

# Photo Credits

**Photo credits (from left to right, from top to bottom) - page 1:** Seekoo Hotel, Bordeaux, France; project Atelier King Kong Architects; photo Arthur Pequin | Children pavilion Anansi, Utrecht, The Netherlands (external cladding in DuPont™ Corian® and underlay in DuPont™ Tyvek®); project by Mulders vandenBerk Architecten; photo DuPont™ Corian® | Seekoo Hotel, Bordeaux, France (external cladding in DuPont™ Corian®); project Atelier King Kong Architects; photo Arthur Pequin | Gas stations of SOCAR, Azerbaijan (DuPont™ Corian® for the external cladding of all the built structures); photo courtesy of SOCAR | Private apartment in New York (wall cladding and flooring in DuPont™ Corian®), project David Giovannitti; photo Michael Moran | Palais des Congres, Abidjan, Ivory Coast (external cladding in DuPont™ Corian®); project Arch. Pierre Fakhoury; photo DuPont™ Corian® - **page 2-3:** all pictures: Palais des Congres, Abidjan, Ivory Coast (external cladding in DuPont™ Corian®); project Arch. Pierre Fakhoury; photo DuPont™ Corian® - **page 4:** all pictures: Brørup Sparekasse (Brørup, Denmark), exterior cladding in DuPont™ Corian®, project by schmidt hammer lassen architects; photos Jens Nygaard - **page 5:** all pictures: Seekoo Hotel, Bordeaux, France; project by Atelier King Kong Architects; photo Arthur Pequin - **page 6:** Children pavilion Anansi, Utrecht, The Netherlands (external cladding in DuPont™ Corian® and underlay in DuPont™ Tyvek®); project by Mulders vandenBerk Architecten; photo Roel Backaert - **page 7:** Children pavilion Anansi, Utrecht, The Netherlands (external cladding in DuPont™ Corian® and underlay in DuPont™ Tyvek®); project by Mulders vandenBerk Architecten; photo DuPont™ Corian® | Children pavilion Anansi, Utrecht, The Netherlands (external cladding in DuPont™ Corian® and underlay in DuPont™ Tyvek®); project by Mulders vandenBerk Architecten; photo DuPont™ Corian® | picture at the right in the middle: Private villa in Croatia (external cladding in DuPont™ Corian® and underlay in DuPont™ Tyvek®); project by DVA Arhitekta; photo Marko Jukic - **page 8-9:** 3 top pictures: Private villa in Portugal (external cladding in DuPont™ Corian®); project and photos by Arch. Duarte Pinto Coelho | "3D" collection of DuPont™ Corian®, Math series (Voronoi pattern); design Alessio Erioli, Andrea Graziano, Corrado Tibaldi; photo Jean-Pierre Delagarde - **page 10:** all pictures: Stand of DuPont™ Corian® at 2010 edition of 100% Design London; design by KIW&POM; photo Jon Tonkin | "3D" collection of DuPont™ Corian®, Math series (Voronoi pattern); design Alessio Erioli, Andrea Graziano, Corrado Tibaldi; photo Jean-Pierre Delagarde - **page 11:** Royal Masonic Benevolent Institution care home, Exeter, United Kingdom; external cladding with DuPont™ Corian® done by CD (UK) Ltd; photos by CD (UK) Ltd. - **page 12:** all pictures: Headquarter of Modula company, Macerata, Italy (external cladding in DuPont™ Corian®); project by Mario Montalboddi and Michele De Angelis; photo Modula - **page 13:** all pictures: Hotel Ivoire, Abidjan, Ivory Coast (external cladding in DuPont™ Corian®); project Arch. Pierre Fakhoury; photo DuPont™ Corian® - **page 14:** 2 pictures: Gas stations of SOCAR, Azerbaijan (DuPont™ Corian® for the external cladding of all the built structures); photo courtesy of SOCAR | Private apartment in New York (wall cladding and flooring in DuPont™ Corian®), project David Giovannitti; photo Michael Moran - **page 15:** Private villa in Croatia (external cladding in DuPont™ Corian® and underlay in DuPont™ Tyvek®); project by DVA Arhitekta; photo Marko Jukic | Mock-up of external cladding solution by Skandinaviska Glassystem using DuPont™ Corian®; photo courtesy of Skandinaviska Glassystem - **page 16:** "Rendez-Vous Toyota" showroom, Paris, France (wall cladding in DuPont™ Corian®); project by Ora Ito; photo Luc Boegly | next 2 pictures: "The Lucy Clinic" (Dr. James Chang's aesthetic surgery clinic), Taipei, Taiwan (wall cladding in DuPont™ Corian®); design Michael Young and Katrin Olina Young; photo courtesy of Michael Young - **page 17:** 2 pictures at the bottom: Davidclovers studio, Hong Kong, China (façade in DuPont™ Corian®); design Davidclovers and C.E.B.Reas; photo DuPont™ Corian® | Seekoo Hotel, Bordeaux, France; project by Atelier King Kong Architects; photo Arthur Pequin - **page 18:** 2 pictures at the left: Chantal Thomass store, Paris, France (wall cladding in DuPont™ Corian®); design Christian Ghion; photo Kean-Pierre Delagarde - **page 19:** 2 pictures at the left: "Design by Marotte" collection of wall cladding panels in DuPont™ Corian®; photo courtesy of Marotte | picture at the right: "3D" collection of DuPont™ Corian®, Math series (Gauss pattern); design Alessio Erioli, Andrea Graziano, Corrado Tibaldi; photo Jean-Pierre Delagarde

