

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-18/0388**  
**of 1. April 2020**

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Corian façade panel

Product family  
to which the construction product belongs

Corian kit for ventilated facades

Manufacturer

DuPont de Nemours (Belgium) BVBA  
Antoon Spinostraat 6  
2800 MECHELEN  
BELGIUM

Manufacturing plant

E.I. duPont de Nemours and Company  
DuPont™ Corian® Solid Surface  
USA & Turkey

This European Technical Assessment  
contains

20 pages including 15 annexes which form an integral  
part of this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

EAD 090062-00-0404

**European Technical Assessment**

**ETA-18/0388**

English translation prepared by DIBt

**Page 2 of 20 | 1. April 2020**

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## Specific Part

### 1 Technical description of the product

The Corian Façade kit for ventilated external wall claddings complies with family B of EAD 090062-00-0404. The cladding kit consists of white acrylic-based (Polymethylmethacrylate PMMA) cladding elements (façade panels) mechanically fastened to the subframe by a specific anchor placed in an undercut hole and anchored by mechanical interlock (at least 4 anchors) as listed in Section 2 of this document.

The "Corian façade panel" is a 12 mm thick solid surface one third of which consists of acrylic resin, the remaining two-thirds being natural mineral aluminium hydroxide with white colour.

The product description is given in Annex A.

Corian Façade kit for ventilated external wall cladding consists of:

- Cladding element: Corian façade panel "Corian EC Glacier White", white, max. standard formats of acrylic-based cladding elements 1500 x 3658 x 12 mm (smaller panels may be used),
- Cladding fixing: stainless steel KEIL undercut anchor KH 7,0 in accordance with ETA 13/0377.

The KEIL undercut anchor is a special anchor made of stainless steel, consisting of a crosswise slotted anchor sleeve with an M6 internal thread, at the upper edge of which a hexagon is formed to it and a respective hexagon bolt with an integrated tooth lock washer.

Detailed information and data of all the components are given in the annexes to this ETA and in the associated test reports to this ETA.

The subframe, brackets and other fixings between brackets and substrate are not part of the kit assessed in this ETA.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document

Corian Façade kit is intended to be used as external wall cladding in ventilated façades (rainscreens). The walls are made of masonry (clay, concrete or stone), concrete (cast on site or as prefabricated panels), timber or metal frame in new or existing buildings (retrofit).

The performances given in Section 3 is only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The provisions made in this European Technical Assessment are based on an assumed working life of at least 25 years for Corian Façade kit. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

### 3 Performance of the product and references to the methods used for its assessment

#### 3.1 Safety in case of fire (BWR 2)

| Essential characteristic                     | Performance             |
|--|-------------------------|
| Reaction to fire (façade panel)              | No performance assessed |
| Façade fire performance                      | No performance assessed |
| Propensity to undergo continuous smouldering | No performance assessed |

Note: A European reference fire scenario has not been laid down for façades. In some Member States, the classification of external wall claddings in accordance with EN 13501-1 might not be sufficient for the use in façades. An additional assessment of external wall claddings in accordance with national provisions (e.g. on the basis of a large-scale test) might be necessary to comply with Member State regulations, until the existing European classification system has been completed.

#### 3.2 Hygiene, health and the environment (BWR 3)

| Essential characteristic                                 | Performance             |
|--|-------------------------|
| Watertightness of joints                                 | No performance assessed |
| Water absorption   | Not relevant            |
| Water vapour permeability                                | Not relevant            |
| Drainability   | No performance assessed |
| Content, emission and/or release of dangerous substances | No performance assessed |

#### 3.3 Safety and accessibility in use (BWR 4)

| Essential characteristic                     |  | Performance             |
|--|--|-------------------------|
| Wind load resistance (for the assembled kit) |  | See Annex C 3 / C 4     |
| Resistance to horizontal points load         |  | No performance assessed |
| Impact resistance                            |  | No performance assessed |
| Mechanical resistance<br>Family B            | Cladding element                                       | See Annex C 1           |
|  | Connection between the cladding element and its fixing | See Annex C 1           |

#### 3.4 Protection against noise (BWR 5)

| Essential characteristic  | Performance  |
|---------------------------|--------------|
| Airborne sound insulation | Not relevant |

#### 3.5 Energy economy and heat retention (BWR 6)

| Essential characteristic | Performance  |
|--------------------------|--------------|
| Thermal resistance       | Not relevant |

### 3.6 Aspects of durability and serviceability

| Essential characteristic  | Performance             |
|---|-------------------------|
| Hygrothermal behaviour  | No performance assessed |
| Behaviour after pulsating load  | No performance assessed |
| Freeze-thaw resistance  | See Annex C 2           |
| Behaviour after immersion in water  | No performance assessed |
| Dimensional stability   | No performance assessed |
| Chemical and biological resistance  | No performance assessed |
| UV radiation resistance   | See Annex C 2           |
| Corrosion   | No performance assessed |
| Accelerated ageing behaviour of kits when the cladding element is made of thin metallic composite panels (TMCP) | Not relevant            |

### 4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD 090062-00-0404, July 2018 the applicable European legal act is: [2003/640/EC].

The AVCP system applicable to the cladding kit is: 2+ for any use except for uses subject to regulations on reaction to fire.

For uses subject to regulations on reaction to fire<sup>1</sup> the applicable AVCP systems regarding reaction to fire are 1, or 3, or 4 depending on the conditions defined in the above mentioned Decision.

