

# LIGHT ARCHI TECTURE

**4-5**  
QUIRKY

Organic  
Inspiration

**9**  
SPECIAL REPORT

Creative answers  
to the external  
thermal insulation

**22-23**  
LEISURE

Coloured volumes  
as urban signifiers

**31**  
CULTURE

A church of lights

**number**  
**1326**

## Colours!

A cry of colour: that's what we hope will resound throughout this exceptional forty-page issue. A cry of joy, a cry of life, to wake up the world around us and make our surroundings more welcoming.

Dense colours that draw the eye and act as signboards.

Changing, iridescent colours that evade our gaze and play with our senses.

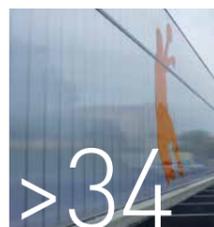
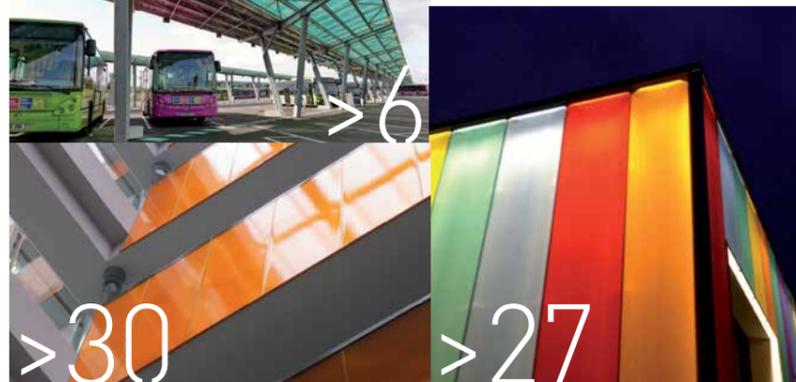
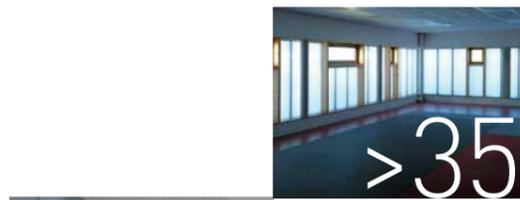
Colours illuminated by the sun that tint and brighten the air.

Protective colours that shelter from heat, cold and inharmonious surroundings.

Subtle colours that fade into the environment and send back reflections in infinite variations.

And finally, colours which simply remind us that we are a matrix of emotions and that architecture is one of their most powerful vectors. Light Architecture invites you to share in the colourful vision of the designers who are contributing to the improvement of our living environment.

The editorial team



# CONTENTS

- 4 Organic inspiration
- 6 Aerial structure for majestic canopies
- 8 A milky way as a signboard

## SPECIAL REPORT

### Creative answers to the external thermal insulation

9 to 21

- 22 Coloured volumes as urban signifiers
- 24 Wall origami
- 25 A luminous showcase for high tech planes
- 26 Contrasting materials
- 27 A carnival workshop in colourful costume
- 28 Light at the movies
- 29 Natural geometry for an equestrian centre
- 30 A sizzling reception hall
- 31 A church of lights
- 32 Interior wellbeing
- 33 Brilliance and Opalescence
- 34 Cubes of light
- 35 Heavenly reflections
- 36 Brise soleil in deep red
- 37 Trend Technique & Co

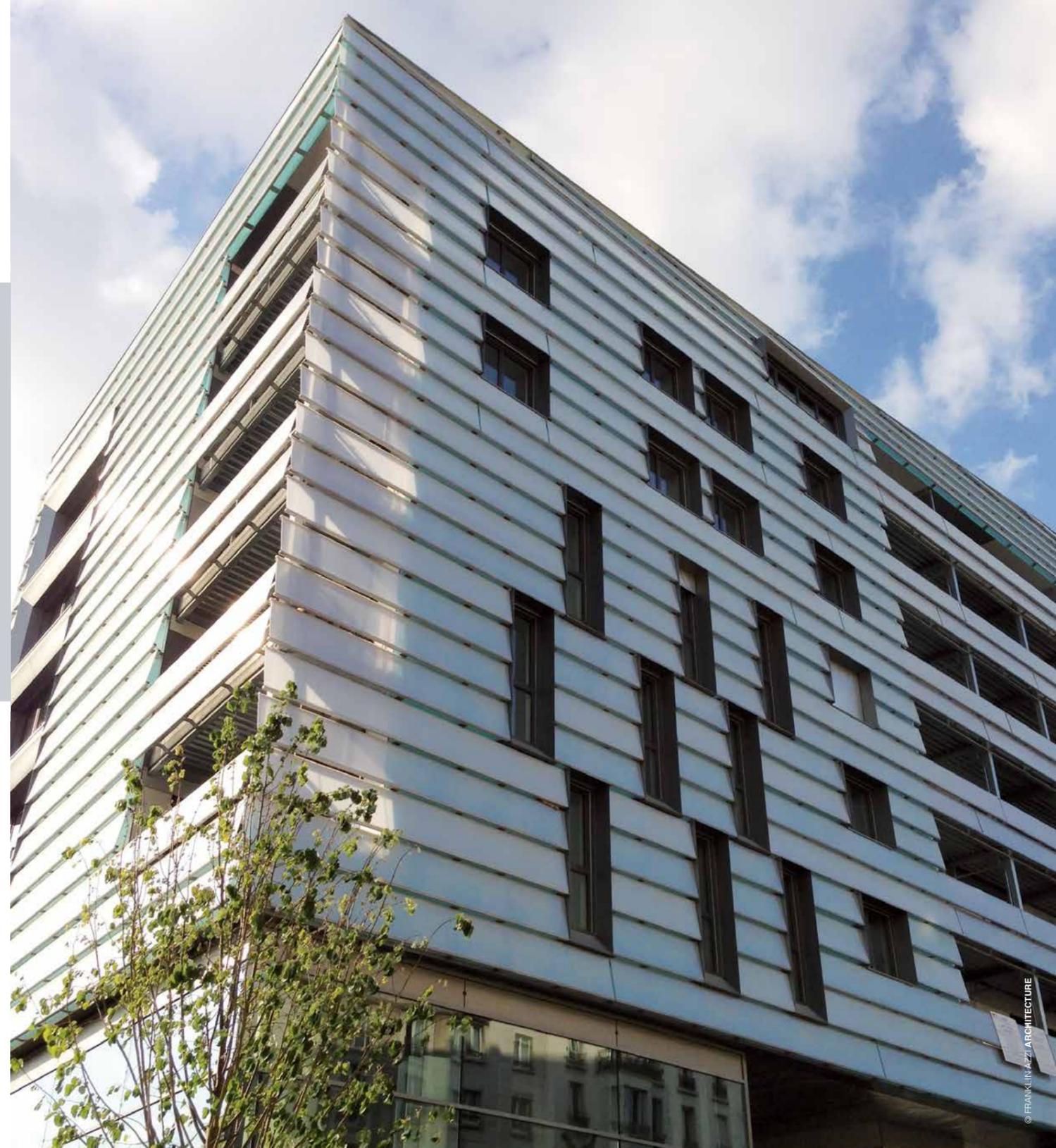
Cover picture: © Arthur Péquin

# ORGANIC INSPIRATION

Paris (France)

■ Ventilated Danpalon® 16, 600 mm, clear and ice, 1500 m²

Contractor  
PIERRE EVOLUTION  
Valenton (France)  
+33 (0)1 56 31 27 74  
pierreevolution@wanadoo.fr



Located in the Cardinet-Chalabre urban development zone in Paris, this building houses HQE (High Environmental Quality) homes, a day centre and stores, in pursuit of sustainable development, integration into the existing district and quality of use for inhabitants and users. Highly compact, its mass is balanced by a sloping attic and its volume softened by sloped panes. The front sides are made up of a thick insulation compound, breath-

able membrane and mechanical protection with clapboards made of Danpalon®. Chosen in colours that match the prevailing limestone shade of the capital, the clapboards reflect the Paris sky while allowing a glimpse of the underlying membrane. The marked horizontality of the lines is a modern take on Haussmannian wall joint treatments.

On the rue Cardinet side, the facade is smooth, without balconies, and animated by a falsely random rhythm created

with alternating photovoltaic boards and Danpalon® clapboards. The rhythm corresponds to the sun exposure on the front side and therefore to the layout of the photovoltaic panels, and also breaks up the repetitiveness of the identical cells that make up the homes.

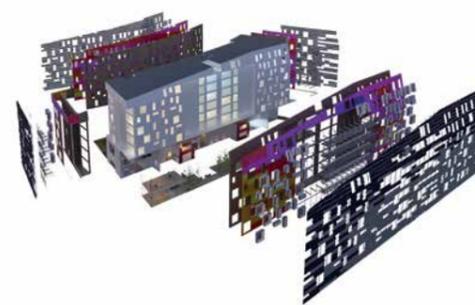
The front wall forms a system of drawer boxes, creating loggias that open onto the park. Polycarbonate panels enliven the wall, giving it movement and an enticing complexity.



FRANKLIN AZZI  
Franklin Azzi Architecture - Paris (France)

■ +33 (0)1 40 26 68 21  
■ agence@franklinazzi.com  
■ www.franklinazzi.com

T/E/S/S Atelier d'ingénierie - Paris (France)  
■ +33 (0)1 70 36 58 00  
■ www.tess.fr



# AERIAL STRUCTURE FOR MAJESTIC CANOPIES

Metz (France)

## Contractors

COUVREST Ludres (France) +33 (0)3 83 25 83 98 nancy@couvrest.fr www.couvrest.fr	CIBETANCHE DESCARTES Descartes (France) +33 (0)2 47 92 97 37 www.cibetanche.fr
---	---

■ Canopy Danpalon® 16, 1040 mm, green, 6000 m<sup>2</sup>



A ballet of two hundred buses come and go every day from the new maintenance and operation centre in Metz – two hundred buses that need to be parked, cleaned, maintained and kept out of the bad weather, including snow, while also ensuring the safety of drivers and maintenance persons.

Traditionally, that function is accommodated in a large closed hangar. "This is a strategic site in a district undergo-

ing full rehabilitation, with an emphasis on integration. It would not have been possible to cover several hectares", the architect Georges Rémy explains.

To solve the equation, three canopies make up a large (6,000 m<sup>2</sup>) open structure that breaks up the space. The metal frame is formed of diagonal lines with V-shaped posts, thinner at the bottom to facilitate pedestrian traffic, and supporting a 6 by 11 m wide Danpalon® roof. "The oblique lines of the posts

provide interesting effects which we increased by placing the roofing in a herringbone pattern, to mimic the bus storage", Georges Rémy comments. Colour-wise, the green of the roofing stands out against the greyish canopy environment: "When they arrive, visitors naturally tend to go towards the canopies, which diffuse and colour light", Georges Rémy remarks. "We wanted to transform the outdoor spaces of the centre with these canopies; the result goes beyond our expectations".