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**NEW FRONTIERS**

# Architecture discovers the outer beauty of DuPont™ Corian®

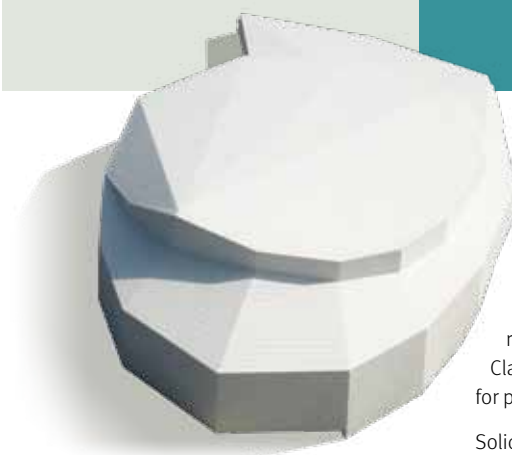


**A palace gets a new covering inspired by nature** | Thanks to the vision of Architect Pierre Fakhoury, the Abidjan Congress centre, Ivory Coast has shed its tired old look to slip into something as sleek as snakeskin. A new look...and a new life for this luxury congress centre | *Abidjan Congress centre*

**2** **A façade does not have to be flat** | 'Landscape' the exterior of your building with intriguing texture and 3D effects, Corian® can accommodate a breathtaking scope of design ideas | *Abidjan Congress centre*

Should we judge a building by its cover? When it looks and performs to the standard of an external façade created from DuPont™ Corian®, it's already making a great first impression.

**3**



### Form and Function come together in a fantastic exterior solution

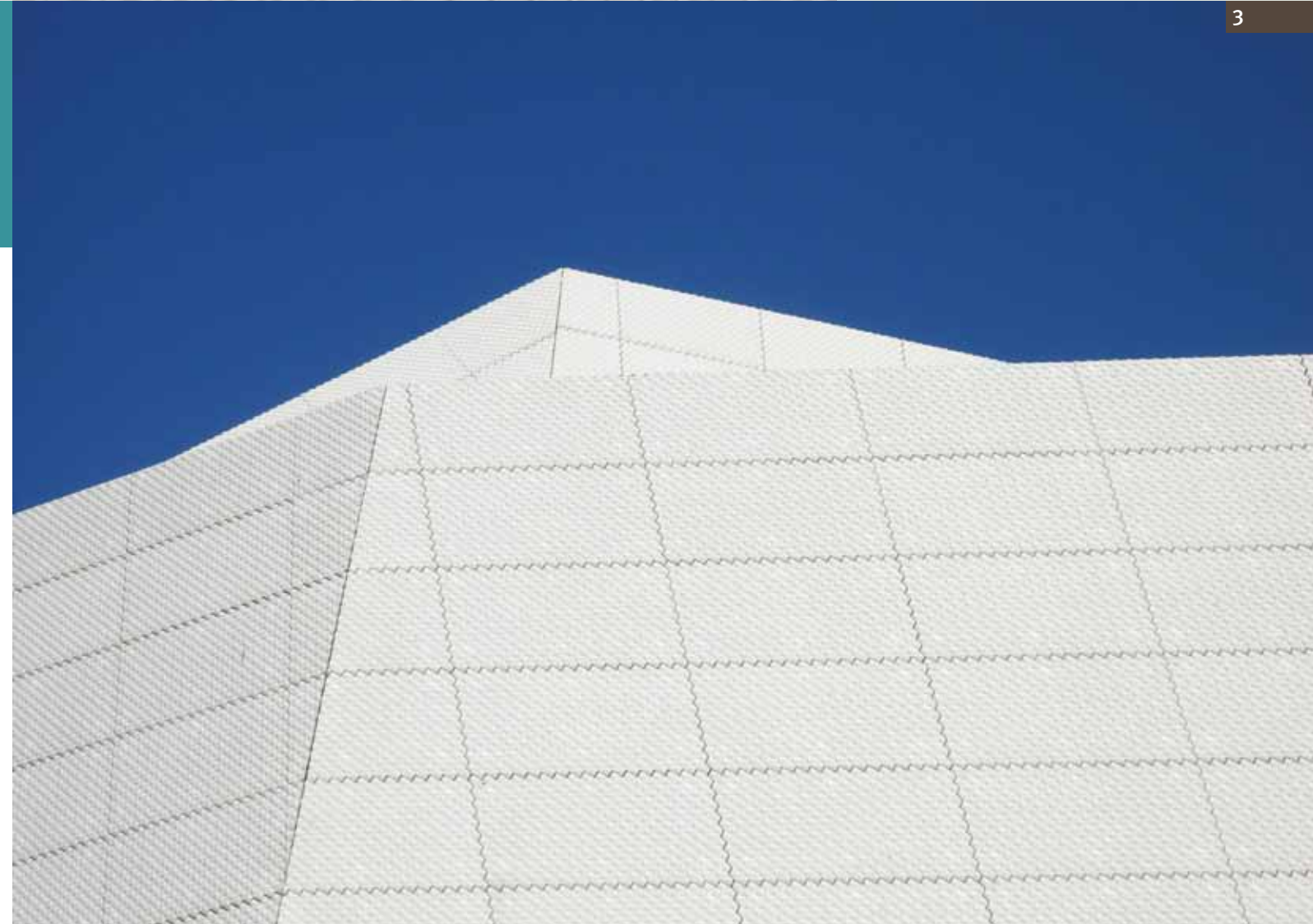
Thanks to superior aesthetics combined with extraordinary design flexibility and robust reliability, DuPont™ Corian® Exterior Cladding (EC) makes a strikingly smart choice for panelised façade systems.

