

LIGHT ARCHI TECTURE

8

ELEGANT LIGHT

Duo of materials

18

SPECIAL FEATURE DURABILITY

BEMA, its boldness
has not aged

22

ON YOUR MARKS

Spirit of Limoges

30

100% SPORT

A story of ice
and water

36

TREND TECHNIQUE & CO

Danpalon® opens up
to green construction

**number
1831**

EDITORIAL

"Art does not reflect what is seen, rather it makes the hidden visible."

Paul KLEE

Architectural expression blends together inspiration and requirements, invites Everlite Concept, alongside the architect, to push the technical limits by offering materials that are increasingly more innovative, high-performing, aesthetic and flexible. Interacting between light and matter, they unite design and performance, going hand in hand with the freedom of women and men of art to design singular creations.

In these pages we invite you to discover a selection of elegant, contemporary and sustainable structures that play with light in ever more surprising ways.

Your imagination drives us forward...
Let's continue to create together!

Happy reading.

Alain Chambron
Founder and President
Everlite Concept

Mélanie Ronan
Managing Director
Everlite Concept

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NEWS

4 Long lives
La Comédie!

ELEGANT LIGHT

8 Duo of
materials

10 Light
camouflage

12 A landscape
factory

14 A new era for the
motor industry

17 Fireman red,
of course!

Special feature DURABILITY

18 BEMA, its boldness
has not aged

21 10 years and
still sensational

21 The durability
of Danpalon®

ON YOUR MARKS

22 Spirit
of Limoges

26 Emerald
line

28 Undulations
of Rheims

100% SPORT

30 A story of
ice and water

34 Game, set and
... match!

TREND TECHNIQUE & CO

36 Danpalon® opens up
to green construction

CONTENT

COVER PHOTO © Nicolas Fussier



■ Single skin façade, Danpalon® 16, opal

© Nicolas Fussler



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PROJECT details

CLIENT

CITY OF SAINT-ÉTIENNE ET EPASE

DESIGN ARCHITECT

JEAN-FRANÇOIS MILOU
 ■ Studio Milou Singapore
 ■ Singapore

LEAD PROJECT MANAGER

MARIA CAMPOS
 ■ Agence Palimpsestes
 ■ Lyon



INSTALLER

BLANCHET GROUPE
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LONG LIVES LA COMÉDIE!

La Comédie ■ Saint-Étienne (France)

In October 2007, the theatre of Saint-Étienne made its installation official in the former industrial wasteland of the François Mitterrand park. It stands as a symbol for this former industrial site. The highlight of the rehabilitation: the creation of a new concert venue that serves as a giant lantern.

The architectural firm Studio Milou and the agency Palimpsestes worked on a gigantic site. Their task was to reclassify the former industrial site of the “Société Stéphanoise des Constructions Mécaniques”, which closed in 2005 after 80 years in business. The site comprises 8 000 m² of buildings, halls and paths to be renovated to turn it into a new area of expression for the Saint-Étienne national drama centre “La Comédie”.

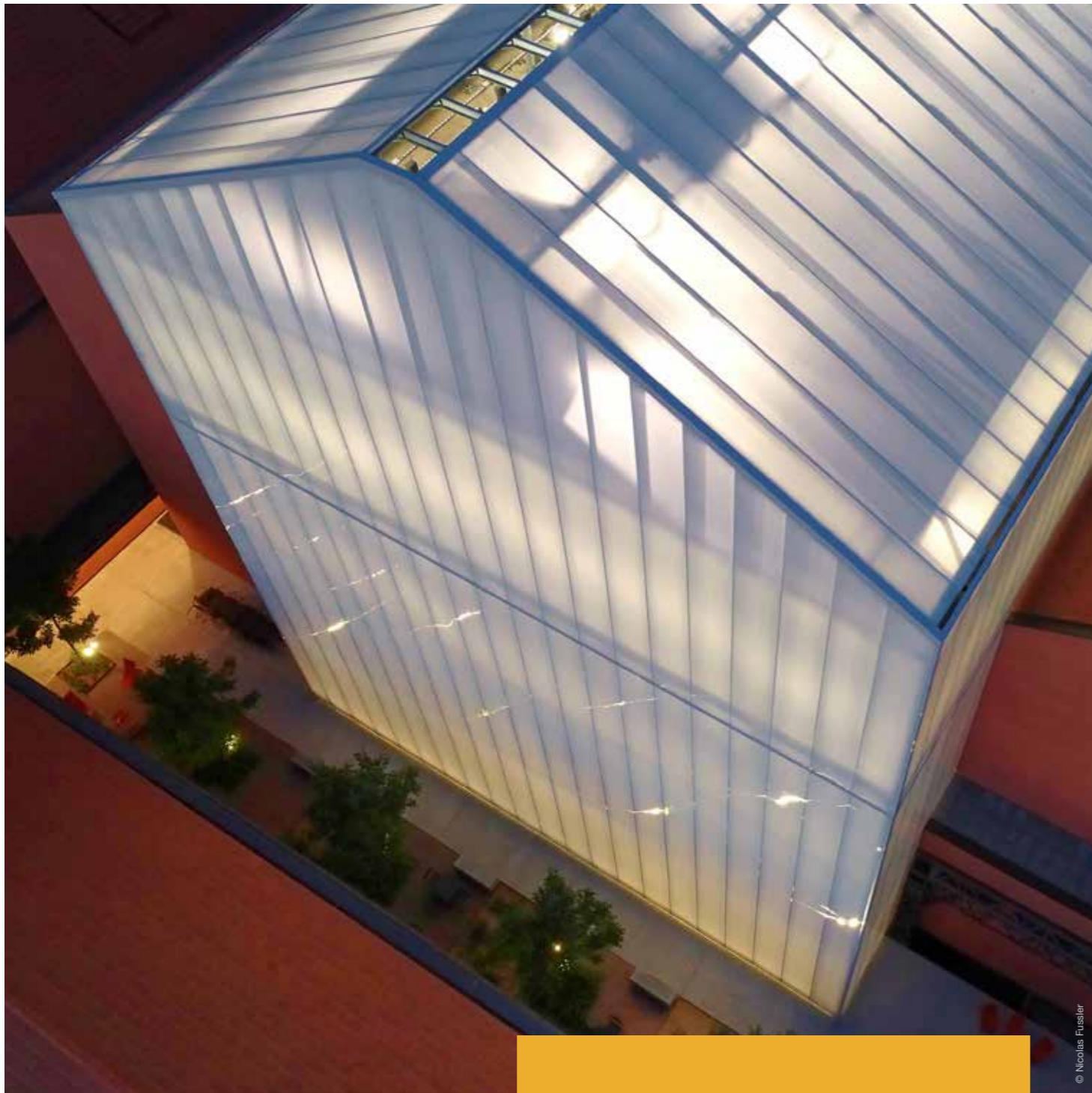
Bricks and cinder

In 2011, the architectural firm Studio Milou won the international call for projects. Three years later, the work site started with the scrubbing down and the removal of

asbestos from the existing building and certain unusable structures were brought down. “We respected the spirit of the site while preserving components of the original structure: some parts of the steel framework, brick and even cinder concrete walls (issuing from the steel industry waste in the local mineral field)” indicates Maria Campos, the architect who monitored the project from start to finish. In order to give the project a night-time identity, the design architect Jean-François Milou proposed integrating a new building into the heart of the site: a unique structure, clad in an outer skin of Danpalon® opal which serves as a giant lantern when night falls and is home to the main 700-seat concert hall ▶▶▶



