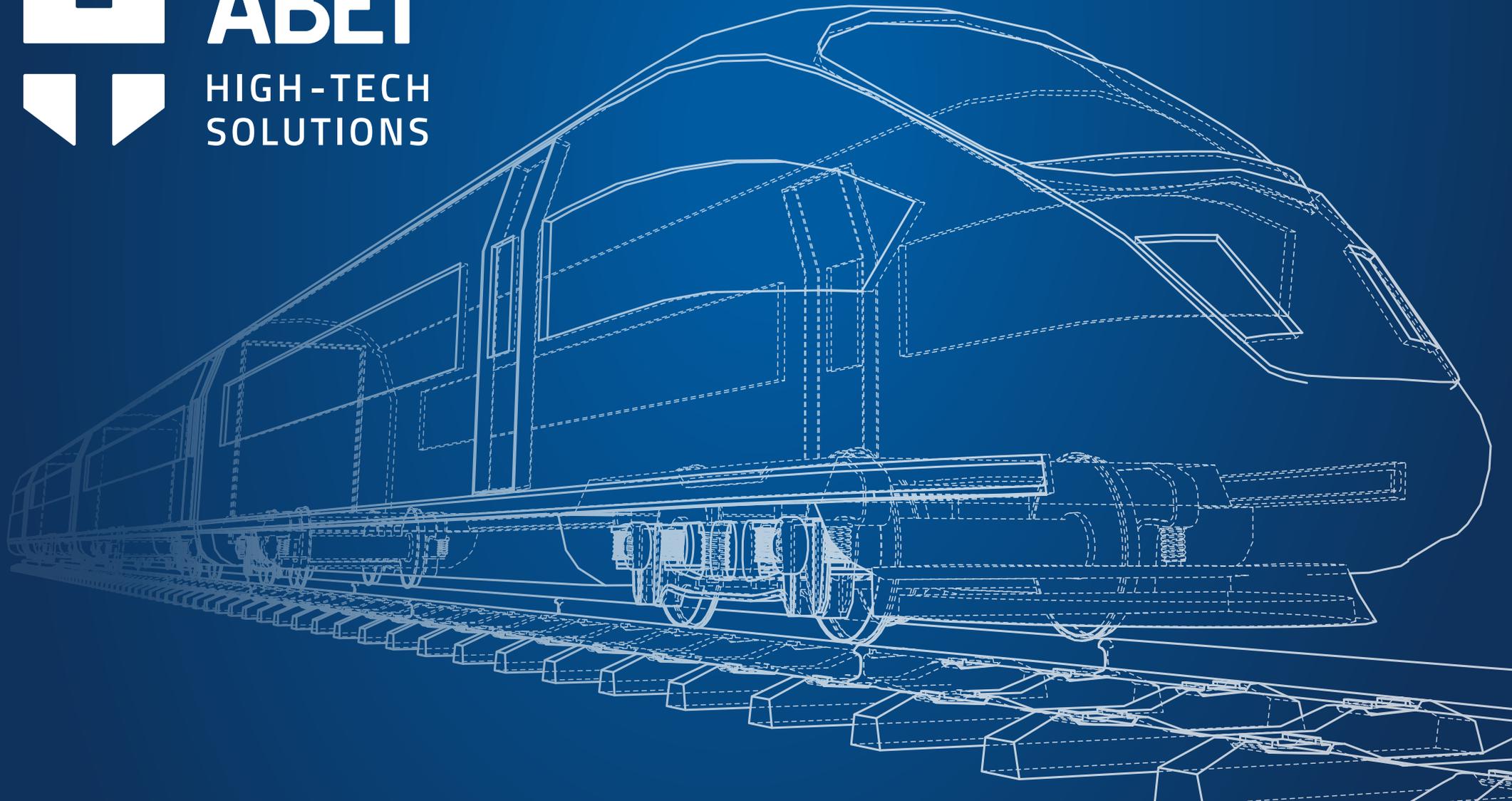
RAILWAY DIVISION



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.

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.