Solid, homogenous and coloured all the way through, DuPont™ Corian® External Cladding consists of custom-made panels capable of creating expansive and sleek vertical surfaces with inconspicuous seams. An inspiring array of decorative options are also possible, from

3D-textured effects and CNC pattern cutting, to curves, inlays and dramatic backlighting effects.

### Looks that defy the years

There is an increasing number of buildings around the globe that have exploited the considerable benefits of panelised wall systems with DuPont™ Corian® EC. Several installations have been in place for 10 years or more. By virtue of its longevity, resistance and renewability, Corian® can defy the toll of time when it comes to a building's outer beauty.







**Banking on quality** | You'd expect a renowned financial institution such as Denmark's Brørup Sparekasse to choose a product it can count on for the façade of its 'Tetris' style new branch in Fredericia, conceived by schmidt hammer lassen architects.



**An Iceberg takes shape** | The Seeko'o Hotel in Bordeaux by Atelier King Kong Architects marked a worldwide debut - the first structure to have an entire 'skin' made from DuPont™ Corian®. Designed to resemble a floating glacier, its striking planes and angles are enhanced by the cool, sleek purity of the cladding.

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### Technology that can tick all the boxes

This brochure offers an overview of performance considerations that, we hope, will inspire you to consider DuPont™ Corian® External Cladding for projects which would benefit from beautiful, hi-tech, easy-to-install and easy-to-care-for façade or cladding applications. Today's high performance ventilated façade systems (often known as panelized wall systems in the US or rainscreen façades in UK) must accommodate a complex interface of materials and design while meeting some of the most demanding regulations. The ventilated façade system comprises construction elements that provide structural support, weather resistance and the overall architectural expression of the building.

Fixing systems can be mechanically attached or adhered, but must be engineered with sufficient tolerances and flexibility to allow for a variety of differential movements.

### Advantages of DuPont™ Corian® Exterior Cladding:

- Design Flexibility
- High-performance durability
- Excellent UV and weather resistance
- Easy maintenance and reparability
- Structural Performance
- Fire rating



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A 'wrapping' serves many functions, from protection to attraction. When creating a functional 'rain-screen' façade, DuPont™ Corian® also allows for the imprint of a unique aesthetic identity.

## A façade becomes a blank canvas for expression

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**A fairytale façade |** For the pavilion of a children's playground in Utrecht, the architects Mulders vandenBerk worked with the children themselves to translate popular nursery rhymes and storybook characters into a mural that is permanently engraved into the Corian® façade.

### A façade in DuPont™ Corian® allows you to express your design vision through a number of techniques and capabilities:

- **Thermoforming:** bend the material to your imagination and create high-impact 3D effects and customised shapes.
- **Engraving:** Etch your ideas into solid reality, via CNC and other techniques.
- **Joining:** create smooth surfaces with inconspicuous seams and monolithic effects, or choose overlapped or open joints.
- **Finishing:** Corian® can be as bespoke as the best tailoring, but it also comes 'ready to wear' with no need for sealants or treatments, offering an inherently smooth, naturally non-porous surface.
- **Colour:** Pristine white has a perennial appeal, but should colour play a part in your plans, there's a select palette to choose from of suitable shades for external applications, displayed at the last page of this brochure.

### Easy to work with, easy to install:

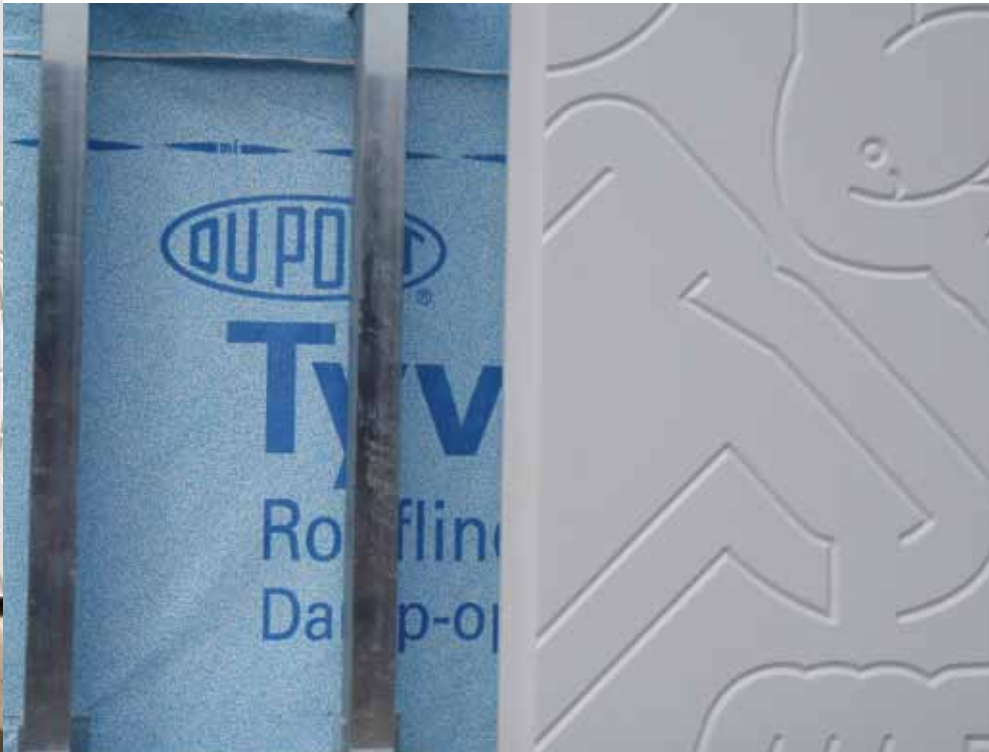
- **Fabrication** is taken care of by skilled and approved workshops using hi-tech tools and techniques through DuPont certified fabricators.
- **On-site adaptability:** Further fabrication and modification is possible in the field by virtue of the material's compatibility with simple machining methods.
- **Corian®** can offer all the gravitas of the noble stones but is light-weight and easy to install.
- **A benchmark for standards:** DuPont ensures a high level of quality control both with the product and in its application through DuPont-certified fabricators.