GEORGES REMY  
Denu et Paradon – Strasbourg (France)

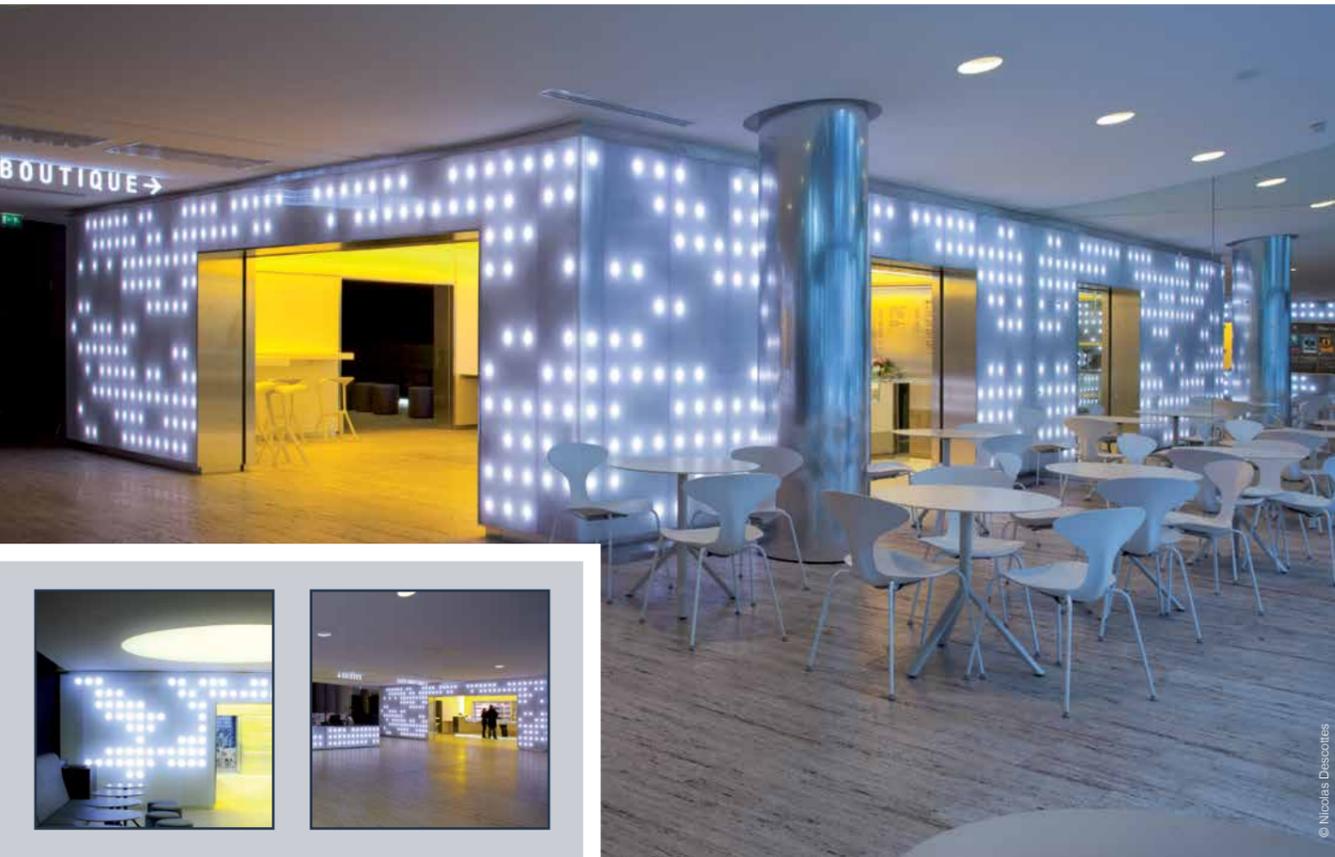
■ +33 (0)3 88 60 20 20  
■ secretariat@denu-paradon.com  
■ www.denu-paradon.com

# A MILKY WAY AS A SIGNBOARD

Paris (France)

Contractor  
ZACHARIE  
Brignais (France)  
+33 (0)4 78 56 01 00  
contact@zacharie.fr  
www.zacharie.fr

■ Danpalon® 10 layout, 600 mm, opal, 200 m²



© Nicolas Descottes

A cloud of lights resembling the stars of a Milky Way welcomes visitors to the Geode. For its 25<sup>th</sup> anniversary, the reception and restaurant spaces have been renovated, with a central pillar crowned by a long suspended signboard and framed by two remodelled luminous cubes: to the left, the information space, and to the right, the coffee shop. The latter offers two user spaces with a lounge in the waiting area under the sphere and an indoor

terrace along the front side. "It is light that characterises this project", says Adrien Lambert, architect and interior designer. "Each cube is lit up from inside by yellow light, while the outside is covered, like the central pillar, by hundreds of animated LEDs. These clouds of dots form a starry path that the visitor crosses to reach the 'Geode planet'. We have dressed this frame of LEDs with Danpalon® boards that form a slightly blurred, poetic skin", Adrien Lambert comments. "The fastening

system makes the joints between the panels very discreet, which amplifies the abstract aspect that we wanted. It creates a magical, fairy-like world."

Each structure can be controlled individually and its colour changed. "The message sent by the LEDs can be changed for a special event, an exhibition, a show or a party", Adrien Lambert adds.

Project team: Hervé Audibert (light designer), Pascal Luquet (acoustician), Laurent Mouly (structural engineer), Nicolas Descottes (photographer).



ADRIEN LAMBERT  
Lambert Lénack - Paris (France)

■ +33 (0)1 83 79 02 02  
■ contact@lambertlenack.com  
■ www.lambertlenack.com

## SPECIAL REPORT

### Creative answers to the external thermal insulation

- 10 A hotel merged with the landscape
- 12 Facades that change with time
- 14 Metallic cladding for a positive energy building
- 16 Moving leaves serigraphy
- 18 Contrasts & colour-play
- 19 Wave pulsation along the Seine
- 20 Tints in random rhythms

The long-awaited energy transition (some even call it an energy revolution) is beginning to materialise in concrete acts.

Strict energy usage regulations, costed objectives, incentives, sanctions – the way is now paved for the widespread creation of low consumption and positive energy buildings and for the implementation of energy efficiency in the current property market.

The bioclimatic efficiency of a building depends heavily on its compactness; architectural creativity in designing volumes may therefore gradually become limited, requiring alternatives to ensure an identity to the façade. This is the goal imagined, and achieved, by the architects and contractors showcased in this special report, in which we present the projects they have conceived in response to this challenge.

The editorial team

>20

>14

>18

>12

>16

>10

# A HOTEL MERGED WITH THE LANDSCAPE

Gujan Mestras (France)

Contractor  
GCEB  
Saint Germain Les Corbeil (France)  
+33 (0)1 60 77 29 43  
gceb@gceb.info  
www.gceb.info

■ Ventilated Rainscreen Danpalon® VRS 16, 1040 mm, ice, clear Softlite, green, empire, 1400 m²



It is its ability to reflect the landscape that prompted Christophe Blamm to use Danpalon® for the walls of the B&B hotel, located in a pine forest in Gujan-Mestras in the Bay of Arcachon.

"The guiding principle of this building is the conservation and enhancement of the qualities of the landscape around modern architecture", the architect comments. The building is designed as a monolithic element, both in its form and through the use of a

unique material to cover the walls, with as reduced land space requirements as possible. The result is a dense and vertical building that maintains the view of the pines at the back of the land. The hotel rises from three floors on the north side to four on the south side, which brings the whole unit to life by creating an impression of movement.

The integration of the hotel into the site is optimised by walls that reflect the pine forest, while the translucent nature of Danpalon® gives the built volumes a

blurred and ambiguous look. For Christophe Blamm, "The material reacts to the slightest change in the natural light of the sky over the Bay of Arcachon, with colour effects and random reflections".

The choice of colours (green, empire, ice and clear Softlite) complete the integration of the building into its forest environment. "From afar, green dominates, merging into the pine landscape. At close range, the colours make the volumes vibrate", Christophe Blamm describes.



CHRISTOPHE BLAMM  
Blamm Architectes - Bordeaux (France)

■ +33 (0)5 56 23 54 89  
■ architectes@blamm-architecte.fr  
■ www.blamm-architecte.fr



© Arthur Pequin

# FACADES

## THAT CHANGE WITH TIME

Saint-Nazaire (France)

Permeability, soft mobility, privacy, variety: these were the concepts included in the specification for the Odyssee project in Saint-Nazaire (44). 55 rental housing units, 115 temporary rooms provided by the association Résidétape, and a store all make up an urban island which is integrated into the district. While there is a marked private aspect to the housing, the site remains simultaneously open on the city, with pedestrian crossings regularly used by passers-by. "We wanted to avoid a facade that would obstruct things on the urban level. On the outside of the island, we chose to create low sets of buildings – small blocks of two floors with gardens – whereas the heart of the plot is built in a denser manner with blocks that rise to five floors", explains architect Jean-Marc Le Guen.

The buildings are cubic, plain, with concrete ground floors, outside insulation with Danpalon® cladding and yellow railings providing contrasting flashes of colour. "The sea is close by, and the material on the front side has a texture reminiscent of the satin effect of the water. It shifts in the same way that the hours elapse and the weather changes. In rough weather, it almost has the aspect of stainless steel", Jean-Marc Le Guen comments.

In order to reduce the shadow gap at the upper floors, the lower section of the Danpalon® boards is welded. As the architect explains, "This ensures watertightness without the need for section profiles and limits the height of the shadow gap on each floor to only a few centimetres, which makes it more discreet".



ARLAB  
Saint-Nazaire (France)

- +33 (0)2 40 22 19 66
- contact@arlab.fr
- www.arlab.fr

Contractor  
ATELIERS DAVID  
Guérande (France)  
+33 (0)2 40 24 90 34  
guerande@ateliers-david.fr  
www.ateliers-david.fr

■ Ventilated Rainscreen Danpalon® VRS 16 siding, 600 mm, clear, 5460 m<sup>2</sup>



