

**butech**



**ventilated  
facade**

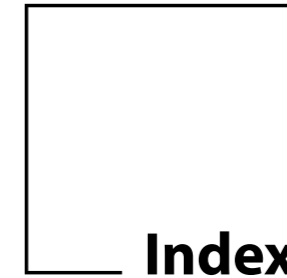
PORCELANOSA Grupo

The facade is one of the most characteristic elements in any type of building since it is virtually the only part that can be seen from the outside. That is why its design and construction are so important.

Butech offers this catalog to architecture professionals, where from a careful selection of materials, mainly Grupo PORCELANOSA ceramics, various facade systems are proposed that adapt to the most demanding needs of any project.

Butech, born in 2001 within Grupo PORCELANOSA, has had the clear objective since its creation of maintaining the balance between the constant evolution of the design in Grupo PORCELANOSA's ceramics and installation techniques. Its role is focused on the development of tools and products that let us obtain the maximum aesthetic and functional performance in the installation of ceramics.





## **Index**

**14**

**VF PORCELAIN PANEL**

**42**

**TYPES, CHARACTERISTICS AND  
DETAILS VF PORCELAIN PANEL**

**50**

**VF XLIGHT / XTONE**

**64**

**TYPES, CHARACTERISTICS AND DETAILS  
VF XLIGHT / XTONE**

**72**

**VF KRION**

**90**

**TYPES, CHARACTERISTICS AND DETAILS  
VF KRION**

**94**

**MODFACADES**

**106**

**CHARACTERISTICS AND DETAILS  
MODFACADES**

# Experience, global presence

**World leader in the installation of ceramic  
and solid surface facades.**

With over 500 000 m<sup>2</sup> of VF installed, as the absolute global leader in the installation of ceramics, Butech is synonymous with quality, efficiency, and guarantee of success, with over 5000 employees and logistics centers around the world.

Leading the way in technical solutions, innovating in systems, and a continued commitment to developing new tools that enable today's architects to carry out the projects of the future.

Centralcon Building Shopping Mall and Residential Building, Shenzhen, China · KRION VF System · KRION® 1100 Snow White  
Architect : Peddle Thorp · Photography: Salva Méndez



# Architecture at its finest

**Technically, the building's envelope contributes decisively to the architectural ensemble's energy efficiency.**

Architecture is in a continuous evolution process. So much so that new trends are constantly emerging, both in project design and in materials and construction solutions, which make architecture look toward new horizons on an ongoing basis. Among the most distinctive aspects of any building, the facade takes on an important role, not just for its aesthetic power and visual impact on any city's skyline. Technically, the building's envelope contributes decisively to the architectural ensemble's energy efficiency.

# Technical support

**Personalized and permanent technical support to all designers in the development of the best facade solutions for their projects.**

Made up of technicians with experience throughout the world in all facade systems, Butech's technical office offers personalized and permanent technical support to all designers in the development of the best facade solutions for their projects.

PORCELANOSA Grupo has an engineering subsidiary for the development of technical solutions and construction of projects in which ceramics or KRION® (PORCELANOSA Grupo's Solid Surface) are the principal elements. The technical office researches new uses of ceramics in Architecture and develops new building systems for ventilated facades.

The Clare Building, Manhattan, New York, U.S.A.  
VF System with concealed clips · Solid-ker custom  
Architect: Manuel Glas Architects · Photography: Imagen Subliminal





# Quality and sustainability

**Butech's ventilated facades provide a significant improvement in the facade's thermal behavior, reducing the incidence of solar radiation on the enclosure by 80%.**

PORCELANOSA Grupo is at the forefront in terms of production, R&D, and technical innovation in the ceramics industry. Grupo PORCELANOSA offers high technology products, with high-end technical and aesthetic features, with unbeatable quality standards.

The FV STON - KER® ventilated facade system is a reliable system included in the Agence Qualité Construction's C2P green list, and which has obtained positive technical certifications such as the Avis Technique CSTB n° 02/15-1700 issued by the Secretariat of the Commission des Avis Techniques, the Spanish Technical Suitability Document DIT 530 of the Instituto Eduardo Torroja IETcc the BBA Agreement Certificate 10/4775 in the United Kingdom, the Florida Product Approval FL9364, and the EMI A-758/2006 certificate in Hungary. The installation of this system, present on the market for 16 years, is more frequent every day both in renovations and new buildings. Butech has evaluated the energy efficiency of the STON-KER® ventilated facade through a thermal characterization study carried out by the CIDEMCO Institute.

With potential for using in new construction and renovations, Butech's ventilated facades provide a significant improvement in the facade's thermal behavior, reducing the incidence of solar radiation on the enclosure by 80%, allowing for an easy continuous installation of the thermal insulation, which lets us eliminate thermal bypasses and achieve an energy efficiency improvement in general.

The commitment to the use of recycled materials in our ceramics, combined with the recycling levels in our structures, allow us to collaborate in securing the highest levels of LEED certification.



Zamasport, Manhattan Headquarters, Novara, Italia.  
System FV KRION K-Fix · KRION® 1100 Lux  
Architect: Frigerio Design Group · Photography: Mario Frusca

# Guarantee, success, support

Related to the undisputed quality of PORCELANOSA products, with the confidence of working alongside Grupo PORCELANOSA. Guarantee of success.

PORCELANOSA Showroom, New York, U.S.A.





# VF Porcelain panel

## Ventilated facade system with final porcelain panel covering.

It differs from other systems in the use of a dual fixing system: a chemical one using high-performance polyurethane putty and a mechanical one using stainless steel clips that ensure the union of the porcelain panels and the facade's metallic structure.

PORCELANOSA Grupo's rectified porcelain panel panels are characterized by very low water absorption, lower than 0.1% as per UNE-EN ISO 10545-3, manufactured by dry pressing at about 450 kg/cm<sup>2</sup>, production by single firing at maximum temperature of 1220 °C and back-meshed with fiberglass mesh to prevent fragments from falling in case of breakage. In the case of ventilated facades with concealed clips, they are supplied with side slots for their fixing to the facade structure.

The metallic structure of the ventilated facade includes the following elements:

- Facade to enclosure mechanical anchors depending on the type of substrate.
- Aluminum L-shaped spacers, which determine the chamber between the enclosure and the ceramic covering.
- Lacquered aluminum uprights on which the porcelain panels are installed.
- Stainless steel clips for fixing the ceramic piece to the uprights.
- Self-drilling joint screws between vertical uprights and aluminum spacers.

The metal structure of the ventilated facade is made of AW 6005A aluminum, while the mechanical fixing plates are manufactured in AISI 304 stainless steel.

## Certifications and technical testing



Spain  
DIT 530/11 from the Instituto Eduardo Torroja of Madrid.



QUALITÉ POUR LE BÂTIMENT

France  
Avis Technique CSTB No. 02/15-1700 issued by the Secrétariat de la Commission des Avis Techniques



WINTECH  
BUILDING ENVELOPE TESTING



United Kingdom  
BBA Agreement Certificate 10/4775 in the United Kingdom

United Kingdom  
WINTECH Building Envelope Testing Report No R12764



USA  
ICC  
(ICC-ES Evaluation Report ESR-3343)



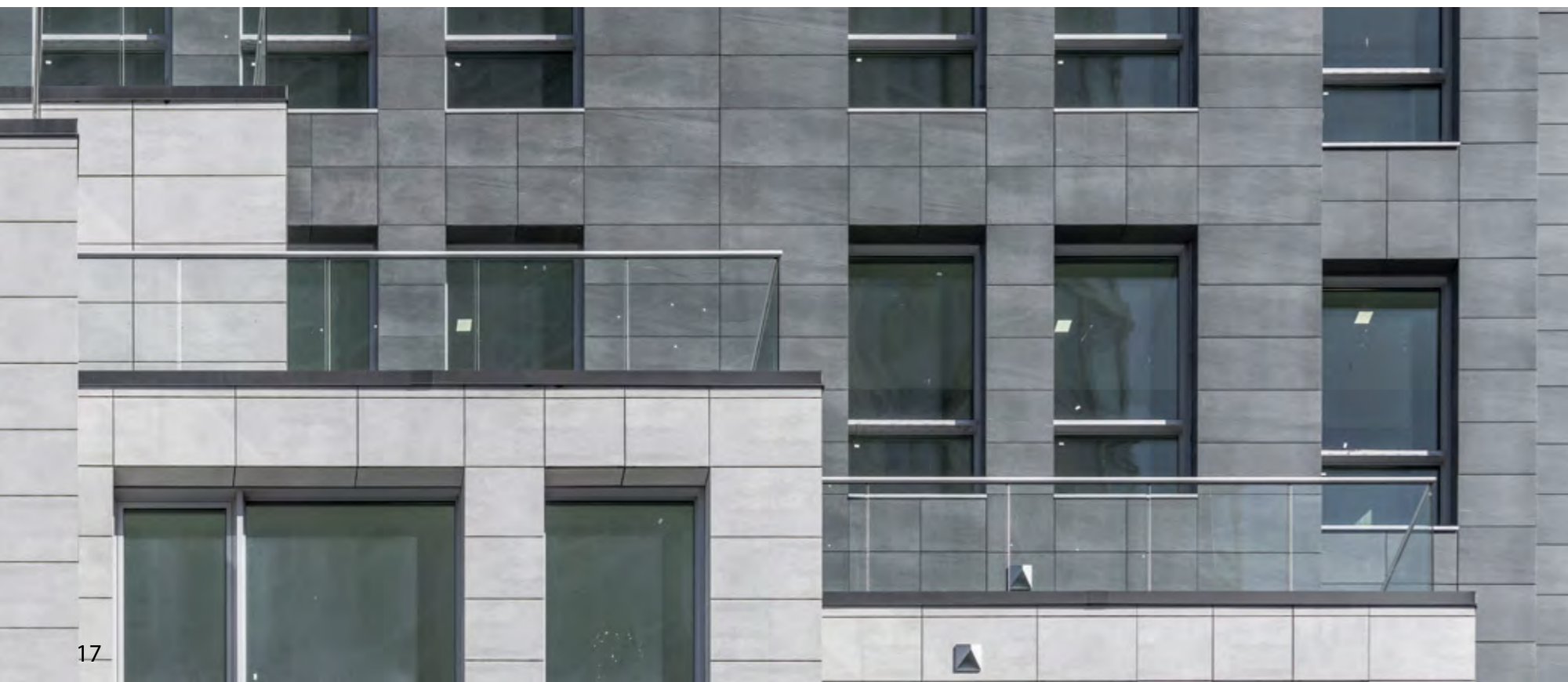
USA  
FL # 9364 / 20391 / 21906  
Florida building code approved

