



The Corian® skin for architecture

Corian® exterior cladding



The challenge: on the one hand, realising a building project with a 1000-m² façade surface that would break with tradition while still harmonising with its environment, and on the other, selecting the right material: a made-to-measure material that flows smoothly and seamlessly over the structure.

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The Corian® skin for architecture

DuPont™ Corian® combines aesthetics with high performance, which makes it an ideal choice for panelised façade systems. Coloured all the way through, DuPont™ Corian® made-to-measure panels offer easy maintenance, good weather and UV resistance, and high-quality detailing and finishing possibilities. The panels can also be repaired in situ.



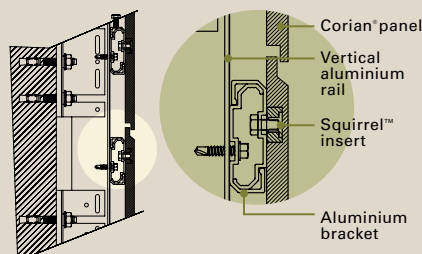
MADE-TO-MEASURE FABRICATION

Standard Corian® panels (0.93 x 3.66 m) are assembled, seamed and sanded. The maximum finished size is 5.5 x 2.2 m (W x H), and the panel thickness is 12 mm. The joints are reinforced at the rear by 6 mm thick strips with a width of 5 cm.

The panels are supplied directly by our Corian® Quality Network fabricator.

JOINTS AND THERMAL EXPANSION

Overlapped or open joints are located on all panel edges. The joint width depends on the thermal expansion coefficient of Corian® and the panel dimensions. The minimum horizontal width is 16 mm, and the minimum vertical width is 8 mm for a maximum panel size of 5.5 x 2.2 m.



Facades with open rainscreen cladding offer new design options, but the insulation and structure still require effective, lifelong protection from the harmful effects of the elements to which it is constantly exposed. In particular UV radiation can compromise the long-term performance of secondary protection membranes. That's why DuPont has developed Tyvek® UV Facade, an advanced protective membrane specifically designed to meet the needs of open cladding constructions.



EASY FITTING

FAÇALU® DOUBLE METAL FRAMEWORK

This framework, made by ETANCO, ensures an even surface over the entire façade and accommodates the thermal expansion of the Corian® panels. The fixing devices are concealed. The fixing method is designed to allow movement due to thermal expansion and to accommodate deflection due to wind loads and other horizontal loads that can produce rotational forces.

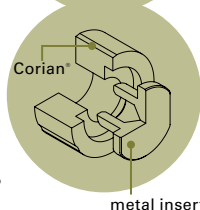
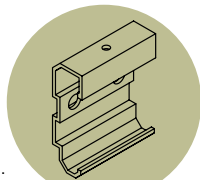
FAÇALU® ALUMINIUM BRACKETS

The C-shaped brackets from ETANCO clip into the secondary framework with a minimum of effort.

SQUIRREL™ METAL INSERTS FOR CORIAN® PANELS

These inserts have a pull-out strength of approximately 400 kg with a thickness of 8 mm.

They are embedded in the Corian® sheets by Corian® Joint adhesive. The result is a completely concealed fitting.





“WE WERE IMPRESSED BY THIS NOBLE AND RICH MATERIAL FROM DUPONT, WHICH ENABLED US TO DEPART FROM TRADITIONAL FAÇADE CLADDING SYSTEMS,” SAYS JEAN-CHRISTOPHE MASNADA OF THE KING KONG ARCHITECTURAL OFFICE.



EASY INSTALLATION

Façade fitters should be trained by DuPont de Nemours to work with Corian® and be supported by a Corian® Quality Network fabricator during the project.

The C-shaped brackets are attached to inserts embedded in the material. They clip onto the secondary framework every 45 cm. The lifting system has to be designed carefully, as the fixing system allows a tolerance of only 1 cm for attaching each panel to the framework.

The panels can be lifted by using a metal frame with suction cups and by using a movable platform.

One example of the high-quality finish that can be achieved with Corian® is the fact that the window surroundings can also be fabricated in the same material, ensuring a perfect match between the window surroundings and the cladding.