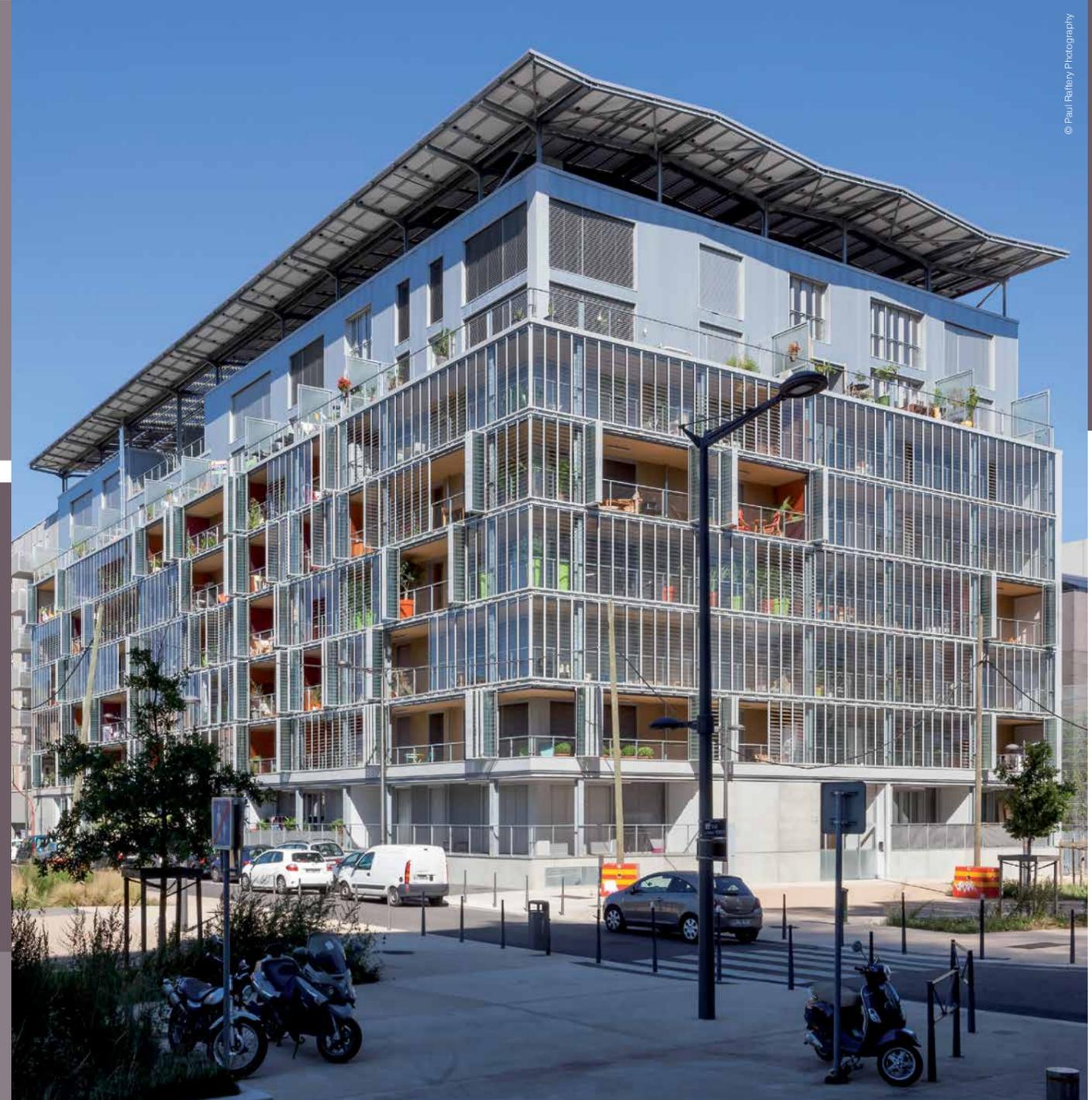
# METALLIC CLADDING

## FOR A POSITIVE ENERGY BUILDING

Lyon (France)

Contractor  
AMALGAME  
Brindas (France)  
+33 (0)4 37 22 13 13  
contact@amalgame-alu.fr

■ Ventilated Rainscreen Danpalon® VRS 16, 1040 mm, silver, 1500 m<sup>2</sup>



© Paul Batery Photography

Located within the Confluence in Lyon, the Amplia project is situated at the connection of two districts and at the corner of two streets, thus creating a protected island. Designed by architects Florence Lipsky and Pascal Rollet, this set of homes is a construction that offers a smooth and even volume on the east and north sides. "Silver Danpalon® cladding is used over glass wool outside insulation that covers the whole height of the

building. It's like an outer skin of grey and crystal colours, whose surface shines in the light. This achieves more depth than metal cladding, which has a simple matt surface", Florence Lipsky explains. On the east wall, which looks onto the tree-lined interior of the island, the layout of the homes is based around passageways, allowing for more room inside the building and offering an outdoor walkway with a view of green space for the occupants of Amplia.

In contrast, the other two walls have a honeycomb structure, with the loggias making up cells in the wall. They function as open terraces in the summer and as winter gardens, allowing the storage of the sun's heat during the cold months. They are emblematic of this positive energy building, the first of its kind to go by that title, with simple, lasting design, stability, efficient outside insulation and photovoltaic panels on the roof.



FLORENCE LIPSKY & PASCAL ROLLET  
Lipsky +Rollet Architectes, Paris (France)

■ +33 (0)1 48 87 16 33  
■ agence@lipsky-rollet.com  
■ www.lipsky-rollet.com

# MOVING LEAVES SERIGRAPHY

Hellemmes (France)

Contractor  
SOGEA CARONI  
Marcq-en-Baroeul (France)  
+33 (0)3 20 99 78 78  
www.vinci-construction.fr

■ Ventilated Rainscreen Danpalon® VRS 10, 600 mm, serigraphy clear, 1200 m²



© David Huot



Agence Marie-Pascale Bouchez  
Architectes - Lille (France)  
■ +33 (0)3 20 73 86 46  
■ contact@mpbarchis.com

In the vicinity of Saint-Exupéry school in Hellemmes, red maple leaves appear blown about by the wind along the front of the building. "Although the neighbourhood is very urban, planted areas are found nearby and the leaves screen-printed on the Danpalon® walls are reminiscent of them. They are also a symbol of the HQE (High Environmental Quality) approach taken by the General Council of the North with the reconstruction of this building", Guillaume Dufour, the project

manager at the Marie-Pascale Bouchez agency, explains. "We wanted a pattern of leaves that would not be based around the regular rhythm of the windows, but instead accumulate in certain areas, animating the facades and easing the rigidity of the building".

Three materials were used for the school: brick at the bases of all the buildings, providing strength and integration into the urban area; a moving wood trellis that announces the

school from the neighbouring streets; and Danpalon® on the front side for a modern and finished appearance, contrasting with the other two materials. The scale of the school building is quite overwhelming. "The translucent effect of the Danpalon® is interesting in this context. It gives depth, which, combined with the serigraphy, provides an aspect of lightness. The new school is less visible than the old one, although it is bigger and closer to the street", Guillaume Dufour concludes.

# CONTRASTS & COLOUR-PLAY

Chalon-sur-Saône (France)

■ Ventilated Rainscreen Danpalon® VRS 16, 1040 mm, yellow, green, purple, 1600 m<sup>2</sup>

Contractor  
AVENIR BOIS STRUCTURE  
Bletterans (France)



During its renovation, the Jean Vilar school in Chalon-sur-Saône, a concrete building dating from the 1960s, underwent a drastic change of image. The main reason for the building's rehabilitation was to improve its insulation, which was particularly poor and made it difficult to heat. "We created an outer shell with a wood frame and glass wool insulation. We were able to work on the site during the school year, and avoided disruptions to the running of the school as far as possible. Work in the classrooms was limited and lasted only as long as it took to change windows and apply the finishing touches", explains Patrick Bougeault, the project architect.

The new facades make optimum use of the logic of the original horizontal composition to give it more strength by superimposing coloured Danpalon® aprons and wooden trumeaus above of the windows. "We played on the contrast of the two materials", Patrick Bougeault, the architect, comments. "The first is smooth and manufactured and its reflections give an evanescent character to the wall; the second is rougher, more natural, and will turn grey over time". An array of colours enlivens the walls: the green on the lower section matches the lovely trees planted in the outside spaces, while the yellow on the upper section makes the college stand out in the district, the purple allowing for transition between the two.



**PATRICK BOUGEAULT**  
Perche & Bougeault  
Blanzay (France)  
■ +33 (0)3 85 68 14 79  
■ www.perche-bougeault-architectes.fr

# WAVE PULSATION ALONG THE SEINE

Villeneuve-la-Garenne (France)

Contractor  
SMAC  
Sarcelles (France)  
+33 (0)1 34 38 24 00  
sarcelles@smac-sa.com  
www.smac-sa.com

■ Ventilated Rainscreen Danpalon® VRS 12, 600 mm, lilas clear, 8000 m<sup>2</sup>



A gigantic project in Villeneuve-la-Garenne boasts 250,000 m<sup>2</sup> of developed surface and 86,000 m<sup>2</sup> of leasable space along the Seine, with five floors and three parking areas, in a district calling out for renewal. The complex, triangular site, squeezed in between major thoroughfares, required powerful architecture. "The principle is that of a triangular mall with two crossing malls that form a window on the Seine one side, and overlook the city on the other", explains Thierry De Dinechin, one of the two partners of the DGLA architectural agency.

Each wall of the mall expresses a particular relationship to the city. On the Gennevilliers side, a landscaped park in continuity with a green track that crosses the city; on Gallieni Boulevard, a varied and playful wall of

metallic boxes asserts its commercial and urban nature. Lastly, on the Seine side, the iridescent Danpalon® wall is laid out in successive waves that overlap and are lit in pulsations, like a wave. "At night, the luminous lighting, orchestrated by lighting engineer Franck Franjou, resembles the flowing of water", Thierry De Dinechin says.

Initially designed as back-lighting, what has been set up is in fact outdoor LED lighting, with a light scenario that changed over time. "On this side of the centre, drivers pass rather fast. Due to its light and shape, the wall is clearly visible."



**THIERRY DE DINECHIN**  
DGLA, Montreuil-Sous-Bois (France)

■ +33 (0)1 48 18 95 00  
■ contact@dglanet  
■ www.dgla.net

Roux Ingénierie Structures - Levallois-Perret (France)

■ +33 (0)1 47 57 10 60  
■ contact@rouxingenierie.com  
■ www.rouxingenierie.com

# TINTS IN RANDOM RHYTHMS

Mer (France)

Contractor  
CIBETANCHE DESCARTES  
Descartes (France)  
+33 (0)2 47 92 97 37  
www.cibetanche.fr

■ Ventilated Rainscreen Danpalon® VRS 16, 600 and 900 mm,  
clear, gold, bronze, black, red, 355 m²

The new owner wanted to extend his Super U store in Mer and modernise its image. IDE.A Architects suggested a bold and dynamic project, exchanging the standard grey metal facade for a random alternation of warm tones. "We imagined a very luminous extension, with translucent walls and a layout of colours that we extended to the existing wall", explains Didier Piveteau from the IDE.A Architects agency.

The Danpalon® panels form vertical stripes in warm tints: red, bronze and gold, alternating with opaque black, "which we discovered harmonised very well with the anthracite grey of the lower metal sections of the existing store", Piveteau comments.

For the extension, the indoor lighting is adapted to the light that passes through the walls. The result is a more pleasant light, less wearying and harsh for customers and employees, and control of energy consumption for the manager. On the existing main wall, the old metal cladding on the upper two thirds has been removed, and thermal insulation under the cladding improves the building's energy efficiency. Special attention has been given to the connectors between the metal cladding and the Danpalon® panels: "We endeavoured to work on the folded sheet metal joints for an aesthetic finish", Didier Piveteau stresses.



DIDIER PIVETEAU  
IDE.A Architectes - Nantes (France)

- +33 (0)2 40 48 50 13
- idea2@wanadoo.fr
- www.ideaarchitectes.com



# COLOURED VOLUMES AS URBAN SIGNIFIERS

Montreuil-sous-Bois (France)

**A**n interplay of volumes and reflections, the new city movie theatre Le Méliès is a highlight in the redevelopment of the City Hall district in Montreuil-sous-Bois.