© Nicolas Fussler



© Nicolas Fussler

Giant lantern

This 28 metre-high structure returns to the form of the original industrial buildings and, above all, literally overhangs the site and the surroundings of the city. It should be said that this light staging of the whole building (façade and roof) is daring: the light diffused from the Danpalon® comes from the reflection of lights projected onto a white metal cladding that surrounds the structure. "Our objective was to obtain a homogeneous finish in the diffusion of the light spectrum, but this was not a simple task, in particular due to the height of the areas to be lit", the architect points out. ■

DESIGN AND ILLUMINATION

It took the company Blanchet Groupe nearly three months to completely treat the façade lot and give the finish desired by the client by ensuring the backlighting of the polycarbonate cladding. The building is made up of a double skin: an outer casing in Danpalon® opal fixed on an aluminium framework, a gap of approximately 1 metre to allow for foot traffic and to integrate the light fixtures and, finally, the external thermal insulation of the building with insulated concrete walls and covered in a white lacquered metal cladding. The main implementation difficulty was: "The Danpalon® panels were exceptionally long: some measured nearly 12 metres long in order to reduce the joints in the panels as much as possible and obtain a smooth finish", explains Yves Vernay, in charge of the project for the company Blanchet Groupe.

elegant LIGHT

In the five examples that you are going to discover, clients and project managers chose to give a different sense to their buildings. A practical and functional sense of course but also an aesthetic sense associated with comfort, which carries a modern, elegant interpretation and all of it in light, contrary to expectations. In Guyancourt in the Yvelines for example, the architect had fun breaking the rules in the field: an architectural break in part possible through the use of Danpatherm K7. Thanks to this translucent solution, the Campus of automobile and mobility services was able to forget its function as a "motor workshop" to send out a new, more modern image of the industry, centred around technology. Another example, in the municipality of Brède en Gironde: who would have expected to find a fire station behind this translucent Danpatherm K7 façade, clad in an iridescent aluminium canopy? And what about the sorting and recycling centre in Leeds, England, where the architect integrated Danpalon® as a component in its own right in his ecological approach. So many examples to discover and which suggest that there are endless architectural possibilities still to be dreamed up!



DUO OF MATERIALS

Road Works Centre ■ La Gouesnière (France)

On this industrial building, the articulation between the use of wood and Danpalon® meets the aesthetic criteria as well as the thermal and natural light challenges. This duo of materials is thought out harmoniously and also integrates quality of life at work for the operators at the site.



■ Single skin façade, Danpalon® 12, 900 mm thick, clear



La Gouesnière, Ile-et-Vilaine. The green roof of the technical roadside centre (a branch of the Departmental Board's vehicle fleet) appears along a slightly raised route. On this site of 10 000 m² inaugurated in 2016, two buildings are clad in turns in wood and translucent material in order to gently integrate it into the surrounding wooded countryside. "Choosing wood as the material for the structure, cladding and joinery allowed us to better control the costs of the project because the timber industry, which is well-developed in Brittany, helped us maintain economies of scale. In addition, its ability to be used as raw and natural material contributed to the classification of work spaces: warm to the touch, quality of textures, improvement of the acoustics", explains Benjamin Boré. As for Danpalon®, this naturally found its place on a part of the structure offering excellent light diffusion and the expected thermal performance (two elements that contribute greatly to the quality of life of the operators on site).

One need, one material

In addition to the existence of two concrete "cores" insulating the high-risk storage spaces, the implementation of these two materials in the framework is organised according to the thermal needs of each area: natural wood cladding for the heated spaces and the workshop area, and a Danpalon® Clear skin to clad the storage and vehicle parking building. "All of this, with a solar screen reinforced by the canopies on the three most exposed Danpalon® facades", adds the ar-

chitect, insisting on the level of requirements needed concerning the durability of polycarbonate. "We know that all products are not equal. Yet, the durability of the product was part of the requirements of the CCTP (Specific Technical Specifications)", specifies Benjamin Boré.

Step forward

Since the installation of two buildings is rather restrictive despite the significant size of the site (10 000 m²), the architectural firm took care to highlight a form of "organisational rationality" by offering the equipment operators the option to only manoeuvre forward, as a guarantee of safety for the latter. "It was not required

in the project, but from discussions with the users we realised that the majority greatly appreciated it!", concludes the architect. ■

PROJECT details

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LIGHT CAMOUFLAGE

Fire Station ■ La Brède (France)

The activity never stops at a fire station: 24 hours a day, the firefighters are ready for action. In the municipality of Brède (33), the new building that is home to them also has several lives, depending on the time of day.

About thirty kilometres to the south of Bordeaux, the new rescue centre in Brède overlooks the municipality. Settled on former agricultural land on the edge of the forest, this relatively massive building has managed to integrate into the surrounding landscape. Here, the usual rules applicable to fire stations have been left in the locker rooms. The architect wanted to create a building that steps to the side and keeps a low profile, while being functional and comfortable for the firefighters, some of whom stay on site. The architectural firm Moon Safari thus

took a bet on the aesthetic of the two most exposed façades by working on a double skin structure with very different appearances. On the vehicle depot section, the inner skin is made up of a translucent Danpatherm K7 solution, which is itself clad with a metal framework covered with iridescent aluminium canopy blades (with colour variations from green to red). "The objective was that these canopy blades should always match the colours of the surrounding forest", explains Arnaud Guirao, the architect in charge of the project, who also wanted to give the building



TECHNICAL POINT WITH PIERRE SARTHOU, HEAD OF OPERATIONS FOR THE SMAC, in charge of the façade lot, roofing and air and water proofing

The installation technique for Danpatherm K7 is no more complex than for a Danpalon® product. On the contrary, it requires greater precision when measuring the dimensions. Using these measurements, Everlite Concept produces each cassette tailor-made in order to deliver a prefabricated façade. Thus, no cutting is necessary on site. The main technical challenge of the project resided in the implementation of the secondary framework consisting of the aluminium canopy. This was secured to the structure using Danpatherm K7 connectors, as its weight could not be grounded. We approached Everlite Concept's design office on this aspect.

a completely different appearance once night falls. "It is precisely this Danpatherm K7 solution that gives the building a second life since the artificial lighting of the building is diffused via this polycarbonate skin and makes up a diffuse, milky light, which creates a shadow play principle. At night, the façades eventually become the negatives of their day-time finishes", tells the architect. Even though this technical site is not subject to any thermal insulation requirements, the architect nevertheless opted for the Danpatherm K7 solution, in order to offer the firefighters optimal comfort of use. ■



PROJECT details

CLIENT
SDIS 33

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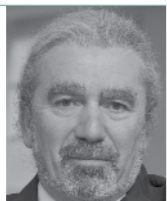


INSTALLER
SMAC AQUITAINE

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A LANDSCAPE FACTORY

Waste treatment centre ■ Leeds (UK)

Taking inspiration from the shape of an “airship hangar”, this waste treatment centre incorporates the new constraints of climate change. The implementation of a huge wooden nave, in part cased in a translucent Danaplon® solution and a plant façade makes this ambition a success.