Residential building The Filaments, Wandsworth, United Kingdom  
VF Porcelain system with concealed clips · Extreme White  
Architect: Rolfe Judd · Photography: Alex Keane, Aa Creative



## Built projects

Residential building The Prime, New York, U.S.A.  
VF Porcelain system with concealed clips - Aged Dark Nature  
Arquitect: SRRA+E · Photography: Imagen Subliminal



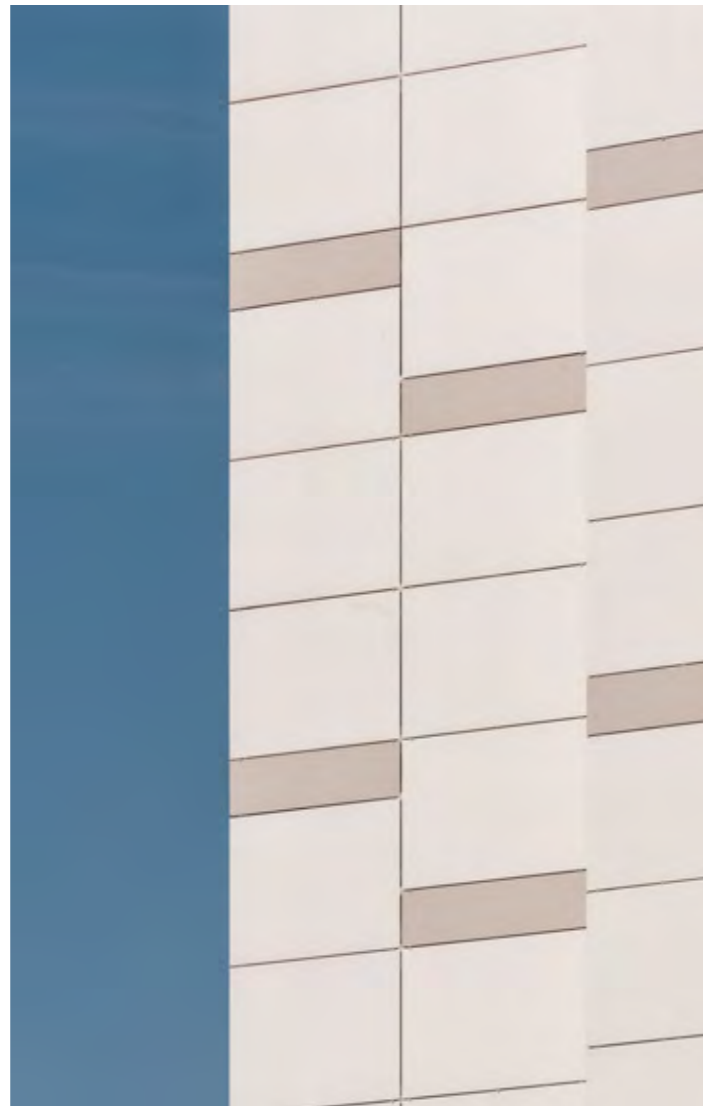
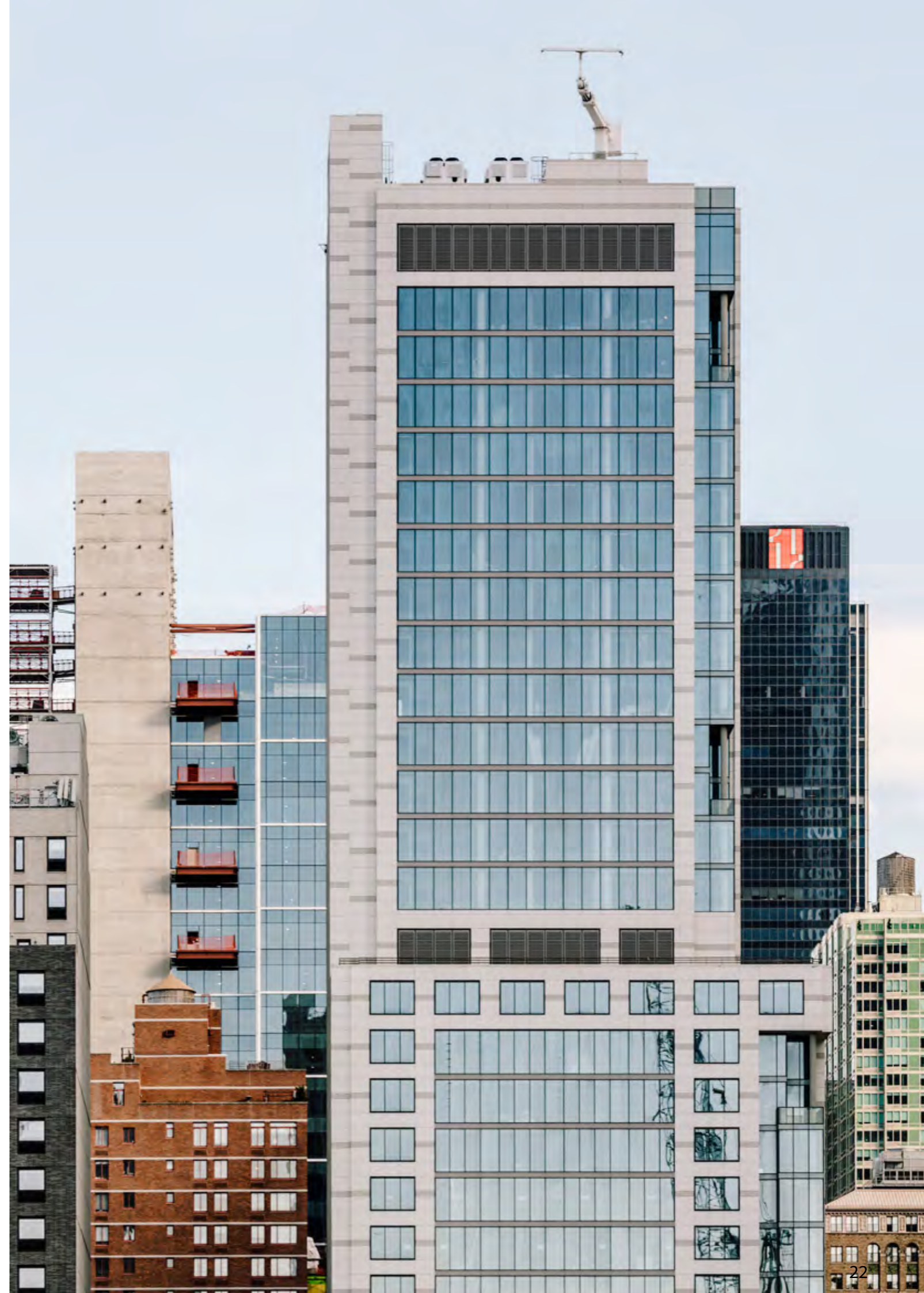
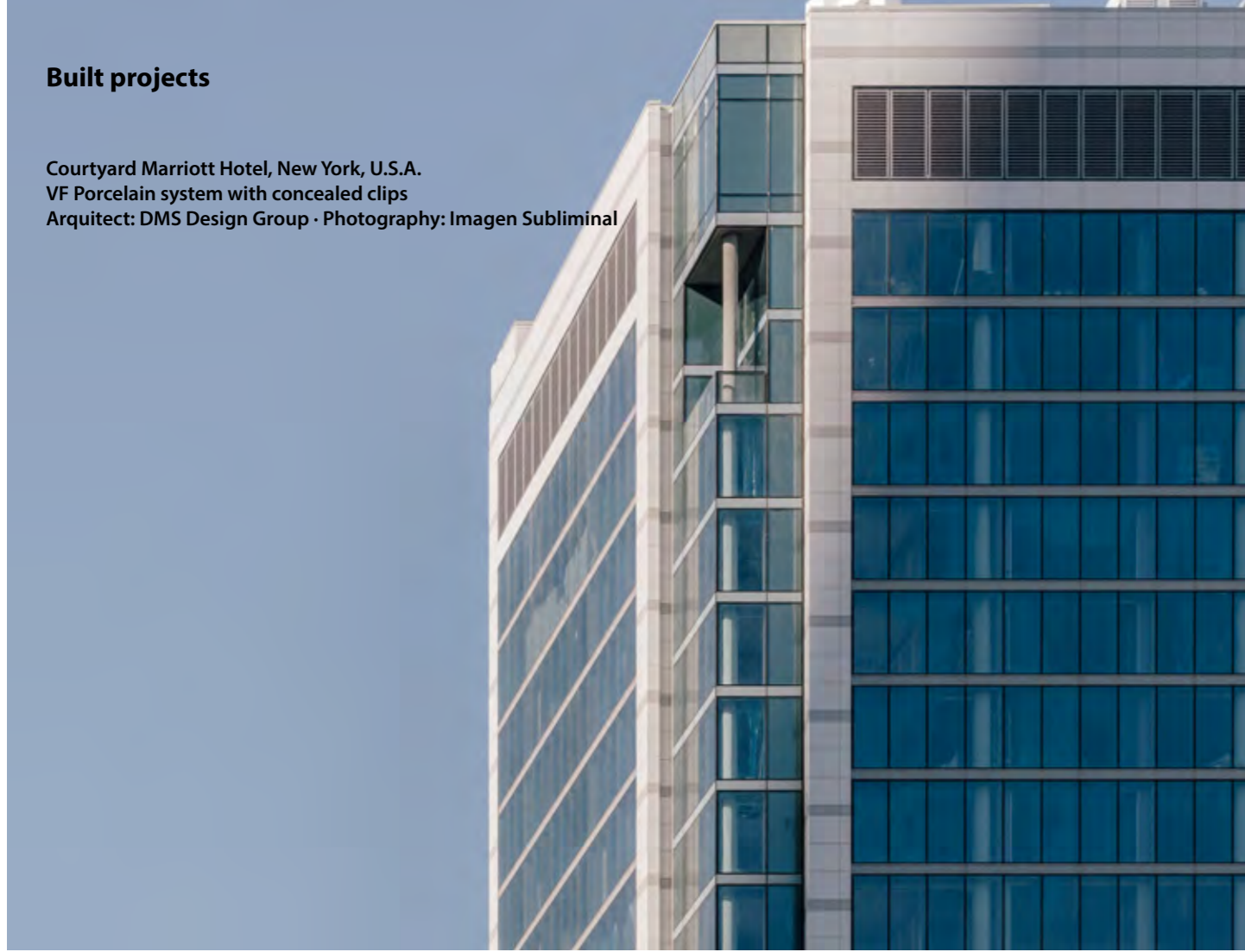
## Built projects