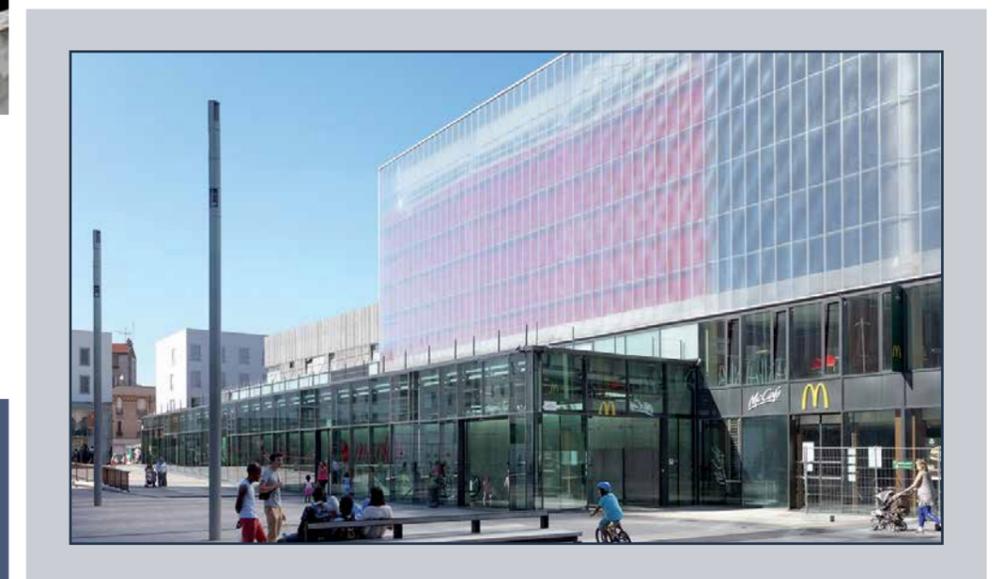
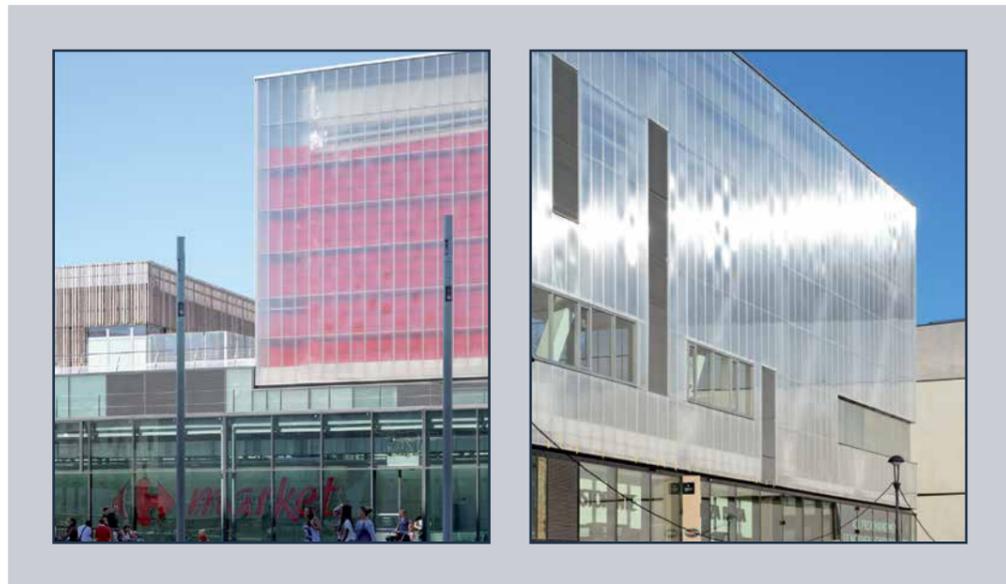
Occupying half the first floor of a shopping center, it is located above a ground floor of glass-fronted stores open to the exterior and next to a day centre panelled with wood. The six movie theatres form colourful volumes, separated by corridors visible from the street through a Danpalon® casing. This displays both the colours of the rooms and the activity inside. "The lines and volumes are very simple", Dietmar Feichtinger, the architect in charge of the project, comments. "We have played on the depth effect of the

*volumes and on the lighting at night, as the wall is back-lit".*

While complementing it in terms of cultural offerings, the cinema also plays on contrasts with the New Theatre of Montreuil-sous-Bois located on the other side of the street. "We wanted to respond to the New Theatre – which has highly worked concrete architecture that is expressive and yet closed – with an open, luminous and animated building. The front of the cinema, in addition to hinting at what is going on inside, reflects its environment. The Méliès thus becomes a significant urban signifier in the middle of the city, a place that will be as lively in daytime as at night", Dietmar Feichtinger explains.

Contractor  
CIBETANCHE  
Bussy-Saint-Martin (France)  
+33 (0)1 60 21 20 90  
agence05.idf@cibetanche.fr  
www.cibetanche.fr

■ Facade Danpalon® 10, 600 mm, clear, 2800 m<sup>2</sup>



**DIETMAR FEICHTINGER**  
Agence Dietmar Feichtinger Architectes - Montreuil-sous-Bois (France)  
■ +33 (0)1 43 71 15 22  
■ paris@feichtingerarchitectes.com  
■ www.feichtingerarchitectes.com

© David Bourreau/DFA

# WALL ORIGAMI

Bussy-saint-Georges (France)

Contractor  
CIBETANCHE  
Bussy-Saint-Martin (France)  
+33 (0)1 60 21 20 90  
agence05.idf@cibetanche.fr  
www.cibetanche.fr

■ Facade Danpalon® 10, 600 mm, clear, 500 m²



This ERDF (French electricity distribution network) building in Bussy-Saint-Georges plays on oppositions: a massive concrete base designed to protect against intrusions, crowned by an aerial volume with a rough structure and varied texture. "The specifications included security, soundness, easy maintenance and natural light, as well as aestheticism. At the request of both ERDF and the city, this technical building was to be inte-

grated into the industrial estate landscape while presenting an alternative to the 'metal boxes' around it", Thomas Natalis explains. "We worked by following the frame imposed by the nature of the building, playing on a simple form, the triangle, which we multiplied and assembled in varying positions".

The result is a multifaceted structure, with sloping Danpalon® triangle-shaped walls laid in alternating directions

and offering a play of multiple light reflections. "The volume vibrates and changes depending on the time of day and the weather. It's an extremely lively building that takes on the mood of the sky, and can go from a warm orange at sunrise to the grey of a cloudy afternoon", tells Manuel Rupp-Scotee. At night, the building becomes a lantern, illuminated from inside by atmospheric lighting while reflecting the surrounding light.

THOMAS NATALIS & MANUEL RUPP-SCOTEE ARCHITECTES

Natalis • Rupp Scotee Architectes - Paris (France)

■ +33 (0)1 48 78 32 02 - +33 (0)1 48 78 08 06

■ architectes@nr-a.fr

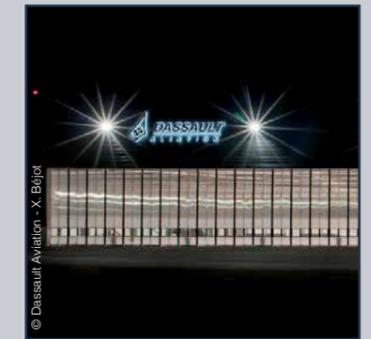
■ www.nr-a.fr

# A LUMINOUS SHOWCASE FOR HIGH TECH PLANES

Le Bourget (France)

Contractor  
MINEUR BECOURT  
Valenciennes (France)  
+33 (0)3 27 28 04 70  
mbs@mineur-becourt.com  
www.mineur-becourt.com

■ Facade Danpalon® 16, 1040 mm, clear, 740 m²



Dassault Aviation's new hangar in Le Bourget is both enormous in size and elegant in its design. Its modern aspect is conceived to showcase the flagship of the company, Falcon planes. "This is a building intended not only for parking aircraft but also for displaying them", Jean-Jacques Devilliers, the architect, explains.

Owing to the worked metal frame, there are no intermediate posts inside the structure, despite its imposing dimensions: 87 m long and 57 m wide.

It was to be as luminous as possible to display the Falcons in the best conditions, respecting thermal constraints and maintaining a degree of privacy and confidentiality toward the exterior. The architect's solution is a mixture of metal and Danpalon® cladding.

For Jean-Jacques Devilliers, "the play between the opaque surfaces of the metal cladding and the Danpalon® sections gives a certain lightness to the unit". Thanks to deliberately simple colours which come in a range of white, grey and transparent, the hangar

easily blends into a fast-developing airport. "It adds a touch of modernity while still preserving the traditional aspect linked to the history of the airport", Jean-Jacques Devilliers comments. "In addition, the reactions of the facade to time and light are fascinating".

As a special feature, a Danpalon® door opens onto almost the whole length of the building, i.e. 87 m, to display the planes and allow for moving them around.



JEAN-JACQUES DEVILLIERS

Architecture Jean-Jacques Devilliers - Arcachon (France)

■ +33 (0)5 56 83 09 72

■ devilliers-architecture@orange.fr

# CONTRASTING MATERIALS

Marcq-en-Barœul (France)

Stedum, concrete, metal and polycarbonate. Strikingly contrasting materials are paired with classic architecture to bring a primary school and a multiple sports room under one roof in an extension of the EABJM (Jeanine Manuel Active Bilingual School) in Marcq-en-Barœul.

The roofing forms a huge expanse of lawn rising from the earth, a tribute to the former farming purpose of the plot. Inside, the concrete has been left rough on certain walls and under the roofing, a mineral element that contrasts with the greenery. On the front of the building, opaque Corten steel in a warm rust colour is juxtaposed with cool-tinted Danpalon®, a material "almost aluminium in its reflections", as Thierry Mazellier says, "and which allows light to pass through".

These combinations continue in the inner courtyard and along the passageways that serve the 16 classrooms of the primary school. The sports room is found at the end of this long building, where the ceiling is highest. The Danpalon® runs the entire height, without interruption, allowing for smooth walls; a HP treatment protects the boards from scratching and other damage.



Inside, the light shining in eliminates the need for artificial lighting during the day, reducing energy consumption – a significant feature of this High Environmental Quality project.

Contractor  
LOISON  
Armentières (France)  
+33 (0)3 28 82 90 00  
info@loison.eu  
www.loison.eu

■ Danpatherm K7 wall, Ventilated Rainscreen Danpalon® VRS 16 and Danpalon 16, 1040 mm, ice Softlite, 1775 m²



THIERRY MAZELLIER  
MARTINE GIROUSSE - JOSÉ CALVERA  
Drôles de Trames - Montreuil-sous-Bois (France)

■ +33 (0)1 42 87 48 07  
■ droles-de-trames@wanadoo.fr  
■ www.drolesdetrames.fr

# A CARNIVAL WORKSHOP IN COLOURFUL COSTUME

Saint-Pierre-de-Chandieu (France)

Contractor  
GECAPÉ SUD  
Mornant (France)  
+33 (0)4 78 96 49 80  
gecape-sud@wanadoo.fr  
www.gecape-sud.fr

■ Ventilated Rainscreen Danpalon® VRS 16, 1040 mm, orange, green, ice, blue, gold, silver, red, yellow, purple, 847 m²



The Carnival Workshop in Saint-Pierre-de-Chandieu, which houses carnival floats all year round, is adorned with multiple colours in vertical lines. Yet originally, the rehabilitation project for the hangar and the adjacent technical department building, as well as the construction of a community center, was designed entirely in wood. "The result would have been too heavy", says Sébastien Chaput, the architect from Art Cam. "So the wood was reserved for the community center, and for the other buildings we used Danpalon® with a mix of colours for the hangar and a more neutral tone for the technical departments. We worked on colour samples to get the

best balance of combined shades". Gabions form a unifying base for the three buildings and protrude slightly, serving to protect the lower section of the walls from the inevitable collisions involved in float handling.