DANPALON® IS A MATERIAL THAT IS EASY TO IMPLEMENT, EVEN IN BENDING. IT IS AS RECYCLABLE AS GLASS. IT HAS A SIZEABLE ADVANTAGE OVER THE LATTER: IT IS MUCH LESS ENERGY-CONSUMING TO MANUFACTURE.....

JEAN-ROBERT MAZAUD,
ARCHITECT



■ Façade, Danpalon® 16, 600 mm thick, clear, Sotflite finishing



Designing a factory is a challenge. Incorporating it into the landscape can even be seen as a tall order. “Factories are often considered to cause pollution and are thus not desirable near human establishments. However, several activities related to our cities require nearby facilities, just like this waste treatment centre”, explains Jean-Robert Mazaud, architect and president of the architectural company S'Pace. Inaugurated in 2016, the treatment centre in Leeds, UK, nevertheless seems to have taken on this integration wagger, all without denying its principal function as a waste treatment centre. The S'Pace agency therefore designed a

structure taking on the shape of an old airship hangar. How? By minimising the footprint of the main factory building on the ground (which houses the industrial processing equipment) and by raising it more than 42 metres high. Then, instead of the conventional concrete or steel framework, the architect opted for a laminated larch wood structure. This solution offers an unparalleled aesthetic finish while presenting an ecological interest regarding its carbon footprint. Finally, in the interest of landscape integration, this wooden vault was fully covered in greenery on the southern façade as well as on the northern façade, the cladding (in particular on the bent section) is made up of a

translucent Danpalon® solution, which reveals the vault. The choice of orientation and materials allows to optimally expose the plant wall by allowing natural light to enter the factory from the north, without the risk of overheating. Like a common thread, the translucent Danpalon® can also be found in the roofing and eastern façade in saw-tooth staggers in the second building for sorting and collection of waste (annexed to the main structure), in order to let in more natural light in the factory halls. This aesthetic and ecological work was rewarded this year by a special mention in the AFEX (French Architects for Export) grand prize. ■

215 000

The tonnage of waste sorted, recycled and upcycled annually in the sorting centre.

42 m

The height of the laminated larch wood vaults of the main building. Also the highest wooden construction in the United Kingdom.

1 800 m²

The plant surface on the southern façade of the building.

20 000

Houses powered annually by the waste from the centre.

A NEW ERA FOR THE MOTOR INDUSTRY

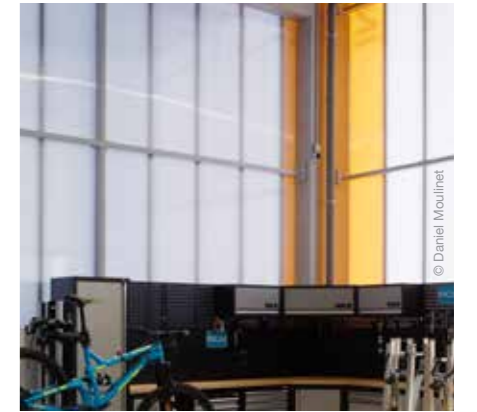
Campus des services de l'automobile et de la mobilité
■ Guyancourt (France)

Welcome to the "Campus des services de l'automobile et de la mobilité". Since September 2018, this site has brought together five branches that provide initial and continuous training to the (future) employees in the sector.



This structure is one of a kind. The "Campus des services de l'automobile et de la mobilité" was built in Guyancourt in the Yvelines. The 12 000 m² of buildings responds to very different challenges in the automobile sector (cars, electric and industrial vehicles, two-wheeled vehicles, etc.) and has for the past few months been the venue for the training of young people and employees

in the field. It is thus a unique site "that brings together five structures, the Aforpa, the INCM, the Garac, the GNFA and the ANFA which have never been united before", declares Duy Hiep Vo the architect, from the firm II+I Architectes. This was an ambitious architectural project that had to suit everybody and at the same time "change the traditional image attached to the motoring world", says the architect. ▶▶▶



PROJECT details

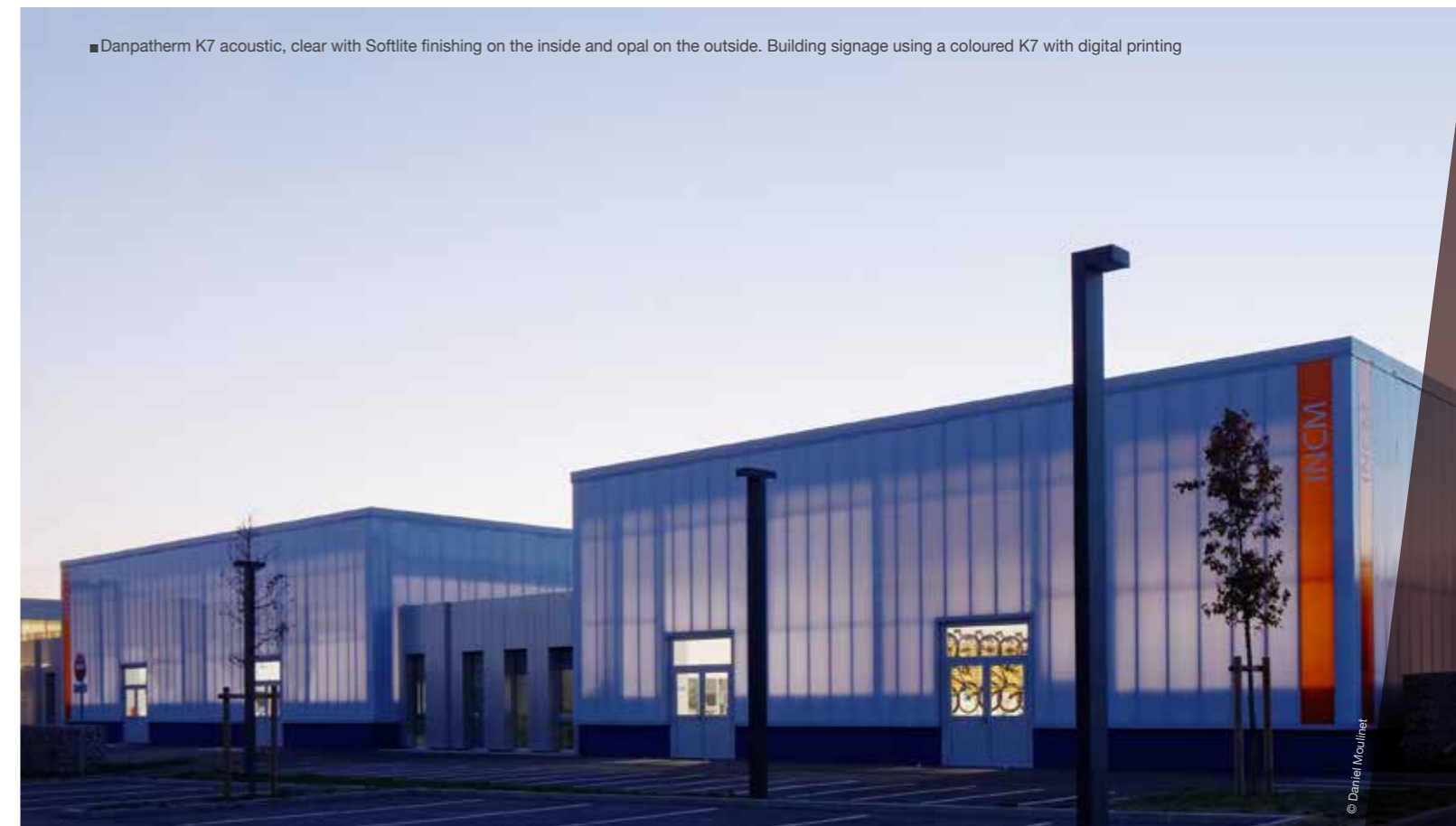
CLIENT
ANFA SERVICES DE L'AUTOMOBILE
AND DE LA MOBILITÉ ■ Sèvres