### 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

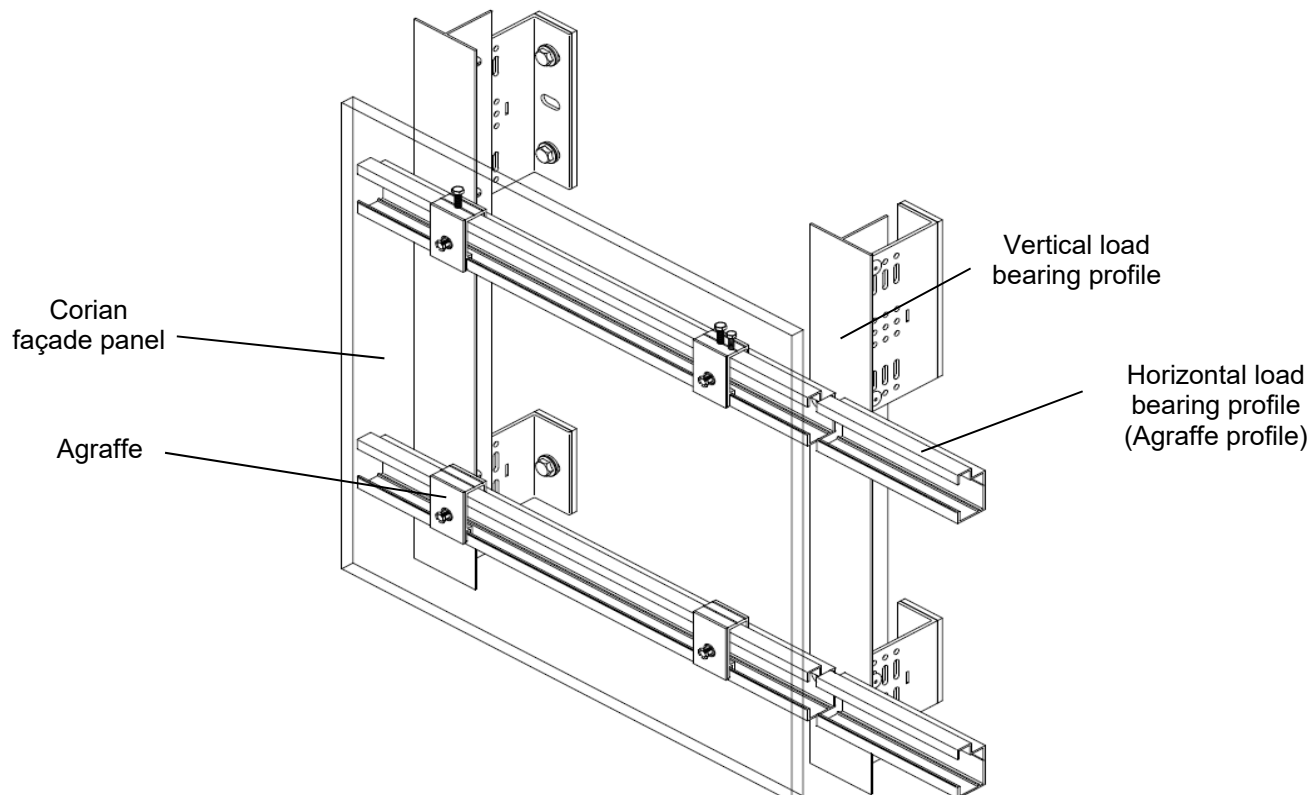
Issued in Berlin on 1 April 2020 by Deutsches Institut für Bautechnik

BD Dipl.-Ing. Andreas Kummerow  
Head of Department

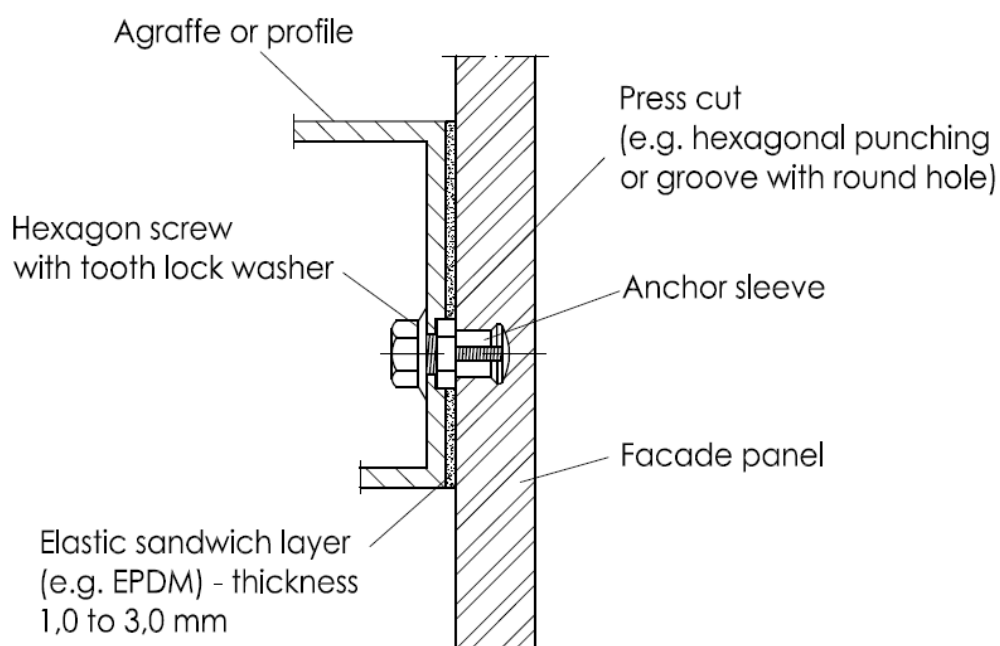
*beglaubigt:*  
Beckmann

<sup>1</sup> Including propensity to undergo continuous smouldering, where relevant.