At night, when the technical department building is left dark, the Carnival Workshop stands out under carefully chosen lighting: LED bars fastened to the parapet on the upper section illuminate the entire height of the Danpalon® boards, while the top of the gabion base is underlined by grazing light. "This gives an impression of levitation, as if the upper section were lifted off the ground", Sébastien Chaput says.



SÉBASTIEN CHAPUT  
ART CAM Architectures - Bron (France)

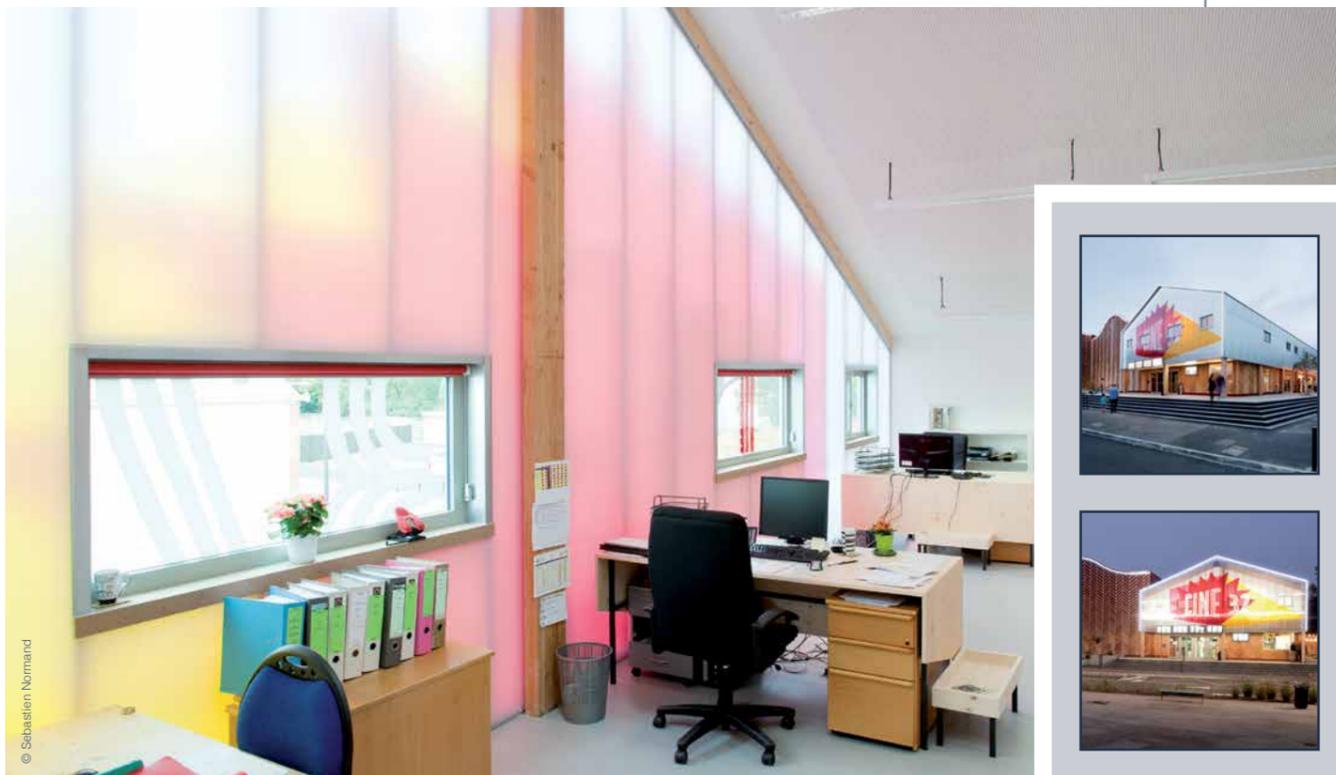
■ +33 (0)4 72 74 26 70  
■ contact@art-cam.fr  
■ www.art-cam-architectures.com

# LIGHT AT THE MOVIES

Auch (France)

Contractor  
SNA SUD-OUEST  
Toulouse (France)  
+33 (0)5 34 56 57 39  
sna.sudouest@sna.fr  
www.sna.fr

■ Facade Double Danpalon 16, 600 mm, clear et clear Softlite, 150 m<sup>2</sup>



The small local movie theatres of the post-war era directly inspired the design of a new cinema in Auch managed by the association Ciné32. The five opaque walls facing the street, which feature old-style pediments and are each identified by a large digit, are covered with wooden cladding in a chevron pattern laid out as lattice. In contrast with the screening rooms, the sixth volume, a large lobby with the offices of the association on a mezzanine, play with light and transparency. "We wanted

natural indoor lighting during the day, especially since at night this section, which has become a luminous signboard for the cinema, attracts the eye and guides viewers to it", Nicola Delon, the architect, explains. This function is provided by a Danpalon® skin, lit up by both interior spotlights and exterior projectors and decorated with adhesive signs created by artist Bonnefrite. Easily identifiable at night, the facade transforms into a modern stained glass in sunny weather, projecting a gradient of colours into the lobby. The shade of

the Danpalon® was chosen to be as neutral as possible. "During the day, depending on the time and weather, the reflections change and it is sometimes difficult to tell what material has been used", the architect comments. An offset alignment between the wooden base of the lobby and the top of the Danpalon® wall forms a canopy under which viewers waiting for a show can seek shelter in rainy weather. "At night, this feature makes the building look all the more like a luminous floating box", Nicola Delon concluded.



**NICOLA DELON**  
Encore Heureux - Paris (France)  
■ +33 (0)1 53 19 09 36  
■ collectif@encoreheureux.org  
■ www.encoreheureux.org

# NATURAL GEOMETRY FOR AN EQUESTRIAN CENTRE

Feyzin (France)

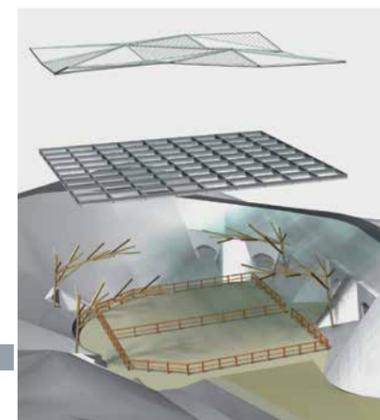
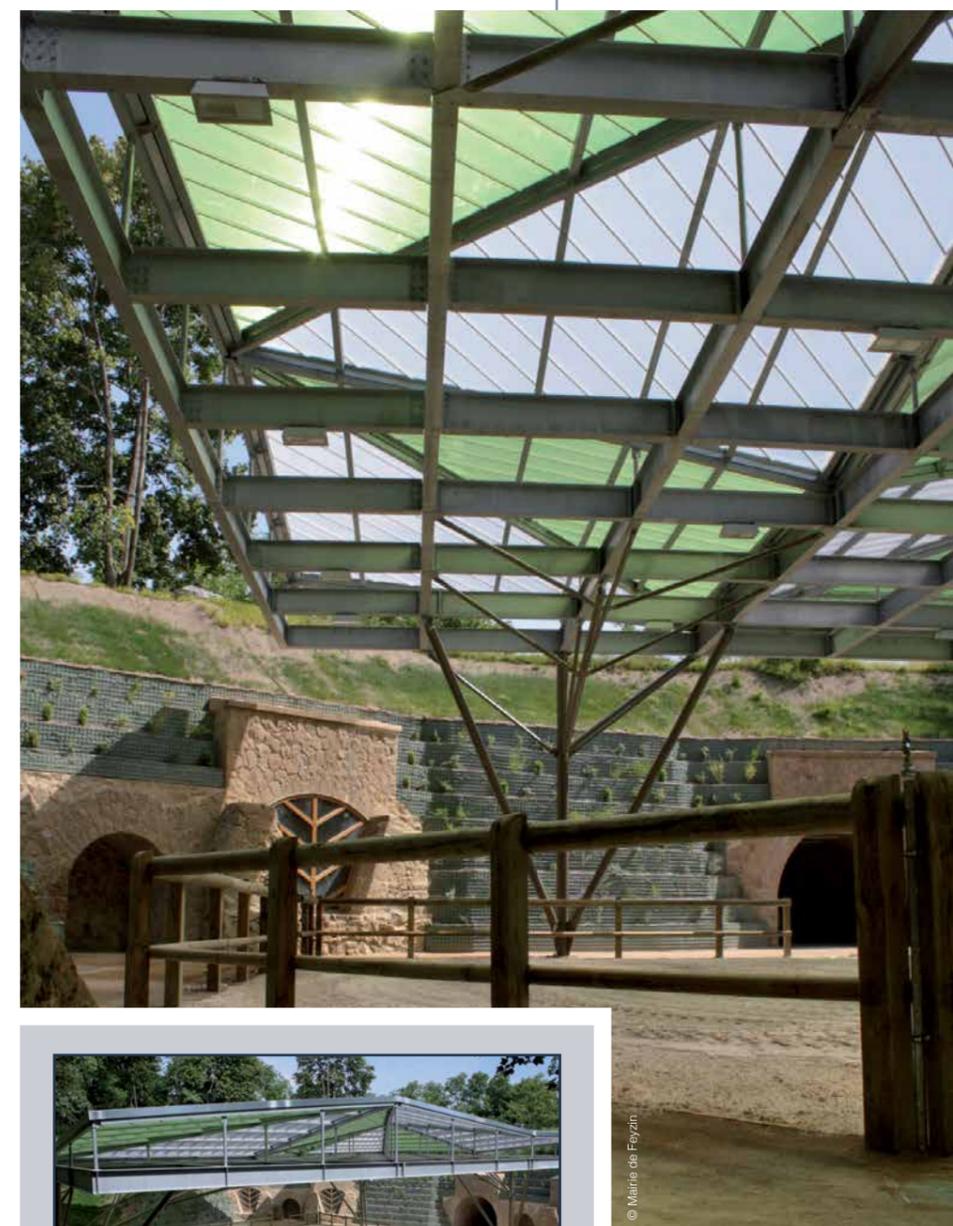
Contractor  
RHÔNE ALPES ACIER  
Chaponnay (France)  
+33 (0)4 78 74 35 06  
rhone-alpes-acier@wanadoo.fr  
www.rhone-alpes-acier.com

■ Canopy Danpalon® 16, 600 mm, lime et clear, 1012 m<sup>2</sup>

The city of Feyzin is the owner of a 19th-century military fort in a 26-hectare natural space, and wanted to open the buildings to the public by creating an equestrian centre. To integrate the riding arena into the environment of the military fort, architect Jean-Pierre Givord designed an abstract and conceptual object almost like a sculpture, with shapes derived from both nature and geometry. "There were few technical constraints – just the need for a supporting structure and a rainwater evacuation system", Jean-Pierre Givord explains. Therefore two main ideas guided the project: to stay in the natural spirit of the site, while maintaining a geometric dynamic.

Very fine steel posts coated in bronze, arborescent, support an intermediate structure at each corner – a giant IPE grid that echoes the geometric spirit of the fort.