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CONTRACTING COMPANY
LÉON GROSSE

INSTALLER
GENDRE

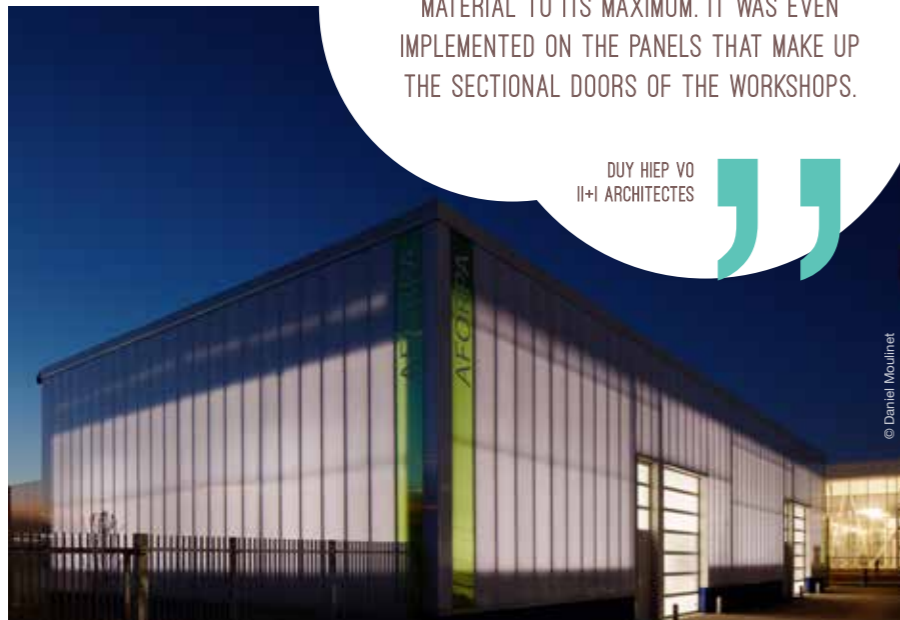


■ Danpathern K7 acoustic, clear with Softlite finishing on the inside and opal on the outside. Building signage using a coloured K7 with digital printing



AS WE MOVED ALONG IN THE PROJECT, WE TOOK THE DECISION TO USE THE MATERIAL TO ITS MAXIMUM. IT WAS EVEN IMPLEMENTED ON THE PANELS THAT MAKE UP THE SECTIONAL DOORS OF THE WORKSHOPS.

DUY HIEP VO
H+I ARCHITECTES



Breaking the rules

Say goodbye to the vision of the dusty sheet metal garage and workshop: the buildings hosting the training and the workshops are clad in a Danpatherm K7 clear solution treated with Softlite in the interior and touches of opal, blue, green, and orange on the outside. These are the acoustic cassettes, in other words a triple wall that provides aesthetic, thermal, acoustic, permeability and air- and watertight properties.

"The motor industry is undergoing a transformation. Danpatherm K7 demonstrates this by giving a more scientific approach, with buildings that look more like laboratories", details Duy Hiep Vo. The translucency of the material provides real clarity in the workshops, which are traditionally dark spaces.

Logically, in order to maintain the functional character of these premises, the Danpatherm K7 was implemented on the upper section, from 1.5 metres above the floor up to 5 meters at the height to the ceiling.

Signal building

In addition to its aesthetic (and symbolic) task, the Danpatherm K7 plays an important role in the signage, helping users to find their way around in the 12 000 m² of buildings.

"This was only implemented on the workshops and the training rooms while the administrative sections are treated with Alucobond.

Finally, to distinguish the buildings from each other, a silk-screen logo and a colour code straight from the Danpatherm K7 was affixed to each unit". Thus, the AFORA building is represented by the Lime green colour, the GNFA building by sapphire blue and the INCM by orange. ■

elegant
LIGHT

FIREMAN RED, OF COURSE!

SDIS Terre Sainte ■ Saint Pierre (Reunion)

With the construction of this new rescue centre, the firefighting team in the municipality of Saint Pierre, in the south of the island of Reunion, enjoys a high-quality working environment and which knows how to draw attention.

A radical change for the team who had previously been working in the city centre of Saint Pierre under rather deteriorated conditions", tells Jean-Louis Fabry, architect who has been monitoring the construction of the fire station since 2012. Far from being the umpteenth steel sheet industrial building, this rescue centre serves as a "signal" building thanks to the use of an interesting diversity of materials. This is in particular the case in the emergency vehicle storage area, largely visible from the main road and made up of high sequenced bays, clad in grey sheet me-

tal, with red Danpalon® on the air inlets and wooden cladding on the ends. This final embodiment contrasts with the initial project which planned to cover the structure in red sheet metal and to bring in natural light with translucent Danpalon®. "We finally brought in elements of a strong colour with Danpalon® rather than with the sheet metal because we knew that the product has good resistance against UV and that the colour would not change over time, in particular thanks to its SOCOTEC DROM-COM technical enquiry (No. 1512-68080-000019)", explains Jean-Louis Fabry. ■

PROJECT details

CLIENT

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USER

SDIS RÉUNION

PROJECT MANAGER

Head architect: JEAN-LOUIS FABRY

Architect: ST PAUL

■ Co-contracting architect: MGA

■ Thermal design office - all trades: SOCOTEM

■ Thermal design office environmental quality: IMAGEEN

OPC (SCHEDULING, MANAGEMENT, COORDINATION)

JEAN-LUC MASANELLI

INSTALLER

SMOI

ON THE INSIDE

Depending on the reflections from the sun, Danpalon® coats the technical room in colours that change from deep shades of red to more subtle oranges. The atmosphere is amplified by the interior aluminium cladding of the roof, which also captures these light effects.