Residential building Tangram NB3, New York, U.S.A.  
VF Porcelain system with concealed clips · Ferroker Niquel / Deep Light Grey / Extreme White  
Arquitect: Margulies Hoelzli Architects · Photography: Imagen Subliminal



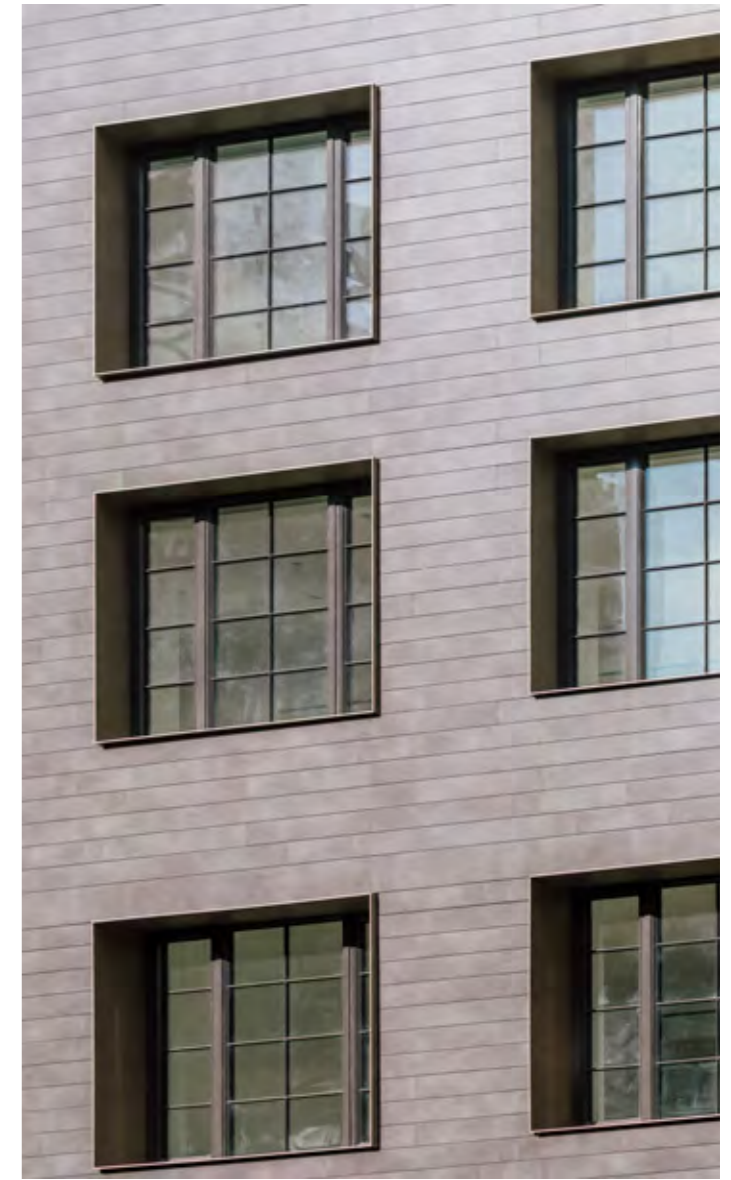
## Built projects

Courtyard Marriott Hotel, New York, U.S.A.  
VF Porcelain system with concealed clips  
Arquitect: DMS Design Group · Photography: Imagen Subliminal



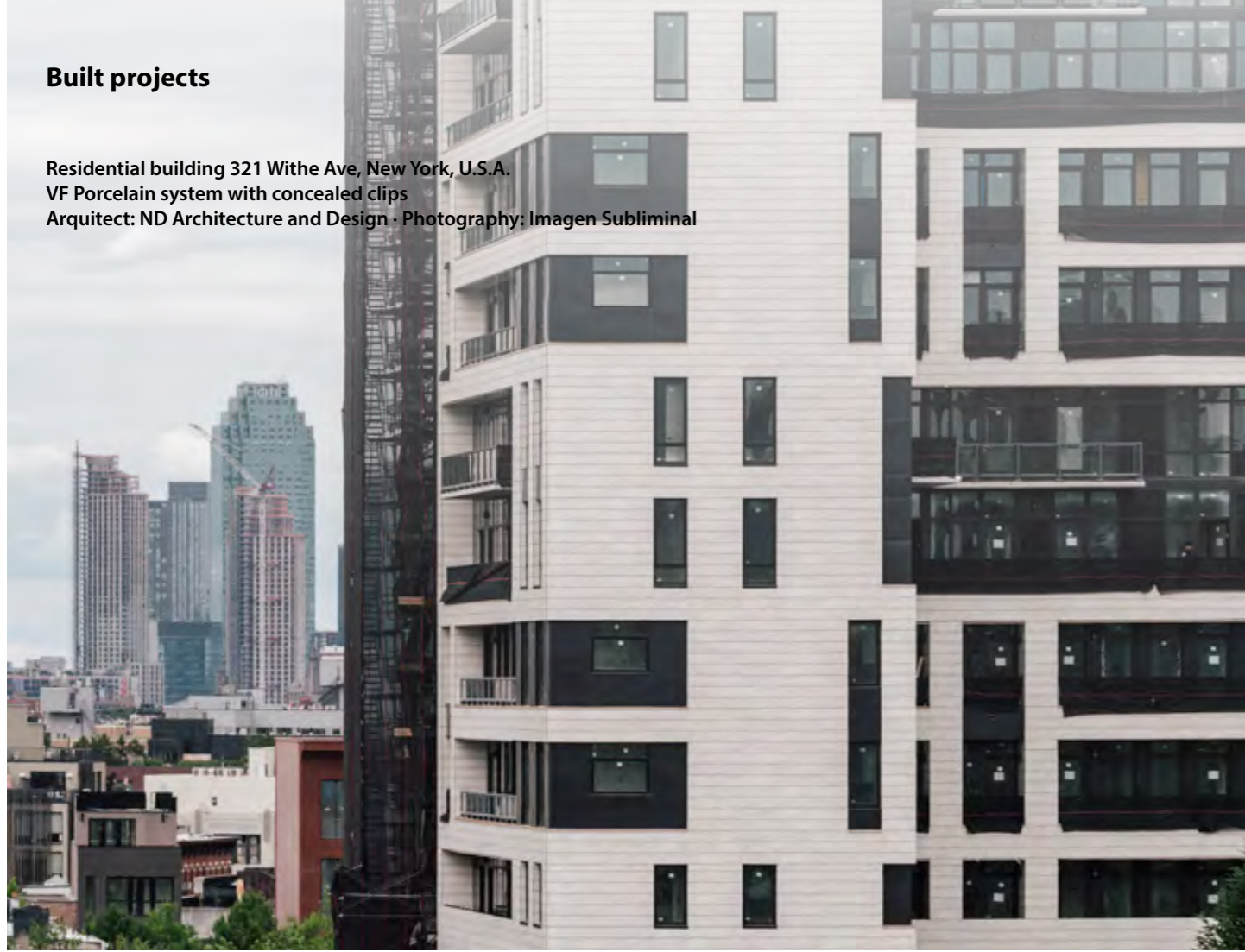
**Built projects**

Residential building Dorian Chelsea, New York, U.S.A.  
VF Porcelain system with concealed clips  
Arquitect: Rogers Partners · Photography: Imagen Subliminal



