

LIGHT ARCHI TECTURE

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PUBLIC HOUSING

create a home
with lightness
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a shimmering,
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as a reference
point,
an opalescent
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when the matter
flirts with the
kinetic art

NUMBER
1124

A PLAY OF REFLECTIONS AND STUNNING CURVES

Lyon (69), Lyon Island

■ Danpalon® Rainscreen (VRS) 16 reversed cladding 600 mm clear softlite (internal face), 1595m².



Through the manipulation of volume, an upright building becomes lopsided. Through the choice of translucent and reflective cladding, it makes a connec-

tion between its neighbourhood and the rest of the city. Conceived By Enzo Amantea, this residential building is located on the edge of a cluster of twelve new buildings, at the heart of La Confluence, a vast restoration project of industrial brownfield sites within greater Lyon. «I wanted it as a pivot between the cluster and its surroundings, while echoing the theme of a city in movement, which had been applied to the whole,» explains Enzo Amantea. The vertical shear and the distortion of the facades have brought about the emergence of balconies attached to the building, in places where no protrusions had

been possible before. The form, which originally was free, eventually conformed to the frame of the Danpalon®, used on the front for its reflection of the light and its changing colours. Installed like a second skin, it covers the exterior insulation, which is attached to the building's concrete structure. The Softlite finish reduces the transparency while the insulation is covered with a layer of fibreglass, which gives whiteness to the building. "I wanted to play with the light, brought by the cellular side of the material: the building is opaque and grey on a cloudy day. It assumes a certain depth when the sun is direct. At night, it has yet another dimension from the artificial lighting." remarks Enzo Amantea.

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THE EDITORS The sun shines for everyone

It is true and so much the better.

The sun is a source of inexhaustible energy on the human scale and abundantly available on the surface of our planet. Source of life and of well-being; we seek for our comfort to capture the light and the heat since the beginning mankind. Current issues relating to the environment and the growing scarcity of energy resources lead us to put this concern even more at the centre of our thinking and design. Natural lighting, heating, electricity production - there are many applications in structures designed for human habitation (housing, offices, sports facilities, etc). But the sun has also its «dark side» and we must counter its adverse effects by limiting its abundance according to time, exposure and location, rather than having to consume expensive amounts of energy for cooling. Such is the challenge for the next few years: to turn this wonderful energy of light into our best ally in mastering all its aspects. A challenge which, in the context of the development of thermal building regulations and conditioned by new requirements to achieve the results associated with them, is becoming the domain of state-of-the-art specialists versed in the applications and physical behaviour of the proposed products and systems. Consequently, this step is key for all those who are professionally active in architecture and construction, during which we will continue more than ever before to share our know-how and our experience. "The sun shines for everyone," and may this continue for a long time.

Enjoy your reading,
The Editors

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CREATE A HOME WITH LIGHTNESS AND ORIGINALITY

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■ Danpalon® 8 Rainscreen (VRS) cladding 600 mm ice, 2500m2



© Simon Deprez



Entering a site with tall buildings built in the 1960's on an already tightly built block, satisfying strict zoning requirements and achieving energy savings at the BBC standard - the challenge of building 60 housing units, presented to the Philippe Dubus agency by Paris Habitat - OPH, was not easy to meet. The solution: compact buildings, elevated on stilts, insulated externally and with a lightweight appearance. "This project derives its power and expression from all those constraints. It was not possible to fight the identity of the existing buildings, which was strong, relentless and displaying a distinctly vertical frame. I have therefore chosen an fleeting, neutral material, with a reflective and translucent texture that changes according to the light and

gives an imprecise and ambiguous reading of the constructed spaces," claims Philippe Dubus. After testing, the choice of the colour scheme for the Danpalon® materials fell on the shade 'ice', for its neutrality, enhanced by the white weather protection on the underside. This surface forms a double aerated skin over thermal insulation reinforced from the exterior. It is dotted with a mixed wood-aluminium chassis and with bow-windows that appear to be floating on the facade. "We played on a 600mm frame, with random openings, always with multiples of 600mm, which encourages a different reading than that of the existing buildings," Philippe Dubus points out.