Special feature

DURABILITY

BEMA, ITS BOLDNESS HAS NOT AGED

BEMA ■ Nantes (France)

About 25 years ago, Manuelle Gautrand created the BEMA, the maintenance warehouse at the Nantes-Atlantique airport. This building, through its aesthetic quality, its architectural choices and its durability is, today still, a benchmark. The renowned architect agreed to look back on this project with Everlite.



Interview

Manuelle Gautrand ■ ARCHITECT

The BEMA is a structure that we can describe as 100% polycarbonate with an implementation of the product in the roofing, cladding and façade as well as in the interior partitions. Can you tell us more about this aesthetic choice?

This choice resulted from many analyses that we conducted to find the "ideal material". The objective was in fact to find a translucent material to provide relatively continuous and homogeneous natural light in the warehouse which has a very large



surface area. This homogeneity was necessary because we could not anticipate the way in which the warehouse would change over time: it could potentially be partitioned in the interior. The façades as well as the roof thus had to contribute to this flexibility to sufficiently provide natural light, regardless of what partitioning is used. The concept of durability was also at the heart of our research, with a qua-

lity-price ratio that had to be optimal. Airports are places where pollution can be significant, due to the air traffic and the jet fuel emitted. As for the client, he was curious and "informed". He very quickly followed us because we knew how to work together to ensure these aspects of sustainability and durability, which were as important to him as to us. ▶▶▶

■ Danpalon®, 16, clear



A SUCCESSFUL PROJECT DEMANDS RESPECT. (...) IT IS MAINTAINED, LOVED AND BECAUSE OF THIS, USERS RESPECT IT.

MANUELLE GAUTRAND, ARCHITECT



At the time, the approach was considered innovative. What is your opinion of this structure in 2018?

Our approach was really innovative because nobody had yet "dared" to implement this material in such surfaces, to literally cover all the façades of a project and its roof. Until then, it was only used to occasionally bring in some natural light via glass roofs and/or bay windows in the façade. The manufacturer itself was surprised by our radical decision, aimed at augmenting polycarbonate in this way, and to literally use "only this" for the entire project. But they were

also curious about the result and knew how to lead us to provide all their help and technical support. Everlite played the game of this innovation and allowed us to hit it home.

Has time ruled in favour of your construction approach?

This building is still a success because it maintains absolute flexibility and above all, it is still as beautiful because the material has not aged. I am still persuaded that a successful project demands the respect of the client and the potential users: it is maintained, quite simply lo-

ved and because of this, users respect it. And at the Nantes airport, it is always this beautiful "box of light", crystal-clear, placed along the runway and which radiates every night with a beautiful golden light.

The BEMA is not your only structure implementing Everlite products. Would you say that you developed a particular relationship with this manufacturer?

Yes. There are two types of manufacturers: those who are trying to "sell their product" with the preestablished implementation. They do not listen to the needs



© Philippe Ruault

and ideas of the architects and they do not try to adapt to a project. And then, there are those who are truly interested in the architects, who listen to them and who constantly try to change their products to improve them and adapt them to new needs. These manufacturers are engaging because you can develop a very rich business relationship, with mutual lessons: they help us in our research and developments and we strive to make their products more attractive. This relationship is vital for building innovative and long-lasting projects. This is the type

of relationship that we developed with Everlite, to such an extent that we have regularly worked together again, by sharing the same passion, which is to build beautiful projects.

Do you think that the concept of durability should be addressed differently today than 25 years ago?

The question of durability has always been at the centre of our trade, whether it is that of the manufacturer or of the architect. We have been building for several decades and the issue of durability is central. On the other hand, I think that the issue of sustainable development is now better taken into account. The architect can share with the manufacturer in a more transparent way about the properties of a material and its manufactu-

ring process. A material must not only be durable, it must also be respectful of the environment, and if possible, produced as locally as possible. This entire manufacturing chain is fascinating to discover and can there too bring a lot of depth and sensitivity to an architectural project. ■

Project DETAILS

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INSTALLER
CHAGNAS

10 YEARS

AND STILL SENSATIONAL

Maison De La Sécurité ■ Lancy (Switzerland)

One decade after the inauguration of this fire station which is home to the firefighters of the city of Lancy, the building all in red has still not aged.



© Gilles Bertrand

Inaugurated in 2009, this municipal building brings together at the same site the fire station, the rescue centre and the civil protection office. 10 years later, the building continues to surprise by very clearly standing out in the urban landscape thanks to its very visible main façade, worked around Danpalon® red. It is a very strong aesthetic choice because what could be more symbolic than a large red cube to bring shape to a structure intended for fire fighters and emergency services?

Implementation duo

Here we find two different types of Danpalon® implementation: a single skin on the garage doors to obtain a transparency effect and in the cladding on the upper section. This is a surprising decision, in particular at night as the architect points out: "when the ground floor space where the vehicles are parked is lit up, and it looks to passers-by as if the station is on fire". ■

Project DETAILS

CLIENT
CITY OF LANCY

PROJECT MANAGER
■ DMA ARCHITECTURES AND WR ARCHITECTES
■ PHILIPPE DESPRES ■ 04 50 04 41 49

INSTALLER
■ BG BONNARD & GARDEL
■ BCS SA
■ ARCHITECTURE & ACOUSTIQUE SA

Even today still this decision seems to satisfy the agency DMA Architectures and the architect Philippe Despres: "This building remains one of the firm's emblematic constructions in particular because of its durability: in fact, the material and the colour have not suffered any major deterioration due to rain, wind or even the sun". It should be said that the architect was not new to Danpalon® and was already sure of the durability of the material over time.

The durability OF DANPALON®

45

That is the thickness, in microns, of the anti-UV treatment applied to the Danpalon® system through co-extrusion (regulatory testing CSTB EN 1653).

3200

This is the number of hours that corresponds to the aging test conducted by the CNEP SEPAP (weather-O-meter) and represents between 20 to 25 years of exposing Danpalon® to outside conditions. This test demonstrates a loss of treatment of only 1µ/year, for a material that keeps all its technical properties.

TECHNICAL OPINION

Issued by the CSTB on the Danpalon® system, it concerns not only the Clear solution but also the entire range of colours offered by Everlite Concept.

5

This is the number of different finishes offered: iridescent look, welded edges, infrared but also Softlite treatment (ensuring a diffuse and uniform light on the panels to fight glare) and HProtect (which increases the resistance of the material to external stresses and facilitates cleaning).