### Kit for external wall cladding



### Installed fastener Keil KH 7,0



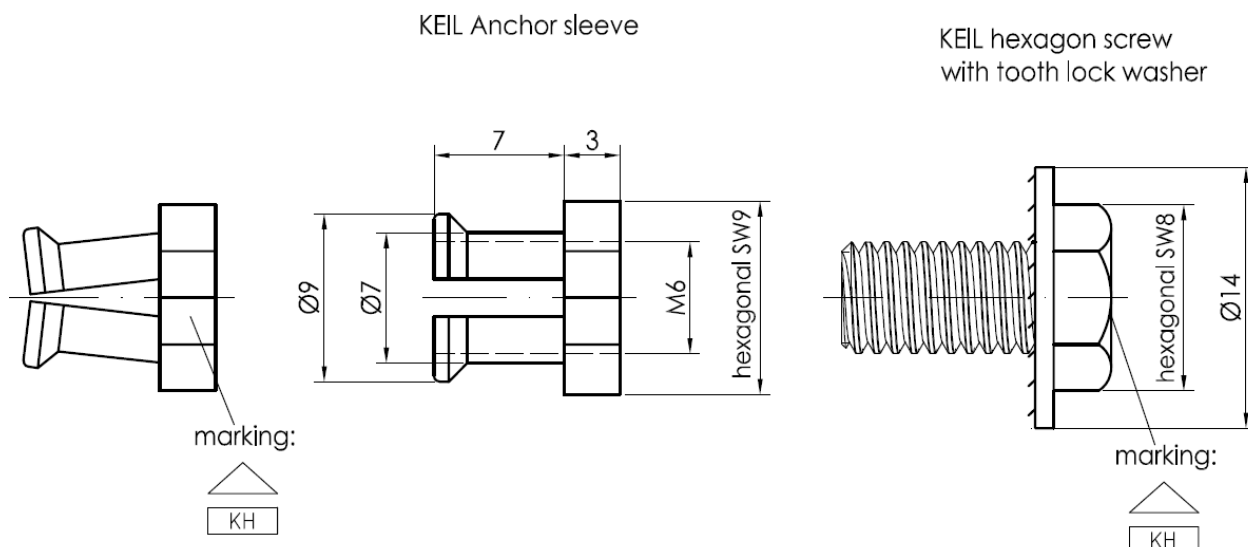
Corian façade panel

### Product description

Installed kit for external wall cladding and fixing

Annex A 1

# Fastener for Corian facade panel (KEIL KH 7,0 and flat-head screw with tooth lock washer)



## **Corian Facade panel** (dimension in mm)

**Table A2: Dimensions, materials and physical properties**

| Corian Facade panel type   |                                |                      | Corian EC Glacier White |
|--|--------------------------------|----------------------|-------------------------|
| thickness  | t =                            | [mm]                 | 12*                     |
| lengths  | l =                            | [mm]                 | 1500*                   |
| width  | w =                            | [mm]                 | 3658*                   |
| colour identification  |                                |                      | Glacier White           |
| bulk density   | $\rho =$                       | [KN/m <sup>3</sup> ] | 17,5                    |
| thermal coefficient <sup>3)</sup>  | $\alpha_T =$                   | [1/K]                | $30,4 \times 10^{-6}$   |
| Mean value of modulus of elasticity  | $E_{\text{mean}} \geq$         | [N/mm <sup>2</sup> ] | 8500                    |
| bending resistance<br>(acc. EN ISO 178:2013-09)  | $\sigma_{u5\%}^{1)} \geq$      | [N/mm <sup>2</sup> ] | 61                      |
| bending resistance<br>(acc. EN ISO 178:2013-09)  | $\sigma_{B,\text{min}}^{2)} =$ | [N/mm <sup>2</sup> ] | 60                      |
| * width and lengths tolerances +0,5 mm; thickness tolerances $\pm 0,3$ mm<br>1) 5%-quantile by a confidence level of 75 % and unknown standard deviation<br>2) the minimum single value of the façade panel<br>3) according to the information of the manufacturer |                                |                      |                         |

Corian façade panel

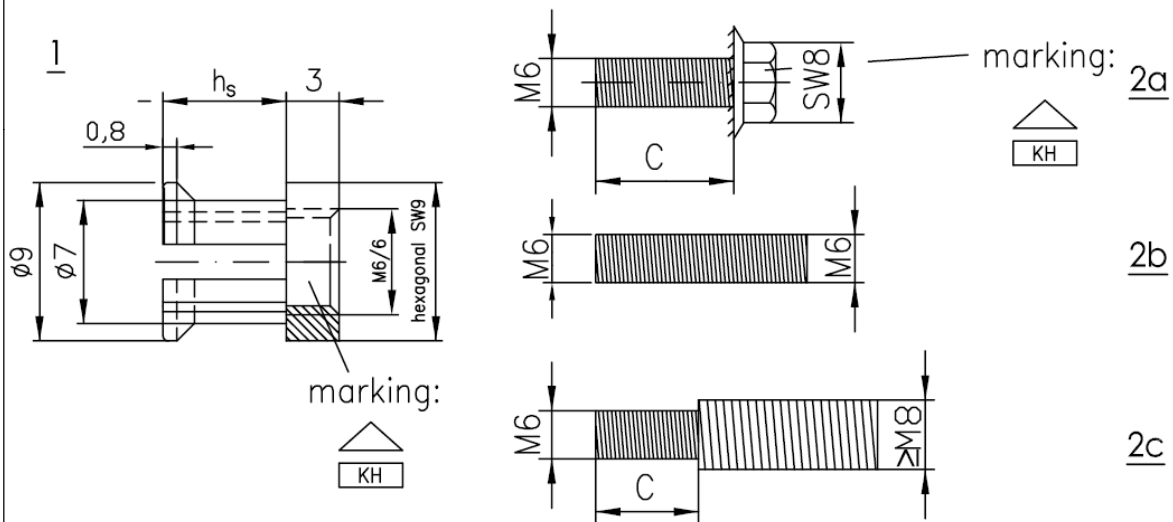
### **Product description**

Corian façade panel - dimensions, materials and physical properties

Annex A 2

### Cladding fixings:

#### Fastener (dimension in mm)



c: The screw must be adjusted to the respective design

**Table A3: Dimensions and Materials**

| Fastener type              |                                      | KEIL KH 7,0   |
|----------------------------|--------------------------------------|---|
| embedment depth            | $h_s =$ [mm]                         | 7,0   |
| screw length               | $c =$ [mm]                           | $h_s + 3\text{mm} + t_{fix}$                                  |
| installation torque moment | $T_{inst}$ [Nm]                      | $2,5 \leq T_{inst} \leq 4,0$                                  |
| Materials                  |                                      |   |
| 1                          | anchor sleeve                        | Stainless steel 1.4404 as per EN 10088:2014                   |
| 2a                         | hexagon screw with tooth lock washer | stainless steel 1.4401, 1.4404 or 1.4578 as per EN 10088:2014 |
| 2b                         | threaded pin                         |   |
| 2c                         | threaded bolt                        |   |

Corian façade panel

**Product description**  
KEIL KH 7,0 - dimensions and materials

Annex A 3



## Specifications of intended use

### Scope

Cladding family B in accordance with EAD 090062-00-0404

### Anchorage subject to:

Static and quasi-static loads

### Design

The design of the external wall claddings for ventilated façades using Corian Façade kit comprising "Corian façade panels type Corian EC Glacier White" and the associated fixings should take into account:

- It is assumed that the substrate wall meets the necessary requirements regarding mechanical strength (resistance to static and dynamic loads) and airtightness, as well as the relevant resistance requirements regarding watertightness and water vapour.
- The verification of the designed system by means of calculation, taking into account the mechanical characteristic values of the kit components in order to resist the actions (dead loads, wind loads, etc.) acting on the specific works. National safety factors and other national provisions must be followed.
- The design of the façade panels and their fixing can be carried out in accordance with the conditions given in Annex B 2 to Annex B 4, the national regulations must be considered.
- The selection and verification of the brackets which support the subframe vertical profiles considering compatible materials (e.g. aluminium alloy) and the mechanical resistance (vertical and horizontal resistance) according to the envisaged actions obtained from the mechanical calculation of the designed system.
- The selection and verification of the anchors between the brackets and the external walls (substrate), taking into account the substrate material and the minimum resistance required (pull-out and shear resistance) according to the envisaged actions obtained from the mechanical calculation of the designed system.
- The accommodation of the designed system movements to the substrate or structural movements.
- The execution of singular parts of the façade; some examples of construction details are indicated in Annex A1.
- The corrosion protection of the designed system metallic components taking into account the category of corrosivity of the atmosphere of works (e.g. acc. ISO 9223).
- The drainability of the ventilated air space between the cladding elements and the insulation layer or the external wall accordingly.
- An insulation layer is usually fixed on the external wall and should be defined in accordance with a harmonized standard or a European technical assessment.
- Because the joints are not watertight, the first layer behind ventilated air space (e.g. insulation layer) should be composed by materials with low water absorption.

Corian façade panel

### Intended use

Specifications – scope and design

Annex B 1

### Installation of the kits in works

Installation should be carried in accordance with to the ETA holder's specifications using the specific kit components.

Installation should be carried out by appropriately qualified staff and under the supervision of the technical person responsible for the site.

- The holes are drilled at the factory or on site under workshop conditions. When drilling the holes on site, the execution is supervised by the project supervisor responsible or a skilled representative of the project supervisor.
- The undercut holes are drilled by means of the drill bit specified in Annex B 6 and a special drilling device in accordance with the information deposited with Deutsches Institut für Bautechnik.
- The drill dust is removed from the drill hole.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole.
- The geometry of the drill hole is checked on 1 % of all holes. The following dimensions shall be checked and documented in accordance with manufacturer's information and testing instructions by means of a measuring device specified in Annex B 6:
  - Volume of the undercut drill hole.
  - Depth position of the undercut; the distance between the lower edge of the measuring device and the façade panel is between 0,0 and 0,3 mm (see Annex B 6).

If the tolerances are exceeded, the geometry of the holes shall be checked on 25% of the drilled holes. No further drill hole may exceed the tolerances otherwise all the drill holes shall be controlled. Drilling holes falling below or exceeding the tolerances shall be rejected.

Note: Checking the geometry of the drill hole on 1 % of all drillings means that on one of the 25 panels (this corresponds to 100 holes in façade panels with four anchors) one hole shall be checked. If the tolerances given in Annex A 3, Table A3, are exceeded the extent of the control shall be increased to 25 % of the holes, i.e. one hole each shall be checked on all the 25 panels.

- During transport and storage on site the façade panels are protected from damage; the façade panels are not hung up jerkily (if need be lifters are used for hanging up the façade panels); façade panels and reveal panels respectively with incipient cracks are not installed.
- The façade is installed by skilled specialists and the laying instructions of the manufacturer are to be observed.
- The façade panels are arranged in a "reclined" or "upright" position. They may also be fixed at façade soffits.
- The profiles or agraffes must be fixed as defined and set out in this document (see Annex A/B).

### Use, maintenance and repair of the works

Maintenance of the assembled systems or kit components includes inspections on site, taking into account the following aspects:

- regarding the Corian façade panel: appearance of any damage such as cracking or detachment
- regarding the fasteners (fixing): presence of corrosion or deformation

Necessary repairs should be done rapidly, using the same kit components and following the repair instructions given by producer of the products.

Corian façade panel

#### Intended use

Specifications – installation and use

Annex B 2

## Design method

### General

The design values of the actions shall be calculated on the basis of EN 1990 in consideration of the existing loads. The combinations of actions shall be equal to EN 1990. The actions shall be specified in accordance with EN 1991-1-1 to EN 1991-1-7. Corresponding national regulations shall be taken into consideration. The unfavourable combination is decisive. Where necessary for the design of the anchor and the façade panel several combinations shall be analysed separately.

The typical fundamental combination for façade panels considers actions from dead load  $F_{Ek,G}$  (permanent action) and wind  $F_{Ek,w}$  (leading variable action).

In accordance with EN 1990 the following fundamental combination depending on the load direction results for a vertical façade panel:

Fundamental combination for loads parallel to the panel:  $F_{Ed||} = F_{Ek,G} \cdot \gamma_G$

Fundamental combination for loads perpendicular to the panel:  $F_{Ed\perp} = F_{Ek,w} \cdot \gamma_Q$   
with  $\gamma_G = 1,35$ ;  $\gamma_Q = 1,50$

For hanging panels (over head mounting) or reveals respectively the load direction shall be taken into consideration and the combinations of actions shall be based on EN 1990.

The calculation shall be carried out in a linear elastic manner. The stiffness of the substructure shall be considered for the respective case of application.

- Each façade panel is fixed with at least four anchors in a rectangular arrangement via single agraffes or double agraffes on the substructure (for small panels or small fitted pieces, differential or fill- in pieces the number and position of the anchors shall be chosen constructively).
- The substructure is constructed such that the façade panels are fixed technically strain-free via skids (loose load-bearing profiles) and one fixed point (fixed load-bearing profiles) - the fixed point may be placed at the panel edge or in the panel field.
- Two fixing points of the façade panel are designed such that they are able to carry the dead load of the façade panel.
- When using agraffes on horizontal load-bearing profiles the fixing points of a façade panel situated horizontally at the same height are fastened in each case to the same load-bearing profile.
- Joint construction between the façade panels is done by a joint filler or are kept open; it is ensured that additional stresses (e.g. by temperature) do not lead to important additional loadings (see also classification of the reaction to fire for the façade panel in Annex B1).
- Verifiable calculation notes and drawings shall be prepared taking account of the loads to be anchored, the nature and strength of the base materials and the dimensions of the anchorage members as well as of the relevant tolerances. The position of the anchor is indicated on the design drawings.
- The façade panels, their fixings as well as the substructure including its connection to wall brackets and their connection to the construction works are designed for the respective case of application under the responsibility of an engineer skilled in the field of façade construction.
- In the structural analysis, the cross-sectional reduction of the façade panel caused by the anchor drill holes must be taken into account.
- In the absence of other national regulations the following design values with  $\gamma_M = 2,0$  (see Annex B4) for the resistance against wind load and dead load may be considered for the kit.