Over the top, sloping green and white Danpalon® triangles are laid in reverse position, made possible by the technical support of the supplier. The result resembles both a transparent origami piece and a 3D computer modelling of the neighbouring embankments that reflects a soft light onto the white sand. So that the upper surface is smooth, and to retain an abstract element, the connectors for the Danpalon® panels are on the underside. Gutters between each triangle direct the rainwater to the exterior of the roofing, with downpipes finished in the same way as the posts of the structure.



**JEAN-PIERRE GIVORD**  
Atelier d'Architecture Jean Pierre Givord - Lyon (France)  
■ +33 (0)4 78 76 09 13

# A SIZZLING RECEPTION HALL

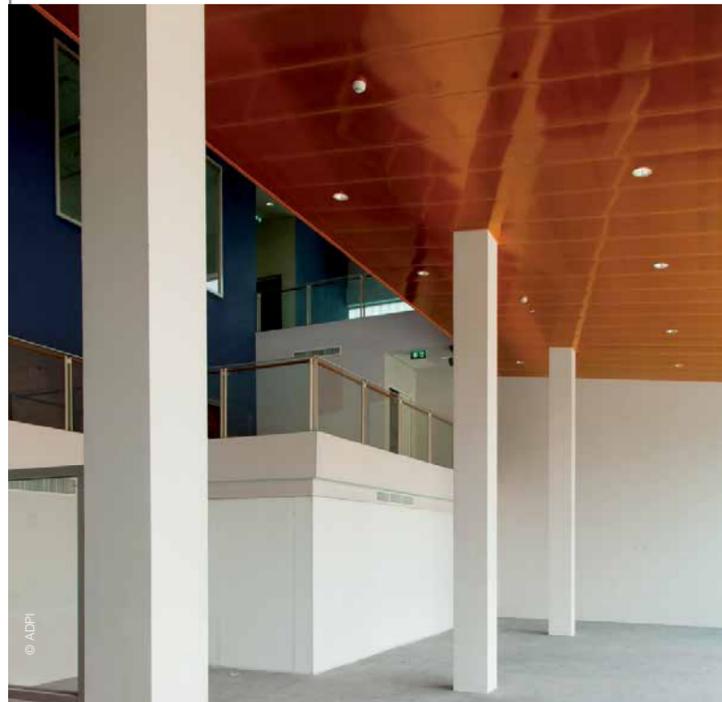
Bangkok (Thailand)

Light and vitality are the two words that characterise the entrance hall of the brand new Alliance Française building in Bangkok. Built in a fast-growing area of Thailand's capital city, the building seen from the outside is a monolithic spectacle. But once inside, an atrium lit by a glass ceiling welcomes visitors to allow them to access the departments, classrooms and auditorium.

"In Thailand, colours are often very bright, creating sizzling atmospheres", explains Dominique Chavanne, one of the co-architects of the project. "We spiced up the grey-blue of the reception walls with orange Danpalon® panels for a very modern atmosphere that matches this symbol of French culture abroad". Far from its standard use on the fronts of buildings, the Danpalon® is used here for canopies that decorate the height of the atrium and the railings of the passageways to the upper floors. "What we sought to do was use the material differently – for its reflectiveness, vibration and transparency. The fastenings are deliberately invisible for a perfectly abstract result. The canopies, lit from above, send out opalescent light and become smooth screens that colour the interior of the reception hall", Dominique Chavanne continues.

Contractor  
TT CONSTRUCTION CO LTD  
Bangkok (Thailand)

■ Danpalon® 10 and 16, 600 mm, orange and silver, 600 m²



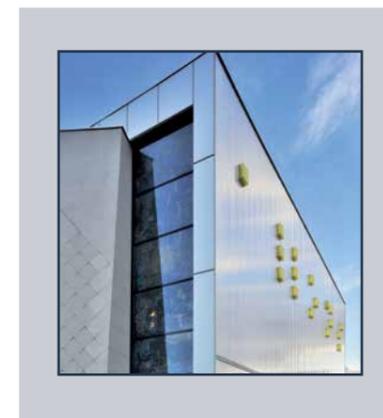
© ADPI

# A CHURCH OF LIGHTS

Vaulx-en-Velin (France)

Contractor  
FRANCK SAINE  
Brindas (France)  
+33 (0)4 78 87 96 42  
franck.saine@wanadoo.fr

■ Facade Double Danpalon® 16 and 20, 600 mm, clear and ice Softlite, 850 m²

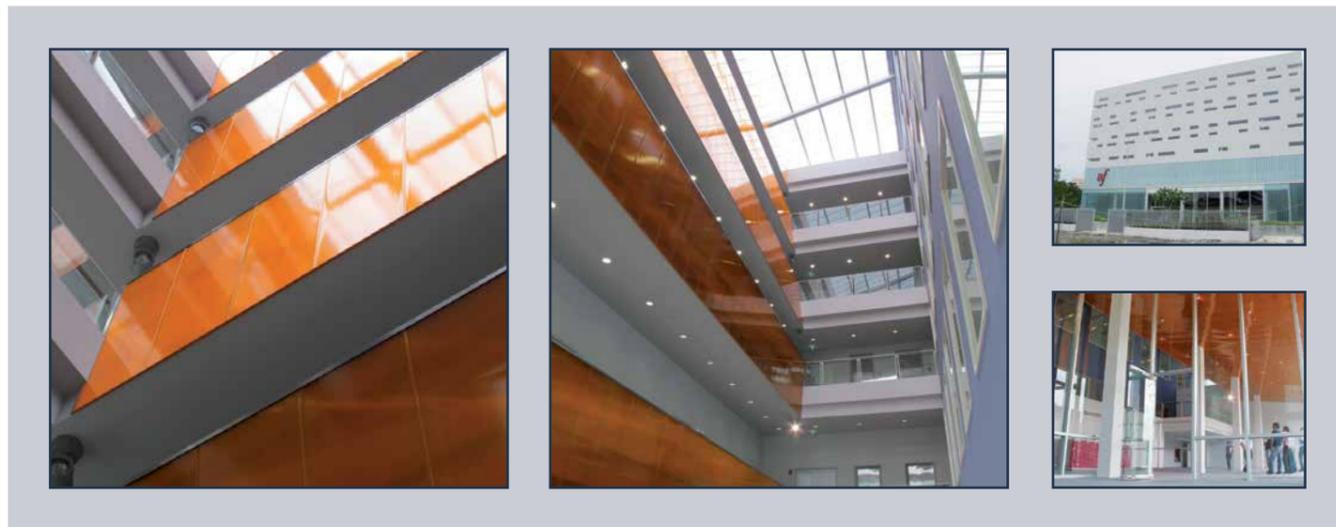


During the planning for the construction of the new Saint-Thomas church in Vaulx-en-Velin, architects talked with parishioners, who were highly involved in the project. "The specifications themselves were very succinct", Emmanuelle Andreani, the architect, explains, "but as we met and talked, we felt we needed to incorporate lightness and luminosity into this place of sharing and community. We also played on the church's location in an area undergoing renewal, on the message it could send out. First and foremost, it's a project for the people". It's been a success: today, the church is filled with song every Sunday and used by a highly diverse community.

In this plain and humble building, richness is to be found in the light that changes as the hours pass, in the interplay of bluish projections from a large vertical stained glass window on the choir side and the warm tones of the printed curtain wall on the entrance side. The thermal constraints required a specific study which prompted the use of a Danpalon® double skin for a long wall, bringing stability. "It creates a luminous atmosphere, charged with depth as the light comes through the double skin", Emmanuelle Andreani explains. Outside, the sun creates reflections on the crystal colour of the wall crisscrossed by yellow protruding cubes that form, in braille, the first word of the message of Saint Thomas: "Allons" ("Let us go"). "We wanted to include this universal message of hope, congregation and energy", Emmanuelle Andreani concludes.



© Frenchie Christogain



DOMINIQUE CHAVANNE & NICOLAS MOULIN  
ADPI, Athis-Mons (France)  
■ +33 (0)1 49 75 51 11  
■ www.adp-i.com



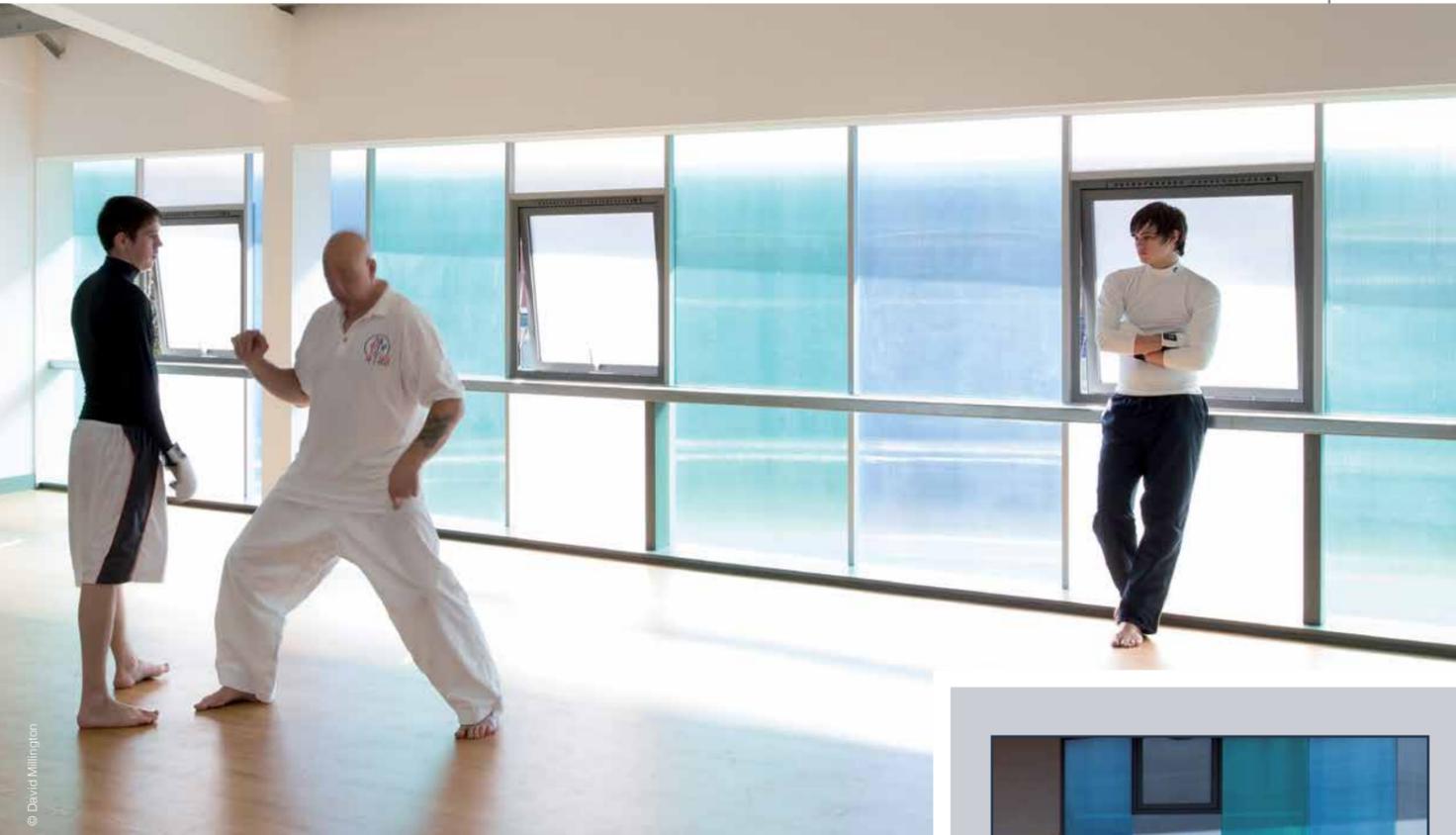
EMMANUELLE ANDREANI  
ETIENNE REGENT  
[Siz'-ix] Architectes  
Lyon (France)  
■ +33 (0)4 72 40 90 72  
■ agence@siz-ix.com  
■ www.siz-ix.com

# INTERIOR WELLBEING

Liverpool (United Kingdom)

Contractor  
K2 ALUMINIUM SYSTEMS LTD  
Merseyside (United Kingdom)  
+44 (0)151 651 0600  
sales@k2fast.co.uk  
www.k2fast.co.uk

■ Facade Danpalon® 16, 1040 mm, blue, green, ice, 242 m²



The Toxteth Fire Fit Hub is a sports centre named after the fire station with which it is associated and the surrounding area of Liverpool where it is located. Created for young people, it was built within the framework of the British government programme Myplace. A facility dedicated entirely to sports, it houses an Olympic-sized basketball court, a martial arts room and a dance and gymnastics studio, as well as outdoor football fields. Communal rooms are a place to have coffee, watch TV,

and play ping-pong or video games. For Mark Line, the architect, an important point when preparing the project was natural, abundant light that would provide a feeling of wellbeing during activities, particularly for dance and martial arts. To achieve this, the upper section of the walls is made of Danpalon® in alternating blue, green and ice colours, bathing the rooms in soft tinted light. The same material was used in the communal area to create a feeling of space.