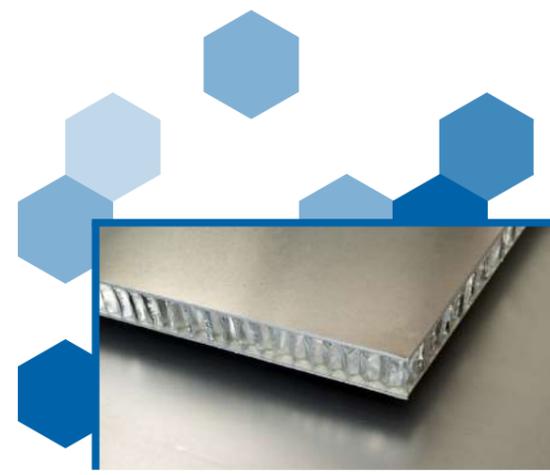
2015 Merger with Abet Laminati Merger into Abet Laminati S.p.A. On the 1st of January 2015 Metalleido Composite Panels becomes part of Abet Laminati S.p.A. and all the machinery and offices are transferred to Bra

2015

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.

2023

Future



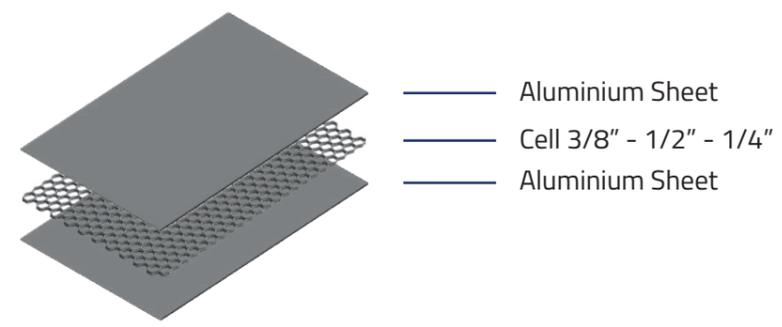
ESACORE

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.

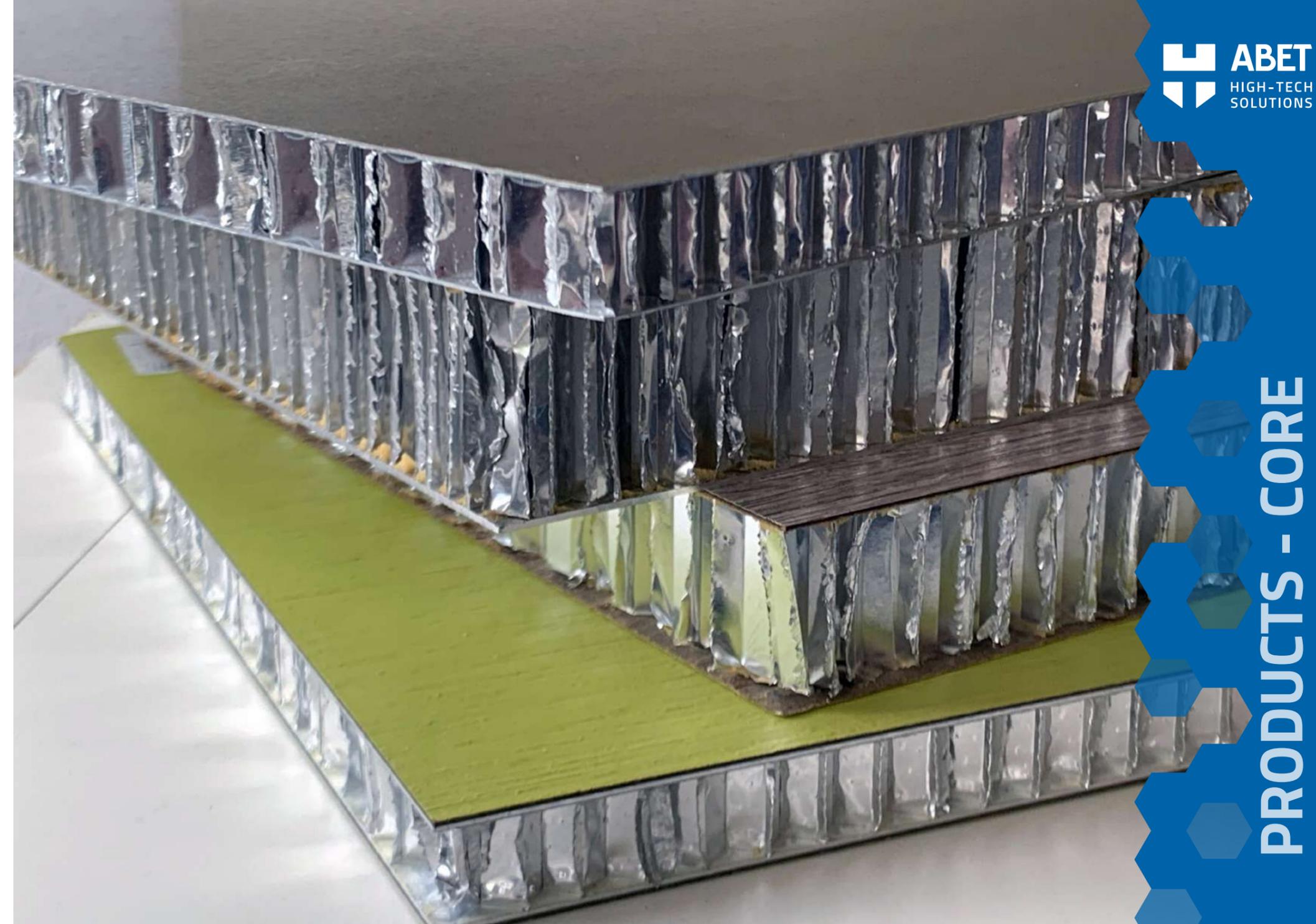
This versatile panel is suitable for multiple markets, including shipbuilding, railways, construction, and defense. It can also be used in the production of furniture, partitions, ceilings, and floors.