Corian façade panel

### Intended use

Specifications – installation and use

Annex B 3

### Verification of the anchor loads

In addition to the actions from dead load and wind load the following actions shall be considered as permanent loads in direction to the anchor axes:

- in case of flush fixing of the anchor and when using horizontal load-bearing profiles: due to torsion of the load-bearing profile resulting from dead load of the façade panel the following load  $N_{V,Ek}$  shall be considered:

$$N_{V,Ek} = V_{Ek} \cdot e/z$$

with  $V_{Ek}$  = shear load due to dead load of the façade panel;  $e$  and  $z$  [mm] (see Figure 2)

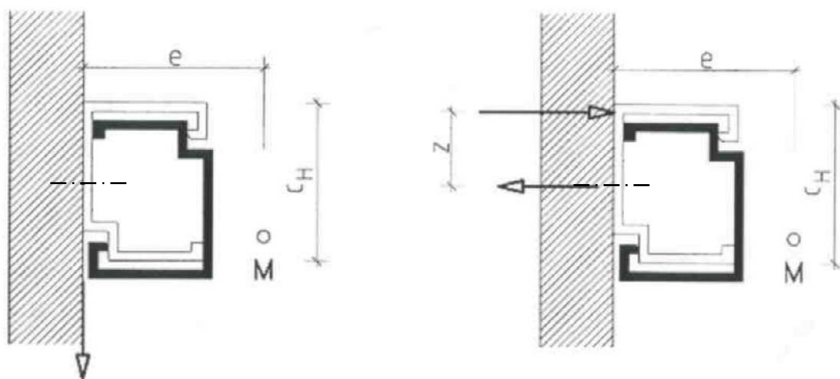


Figure 2: torsion of horizontal load-bearing profiles resulting from dead load of the façade panels

For the determined anchor forces it shall be verified that the following equation are met:

Equation 1:  $\frac{\Sigma N_{Ed}}{N_{Rd}} \leq 1$

Equation 2:  $\frac{V_{Ed}}{V_{Rd}} \leq 1$

Equation 3:  $\frac{\Sigma N_{Ed}}{N_{Rd}} + \frac{V_{Ed}}{V_{Rd}} \leq 1,0$

With:

$\Sigma N_{Ed}$  = design value of existing anchor tension load

$$\Sigma N_{Ed} = N_{Ed} + N_{V,Ed}$$

$V_{Ed}$  = design value of existing anchor shear load

$N_{Rd}$  = design value of anchor load-bearing capacity for tension load:  $N_{Rd} = N_{Rk} / \gamma_M$  (with  $N_{Rk}$  to Annex C 1 and  $\gamma_M = 2,0^*$ )

$V_{Rd}$  = design value of anchor load-bearing capacity for shear load:  $V_{Rd} = V_{Rk} / \gamma_M$  (with  $V_{Rk}$  to Annex C 1 and  $\gamma_M = 2,0^*$ )

### Verification of the bending stresses

For the determined bending stresses it shall be verified, that the following equation is met:

Equation 4:  $\sigma_{Ed} \leq \sigma_{Rd}$

With

$\sigma_{Ed}$  = design value of existing bending stress in the façade panel

$\sigma_{Rd}$  = design value of bending strength:  $\sigma_{Rd} = \sigma_{Rk} / \gamma_M$  with  $\sigma_{Rk}$ ;  $\gamma_{Mm} = 2,0^*$

\* In the absence of other national regulations (recommendation)