100%

During the manufacturing process, all of the material scraps are kept and then reintroduced into the production chain, at the rate of approximately 10% of recycled matter.

On your MARKS

Bringing retail spaces to life is a daunting task. The client, while continuing to look for practical spaces, is also paying more attention to the aesthetics of the site. The customer's route must be able to surprise them, take them to a different universe.

To put it plainly, it is difficult to tempt them by suggesting they step into a mere ageless business unit with neon lights. Aware of the challenge, some contractors have chosen to build structures by integrating new sales paths. Others, when renovating their shopping malls, have given them a new lease on life by counting on an aesthetic unit. Every time, Danpalon®, in its multiple colours and technical implementation solutions allowed them to respond to the new challenges of our time.



■ Façade Danpalon® 3DLITE 22, mounted in BRV, 600 mm thick, clear, blue opacifying white, opacifying gold

SPIRIT OF LIMOGES

Boisseuil shopping centre ■ Boisseuil (France)

In the southern suburb of Limoges, the extension and renovation of the Boisseuil shopping centre now makes up an architectural complex in line with the new expectations of consumers. This approach opts for aesthetics, which plays on the façades with subtle and reflective colours.

FOR A "LUXURY HOTEL" EFFECT

Located across from the cashiers, one of the main interior malls underwent a radical transformation in order to create an opulent-looking and welcoming complex, which is supposed to be a reminder of the boutique hotels and luxury hotels in Paris. To do so, the ceilings have been clad in two different colours (silver and gold) metal blades, installed in staggered rows while the already-existing light shafts (below which the rest areas are established) we magnified by the giant mobiles created in Danpalon®. These elements delicately accompany the arrival of natural light in the mall while improving the acoustics.



© Héctor & Pedraza architects

© photobymarie



© photodynamie

What do consumers expect from the renovation of a shopping centre? This is a complicated question which is now asked by architects, urban planners and clients in charge of giving new meaning (and life) to these often impersonal retail spaces. "Located in the southern suburb of Limoges and built in 1987, the Boisseuil shopping centre is not spared this problem" confirms Hector Pedroza, from the firm Guérin & Pedroza in charge of renovating the site.

As smooth as porcelain

To give meaning to this renovation, the agency in particular worked on the façades and the main entrance to the site, by designing a complex that is in perpetual interaction with the light. This work on light in particular comes to life with the main façades of the building in Danpalon® 3DLITE and frame the main glass entrance. "The cladding on the façades was treated with tailor-made colours in an alteration of reflective gold, blue and clear colours that are a reference to the smoothness and graphics of the traditional porcelain of Limoges",

comments the architect who continues: "these vertical strips of subtle colours follow a dynamic pattern and reflect various elements: sky, greenery, windows or even the movement of visitors depending on the time of day". In order to protect the foot of the façade, the first third was clad in a sometimes golden-pearly-curved sometimes reflective metal, which picks up on the vertical pattern of the translucent strips on the pedestrian level. ■

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THANKS TO THESE TWO ALTERNATING WALLS OF TRANSLUCENT AND OPAQUE WALLS, THE DANPALON® 3DLITE CREATES A UNIQUE FINISH ON THE DEPTH OF THE MATERIAL. THE FAÇADE THEREFORE COMES ALIVE IN 3 DIMENSIONS DEPENDING ON THE PERSPECTIVE AND THE ORIENTATION OF THE NATURAL LIGHT.

HECTOR PEDROZA,
 GUERIN & PEDROZA ARCHITECTES



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EMERALD LINE

Business units ■ Saint-Malo (France)



PROJECT details

CLIENT

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INSTALLER

STEREC NORMANDIE

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On the outskirts of Saint-Malo (35), Cobi Engineering and the firm XD Architectes together conceived of and designed a building housing a dozen business units. What is so special about it? This building façade is made up of coloured louvres, the shades of which vary from light blue to emerald green, in reference to the shades of the sea close by.

“On this business unit layout project in the municipality of Saint-Malo (35), our main constraint was to shelter

pedestrians and users in the event of brief bad weather, as is regularly the case in Brittany, which is also so close to the sea”, states Xavier Dattin, from the firm XD Architectes (appointed to this project with Cobi Engineering, the design office). In order to build a rather light structure on the main façade (parking side), the agency quickly abandoned the idea of installing a single canopy and opted for a more global solution: bringing the main façade of the building forward so that it can protect passers-by and create a unified vertical façade over nearly 150 metres. The façade itself is animated by a vertical wall consisting of self-supported coloured Danpalon® louvres, 3 metres high and 50 cm wide (480 m²).

“We chose to put together this wall with a range of six colours from blue to green, some specifically created by Everlite Concept in order to evoke the nuances of

the Emerald coast nearby”, confided the architect. On the implementation side, specific work was carried out to ensure that the louvres are wind-resistant. The architect specified: “we designed a stiffener system (metal half-connectors that are clipped onto the Danpalon® cladding) to make sure they hold and for the graphic unity to be what it should be, we coated these stiffeners with 6 different RAL colours in order to match the shades of the louvres as closely as possible”. This unique finish is reinforced by the presence of smooth, white cladding under the façade: the light thus enters through the coloured louvres and is reflected in the immaculate cladding. “Above this façade, we left a pediment of 180 cm high, in order to unify the positioning and the size of the business signs”, concludes Xavier Dattin. On the other side of the building, on the secondary façade, the agency also repeated the range of 6 Danpalon® colours in order to install them, more conventionally, on the cladding. ■



■ Canopy façade Danpalon® 16, 600 mm thick, sapphire blue, arctic blue, blue, empire green, medium reflective green, green

WE HAD A VERY SPECIFIC IMPLEMENTATION, WITH THREE-METRE HIGH LOUVRES. ON THIS PROJECT, THE DESIGN PHASE WAS MORE IMPORTANT THAN THE EXECUTION AND DISCUSSION WITH THE ARCHITECT WAS ESSENTIAL.

FABRICE CARO
DIRECTOR OF COBI ENGINEERING

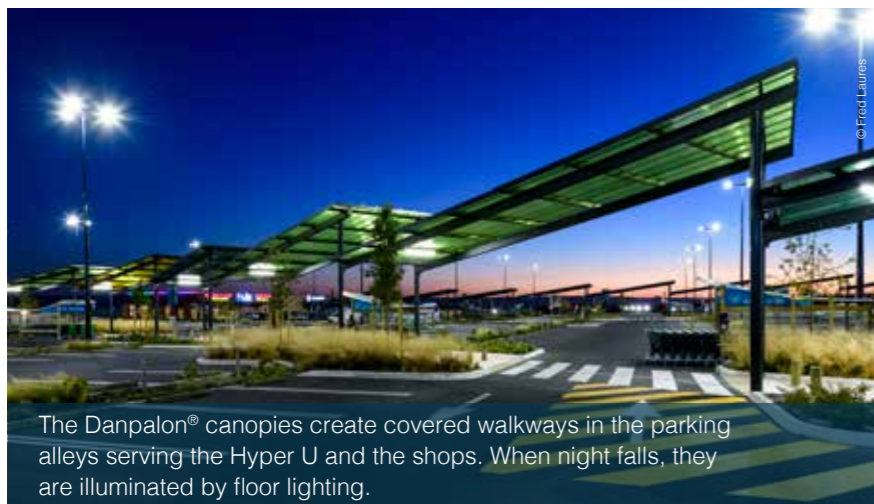


■ Danpalon® 10, 600 mm thick, green, empire green, almond, yellow. Application on roofing for the canopies and façade for the building

UNDULATIONS OF REIMS

Hyper U ■ Reims (France)

A vertical glass canopy, made up of coloured Danpalon® cladding, facilitates the movement of customers at the Hyper U of the Croix Blandin (and the various brands that surround it) in Reims. This is an aesthetic and practical solution since it protects them from bad weather.