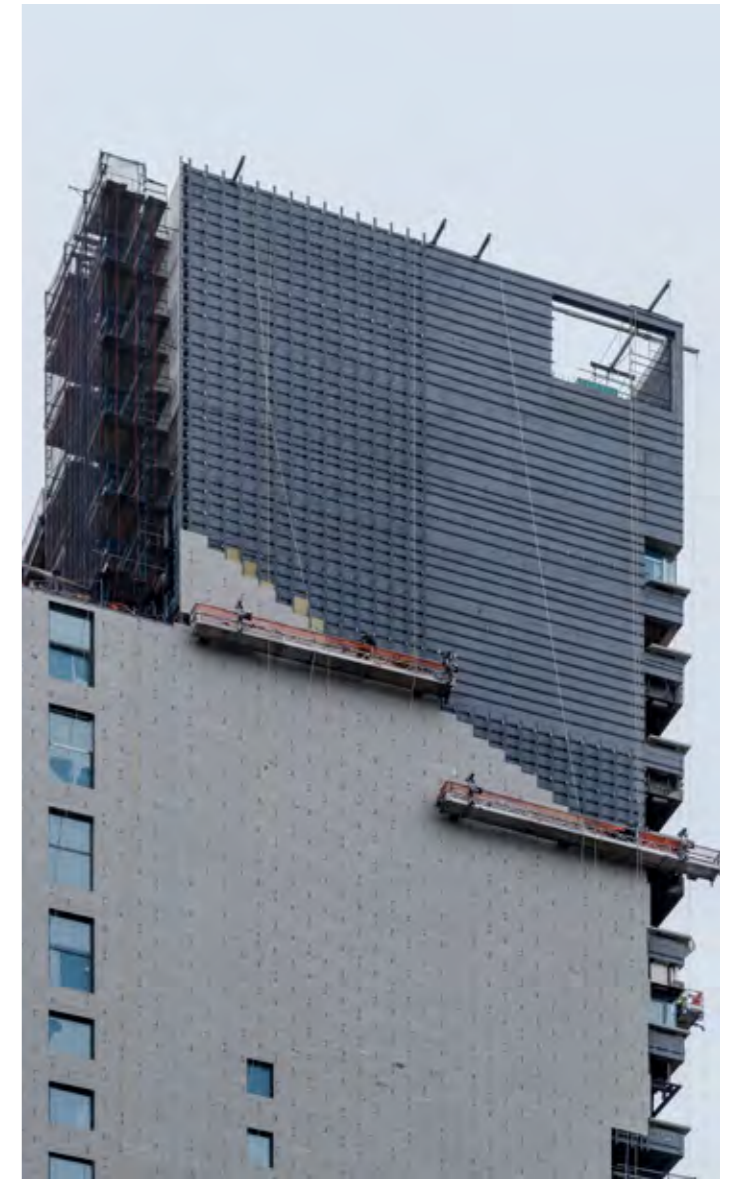
## Built projects

Residential building 321 Withe Ave, New York, U.S.A.  
VF Porcelain system with concealed clips  
Arquitect: ND Architecture and Design · Photography: Imagen Subliminal



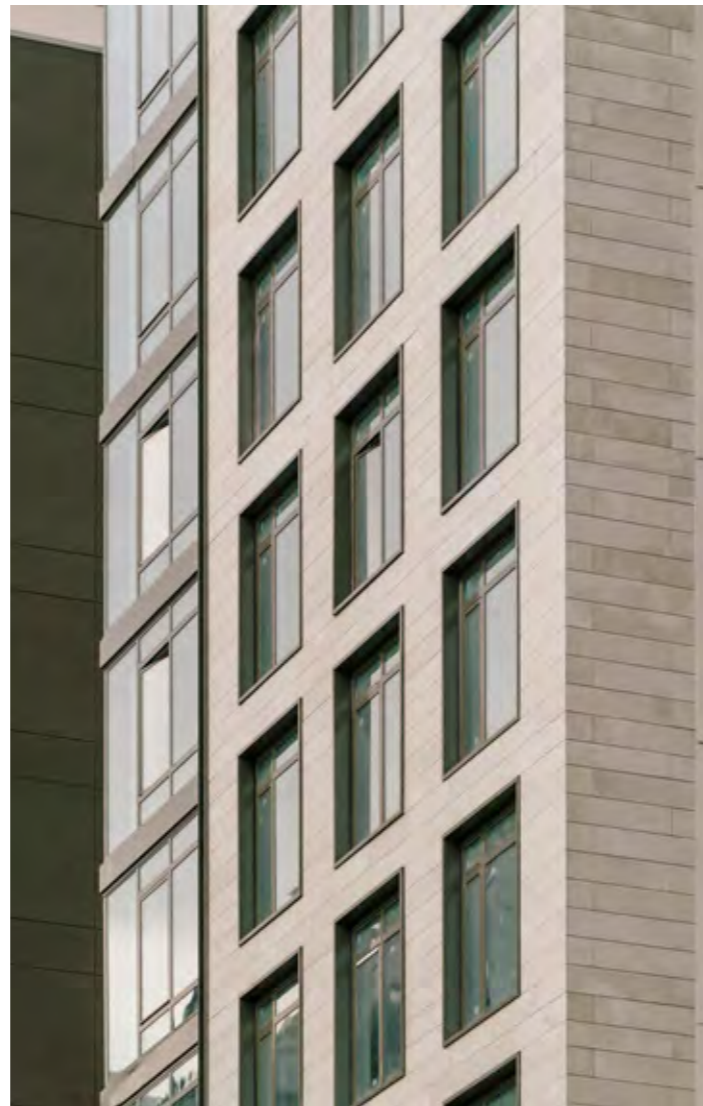
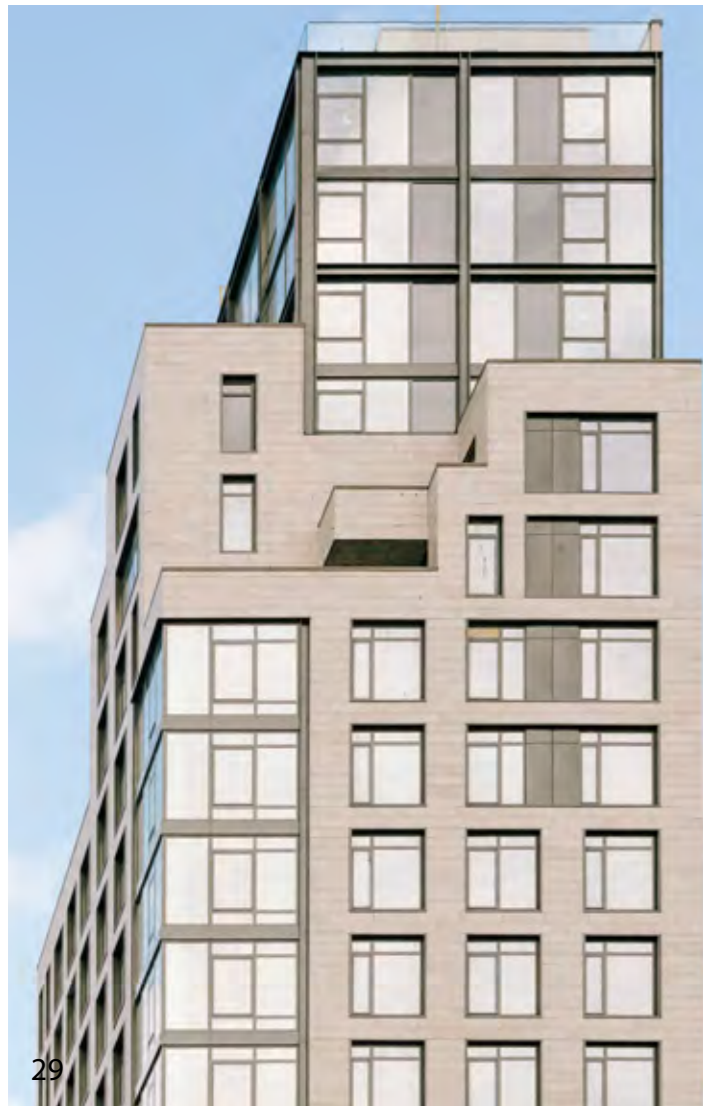
**Built projects**

Residential building The Leyton, New York, U.S.A.  
VF Porcelain system with concealed clips  
Arquitect: Manuel Glas Architect • Photography: Imagen Subliminal



## Built projects

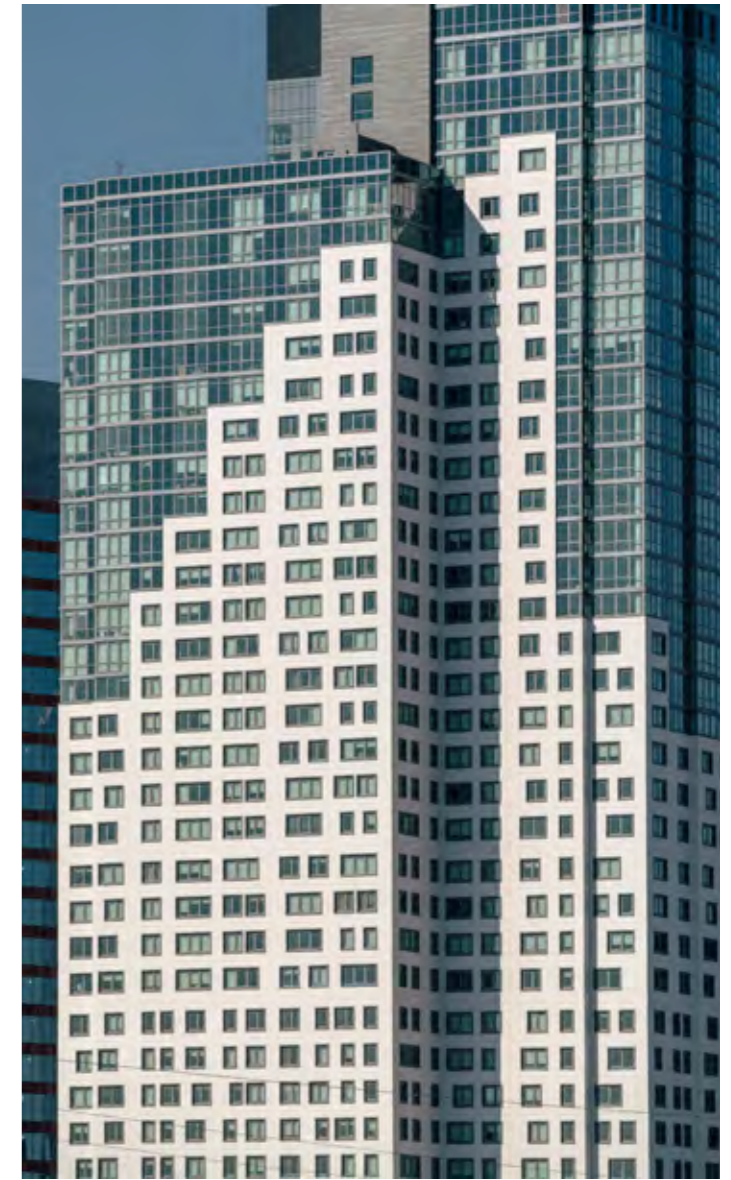
Residential building The Nevins, New York, U.S.A.  
VF Porcelain system with concealed clips  
Arquitect: Brent M. Porter & Isaac + Stern Arch  
Photography: Imagen Subliminal