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



- 
 Resistant to sunlight
- 
 Resistant to atmospheric agents
- 
 Good fire behaviour
- 
 Easy to work
- 
 Easy to clean
- 
 Eco sustainable





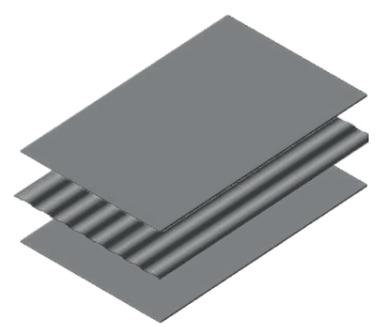
TEBA

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.

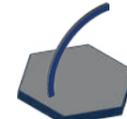
This panel is commonly used in building construction.

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

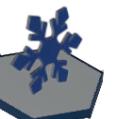
COMPOSITION



- Aluminium Sheet
- Corrugated Cell
- Aluminium Sheet


 Curvable panel
6


 Resistant to sunlight


 Resistant to atmospheric agents


 Good fire behaviour


 Easy to work


 Easy to clean


 Eco sustainable





MONOCORE

MONOCORE® 3D FP is a sandwich panel made of three-dimensional glass fibres impregnated with phenolic resin. It is licensed and series-produced by the Abet Group.

Its main character is particularly suitable for flooring in the railway and naval sectors.

Note: the surface of the panel has a slight transverse undulation between the two points of the 3D fabric. This construction is an integral part of the product and guarantees good mechanical properties (see table below). The transverse undulation is an intrinsic feature of the product and cannot be considered a defect.

Width	1200mm [3.9']
Length	Up to max. 2800mm (other lengths on request) [9.2']
Weight	

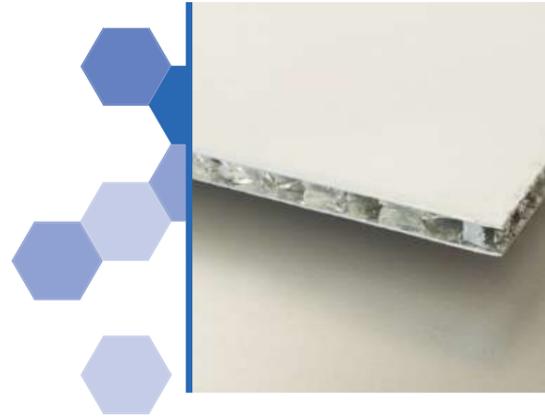
COMPOSITION



3D Fiberglass+phenolic resin

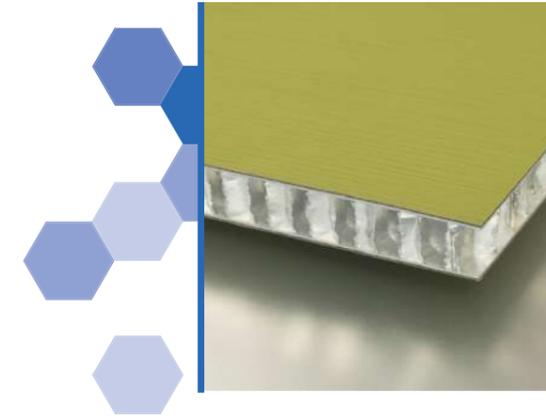
- 
Resistance to weight
- 
Acoustic
- 
Lightness
- 
Long lasting durability
- 
Good fire behaviour
- 
Easy to work
- 
Easy to clean
- 
Guarantee