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LIGHT ARCHITECTURE # N°1124

A REFLECTIVE AND COLOFUL HIVE

Joué-les-Tours (37)

DeSecond city of indre-et-Loire, Joué-les-Tours wished for a place on the level of the dynamism of its occupants. A cluster of buildings of unoccupied housing units, situated in a part-industrial, part-suburban area, near the city centre, thus became the heart of the city's community life.

A rectangular column of housing units was transformed into a colourful hive of offices for organisations. "In order to break the appearance of this big building, we have dressed it up in tilted Danpalon® Rainscreen (VRS) cladding, which gives it a contemporary look," explains Catherine Geoffroy, an architect at the Geoffroy Zonca company. The openings have been resized, so as to be different from each other. They are worked as alveoli, with embrasures in orange Altuglass, which are intended to highlight the bronze colour. The Danpalon® components, each 12 metres high, also make it possible to cover the roofing. They are illuminated from inside by LEDs, in order "to enliven the neighbourhood at night," commented Catherine Geoffroy.

The colour bronze was chosen to match the two other buildings of the project, one in the colour of bricks tinged with orange and the other covered with expanded metal. "We wanted to remain in the shades of industrial metal while awakening the neighbourhood with dynamic colours and a reminder of bricks. In addition, the brightness, the lightness of the material, as well as the ease of applying it to a metallic structure, caught our interest," concluded Catherine Geoffroy.



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■ Danpalon® 8 Rainscreen (VRS) bronze cladding, 914m².

A LUMINOUS SHOWCASE FOR AN INNOVATIVE BUS

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■ Facade Danpalon® 16, 1040 mm gold, 850 m²



For an innovative bus line - an iconic maintenance centre. Line 1 of the T Zen, the rapid bus transit serving the greater Paris area, has just been put in to service. For its dedicated maintenance centre, "The request was to create a marked and remarkable project, with powerful architecture, in shades of red, linked to the nearby RER D station of Lieusaint-Moissy," explains Frédéric Blerot, an archi-

tect with the company Richez Associés. The office section was consequently covered with a coloured and kinetically-paced facade, whereas the maintenance facility in Danpalon® was shaped as a peaceful and luminous box on a grey concrete base. "From the outset, the need to bring light to the facade was obvious in this vast area, over significant heights. The choice soon fell on these translucent golden solutions,

which met the client's request. Ultimately, the light, diffused throughout the interior and on the warm side has pleasantly surprised the people who work in this workshop. The nice thing is the way this material captures the light from outside. Depending on the time of day, it is more silvery or more golden", continues Frédéric Blerot. The thermal aspect is equally important: even if the insulation requirements were not very high for this automotive workshop, often wide open, Danpalon® makes it possible to minimize the effect of the sun in the summer and provide sufficient insulation in the winter, so that the radiators near the people working in the workshop would provide the heating.



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BIOMASS OUTLET FROM RECYCLABLE MATERIALS

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■ Danpatherm k7 cladding with insulation, green Softlite (softlite on



To build differently: that's what the architects Didier Besuelle and Lionel Salley wanted for the outlet of the association of organic producers Le Rabio. Located at the western entrance of the Cherbourg agglomeration, the building lacks the conventional commercial aspect that one finds in stores. Here you won't find big, bright and flashy signs, but only a discreetly lit aluminium sign and a marking on the northern facade, «which helps highlight and establish the building,» indicates Didier Besuelle.

In this spirit of sobriety and ecology, the facades are built with simple materials. "We wanted to bring natural light into the outlet, at the same time as having high performance insulation, hence the choice of the Danpatherm K7. This material is recyclable, which follows the path of sustainable development,"

explains Lionel Salley. The eastern and western facades, which are translucent, are supported by a wooden frame, while the northern and southern facades are formed of a concrete wall with thermal insulation from the outside and red cedar cladding.

The colour green was chosen for its unique translucence: "the light enters the outlet area from both ends of the building without allowing those who are outside to see what is going on inside," continues Lionel Salley. "By day and night alike, the facades form a landmark on the streets and the point of entry to this relatively ill-defined and very diverse neighbourhood. The store becomes a meaningful factor of that intersection."