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**Let your building breathe |** The combination of open-jointed rain-screen façades and vapour-open membranes means a building envelope that is dressed to kill but made for life. Reliable long-term performance together with a more comfortable interior environment and a well-protected structure has benefits both for sustainability and peace of mind.

**A weather-wise solution |** A stylish overcoat is essential, but don't forget your underlayers if you really want to keep warm! DuPont™ Corian® has the ideal partner for panelised façade systems in the form of advanced breathable DuPont™ Tyvek® membranes, which protect the building structure and any insulation materials from wind and water, while allowing vapour to diffuse. Together they make a hi-tech, lightweight, easy-to-install partnership.





**The secrets of the white house |** This elegant private villa in Lisbon proudly sports an exterior in crisp white Corian® that will clean to look beautifully year after year, while its neighbours might wonder how it manages to keep looking so fine.



## A cladding solution for sustainable buildings

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Environmental considerations play a significant role in the ongoing development and manufacture of DuPont™ Corian® External Cladding. Panels are made of approximately 1/3 high quality acrylic ingredients and 2/3 natural minerals. Pigments used are free of heavy metals, toxic or carcinogenic ingredients. Residual material from production is rapidly renewable in the process. Some colours have up to 25% recycled post-industrial material.

### Corian® is multi-talented

DuPont™ Corian® EC has many desirable attributes to offer for exterior cladding applications. From major urban constructions to smaller scale projects, Corian® can adapt to any kind of design and play any part. Fire rated and safe for public spaces, the material can also add cachet to private residences and forms an exterior finish the client will never have to repaint.

### From the broadest brush-stroke to the subtlest detail:

Indoors or outdoors, as a full façade or sectional wall panel, Corian® turns the perception of traditional cladding materials inside out.

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**Making a splash |** The Voronoi panels from the 3D Math collection of decorative panels in Corian® take their design inspiration from a famously brilliant mathematician, but it doesn't take a genius to see their fantastic potential for transforming a wall.





The key environmental characteristics of DuPont™ Corian® External Cladding are:

- **DuPont™ Corian® External Cladding** ventilated façade system allows for thicker insulation and therefore lower energy costs.
- **DuPont™ Corian® External Cladding** is durable and long lasting, panels can usually be repaired, if necessary, rather than replaced, meaning less materials are needed, or discarded, over the life of the building.
- **DuPont™ Corian® External Cladding** can be used for cladding renovation to reach new thermal regulation requirements.
- **DuPont™ Corian®** is inert, safe in use, certified as hygienic and as having no negative impact on air quality. The material is easy to maintain without the need for sealants or treatments.

DuPont™ Corian® has received important independent certification for its environmental performance such as:



**Timeless beauty** | DuPont™ Corian® offers lasting good looks together with peace of mind. This external cladding application in Exeter in the UK has been in place and performing for over 20 years, a fine testament to the formability, durability and easy care offered by Corian®.



**Blooming with possibilities** | BioTecture, a UK company that are experts in 'Living Walls,' have now begun to grow their horticultural magic through the artistic solution of the 3D 'Math' panels in Corian®, opening up a whole new vista for vertical 'urban greening.'







## A durable and cost-efficient enhancement to architecture

**Massive Impact** | Gleaming 'ivory' towers in refreshing, easy-care white can bring a new sense of calm, strength and hope to the metropolitan skyline.



**12** **The last piece of the puzzle?** When all the imagination, careful planning and construction has brought a building to completion, DuPont™ Corian® can offer the finishing touch that does poetic justice to a design. This building has made a wise investment with its Corian® façade, the perfect screen for a diffused projection of coloured uplighting.

DuPont™ Corian® External Cladding panels will continue to add value over their extensive life span, keeping maintenance costs to a minimum. The smooth, non-porous surface is exceptionally resistant to dirt and stains and easy to keep looking as good as new.

Neither the surface nor the edges need to be sealed, painted or protected, the material is solid, coloured all the way through and inherently robust. DuPont™ Corian® External Cladding is not damaged by non or mildly abrasive household cleaning agents or strong organic solvents when used in accordance with the correct use and care instructions. Under normal conditions, an external façade will require only annual cleaning with standard agents, such as water and detergents.

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**Filling up on glamour** | The SOCAR chain of petrol stations in Azerbaijan has now enjoyed a dramatic and hi-tech overhaul with external structures wrapped in Corian® - a smart investment in a fresh, modern exterior style.

#### Tough enough for the city

Corian® is pliable in design terms, yet strong in application and is resistant to abuse and impact. Graffiti is easy to remove with more potent water-based cleaning agents or by sanding, without affecting either the beauty or the performance of the product. In addition, it's utterly resilient against decay or attack by termites, micro-organisms, moisture or freeze-thaw cycles. DuPont™ Corian® External Cladding panels are repairable, remountable and easy to modify: new panels in the original colour can be ordered in most cases, even after several years.