## MARK LINE

Cass Associates - Liverpool (United Kingdom)

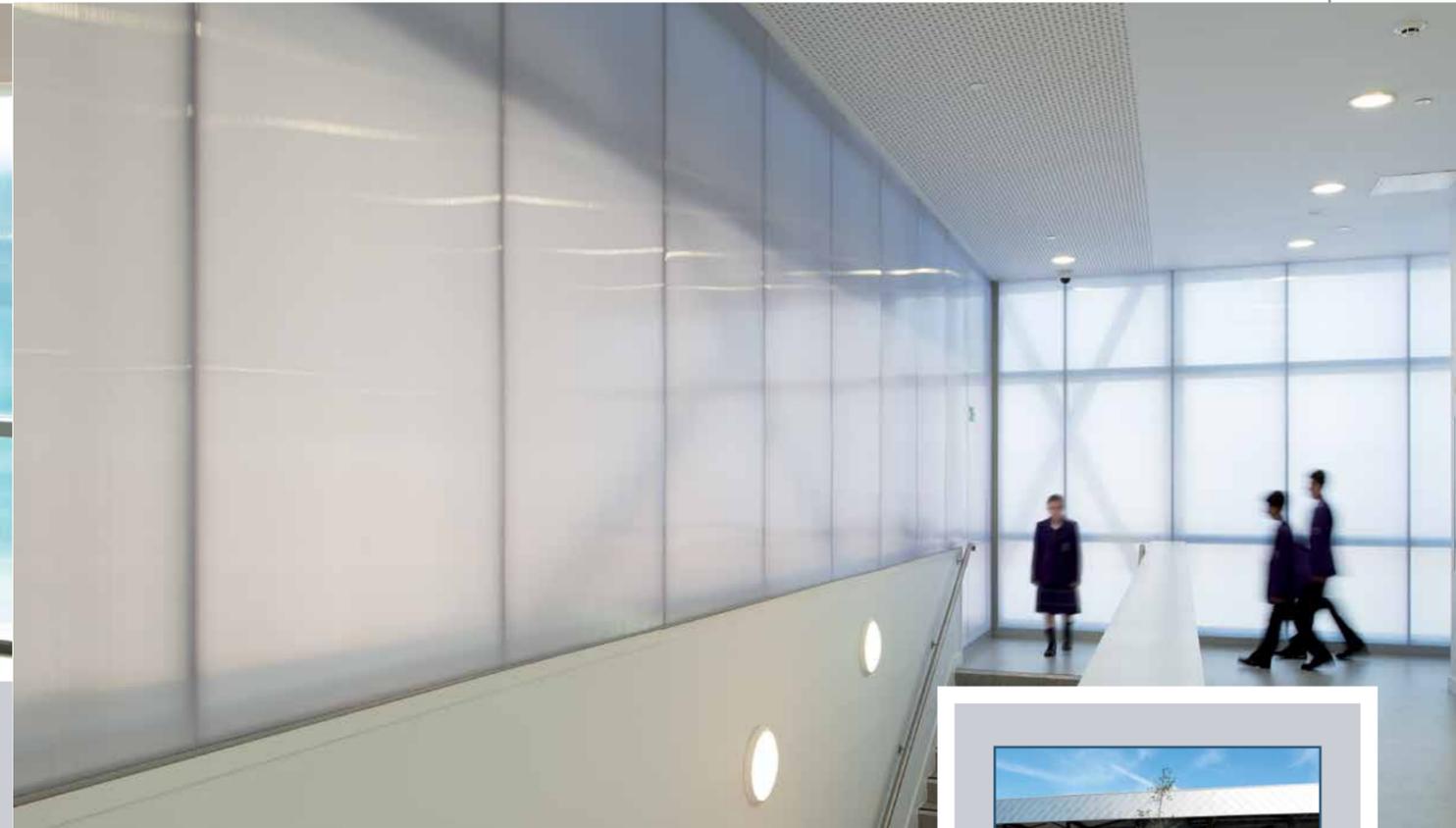
- +44 (0)151 707 0110
- mark.line@cassassociates.co.uk
- www.cassassociates.co.uk

# & BRILLIANCE OPALESCE

Liverpool (United Kingdom)

Contractor  
WEATHERWISE  
SPECIAL PROJECTS  
Chester (United Kingdom)  
+44 (0)1244 529 100  
www.weatherwise.co.uk

■ Facade Double Danpalon® 16, 1040 mm, ice, 1513 m²



For the triangular building of the Enterprise South Liverpool Academy (ESLA), a school that welcomes 1,100 students, architect Micheal Cambden chose a whole array of matching materials that express the values of this place of learning. A brick base represents the soundness and durability of education, upon which rests a strip of reflective aluminium, like a protective shell that surrounds the building. The strip stretches from the north entrance to the south side, where it rises to form an impressive signage before plunging and winding around the learning spaces. By contrast, right next to

the school, the sports hall plays on transparency. This rectangular building, connected to the school by the aluminium strip, is covered with double skin Danpalon® cladding.

"We chose the Danpalon® double skin system for its thermal efficiency", Michael Campden explains, "and the ice colour for its ability to transmit light that creates a clear, white, luminous atmosphere inside the sports room. We also chose it for the evenness it gives to the front wall. Its finish and neutral colour work very well with the aluminium, while contrasting with the solid base created by the black bricks".



## MICHAEL CAMBDEN

BDP - Manchester (United Kingdom)

- enquiries@bdp.com
- www.bdp.com

Enterprise South Liverpool Academy was awarded the RIBA North West prize for its architectural excellence..

# CUBES OF LIGHT

Alès (France)

Contractor  
MCM - Méridionale de Constructions Métalliques  
Nîmes (France)  
+33 (0)4 66 64 00 02  
sa.mcm@wanadoo.fr  
www.mcm-charpentes-metalliques.fr

■ Facade Danpatherm K7, opal and clear Softlite, 2100 m<sup>2</sup>



The new sports complex in Alès aims at being a practical place, intended for schools and the city's sports associations. "Rather than a sports palace, the mayor wanted a tool for the city, with a controlled building cost", Didier Richard, the project architect explains. Mission accomplished, with the completion of two L-shaped adjacent buildings, fully covered with Softlite clear and opal Danpatherm K7 and protected

by high protection treatment. One is a classic design and includes a handball and basketball court with a ceiling height of 7 m, while the other is lower, only 4 m in height, and houses martial arts rooms. "We designed two transparent and bright boxes that are neutral during the day and liven up at night thanks to the strip lights, which bring out the adhesive silhouettes of players stuck on the walls", Didier Richard explains. During the day, the

walls let the sun in whatever the time, allowing the space to benefit from the natural light and limiting the use of artificial lighting. They also provide the thermal insulation necessary for this kind of building. According to Didier Richard, "about fifteen degrees is sufficient for the activities that take place in the building. It is not heated when unused and if it gets too hot, a natural ventilation system on the roof handles the extraction of warm air".



**DIDIER RICHARD**  
Agence Didier Richard - Montpellier (France)  
■ +33 (0)4 67 45 38 97  
■ contact@richard-archi.fr

# HEAVENLY REFLECTIONS

Changé (France)

Contractor  
DESCHAMPS SA  
Saint Denis de Gastines (France)  
+33 (0)2 43 00 53 08  
secretariat@deschamps-sa.com  
www.deschamps-sa.com

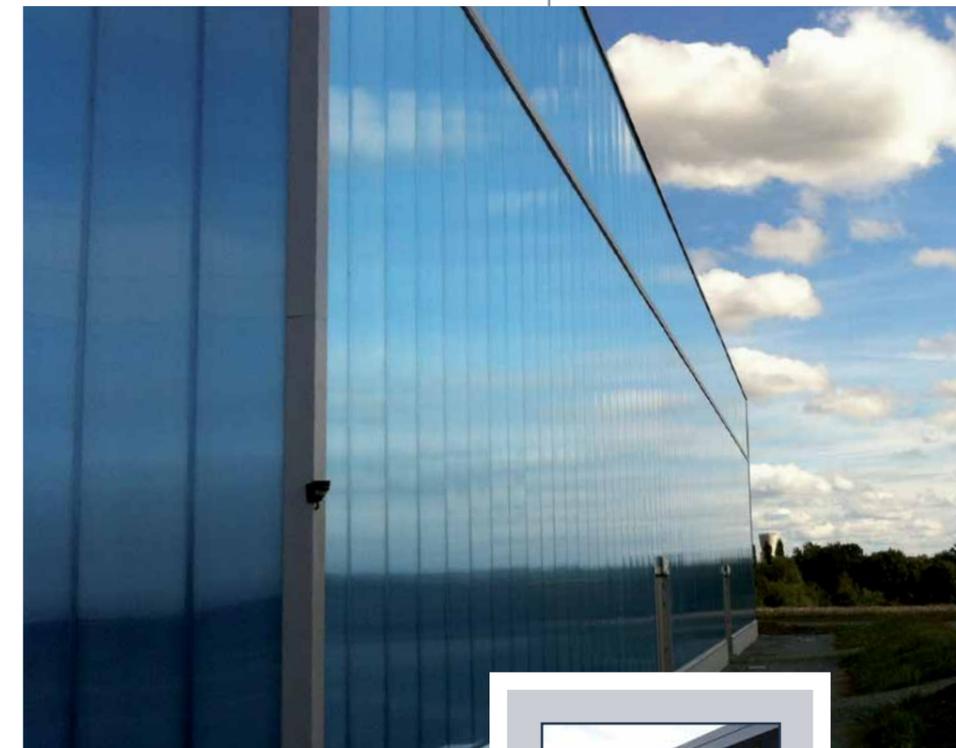
■ Facade Danpatherm K7, bleu Softlite, clear Softlite, 2200 m<sup>2</sup>

A bowling alley project for the Changé city club entrusted to architect Pierre Cuyeu has changed over several months into a 3,000 m<sup>2</sup> sports facility.