CONVENIENT MAINTENANCE AND GOOD WEATHERING CHARACTERISTICS

Corian® panels resist attack by a broad range of paints, coatings and chemicals. They are easy to maintain in terms of cleaning, graffiti removal, repair and replacement.

Corian® panels are renewable: the original appearance can usually be restored by cleaning and sanding as necessary.

WEATHERING CHARACTERISTICS. DuPont has a list 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 (ΔE) in 10 years based on tests according to ASTM standards (ASTM G7 & ASTM G155).

RECOMMENDED COLOURS OF CORIAN® FOR EXTERIOR CLADDING: ABALONE, ADOBE, ANTARCTICA, AURORA, AZTEC GOLD, BEACH GLASS, BEIGE FIELDSTONE, BISQUE, BLACKBERRY ICE, BLUE PEBBLE, BONE, BUTTER CREAM, CAMEO WHITE, CARIBBEAN, CLAM SHELL, DOVE, DUSK, ECLIPSE, EVEREST, FESTIVAL, FOSSIL, GLACIER WHITE, GRAY FIELDSTONE, LINEN, NIGHT SKY, PEPPER IVORY, PRIMROSE, SAHARA, SAVANNAH, SEASHELL, SUMMER SKY, TARRAGON, TUMBLED GLASS, VANILLA, VENARO WHITE, WHITECAP.

SHAPES

DuPont™ Corian® Exterior Cladding can be fabricated into a variety of shapes by different forming, shaping and machining techniques to create unique designs and finishes. When heated to 165°C, DuPont™ Corian® Exterior Cladding can easily be formed into various shapes. Sheets of 12 mm thickness can be formed, rayon max= 50 mm.

Procedures for the fabrication of DuPont™ Corian® Exterior Cladding have been developed from over 40 years of experience with the material, in many different forms and applications. Fabrication methods are described in the DuPont™ Corian® “Fabrication Manual” available on www.corian.com.

SURFACE FINISH

There are numerous different surface treatments that can be applied to DuPont™ Corian® Exterior Cladding, including machining (sanding, routing, sandblasting, waterjet, etc.), texturing (thermoforming and Bass-relief) and layering (laminating). Different techniques can be used for surface finishing, partial surface finishing or full cutting for different shapes, patterns or inlays.

Surface machining of DuPont™ Corian® Exterior Cladding is typically done with routing tools to create desired shapes, and with sanding or polishing tools for different finishes (semi-gloss, mat or rough-textured). Routers can achieve a fine level of detail for surface cutting, and CNC routers achieve intricate patterns and textures. Since DuPont™ Corian® Exterior Cladding is relatively easy to cut and finish, without the need for specialised diamond abrasives and saws, fabrication can be done quickly and with a high level of quality even on-site.

Thermoforming of DuPont™ Corian® Exterior Cladding is typically done with medium-temperature ovens (165°C) and pressure moulds. Geometric patterns or natural patterns can be moulded into the surface to achieve a number of different architectural finishes.

CERTIFICATION

The "Enquête Technique Nouvelle" (New Technical Enquiry) certification was awarded by Qualiconsult, a French auditing and inspection organisation, in September 2006.

FIRE PERFORMANCE

French standard (NF P 92-501) : Class M2
German Standard (DIN 4102-1) : Class B1 (Corian® FR)
British standard (BS 476 part 6 & 7): Class 0 (Corian® FR)



TRANSLUCENCY

DuPont™ Corian® Exterior Cladding allows some diffuse light transmission, depending upon colour and aggregate. Solid light colours such as white and beige are the most translucent, and dark colours with large aggregates are the least translucent. DuPont™ Corian® Exterior Cladding can be fabricated to achieve different levels of light transmission by reducing the thickness of the material. As the material gets thinner, it allows more light through.

FOR ADDITIONAL INFORMATION,

PLEASE CONTACT YOUR CORIAN® REPRESENTATIVE

OR CALL US ON OUR FREE PHONE NUMBER:

OR VISIT OUR WEB SITE AT

WWW.CORIAN.COM / WWW.CORIAN.CO.UK

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