#### Forward thinking

DuPont™ Corian® External Cladding offers a façade solution with low operational costs and superior whole life value. Moreover, when the panel system might meet the end of its initial installation, DuPont™ Corian® External Cladding is reusable for other interior or exterior applications and very easy to transport.



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**Urban oasis** | A city garden can be modern, cool and easy to care for with Corian® clad walls and floors, as the owners of this chic apartment in New York City discovered.



**Hitting the right spot** | Corian® makes a smart curtain wall system, as shown in this concept by Skandinaviska Glassystem, using alternating convex and concave impressions that take advantage of the material's malleability and easy fixability.

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**Stairway to the stars** | Ora-Itto gave the Toyota Showroom in Paris an interior intrigue of sleek surfaces and subtle light play, realising his vision through the versatility of Corian®.

### Creativity shines through

DuPont™ Corian® Exterior Cladding can also be fabricated to achieve different levels of light transmission by selectively back-cutting the material to different thicknesses. Where the material is cut thinner, it allows more light to emanate. The effect generated will depend on the combination and variables of colour, thickness and lighting systems.

### The power of the lighter touch

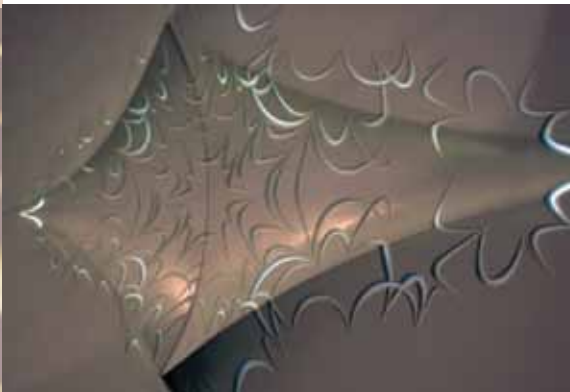
In response to the increasing ingenuity in structural lighting designs, the groundbreaking DuPont™ Corian® Illumination Series of colours has been designed specifically to offer enhanced translucency. These 'Ice' tones subtly alter depending on the level of direct illumination, adding an ethereal beauty to the strength of Corian®.

## How to make a wall translucent and other exciting stories

DuPont™ Corian® External Cladding allows for a degree of light diffusion, depending upon both colour and aggregate texture chosen from the palette. In general, plain and light tones such as whites and neutrals are the most translucent, while dark or saturated colours with a matrix of large particles are the least translucent.



**Luminous walls** | Michael Young weaves a web of charm within this clinic in Taiwan, creating backlit walls made from CNC carved, translucent DuPont™ Corian®.

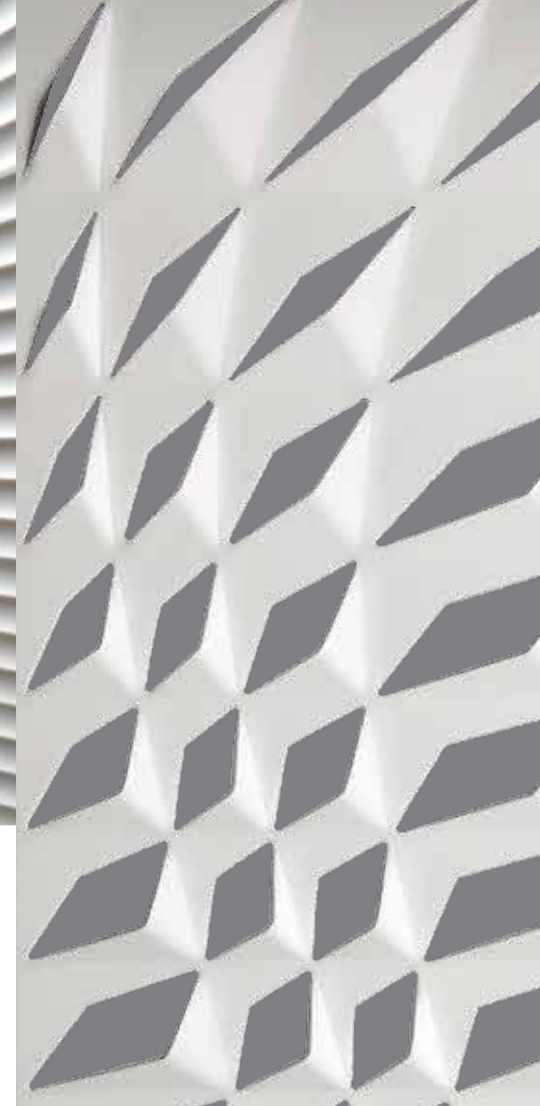


**Storefront** | Much of the visual and spatial ambiguity of this storefront lies in the tension between two dimensions and three dimensions, exacerbated by both forming and etching an otherwise matt DuPont™ Corian® façade.



**Signs of brightness ?** | Discover, as did the Seeko'o hotel, that a sleek Corian® façade can also easily integrate translucent and backlit signage, created with the same touch of magic from the same ingenious material.





The artistic possibilities when working with Corian® are almost unlimited. There are many different surface treatments that can be applied to DuPont™ Corian® External Cladding to customise its appearance, such as textured and carved effects achieved via sanding, routing, sandblasting, waterjets, thermal moulds and presses, etc., enabling the production of unique designs.



**Soft sell |** The Chantal Thomass luxury lingerie emporium in Paris discreetly displays its wares behind 'padded' walls made from Corian®, imaginatively applied by Christian Ghion.