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WOOD OF LANDES & TRANSPARENCES

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■ Danpalon® 16 cladding, 600mm ice Softlite, 1900m2.



For the resource centre of the Atlantic South, at Saint-Geours-de-Maremne (40), Air-Architectes chose to work with the local Lande pine wood industry. The building combines a wooden frame, facade cladding panels of wooden veneer, and blinds from edged pine and Danpalon® with a contrasting neutral colour. "We chose this material for its qualities: it does not weigh on the structure, it has a green label, it keeps an industrial appearance and provides ease of use," explains

the architect John luc Baldelli. Another advantage is its quick installation: "With a wooden frame, the installation is very quick; this is the advantage of the dry method," indicates the architect. Inside the building, offices and ten workshops for emerging businesses. Outside, the facades are all different. "Some are made of single layer Danpalon® for the workshop section. Others are dual-layer, with a wooden structure supporting full chambers and Danpalon® cladding or wooden veneer panels," indicates Jean-Luc

Baldelli. On some facades exposed to the sun, a secondary frame is added to support blinds in edged wood in front of the polycarbonate. As regards the southern facade it is designed based on the principle of the bioclimatic walls: one metre past the Danpalon® wall there is a wall of clear glass. In the winter, the heated air in this space is injected into the offices.



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■ Danpalon® 16 roofing, 1040 blue, 6500m².



Monumental! This is the term that comes to mind when you see the new soccer stadium Soong-eui, in Incheon, Korea. It is integrated into a total of 9 hectare mixing sport facilities, offices, stores and residences, intended to revitalise the economic growth of the city. Designed by Rosseti, an American architectural firm and Mooyoung, a Korean firm, the master plan of this new neighbourhood reflects the marine culture in this port city in making a reference to waves, winds and ships. With its dynamic shape and the curve of its roof, the stadium evokes the outlines of a vessel fending the waves. With

a capacity of nearly 21,000 seats, it will host the matches in the local club and especially the 17th Asian Games in 2014. On the upper part, the cover protecting the spectators is executed in Danpalon®. "I chose this material for its durability, resistance to impact and because it forms waterproof roofing," explains Shim Sang-Chul, an architect. Another challenge and a significant one: the length of the required components. "In some places, the roofing reaches 32 m in length. We needed a material that is available in these dimensions, which is the case with Danpalon®. As it is extremely lightweight, it needs only a thin supporting structure." The

aluminium connectors participate in this clean appearance and delicacy of structure, "while creating a solid whole, made to last a long time," concludes Shim Sang-Chul.

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BRIGHT & ENVIRONMENTALLY DESIGNED GYMNASIUM

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■ Danpalon® 16 cladding, 600mm clear Softlite, 811m2.

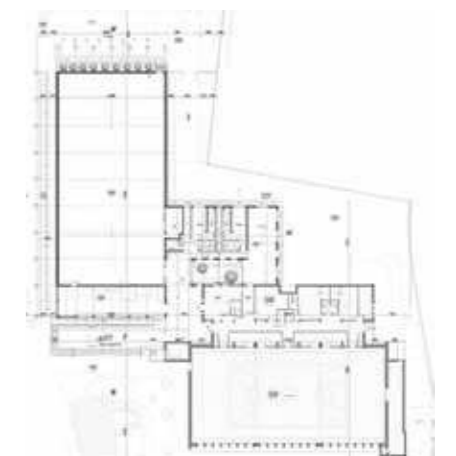


One enters the René Cassin gymnasium in Mâcon through a large cube of light, within which climbers are in motion. "We wanted this entrance to be an icon, and put the climbing wall up front rather than at the back of the gymnasium as is often the case." "We" means the architects of the firm Chambaud, who have enlarged and restructured the gymnasium. For the entrance, the aesthetic result was successful, with the facade material "which changes throughout the day from a translucent milky rendering

to a reflective metallic appearance, and becomes transparent at night," explains François Chambaud. Such is also the technical result, with an environmentally designed concept inspired by passive houses. "The entrance, facing southeast, captures the heat in the winter and conveys it throughout the rest of the building. Savings on heating is estimated at 20%," comments François Chambaud. Connected to the former gymnasium through this entrance, a new gym needed plenty of light, as natural as possible without glaring. It

is borne by the upper half of the walls constructed with Danpalon® with a Softlite finish on the interior surface to soften the light. On the facade, vertical blinds positioned at 45° provide additional protection. "From the outside, the visual rendering is not the same, depending on your vantage point: from one side we see the blinds, from the other, the Danpalon® and its special rendering," concludes François Chambaud.