PRECOATED ALUMINUM

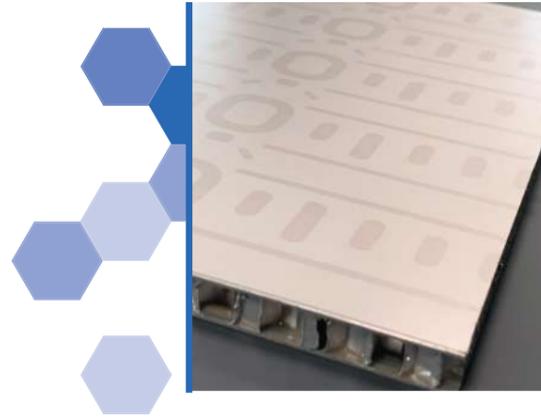
Esacore and Teba panels can be coated with pre-painted aluminum. This means the aluminum sheets are degreased, chemically pre-treated, and painted by the supplier, ensuring excellent performance for both exterior and interior applications.



HPL (High Pressure Laminate)

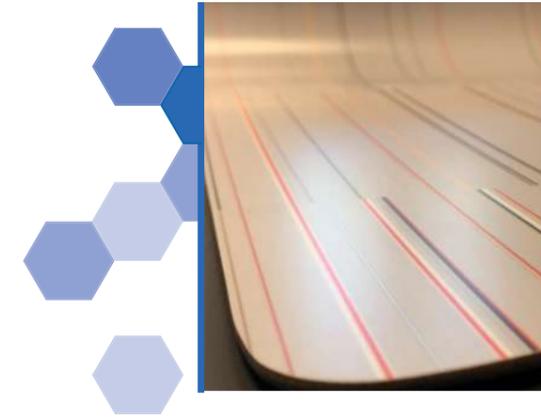
Esacore and Teba panels can also be covered with high pressure laminate (HPL). Similar to wood HPL is even lighter, laminate can be applied to an aluminum or fiberglass base. This versatile application is suitable for both indoor and outdoor areas, making it an ideal choice due to its durability and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





PVC GRAPHIC FILM

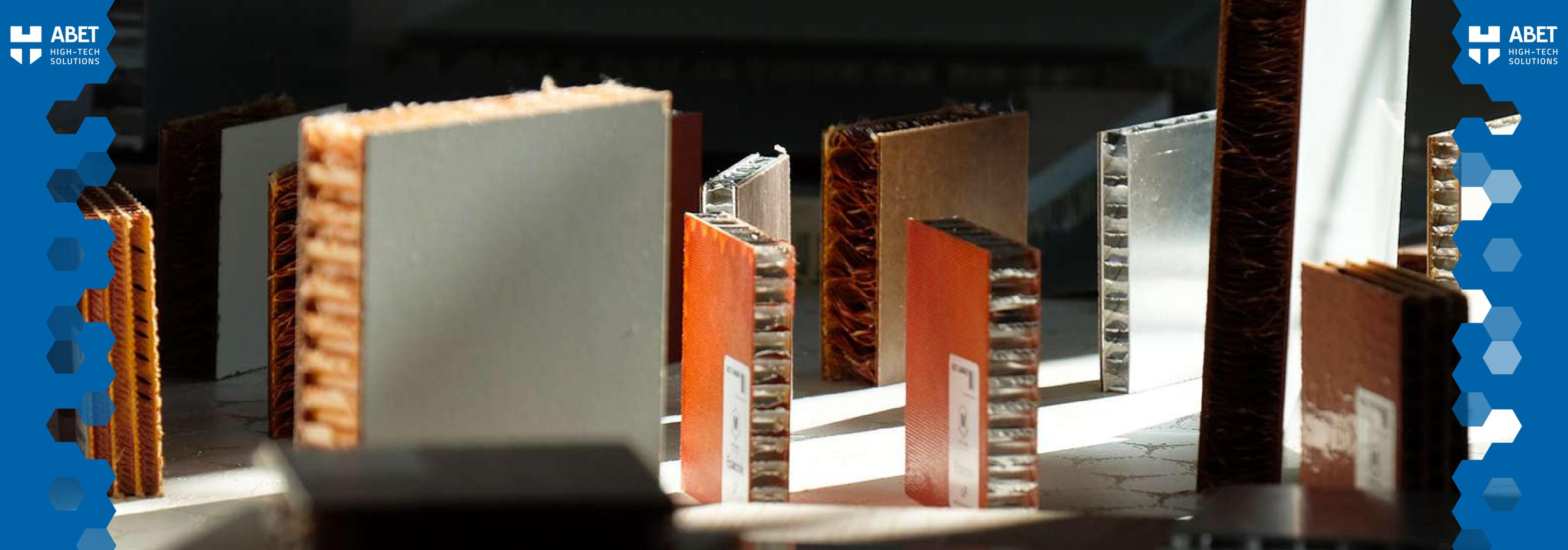
This is a finish resulting from the application of an adhesive film over the Esacore or Stratified panel. The adhesive film is for decorative purposes only and may have a graphic printed on it. Generally, these films are supplied by customers, or a graphic is sent by the client to Abet Hts to request to film supplier the same drawing.