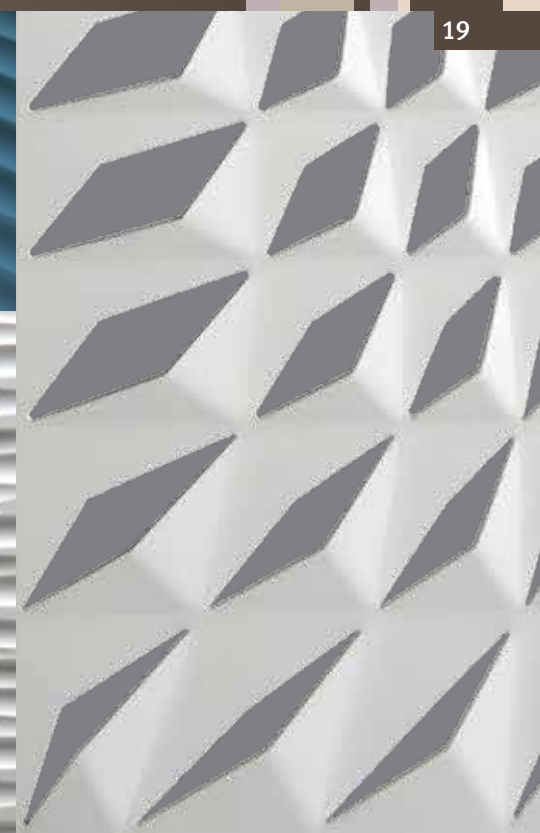
Since DuPont™ Corian® External Cladding is relatively easy to cut and finish without the need for specialised diamond abrasives and saws, workshop fabrication offers a very high level of skill, quality, speed and efficiency. High speed routers can achieve a fine level of detail for surface cutting and also can be driven by CNC controls to achieve intricate patterns and textures. Shaping with oven and pressure moulds offers a broad range of forms, from geometric patterns to sensuous organic curves. These techniques can be combined with multi point thermoforming to create three dimensional effects.

Now there are also ready made solutions for wall panels available to the market, if time and budgets do not allow for bespoke origination. These include the high-impact 3D Math collection of decorative panels inspired by the formulae of famous mathematicians. Hi-tech production methods allow for rapid design and manufacture meaning a new vista of vertical finishing is now at your fingertips.

## Sculpt your vision into the wall



**Wave upon wave of ideas |** The Design By Corian® panel collection from Marotte offers a set of textured 'bas-relief' style designs inspired by nature that can bring both glamour and practicality to wall systems.



**Has design become formulaic |** In the case of the award-winning Math series from DuPont™ Corian®, yes! This set of Gauss patterns was created by aesthetically extrapolating the famous theories of mathematics to create a collection of wall or sunshade panels like no other.

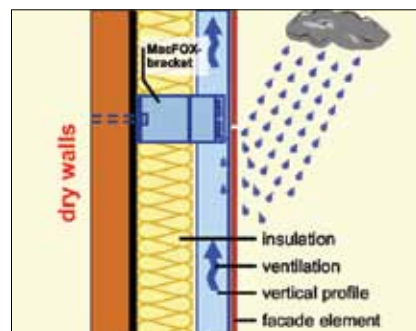


# Technical Information

## The advantages of a ventilated façade

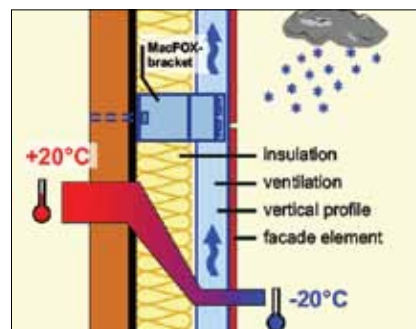
No matter what climate you find yourself in, moisture is always an issue and can seriously affect the overall performance of a building. The answer is a ventilated façade, which is designed to breathe. Ventilated façades have a space between the cladding and the outer wall - an ideal location for insulation materials.

DuPont™ Corian® External Cladding is highly suited to ventilated façade systems. The “breathing” or envelope systems, combined with DuPont™ Tyvek® advanced breather membranes offer possibilities for high insulation values and contribute to a healthy indoor climate.



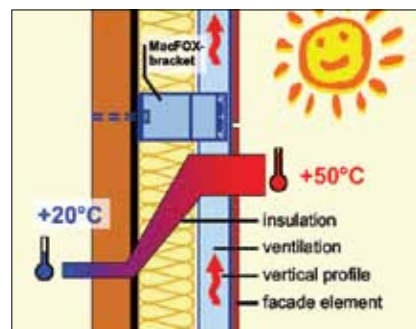
### Rain / Humidity / Dew protection

Rain water and condensation are removed naturally by air flowing through the cavity - so that the insulation material remains in good condition and effective over time. Penetration of rain water is minimised and condensation is drained out through ventilation inlets and outlets. The ventilated air space serves multiple functions.



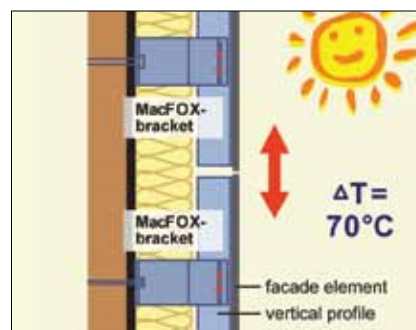
### Thermal insulation – Cold

The air in the designed cavity will circulate due to air pressure differentials and thermal differentials over the height of the building. In a cold climate this causes the condensation moisture at the rear of the cladding to dry.