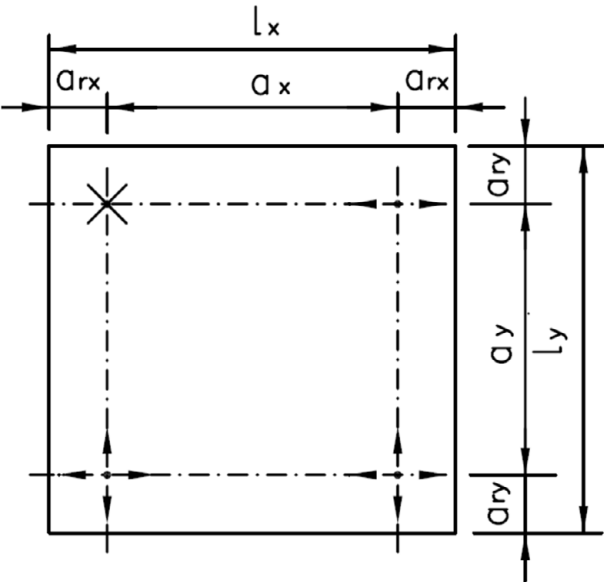
Corian façade panel

#### Intended use

Specifications – installation and use

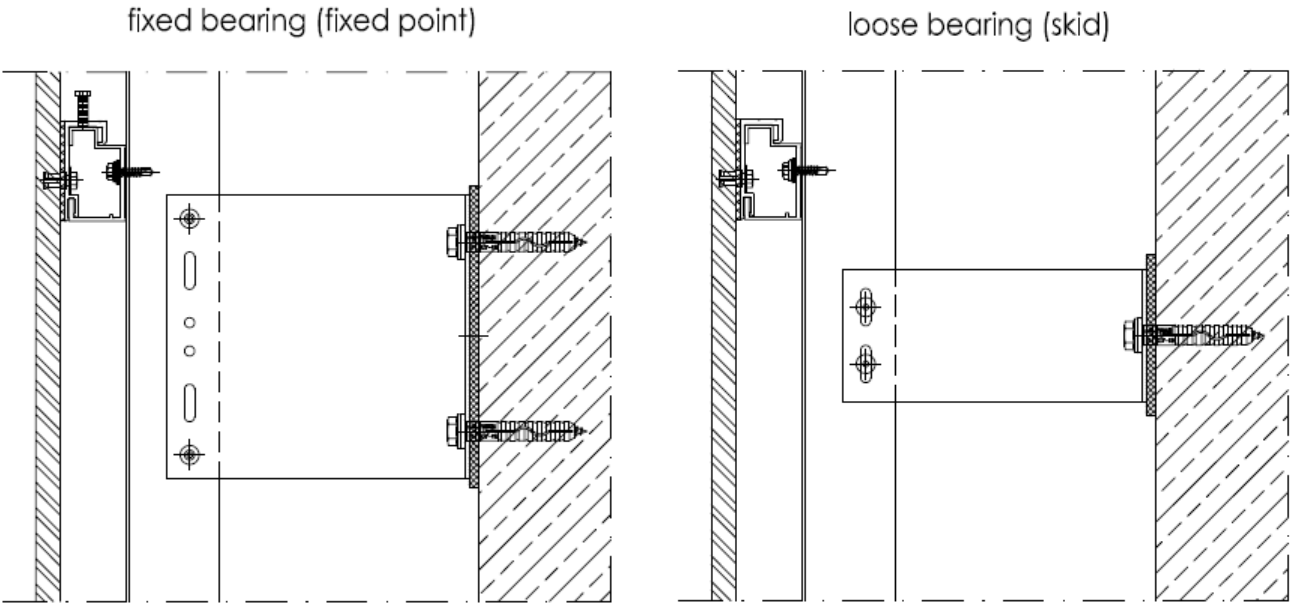
Annex B 4

Definition of edge distance and spacing



- Legend:**
- $a_{rx,y}$  = edge distance – distance of an anchor to the panel edge
  - $a_{x,y}$  = spacing – distance between anchors
  - $L_x$  = greater length of the façade panel
  - $L_y$  = smaller length of the façade panel
  - $\times$  = fixed point (fixed profile)
  - $\text{---}+$  = horizontal skid (loose profile)
  - $\text{---}+$  = horizontal and vertical skid (loose profile)

Example for fixed point and loose load-bearing profiles

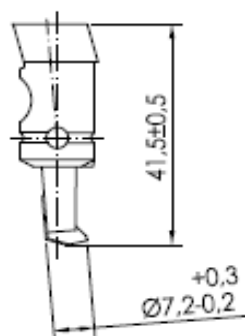


|   |           |
|---|-----------|
| Corian façade panel                                   | Annex B 5 |
| Intended use<br>Specifications – installation and use |           |