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AS A LANDMARK, AN OPALESCENT CURVE

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■ Danpalon® 16 partition, 600mm clear, 222m2.



© Hervé Abbadie

The university restaurant at Paris Dauphine was renovated in order to improve the level of the services and comfort offered to students. "The objective was to give it an identity of its own and to make it more appealing by putting in place modern food services with a very smooth service. We have therefore completely reorganized this space" says architect Jean-André Macchini. "The project revolves around a wide illuminated curve that surrounds the whole technical block of cooking and of washing"

Executed in Danpalon®, this curve is visible from anywhere in the dining area, thus serving as a landmark. It forms a cladding in front of a wall of white concrete, which diffuses the light of neon elements located above. The installation was simple: "the material, which is lightweight, created the curve on its own. There has been no need for bending it," notes Jean-André Macchini. The colour chosen, clear, is purposely neutral. "We wanted an effect both monochromatic and luminous,

since the curved wall is located in a rather dark area," explains Jean-André Macchini. It is intended to counterbalance and illuminate the black floor of the entrance, the beige tone of the hall and the red of the elliptical acoustic material hung from the 10 metre ceiling of the big hall. For the openings providing access to the cooking and washing area, the choice fell on stainless steel frames which are associated with the serving counters nearby, also made of stainless steel.



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OPEN SPACES & PARTITIONS OF LIGHT

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■ Danpatherm K7 partition, opal, orange, green, yellow, red. Danpalon® 12, 600mm Softlite, 800m2.



The challenge was as large as the room: to redesign the university restaurant Grand Bouloie in Besançon (25), a large cafeteria of 1500m2 built in a style dating to the 1960s, and to transform it into a modern dining area, welcoming and warm. Away with self-service counter, welcome to self service islets and small shops to attract the students of today.

To break the canteen atmosphere of a room 28 m wide and 56 m long, the idea of translucent partitions was chosen in order to create 7 x 7 m open and luminous units. The Danpatherm K7 has been diverted from its primary function of insulating facades to become a double-layer freestanding partition with invisible supports. "Those separation elements are taken from the facade, which is made entirely of glass and which dominates the landscape. This opens and closes the spaces at the same time," explains Marie-José Canonica, architect. "This effect is reinforced by the translucent material of the partitions, which become like sheers, from ceiling to floor."

"We have had pleasant surprises on this point. The light enters and plays on the surfaces, creating very pleasant effects," adds architect Alain Cartignies. "We chose colours that are rather warm - yellow, orange, red and green for the vertical partitions on the facade. The opal colour was reserved for the other partitions." Renamed Lumière, in reference to the brothers of the same name, native of Besançon, this university restaurant now lives up to its name.