### Thermal insulation – Heat

In a warm climate the moving air will cool the inner layers of the construction, thus reducing the demand for cooling energy. The building occupants can enjoy a low-maintenance environment with dry and comfortable conditions that can make a positive contribution to wellness and overall comfort make it sound better.



Source Eurofox

# Technical Information

## Performance Properties of DuPont™ Corian® Exterior Cladding

### Structural Performance

- **Light-weight** for reduced structural load.
- **High flexural and tensile strength** providing excellent resistance to wind loads.
- **Compatibility** with typical building components, structural silicone and sealants.
- **High resistance** to abuse & graffiti.

### Fire resistance

- **Low** burning characteristics.

### Weatherability

- **UV** resistant colour selections with excellent colourfastness available.
- **Weather-resistant** system minimizes leakage from wind-driven rain (fewer joints, ability to form half-lapped joints).
- **Excellent** resistance to freeze / thaw, water absorption, chemicals & detergents and environmental pollutants.

### Performance Properties of DuPont™ Corian® Exterior Cladding

Property	Typical result	Test
<b>Structural performance</b>		
Specific gravity	1.7	
Weight	21,5 kg/m <sup>2</sup>	
Impact	category 1	ISO 7892
Flexural modulus	8040 - 9220 MPa	DIN EN ISO 178
Flexural strength	57.1 - 74.0 MPa	DIN EN ISO 178
Elongation at break	0.76 - 0.93%	DIN EN ISO 178
<b>Fire performance</b>		
Euroclass - fire resistance*	B-s1,d0	EN 13501-1
<b>Weatherability</b>		
Coefficient of longitudinal expansion	max. 30.5 x 10 <sup>-6</sup> K <sup>-1</sup>	DIN 51 045
Thermal conductivity δ (10 <sup>9</sup> ) dry	0.769 W/(mK)	DIN 52 612
Colourfastness	see exterior colour recommendations	ASTM G7 & G155
Water absorption, long-term, 30-days	0.6 weight %	ASTM D570
Freeze / thaw Resistance	no observable changes	ASTM C666
Salt fog (concentrated effects of coastal environment exposure)	surface easily renewed	ASTM B117
Sulphur dioxide (SO <sub>2</sub> ) resistance	no effect	ASTM G85
Fungus and bacteria resistance	does not support microbial growth	ASTM G21 & G22

\* Standard grade, Glacier White, 12mm, 930mm wide - Applied on aluminium profiles with an airgap and with mineral wool insulation



# Technical information

## Fixing systems

### Fixing systems specification:

The fixing system usually used to mount Corian® EC cladding panels is a mechanical fixing system based on an aluminium grid system consisting of vertical profiles 'T' or 'L' shape, mounted on aluminium squares connected to the substrate. The supplier has to check the substrate, according to the CISMA recommendations.

The cladding panels are hung on the horizontal profile 'C' shape by the brackets (or clamps) with reverse 'C' shape, that are attached to the back of the panel with a specific undercut anchor from Keil company, making fixings invisible. Cavity between panel and the rear wall is partially filled with insulation, protected by DuPont™ Tyvek® membrane, so the air can ventilate behind the profiles. The thickness of the aluminium profiles will be of 20/10 or 25/10, according to whether you fix the profile/square by riveting or screwing. The quality of aluminium is 6060 T5 or similar.

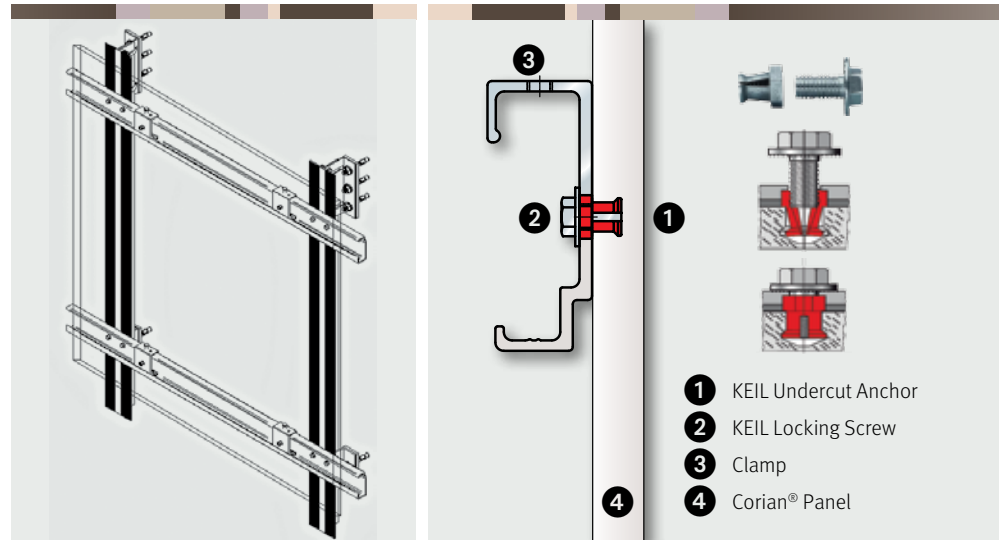
**The whole fixing system allows DuPont™ Corian® sheets to dilate in all directions.**