The Danpalon® canopies create covered walkways in the parking alleys serving the Hyper U and the shops. When night falls, they are illuminated by floor lighting.

A vertical line of green, yellow and orange shades evokes the agricultural landscape surrounding Reims. Welcome to the Hyper U in the new shopping area of the Croix Blandin, on the eastern outskirts of the city. This is an up-and-coming area, more generally known to the inhabitants as "Reims Village". Around this supermarket which stretches out over 6500 m², different business units were incorporated in order to offer a large diversity of offerings and services to customers. Together they create a unified complex thanks to the involvement of the architect Xavier Dattin, partner to the project engineer COBI Engineering. He designed a covered pedestrian walkway, covered in a vertical glass canopy with coloured Danpalon® cladding, with the purpose of facilitating the movement of customers from one shop to another (in the same spirit as the Saint-Malo project, on p. 26 and 27). The cladding in shades of green, yellow and orange resemble the chequered farmlands that dot the surrounding hills of Reims.

Splash of colour

Thanks to their south-west orientation, the coloured Danpalon® components (treated with different levels of transparency) act as a filter on the white façade facing it. It consists of lacquered concrete panels,

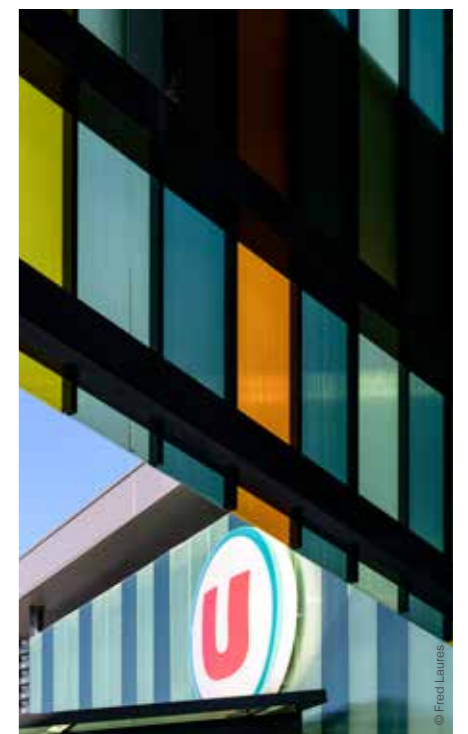
THE CLIENT'S OPINION

"With the architectural firm XD Architectes, we previously created a project with a glass façade cladding, covered in a coloured film. This was an interesting solution but it was not of the same interest as this Danpalon® solution. The latter has the advantage of being light, available in a broad spectrum of colours and is relatively economical compared to the cost of a glass product."

Fabrice Caro, director of Cobi Engineering.

enhanced with a fibre cement cladding which is reminiscent of the mineral appearance of chalk, a local material. "The particularity of this vertical glass canopy resides in how it is cut in the lower section in order to obtain an undulating effect that brings liveliness to the façade and evokes the lines of the landscape's horizons", explains Xavier Dattin, from the firm XD Architectes, established in Rennes (35). The material is cut before installation and requires tailor-made work. In fact, the

cladding was heat soldered, during factory production, in order to obtain a more precise finish and to not let Danpalon® air pockets open. "We have never used polycarbonate but the client assessed this situation logically, which is largely more economical and lighter than a glass product and which is of interest because of its durability in a context where products must be particularly hard-wearing". ■



PROJECT details

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100 %
SPORT

A STORY OF ICE AND WATER

Sapphire Ice & Leisure Centre ■ Romford (UK)

A pool with 8 swimming lanes and an ice rink that can accommodate 1200 ice skaters. This is the ambitious project undertaken by the “Sapphire Ice & Leisure Centre” in Romford, in the suburb of London. This sports centre is integrated into a tight urban space while maximising the natural light.

Whether as part of new projects or renovations, the Everlite Concept solutions are significant allies to fit out gyms and sports centres.

Their main advantage is obviously the quality of transparency, which allows them to let light in while offering high UV-resistance. Thanks to its multiple implementation possibilities (in single or double skin cladding, etc.), Danpalon® is as much an aesthetic as a technical solution for sports buildings.

Project managers can play with transparency, filled and empty spaces and above all build structures whose beauty changes as the day goes on and that illuminates the nocturnal landscape.

See for yourself!

Located to the north-east of London, the city centre of the suburb of Romford is undergoing a complete overhaul. As proof of this is the recent inauguration of the sports and leisure centre “Sapphire Ice & Leisure Centre”. Designed to promote the practice of sports activities by inhabitants with a notion of well-being, this centre was able to count on local funding of 25 million pounds sterling (or more than 28 million euros). The subsequent budget allowed the construction of a complex

which includes a 25-metre pool with 8 swimming lanes and a training pool, a fitness centre with sauna and restaurant and finally, the showstopper: an ice rink that can host up to 1200 skaters and 900 spectators in the stands.

This sports centre also takes on a sizeable particular architectural feature: the ice rink is suspended above the swimming lanes of the pool. This is a rare structure in the United Kingdom which has only two similar buildings.



DURING THE DAY, THE BRIGHT TONES AND THE SHARP LINES OF THE BUILDING INEVITABLY DRAW THE EYE, REGARDLESS OF THE WEATHER CONDITIONS.

NATHAN SWIFT,
SAUNDERS BOSTON



Sapphire jubilee

The name of the centre was not left to chance. Quite the contrary. In order to pay homage to Queen Elizabeth II, it was baptised “Sapphire Ice”. In fact, in February 2017 (one year before the inauguration of the centre), Her Majesty celebrated the 65th anniversary of her reign, which is her sapphire jubilee! This colour completely matches the function of this building which in the end is mainly home to water in its various states of matter. Here we thus find blue in the place of honour in the structure’s architecture, in particular thanks to a Danpalon® envelope made up of four shades ranging from glacier blue to marine blue. “This shading and this alternation of colours change depending on the time of day and naturally integrate into this very built-up urban complex”, explains Nathan Swift, director of the architectural firm Saunders Boston. ▶▶



The translucent Danpalon® strips maximise the volume of light diffused in the ice rink. A Softlite treatment on the cladding reduces the risks of glare.