## Built projects

Residential building Alta LIC Towers, New York, U.S.A.  
VF Porcelain system with concealed/visible clips · Extreme White  
Arquitect: The Stephen B. Jacobs Group PC · Photography: Imagen Subliminal



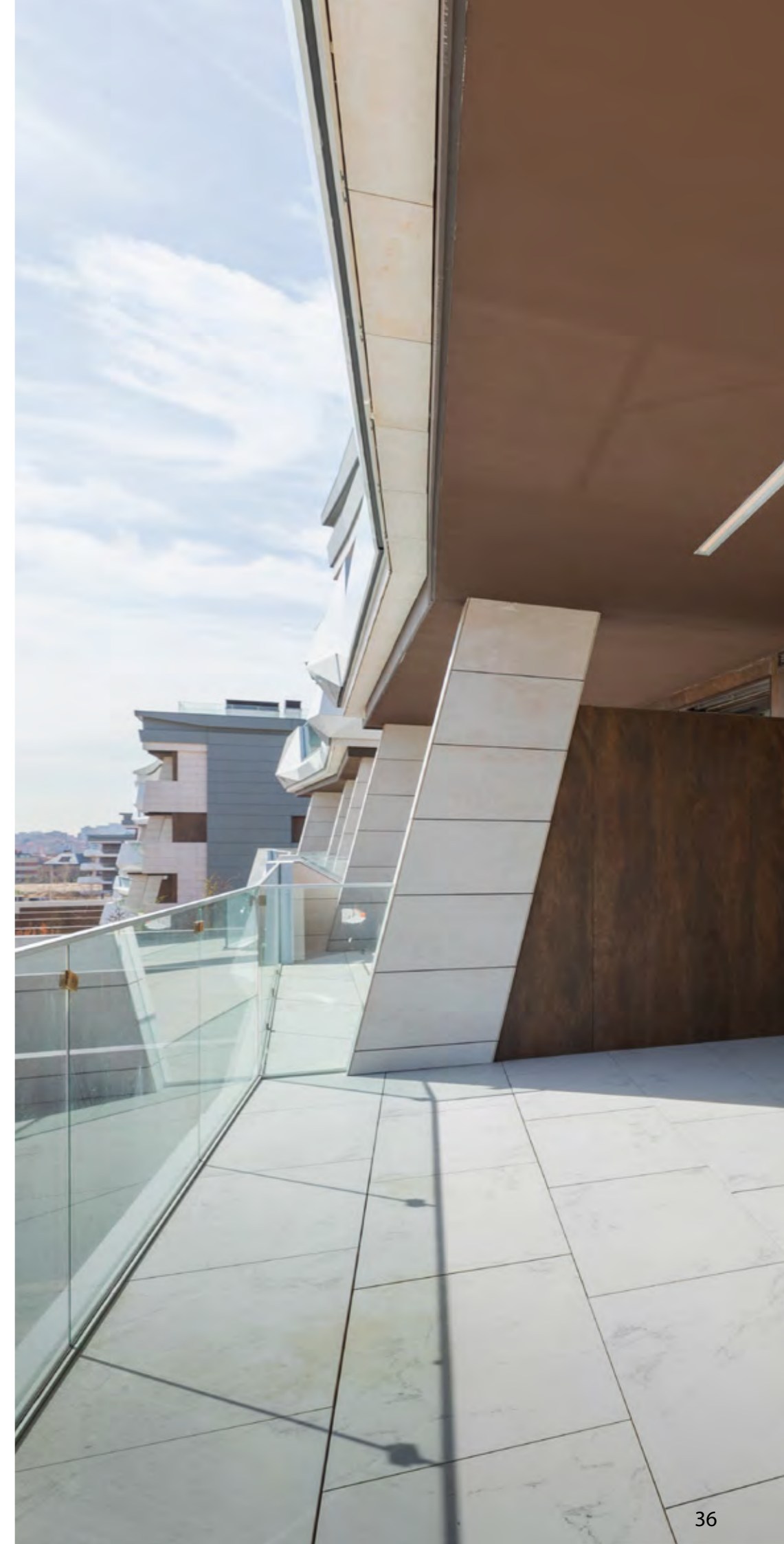
## Built projects

Residential building The Clare, New York, U.S.A.  
VF Porcelain system with concealed clips  
Arquitect: Manuel Glas Architects · Photography: Imagen Subliminal



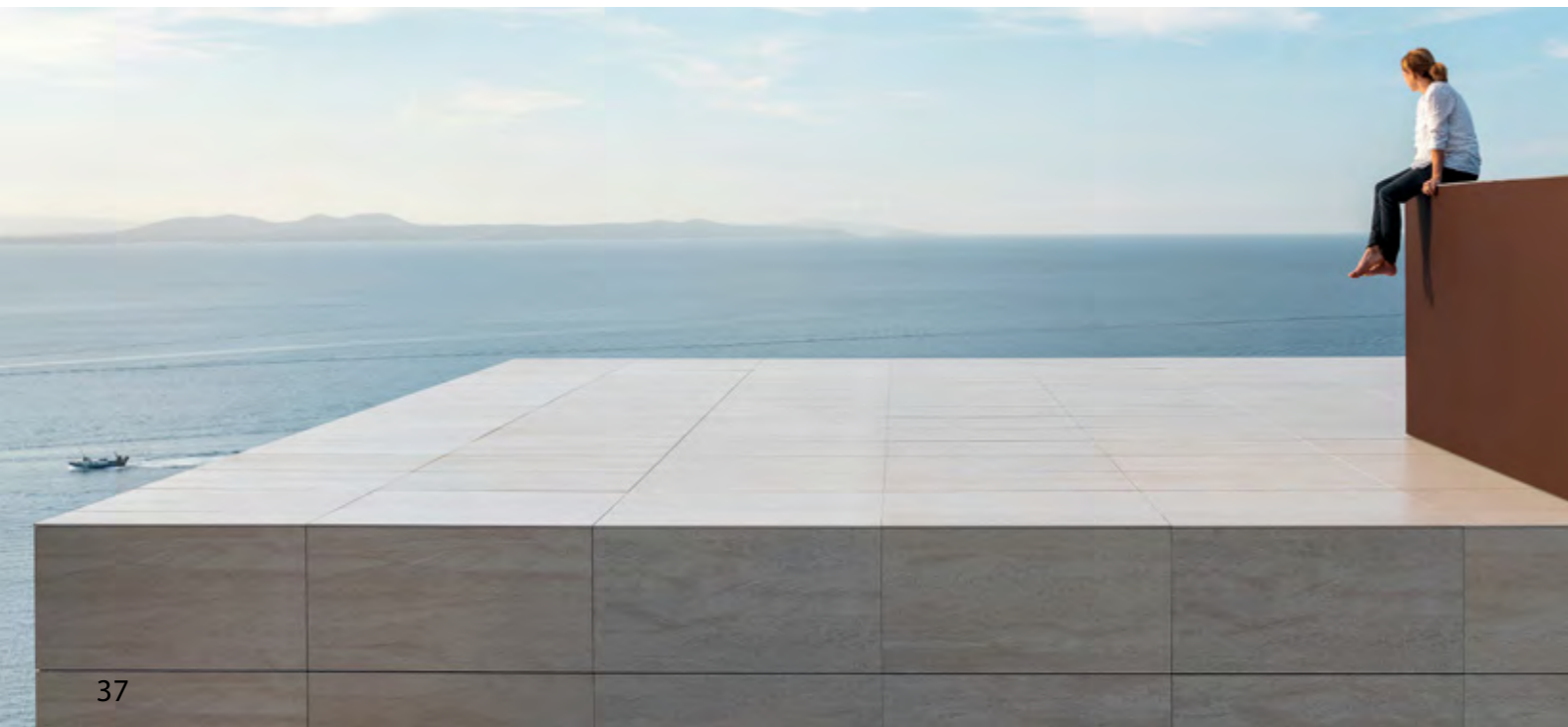
## Built projects

Residential complex La Finca - LGC3, Pozuelo de Alarcón, Spain  
VF Porcelain system with concealed clips - Newport White  
Arquitect: La Finca Real State - Photography: Alex del Río