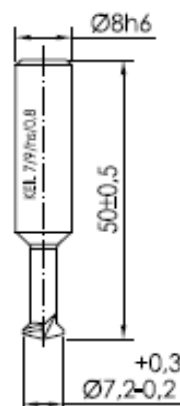
## Geometry of the KEIL facade drill

for KEIL facade drill bit 7/9

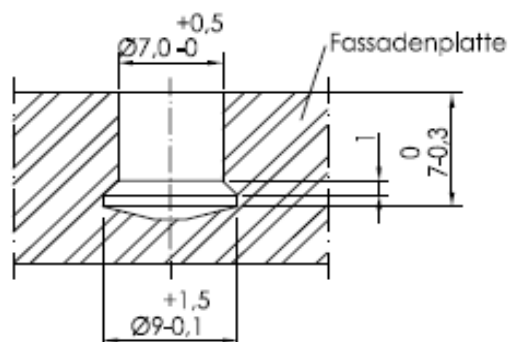
Carbide tipped facade drill bit



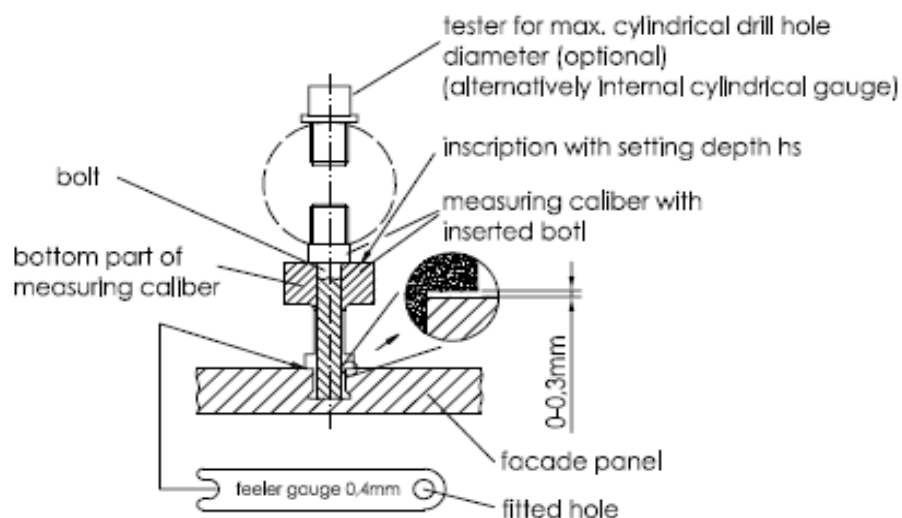
Carbide tipped drill bit / CNC



## Geometry of the drill hole



## KEIL measuring device



Drawing scale not true to real scale

Corian façade panel

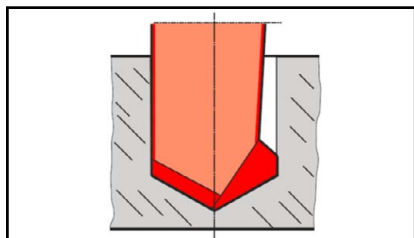
### Intended use

Drill hole dimensions  
Setting tools and testing equipment

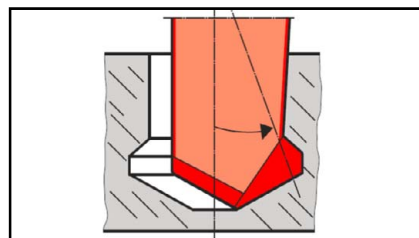
Annex B 6

## Installation instructions fastener

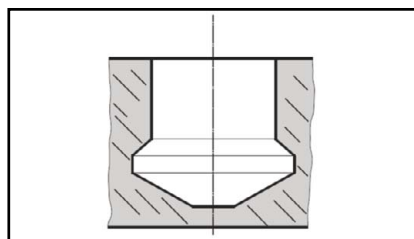
### 1. Drilling the undercut hole



a) Cylindrical drilling

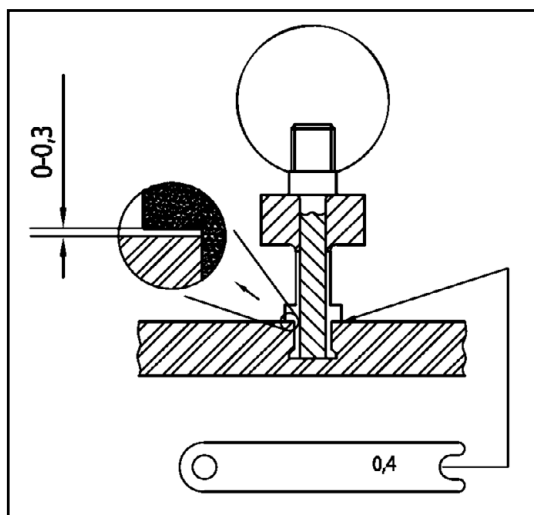


b) Undercutting and clearing



c) Finished undercut hole

### 2. Checking the undercut hole



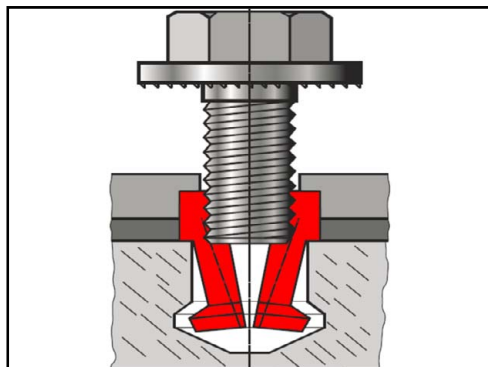
with KEIL depth control guide

Corian façade panel

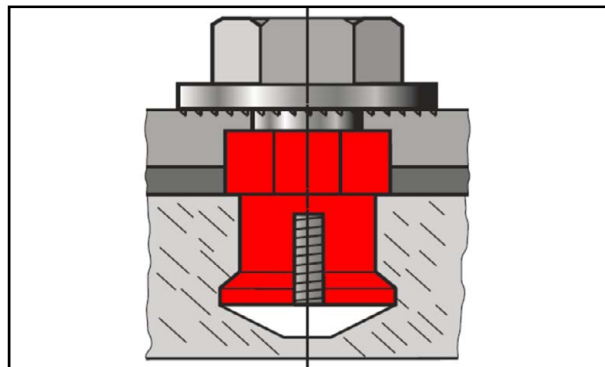
**Intended use**  
Installation instructions fastener

Annex B 7

### 3. Installation of fastener (sleeve and screw)

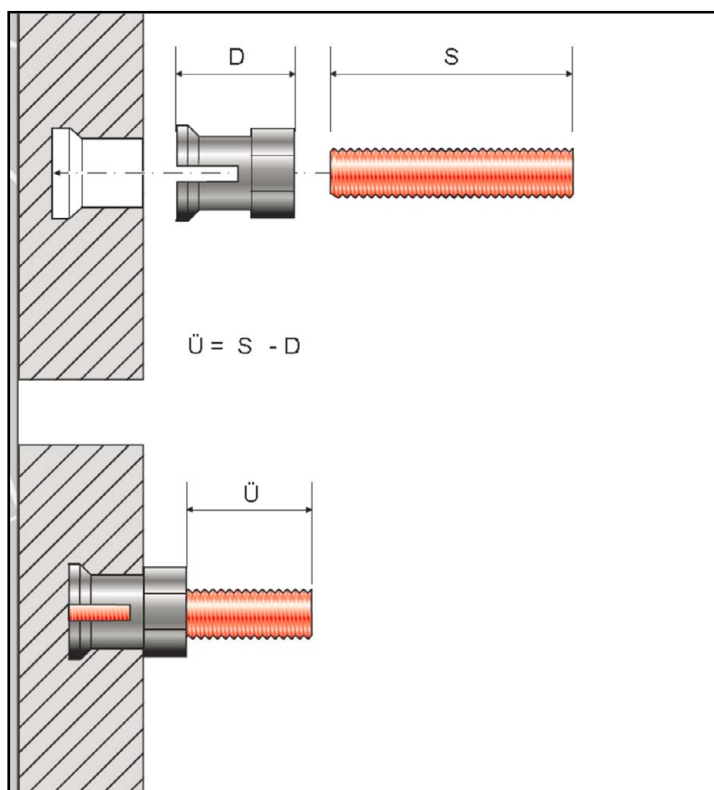


a) Insert the sleeve in the undercut hole and drill the screw in the sleeve



b) Installed undercut anchor

### 4. Installation of fastener (sleeve and grub screw)



a) Insert the sleeve in the undercut hole

b) Drill the grub screw in the sleeve

c) Installed undercut anchor

Corian façade panel

**Performances**  
Installation instructions fastener

Annex B 8



**Table C1: Characteristic values and performance of the anchor and Corian façade panel  
"Corian EC Glacier White"**

|   |  |                            |                      |                       |
|---|--|----------------------------|----------------------|-----------------------|
| characteristic values of<br>Corian façade panel | panel thickness                                  | $h \geq$                   | [mm]                 | 12,0                  |
|   | char. resistance to bending stress <sup>1)</sup> | $\sigma_{B,Rk} =$          | [N/mm <sup>2</sup> ] | 61,6                  |
|   | Mean value of modulus of elasticity              | $E_{mean} =$               | [N/mm <sup>2</sup> ] | 8500                  |
|   | thermal coefficient                              | $\alpha_T =$               | [1/K]                | $30,5 \times 10^{-6}$ |
|   | dead load  | $g_k =$                    | [kN/m <sup>2</sup> ] | 0,21                  |
| characteristic values of<br>KEIL KH 7,0 anchor  | anchorage depth                                  | $h_s =$                    | [mm]                 | 7                     |
|   | characteristic<br>resistance to                  | tension load <sup>2)</sup> | $N_{Rk} =$           | 2,90                  |
|   |  | shear load <sup>2)</sup>   | $V_{Rk} =$           | 3,60                  |
|   | edge distance <sup>3)</sup>                      | $a_r \geq$                 | [mm]                 | 100                   |
|   | spacing  | $a \geq$                   | [mm]                 | 100                   |

<sup>1)</sup> Without effects of aging (UV-radiation), freeze thaw cycles and temperature

<sup>2)</sup> In case of coincident stress of an anchor due to tension and shear load the equation given in Annex B 4 shall be observed