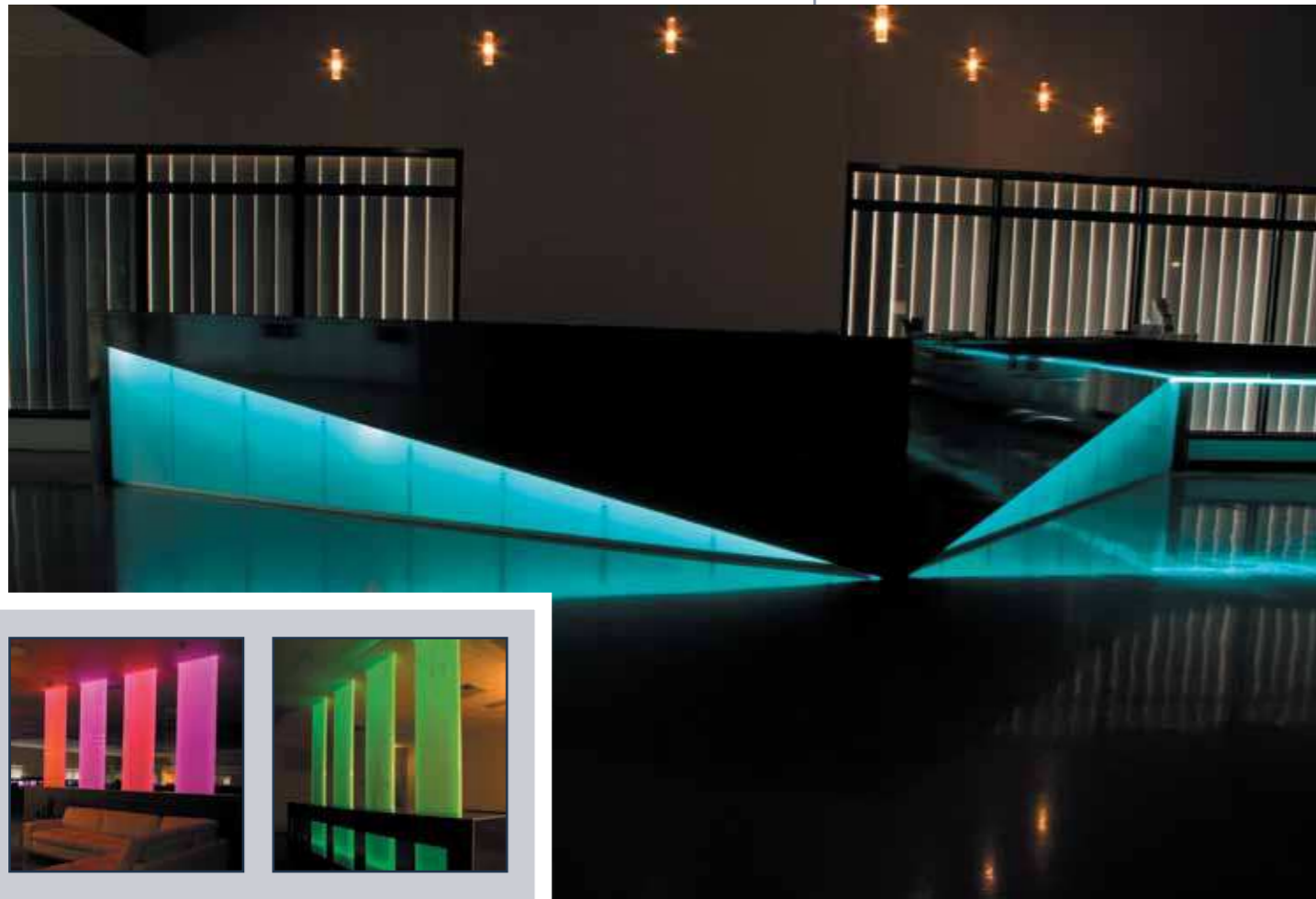


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A PLACE OF WORSHIP BROUGHT IN TO THE LIGHT

Australia

■ Danpalon® 10mm, opal



In the church of the Australian congregation Sunset Coast Christian Life Centre, in Joondalup, Danpalon® finds a different use than the usual. For the interior renovation of this contemporary building, the material was chosen for the possibilities that it can offer to highly imaginative builders. The latter have showcased its translucent quality by using colourful reverse computer controlled lighting. Several rooms of the church are decorated with screens like luminous sheers. They are mounted in sets of two, back to back, like double-glazing, held up using F-shaped hollow structural sections at the top and the bottom and are illuminated by LEDs-fixed in the ceiling and guided by computer, these elements give rhythm

to the space and contribute to the atmosphere of the church by their colour, fixed or changing, chosen according to the time or the event taking place inside. At the entrance, a luminous bulkhead welcomes the visitors. On the front surface it reflects television screens showing video clips related to the church. The reception desk is similarly covered with Danpalon®, also with luminous programming. Enthused by the material, its rendering and the possibilities it offers, the church leaders have decided recently to use it also to reface the exterior facade of the building.