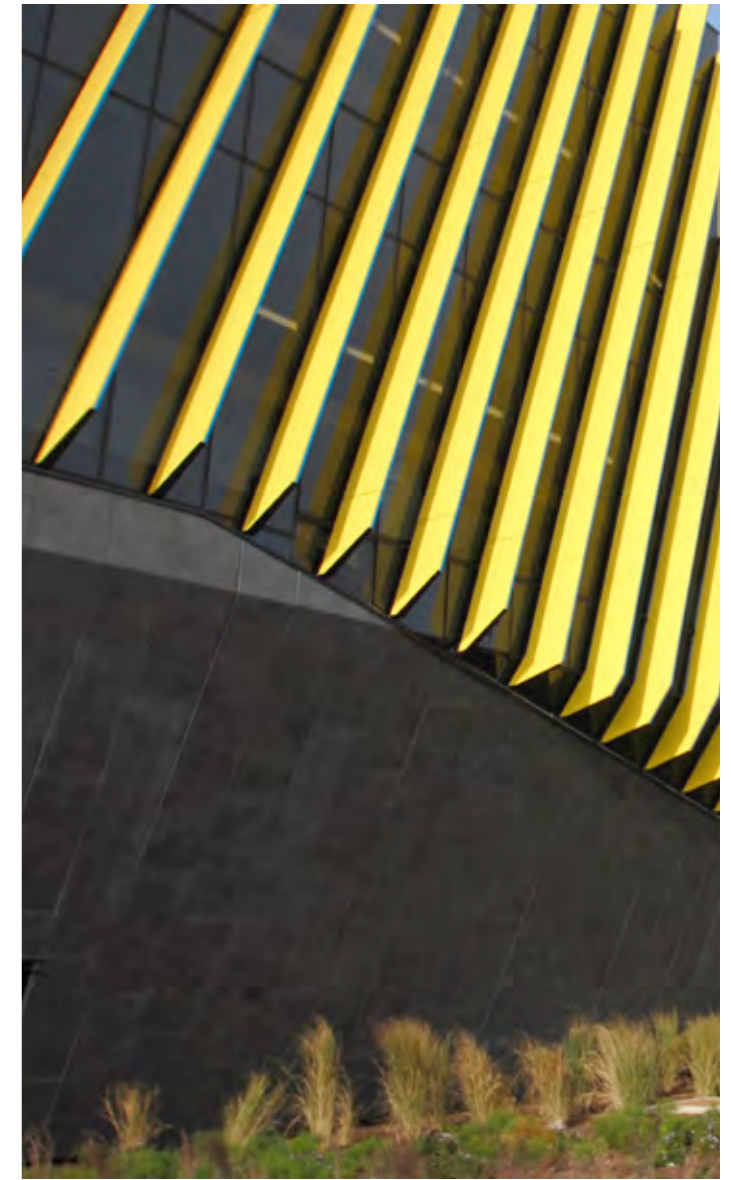
## Built projects

Single-family home Villa SRT, Alt Empordà, Spain  
VF Porcelain system with concealed clips  
Arquitect: Ilan i Culell Arquitectura · Photography: Simón García /ARQFOTO



## Built projects

Multipurpose building NEIU El Centro, Chicago, New York, U.S.A.  
VF Porcelain system with concealed clips  
Arquitect: JGMA



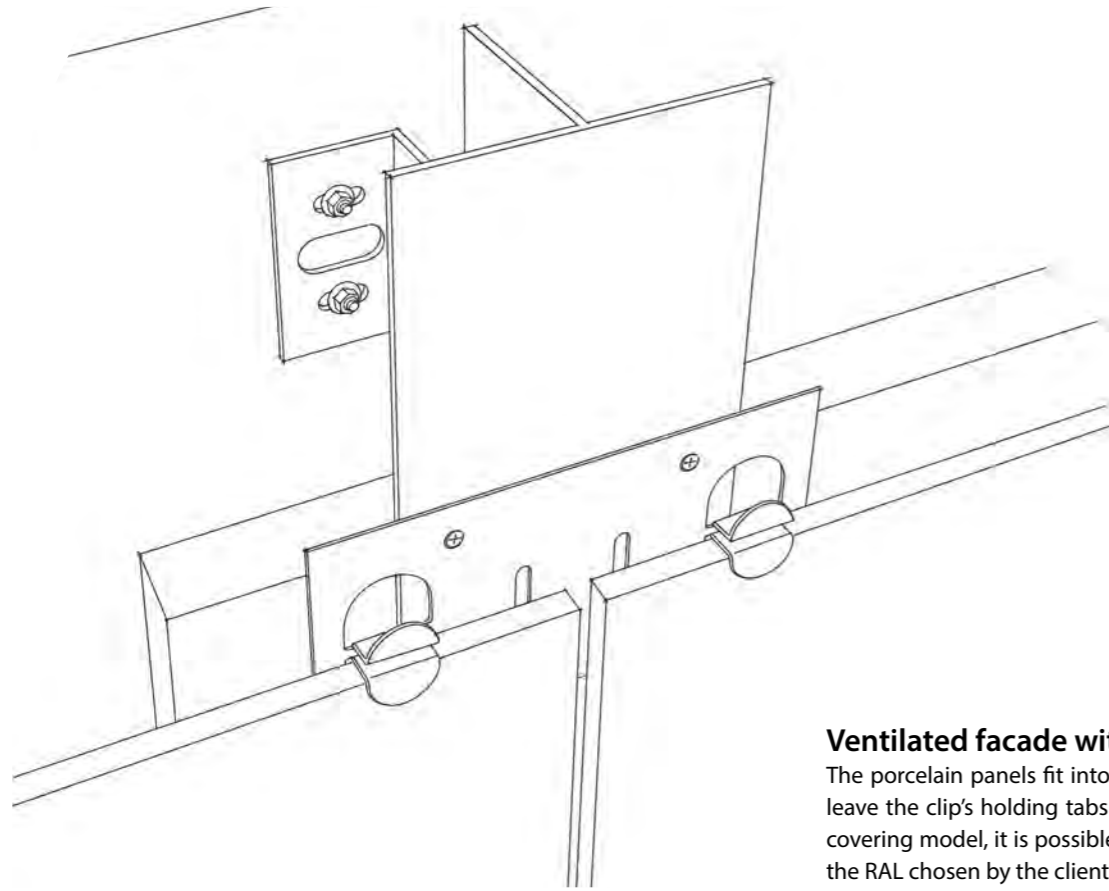
## Built projects

Thermes de Balaruc Les Bains, France  
VF Porcelain system with concealed clips  
Arquitect: DHA Architectes Urbanistes et AMG Architectes  
Photography: Henri Comte



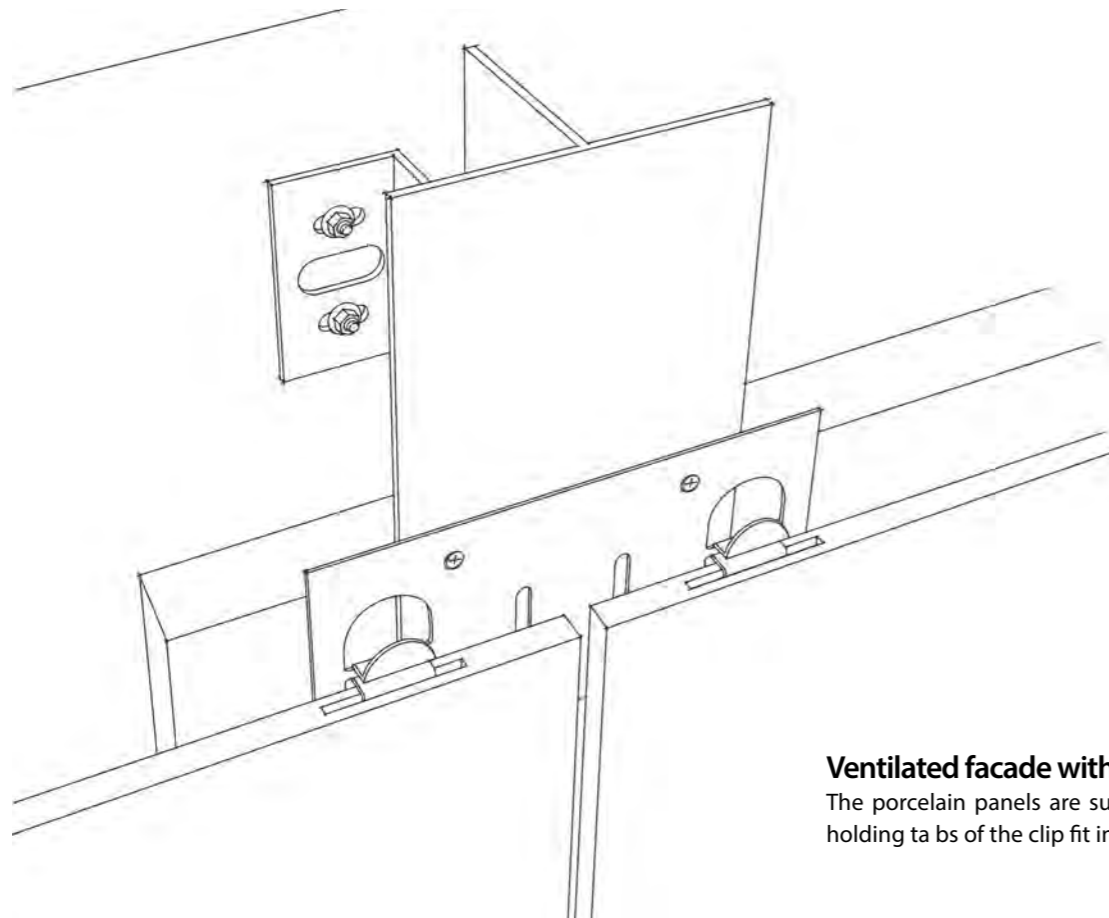
## Facade types

Depending on the porcelain panel fixing system to the facade structure, we can define two types of facade:



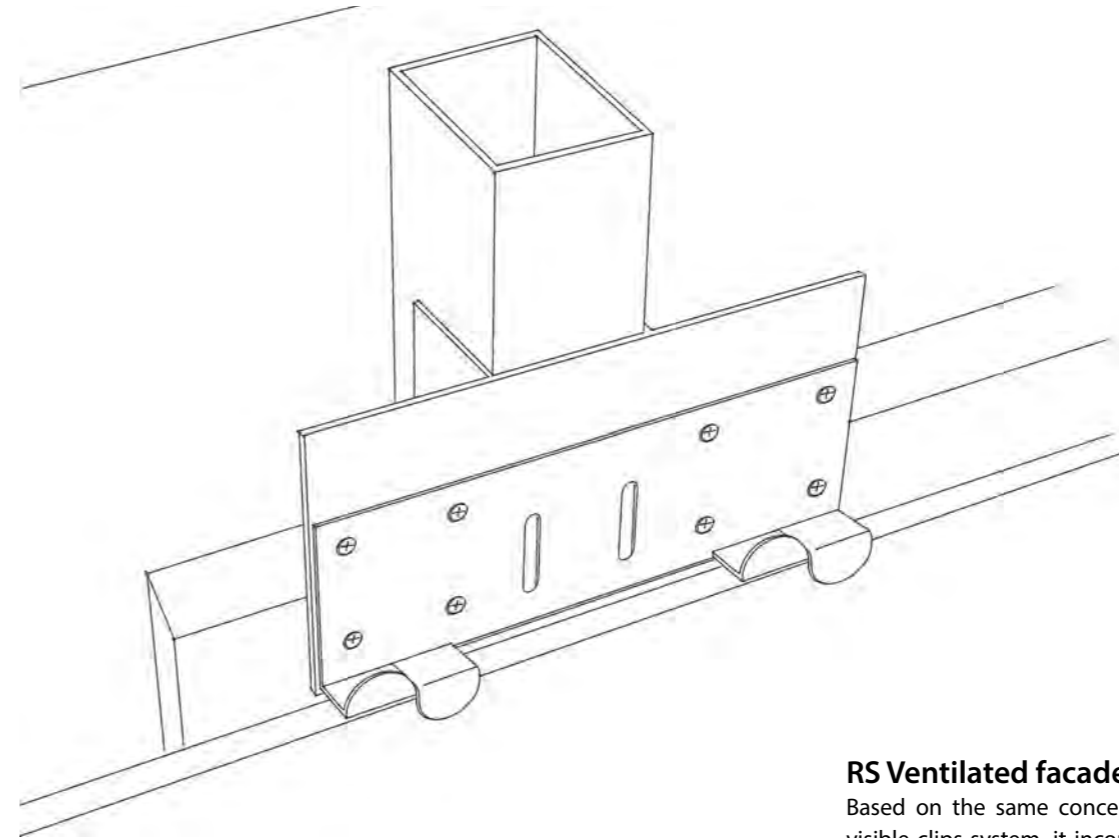
### Ventilated facade with visible clips.

The porcelain panels fit into a stainless-steel clip so that they leave the clip's holding tabs exposed. Depending on the wall covering model, it is possible to lacquer the clips according to the RAL chosen by the client.



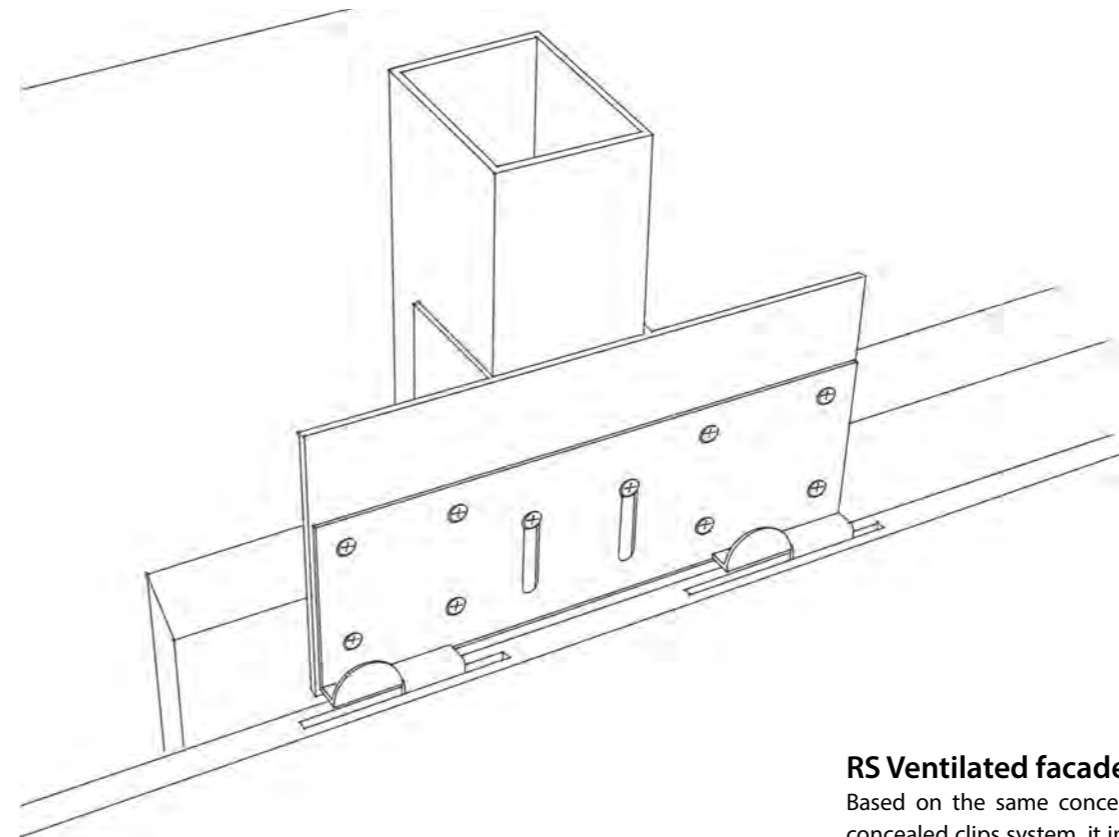
### Ventilated facade with concealed clips.

The porcelain panels are supplied with side slots where the holding tabs of the clip fit in, leaving them concealed.



### RS Ventilated facade with visible clips.

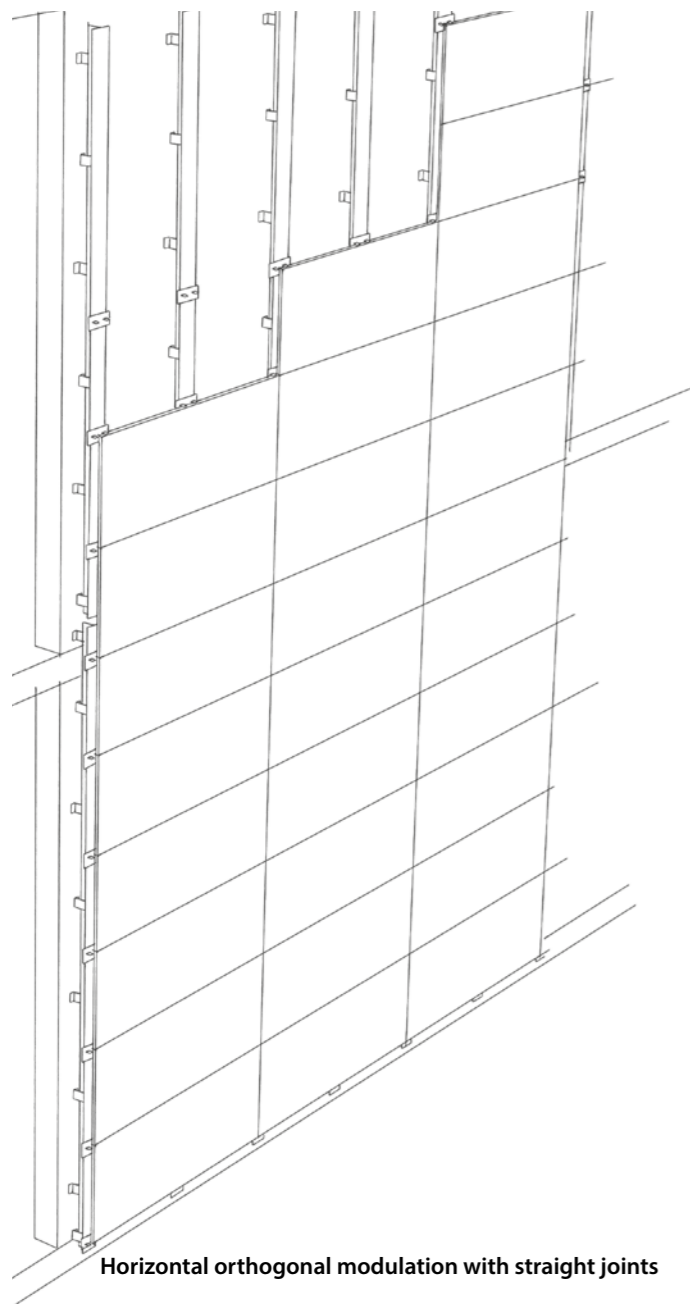
Based on the same concept as the ventilated facade with visible clips system, it incorporates a reinforced structure to withstand higher stresses: new L-shaped separator, 60 x 40 mm tubular profile, π-shaped reinforcing element, and high-performance clip.