<sup>3)</sup> For small fitted pieces, differential and fill-in pieces the edge distance and spacing shall be chosen constructively

#### Aspects of safety and accessibility in use

**Table C1-2: Effects of temperature variations on the bending properties of Corian façade panel  
"Corian EC Glacier White" – ratio for the effect of temperature**

| Effects of temperature | Tested as per EN ISO 178 | Bending<br>strengths<br>ratios<br>$\sigma_B$ | Bending<br>modulus<br>ratios<br>$E_B$ |
|------------------------|--------------------------|--|---------------------------------------|
|                        | T= -20° C                | 1,238  | 1,127                                 |
|                        | T= +60° C                | 0,820  | 0,787                                 |
|                        | T= +80° C                | 0,648  | 0,625                                 |
|                        |                          |  |                                       |

Corian façade panel

#### Performance

Characteristic values of the anchor and Corian façade panel

Annex C 1

### Aspects of durability and serviceability

**Table C2-1: Effects of freeze-thaw resistance on the bending properties of Corian façade panel  
"Corian EC Glacier White" – ratio for the effect of freeze-thaw**

| Effects of<br>freeze-thaw | Tested as per EN 12467 | Bending<br>strengths<br>ratios<br>$\sigma_B$ | Bending<br>modulus<br>ratios<br>$E_B$ |
|---------------------------|------------------------|--|---------------------------------------|
|                           | 100 freeze-thaw cycles | 0,962  | 0,974                                 |

**Table C2-2: Effects of UV radiation on the bending properties of Corian façade panel  
"Corian EC Glacier White" – ratio for the effect of UV radiation**

| Effects of<br>freeze-thaw | Tested as per EN ISO 4892-2   | Bending<br>strengths<br>ratios<br>$\sigma_B$ | Bending<br>modulus<br>ratios<br>$E_B$ |
|---------------------------|---|--|---------------------------------------|
|                           | Accelerated ageing 3000 h (UV + humidity)                             | 0,937  | 0,970                                 |
|                           | Method A, cycle 1, 1500 h, 4500 h, 6000 h<br>Most unfavourable ratios | 0,819  | 0,958                                 |

Corian façade panel

#### Performance

Characteristic values of the anchor and Corian façade panel

Annex C 2

| Test specimen |                          | max $W_u$<br>failure -load<br>[kPa] | Type of failure   | Deflection [mm] (a) |               |
|---------------|--------------------------|-------------------------------------|---|---------------------|---------------|
| Ref.          | Test set-up <sup>1</sup> |                                     |   | Permanent           | Instantaneous |
| 1             | A<br>(see Annex C 4)     | 3.0                                 | Permanent deflection<br>< 1 mm                                      | 0.97 (b)            | 11.0 (b)      |
|               |                          | 3.5                                 | Bending failure of cladding element<br>starting<br>at undercut hole | -                   | 13.0 (b)      |
| 2             | A<br>(see Annex C 4)     | 3.8                                 | Permanent deflection<br>< 1 mm                                      | 0.90 (2/3)          | 8.1 (b/c)     |
|               |                          | 5.8                                 | Bending failure of cladding element<br>starting<br>at undercut hole | -                   | 16.0 (c)      |

(a) Deflection including displacements of all façade components

(b) Positions of measurement points in centre of cladding element

(c) Positions of measurement points at edge of cladding element (next to fixing point)

Note 1: The results of the wind suction load tests on Corian façade systems with cladding elements are transferable to kits with smaller cladding elements having the same thickness and bending strength as well as the same number of fixings per panel and analogue set-up parameters.

<sup>1</sup> The assessment of the kit was carried out under the described conditions and the information given in Annexes A-C.

|   |           |
|---|-----------|
| Corian façade panel                                     | Annex C 3 |
| <b>Performance</b><br>Characteristic values – wind load |           |

Note 2: The resistance to wind pressure is expected to be higher than the resistance to wind suction load, therefore, no supplementary tests with a wind pressure load have to be performed. The above mentioned characteristic values apply also to the wind pressure resistance (see EAD, Section 2.2.9)

Note 3: The Corian panels must be fixed in a configuration without technical restraint.

### **Test set-up A**

Cladding element:

Corian "Glacier White" board  $W_{nom} \times H_{nom} \times t_{nom} = 930 \times 1980 \times 12$  [mm]

Fixing arrangement:

Cladding fixed with 2 x 3 KEIL undercut anchors KH7.0 and agraffes type Eurofox MFT-HP 300/40 K, L = 40 mm  
Position of undercut holes with edge distance(s) of  $a_R = 150$  mm

Subframe and brackets:

- 3 extruded aluminium horizontal agraffe profiles type Eurofox MFT-HP 300/40 K  
distances between horizontal profiles: 840 mm / 840 mm  
span width of horizontal profiles: 630 mm each
- 2 extruded vertical profiles type Eurofox MFT-L 60x40x2  
distances between vertical profiles: 630 mm  
span width of vertical profiles: 840 mm / 840 mm (= distances between brackets)
- 2 x 3 brackets type Eurofox MFI 065 L11 and M11
- Fasteners between profiles and between profiles and brackets: drilling screws type Eurofox S-AD01S 5,5x19

### **Test set-up B**

Cladding element:

Corian "Glacier White" board  $W_{nom} \times H_{nom} \times t_{nom} = 930 \times 1560 \times 12$  [mm]

Fixation:

Cladding fixed with 2 x 3 KEIL undercut anchors KH7.0 and agraffes type Eurofox MFT-HP 300/40 K, L = 40 mm  
Position of undercut drillings with edge distance(s) of  $a_R = 150$  mm

Subframe and brackets:

- 3 extruded aluminium horizontal agraffe profiles type Eurofox MFT-HP 300/40 K  
distances between horizontal profiles: 630 mm / 630 mm  
span width of horizontal profiles: 630 mm each
- 2 extruded vertical profiles type Eurofox MFT-L 60x40x2  
distances between vertical profiles: 630 mm  
span width of vertical profiles: 630 mm / 630 mm (= distances between brackets)
- 2 x 3 brackets type Eurofox MFI 065 L11 and M11
- Fasteners between profiles and between profiles and brackets: drilling screws type Eurofox S-AD01S 5,5x19

Corian façade panel

### **Performance**

Characteristic values – wind load

Annex C 4