■ Danpalon® BRV 16, 900 mm thick, four shades of blue

AT NIGHT, THE BUILDING IS RADIANT. HERE WE DISCOVER A CUBE OF ICE ILLUMINATED FROM THE INSIDE BY LARGE WINDOWS. ALL OF THIS IS PUNCTUATED BY LED LIGHT STRIPS. THIS SURPRISING BUILDING HAD ALREADY PROVED ITS ABILITY TO REVITALISE THE NIGHT LIFE OF THE CITY CENTRE OF ROMFORD.

NATHAN SWIFT,
SAUNDERS BOSTON



Natural light

In order to optimise the incoming natural light, the pool located on the ground floor benefits from large 22 mm translucent Danpalon® walls that allow plenty of natural light to enter. Then on the angles of the façades, in particular on the ice rink level, the Danpalon® walls bathe the space in daylight. This solution provides sufficient thermal comfort and also prevents glare thanks to the Softlite treatment on the inner layers of the panels. The entire building is covered with a Danpalon® ventilated façade in shades of blue. This inside-outside contrast obtained by the transparency effect of the material can be seen even more when night falls, when the artificial lighting gives a hint of the building's activity to passers-by. It is a striking effect especially since the structure seems to float above the glass strips on the ground floor. To enhance the structure at night, the main Danpalon® façade also integrates a vertical strips of LEDs of different heights, that bring life to the structure and light it up even more. ■

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SPORT



GAME, SET AND... MATCH!

Tennis court of Borotra ■ Vélizy-Villacoublay (France)

Renovated for nearly 4 months in 2017, the indoor tennis court of Vélizy-Villacoublay integrated into the Jean Borotra sports centre meets the requirements of the French Tennis Federation (FFT) regarding light transmission. It is the implementation of an opal Danpalon® solution that allowed them to rightfully respond to this issue.

PROJECT details

CLIENT

VILLE DE VÉLIZY-VILLACOUBLAY
Heritage appreciation division
■ Vélizy-Villacoublay

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INSTALLER

SAS BELLIARD

In 2017, the indoor tennis court of Vélizy-Villacoublay could barely manage to ensure good playing conditions for the few players who still ventured out there. With a lack of light, dampness, puddles of water related to the aging roofs, and a lack of insulation in winter, the list of hazards was long. *"It should be said that the architect of this building, with its numerous gables and slopes, was far from facilitating the integration of standard requirements for sports buildings"*, specifies Philippe Bancilhon, the architect. Having become brittle and yellow, the old polyester panels no longer ensured light transmission, for example requiring the users to turn on the light at any time of day and in any season.

The FFT's requirements

"Tennis is one of the most demanding sports as far as light transmission is concerned", summarises the architect who worked with the FFT so that the natural light falling onto the courts would be completely homogenous and soft, and without risk of glare. It is exactly to meet this requirement that after various product tests, an opal Danpalon® solution was selected in order to restore certain parts of the roof and walls, in addition to the steel cladding. During the renovation, the architect deliberately rationalised the original frame (in particular the roof). *"We concentrated Danpalon® on the sections located above the courts: we thus certainly have fewer transparent elements than before but given that these ensure better light transmission and that they are better distributed, the result speaks for itself"*, supplements Philippe Bancilhon who, still to meet the FFT's standards, left the façades at the back of the courts windowless with a steel cladding solution. ■

DID YOU KNOW?

The French Tennis Federation (FFT) requires, for covered tennis courts, a value of 500 lux at different points on the court. The architect and the Everlite Concept design office digitally simulated the building using Archiwizard, the energy simulation software. The design office played with the thickness and the colour of the material to meet the FFT's requirements. It is Danpalon® 10 mm thick, in opal that was identified as the most suited, as the opal colour offers the best compromise to provide a uniform blanket of light over the entire court.



100%
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■ Roofing and façade, Danpalon® 10, 600 mm thick, opal

DANPALON® OPENS UP TO GREEN CONSTRUCTION

CFA Écocampus ■ Sainte-Tulle (France)

Through the implementation of the green construction approach, the new CFA Écocampus in Sainte-Tulle (04) already incorporates the considerations of the RT 2020. Its Danpalon® façades offer the structure a delicate aesthetic which integrates into the surrounding landscape as best possible.

PROJECT details

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DURANCE LUBERON VERDON
AGGLOMÉRATION (DLVA)
■ Monasque



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Wooden framework, hemp insulation, natural ventilation: these are some of the elements that confirm the green construction approach taken by the CFA Écocampus. Inaugurated in September 2017, the latter furthermore meets the requirements of the Sustainable Mediterranean Buildings (BDM) initiative, gold level. Created in 2008 in PACA, which is lesser known than the HQE, BBC or even PassivHaus standards, it is differentiated through an approach centred on the requirements of the Mediterranean climate: "Certain labels essentially focus on insulation. In the South, we also need to integrate summer comfort", explains Bernard Brot from the firm R+4 Architectes. Summer comfort: a topic that is at the heart of their thinking. An example? The interior streets and the patios of the CFA were designed following a bioclimatic approach. ▶▶▶



© Lisa Riccioth

"The outside tree-filled patios are regularly watered and cool down the air and this is then conducted via a stack effort to the hottest areas, such as the covered patios", adds the architect. In the same way, we opted for hemp wool insulation because, contrary to other synthetic insulators that immediately diffuse the heat, this accumulates the heat to release it again (at around 3 pm) when it is night. "This is what we call thermal phase shift", specifies Bernard Brot.

Integration into the greenery

In order to cover the wooden framework, the two architectural firms who jointly created the structure opted for a Danpalon® solution by Everlite Concept, the Clear colour of which offered ideal landscape integration. "Since the building is rather large, we wanted to avoid the solid effect and not create a visual barrier. On the contrary, this material reflects the light, plays with the shadows of the trees and changes during the day", adds Bernard Brot. ■

The point of view of

MAHMOUD BENSAOU

EVERLITE CONCEPT DESIGN OFFICE

By being involved in the execution plans ahead of time, we provided relevant solutions to the singular points. Here, it involves limiting the cutting of the Danpalon® BRV frames in the joinery in order to have a better aesthetic finish and facilitate the installation. We also work on the joining between our Danpatherm K7 system and the aluminium joinery of the glass curtain walls of the main entrance.



© Lisa Riccioth

ON THE FAÇADE: A VENTILATED RAINSCREEN SOLUTION IN DANPALON® BRV, CLEAR. ABOVE THE CURTAIN WALLS OF THE MAIN ENTRANCE: A DANPATHERM K7 SYSTEM (DOUBLE DANPALON® SKIN) WHICH ENSURES THERMAL INSULATION AND THE ENTRY OF NATURAL LIGHT.



EXPRESS YOUR OTHER SIDE

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