As the architect explains, "requests from sports clubs emerged and were added to the initial project as it was being elaborated. Currently, it includes the initially planned bowling alley, as well as storerooms, offices, a dojo, an archery range, a gym and a weight room. The difficult part was to maintain the architectural consistency of a project which was constantly being added to over time".

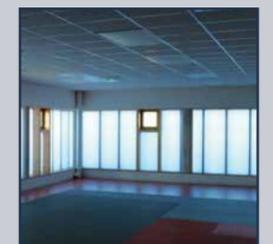
Two separate sections linked by the entrance hall make up the facility. The bowling alley and archery range are incorporated into a 7 m high parallelepiped, with three Danpatherm K7 walls and the fourth in brightly coated concrete. "The blue colour of the Danpatherm K7 conveys a soft and diffuse light that's perfectly suited to the game of bowling", Pierre Cuyeu comments, "and the resulting electricity savings are far from insignificant in the overall cost of running the building".

The other activity rooms are grouped together in the second section of the building, identical in volume to the first,



but here the Danpatherm K7 cladding is alternated with clear coating surfaces.

The second level, laid out like an attic, is surrounded by a terrace covered by a canopy. Windows built into the translucent cladding play with the verticality of the boards.



**PIERRE CUYEU**  
Architecte - Laval (France)  
■ +33 (0)2 43 26 11 33  
■ cuyeu.architecte@orange.fr

# BRISE SOLEIL IN DEEP RED

Paris (France)

Contractor  
VULCAIN  
Grigny (France)  
+33 (0)1 69 84 00 00  
dircial@vulcain-metal.fr  
www.vulcain-metal.fr

■ Facade Danpalon® clear et rouge,  
Controlite®, grey and red sun-shade blades, 4600 m²



© David Bourreau-DFA

In Paris, land is rare and expensive. It is on the site previously occupied by the Jules Ladoumègue stadium that the walls of a new Maintenance and Storage Site (SMR) for the T3 tramway line have just been built. It was unthinkable that the Jules Ladoumègue would no longer offer its sports facilities to the district – so the stadium was simply rebuilt on the roof of the new building and now faces the ring road. Today, it includes a soccer field, a rugby field and as a buffer between

them and the noise of the traffic, a long building housing tennis courts. The west wall is Controlite®, with integrated brise soleil to protect from strong light and manage solar gain.

On the east side, which faces the sport fields, the Danpalon® wall is covered by a horizontal wooden lattice filter. Dietmar Feichtinger, the project architect, designed it as “a kind of artificial landscape, evocative of the synthetic grass”. The covered tennis courts are

a nod to the new Paris Philharmonic concert hall, located in the neighbouring park of La Villette, with alternating red and transparent Danpalon® panels evocative of piano keys.

“Red is a colour that also features inside, in various materials, such as the cloth on the ceiling. It’s a theme that runs through the building”, concludes Dietmar Feichtinger.



**DIETMAR FEICHTINGER**  
Agence Dietmar Feichtinger Architectes - Montreuil-sous-Bois (France)  
■ +33 (0)1 43 71 15 22  
■ paris@feichtingerarchitectes.com  
■ www.feichtingerarchitectes.com

## TREND TECHNIQUE & CO

### MAKE A GOOD IMPRESSION



#### ■ Printed to last

Drawings, images, patterns, creativity can also be expressed in digital form, and limitlessly so, on building surfaces. Certified by accelerated ageing tests, post-printing treatments can now guarantee colour resistance for 10 years in outdoor conditions.

### INNOVATION



#### ■ The 3D effect panel which filters the light

**3DLITE** is a new polycarbonate panel with brise soleil blades extruded directly in the panel. The alternating opaque and translucent cells control solar gain for a better diffusion of light, while providing unique relief and depth effects.

### TECHNICAL ADVICE



#### ■ Renowned expertise

DANPAL has received the CSTB's Avis Technique (Technical Advice agreement) for its vented rainscreen system marketed under the name Danpalon® VRS. The procedure outlined in this document can be used with all frames, thicknesses, colours and finishes in the Danpalon® range.

### SOLAR CONTROL



#### ■ In pursuit of bioclimatic concepts

Finding the right balance between efficient thermal insulation, optimised ventilation and use of natural solar gain remains a complex equation that construction designers currently have to address. To do so requires a true return to the basics of conceptual approaches to buildings, plus the incorporation of variables specific to the occupants' expectations. The search for solutions for such an approach has begun, and the industry is showing a great deal of ingenuity to achieve it. Controlite® is one of the answers: it combines control of solar gain and thermal insulation in a single concept. The brise soleil blades integrated into this double skin system allow for automatic management of solar gain for a smart and efficient building design. The prospects for the coming years look good.

## SMART LIGHTING AND THERMAL SIMULATOR

■ PREDICT THERMAL AND SOLAR PROPERTIES OF ANY STRUCTURE

Buildings require the maximum amount of natural light while maintaining a comfortable internal environment. Danpal provides the right tools for planning the most effective light openings – by integrating appropriate products, which exploit the optimal level of energy resources - anywhere in the world, at any time of day. By using state-of-the-art software, Danpal provides lighting and solar energy simulations. Danpal is unique in offering simulation solutions – reflecting its 30 year heritage as a specialist in architectural innovation.

### OPTIMAL PLANNING OF LIGHT ARCHITECTURE AND ENERGY USE

Danpal products are built into the simulation software.

With just a click, architects at the initial stages of each project can see the solar and energy efficiency and test the diffusing capacity of Danpal solutions – ensuring optimum energy efficiency, luminous comfort, and protection from glare.

By including these innovative products at the core of each project, the architect can test the diffusing capacity of the polycarbonate solutions in order to ensure optimum luminous comfort and protection from glare. The Controlite product goes even further. This unique system ensures a consistent light level in the building by adjusting the position of the blades in the polycarbonate cells. The simulations conducted provide an indication of the proportion

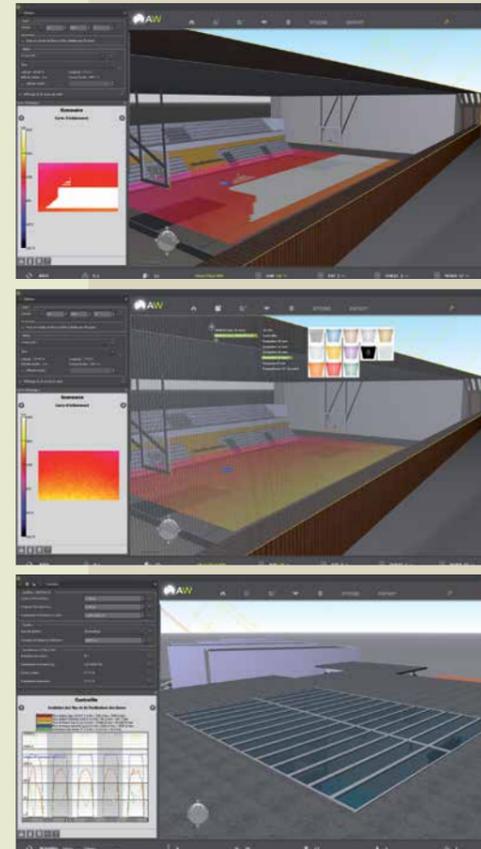
“Solar simulations software bring an energy efficiency to new levels and create flexibility in design.”

of time for which that level is maintained by dynamically modelling the position of the blades in the panel.

The solar simulation also includes our Danpatherm K12 system translucent double skin. it offers outstanding thermal efficiency and enables the construction of large translucent and luminescent walls while avoiding solar overheating.

### THE PERFECT SYSTEM FOR YOUR ENERGY AND LIGHTING NEEDS

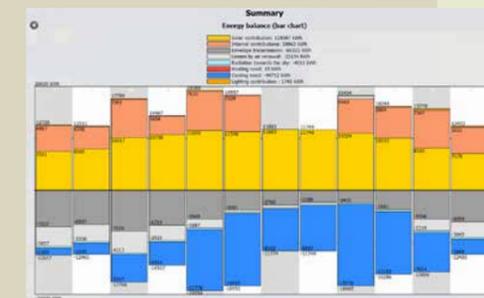
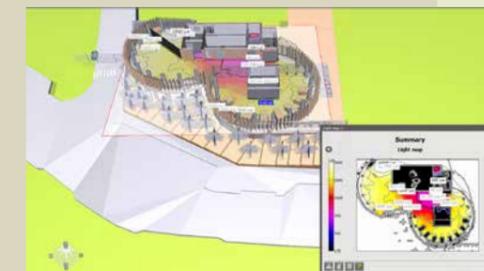
Danpal simulations bring solar and energy efficiency to new levels and create flexibility in design. The simulation software enables architects to choose the perfect system design for their energy and



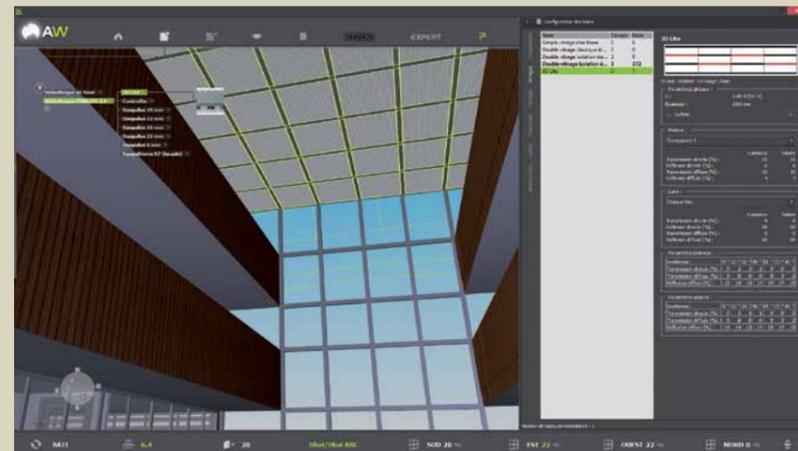
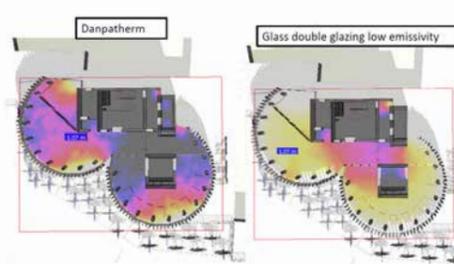
### WHAT ARE THE PROSPECTS?

The thermal simulator now allows its users to simulate Danpal products in their projects. Danpal's Research and Development Department offers new, increasingly innovative products for use in secure and energy-saving projects.

Danpal invests great efforts in providing architects and professionals in the construction value chain with an accurate and user-friendly eco-design tool, in line with thermal regulations and requirements.



Comparison between: Danpatherm and glass double glazing low emissivity



lighting needs by «playing» with different product specification options and the structure area.

Taking into account the systems' physical characteristics (light transmission, solar factor, U Value, etc.), the software creates a simulation of daylight and energy consumption, mapping the daylight and luminous emittance (measuring the LUX – luminous flux per unit area).



[www.danpal.com](http://www.danpal.com)