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AN URBAN MASTERPIECE UP FRONT

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■ Danpalon® 16 cladding, ice, clear, clear Softlite



walls were conceived as three canvases through which the homeless centre can communicate with its surroundings, using works of art on an urban scale. Three large bays, shaped from long blades of Danpalon® and with simple geometrical forms, animate the facades with two shades, ice and crystal, and two finishes, normal and Softlite. The result, during the day, is a play of reflected light that changes depending on the time of day and the movement of the passing onlookers. At night, an array of LEDs backlights the bays and offers immense creative possibilities thanks to a wide range of colours and light intensities. The pattern of light created may be changed with the passing of the hours and with the seasons in a way practically unperceivable, following a programmed cycle or in response to external events. These coloured, translucent bays bring subtle movement to the buildings and the neighbourhood.

Accommodation for eighty five people, but also a medical area, Internet access, a kitchen, a public café - these are the services offered at the new homeless shelter of the St. Mungo Community Housing Association Limited,

at Pound Lane, in the Brent district of London. The idea is to welcome the homeless people in an open place full of hope. It was inconceivable to open windows in the three northern facades overlooking the adjacent cemetery. Rather than to leaving them blind, these

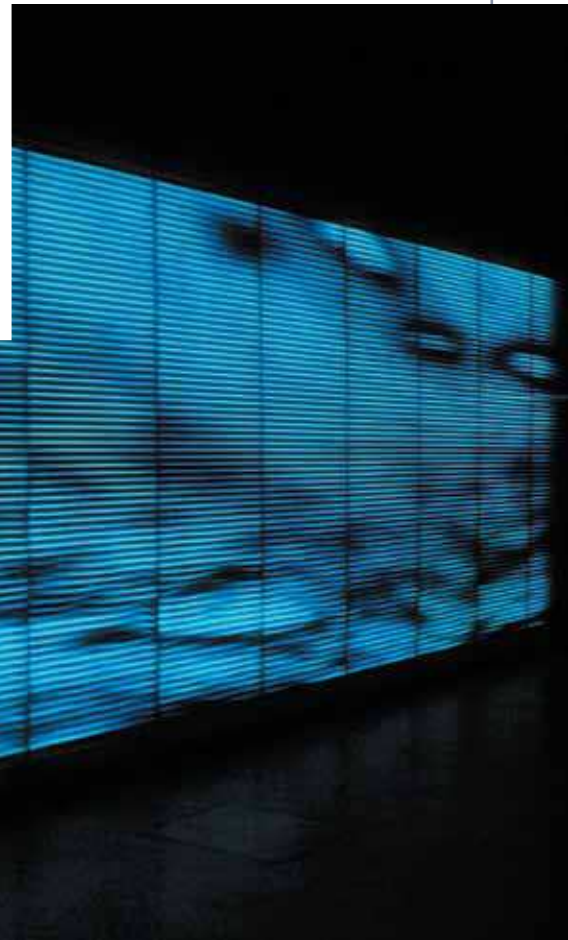
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WHEN MATERIAL FLIRTS WITH KINETIC ART

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■ Danpalon® 16, clear 1040mm



Location: a narrow and elongated bar in Copenhagen. The sponsor: Renault, seeking futuristic entertainment as part of the introduction of an electric vehicle. Creator: Gilbert Moity, lighting engineer. The result: the 3D Wall, a set of LCD screens, 15metres long and 3metres high, playing a video that is absorbed, transformed and then recreated by the Danpalon® wall opposite. *"The idea is to use light as a fairly abstract material: shapes, lines, impressions. This is not an ordinary video,"* explains Gilbert Moity. *"Right in the front, the Danpalon® forms a tangible substance, a solid wall. Its beehive-like structure diffracts the light. That creates an impression that the lines of light are fleeting, submerging and disappearing in the depths of the material. The video screen disappears and, whereas touching the surface of the Danpalon® wall gives no idea of the nature of what one sees."*

"I have worked with the graphic artist Xavier Gruchet on this video made of abstractions: flowing lines, layers of colours, sequences we have tested on the material for a one-hour video playing randomly," continues Gilbert Moity, *"with even more surprises at the time of streaming"*

When the computer creates mixtures we had not anticipated. But one thing is certain – were it not for the Danpa-



lon® in the front, it would be neither beautiful nor interesting. It is not just a video, but a form of today's kinetic art."



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