#### Mechanical fixing system

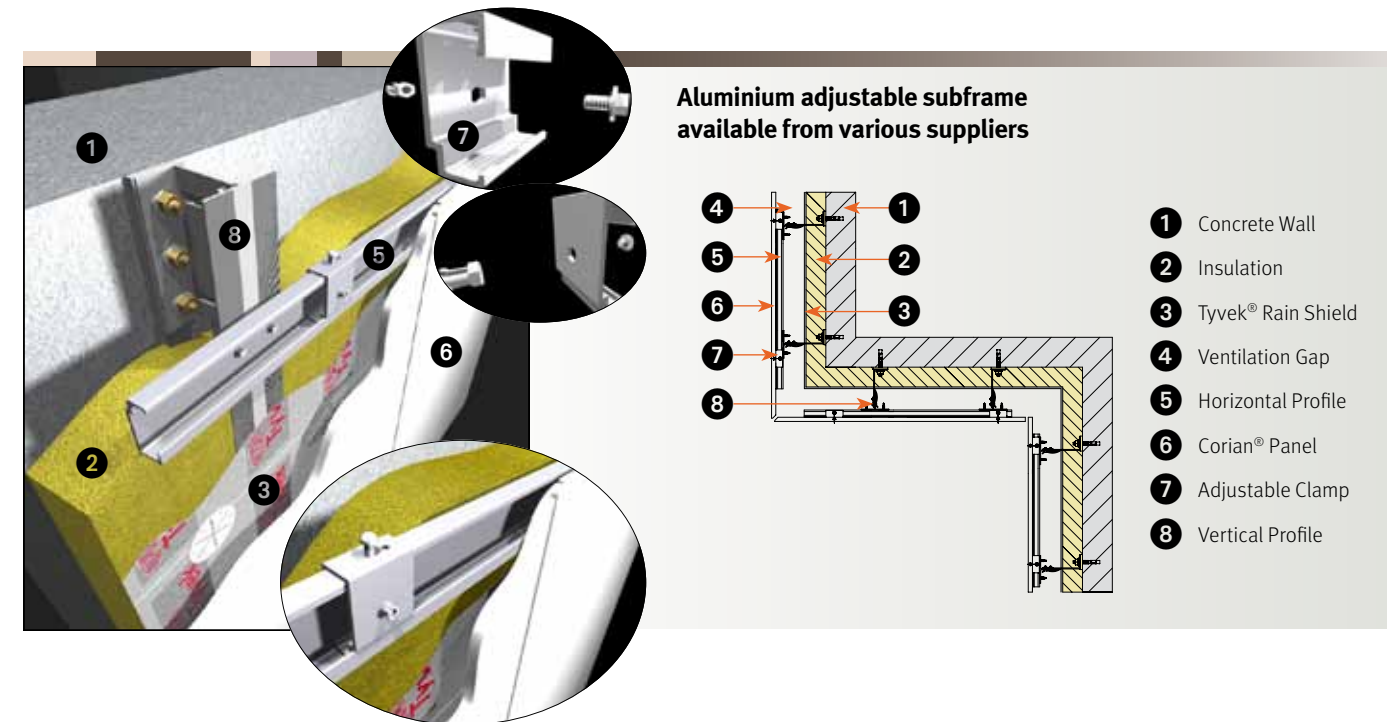
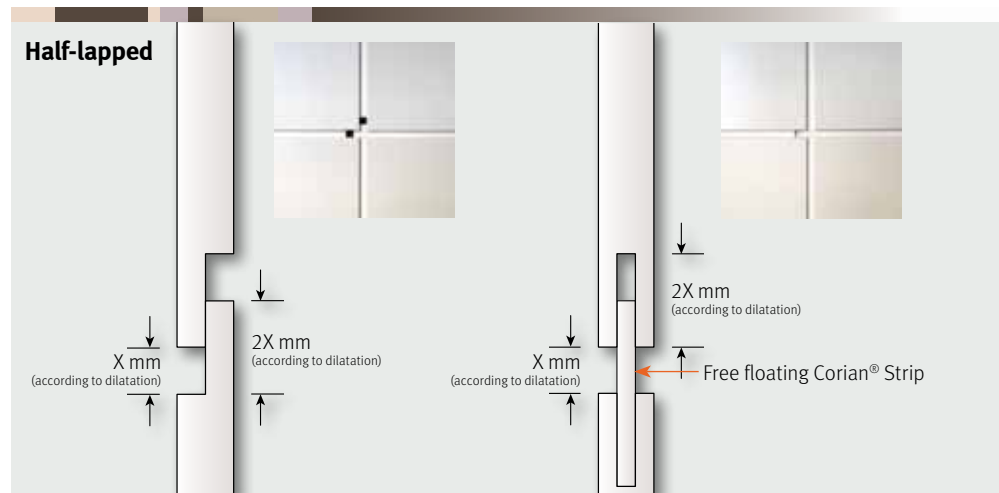
with invisible fixings positioned every 650 mm x 650mm

#### Invisible undercut insert from Keil company

(www.Keil.Eu)



#### Details of joints :



## Recommended colours of DuPont™ Corian® External Cladding

DuPont offers a selection of colours recommended for exterior cladding applications. These colours are expected to meet architectural guidelines for a colour change of less than or equal to 5 units ( $\Delta E$ ) in 10 years based on tests according to ASTM standards (ASTM G7 & ASTM G155).



**UV warranty:** thanks to practical experience over many years and the high quality of Corian® EC, a 10 (ten) year UV warranty, guaranteeing that the colour will not fade or change by more than 5  $\Delta E$  CIE L\* a\* b\* units and gloss loss will not exceed 40%, is available both for the product range in general and for specific projects. This limited warranty applies to gloss loss on Corian® EC sold with a semi-gloss or matte gloss only. This warranty is subject to terms and conditions which will be delivered to the customer by the local DuPont office or representative.