CURVED AND FLAT DIGITAL LAMINATED PANEL

The base panel consists of layers of kraft paper, impregnated with thermosetting resins and a surface layer of digital paper impregnated, with customized design, in turn with amino plastic resin, produced at high pressure and high temperatures. Various cutting and folding operations are then carried out by our assembly division to obtain the elements required by the subcontractor and to series production of the elements.







Our Finlandbased customer is responsible for the production of doors and partition walls inside train cars. In this particular case contacted Abet HTS for the production of special machined panels to be made and processed according to design for the Tren Maya train.

BACKGROUND



The main challenge was to provide the customer with not only panels with strictly different technical characteristics and finishes, some of which had never been produced by ABET HTS before but finished elements ready only to be installed.

CHALLENGE

ABET HTS worked closely with the project team to provide panels that met the customer's specific requirements.

Since these were customized panels, they were manufactured and supplied according to the specifications required for railway certification.

The panels were produced from an aluminum hexagonal cell core, covered with aluminum skins in different thicknesses and applied with various finishes.

The customer requested that the panels be at some points coated with laminate HPL in various decors, at others with aluminum foil painted in a customized Ral, and at others coated with 3M adhesive film with a special design printed on it.

Once the panels were made, the HTS assembly workshop then carried out special cutting, edging and drilling operations as per the customer's drawing in order to produce the finished elements requested by him and ship them just ready for installation.



SOLUTION



Tren Maya - Mexico
Manufacturer Alstom



MP14 Metro - Paris
Manufacturer Alstom



BACKGROUND

Our Philippines-based customer, which is responsible for the production of the interior components of the MP14 metro in Paris, with whom we have been collaborating for several years.

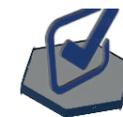
In the specific case of this customer, we developed the structural elements from their technical drawings, while the digital printed graphics, in this case on layered Hpl panels, were designed and created in collaboration with the designers of Abet Laminati Spa.



CHALLENGE

The customer contacted Abet with a request for items to be made to design, both flat and folded, and not just a simple laminate to be produced and sent to the subcontractor, but real finished elements ready for installation on the carriage.

From a decorative point of view, the required graphics did not exist; therefore, it was necessary to collaborate with the designers of the final customer to achieve the required result, overcoming any difficulties related to the realization and rendering of colors and drawings from digital to real format.



SOLUTION

ABET HTS and ABET LAMINATI have produced the required elements from standard HPL laminate.

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SOLUTION



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 recycle materials whenever possible and minimize the use of difficult-to-discard components.

Our manufacturing process ensures that no toxic substances are released during or after production.

SUSTAINABILITY

SUSTAINABILITY



A decorative graphic consisting of several overlapping hexagons in various shades of gray and white, arranged in a cluster on the left side of the page.

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A decorative graphic consisting of several overlapping hexagons in various shades of gray and white, arranged in a cluster on the right side of the page.

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