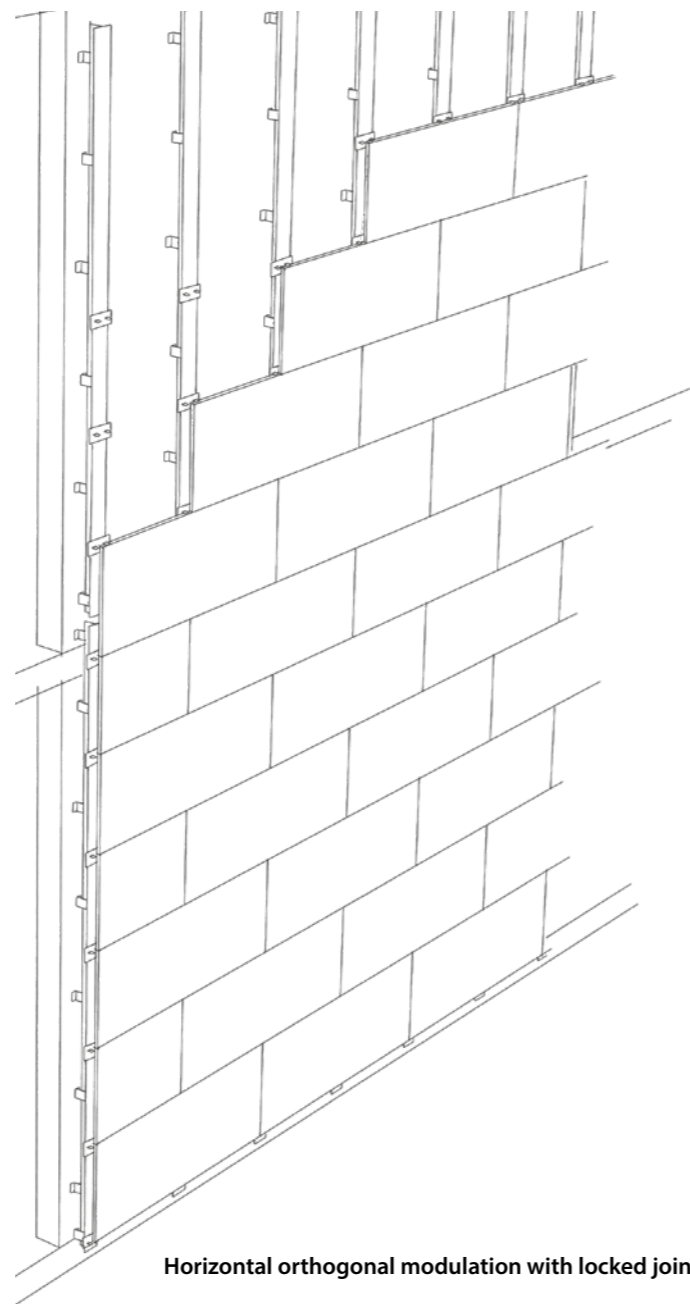
### RS Ventilated facade with concealed clips.

Based on the same concept as the ventilated facade with concealed clips system, it incorporates a reinforced structure to withstand higher stresses: new L-shaped separator, 60 x 40 mm tubular profile, π-shaped reinforcing element, and high-performance clip.

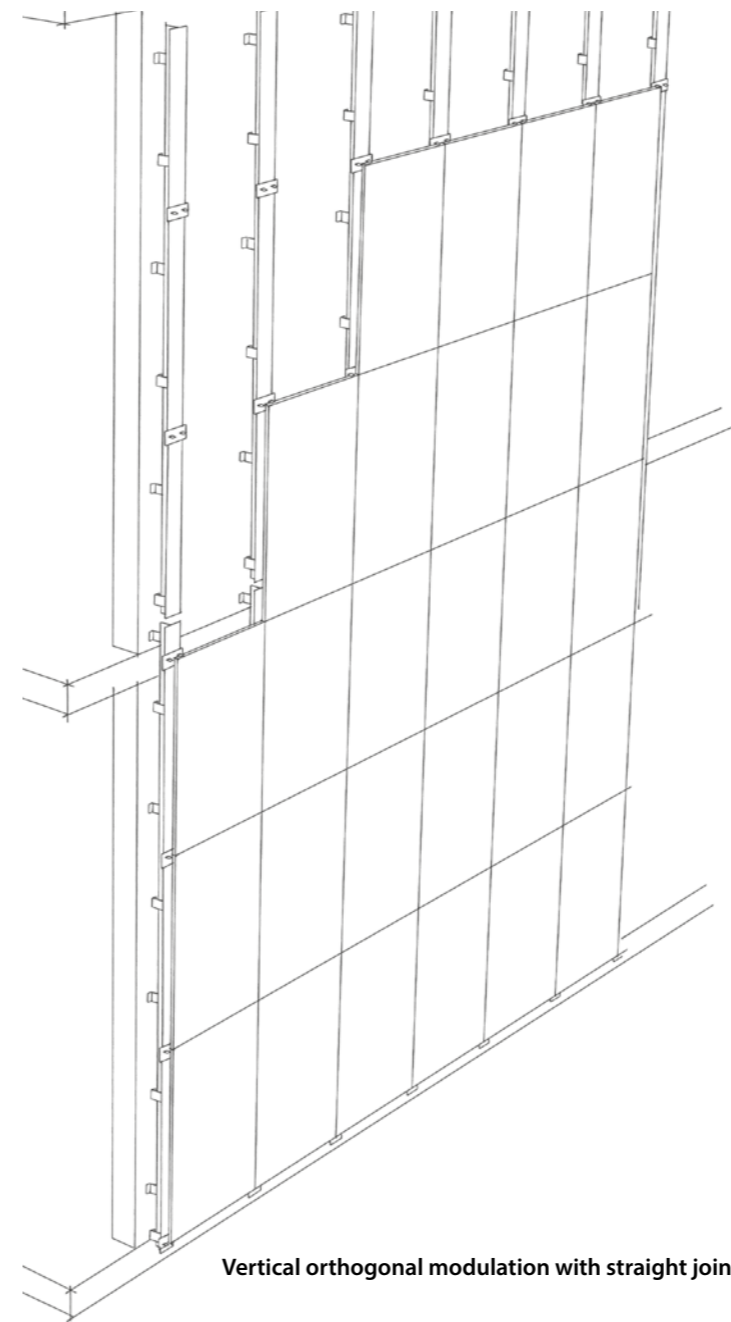
## Characteristics



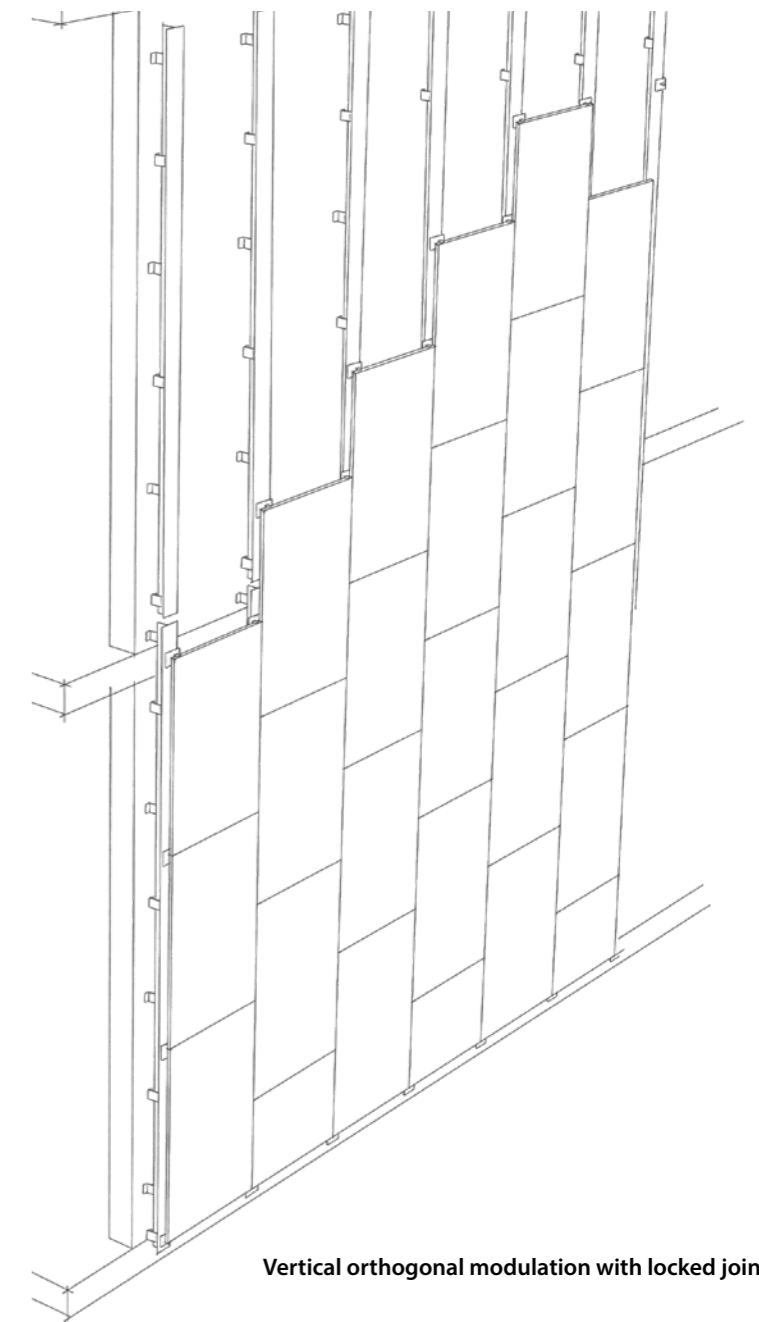
Horizontal orthogonal modulation with straight joints



Horizontal orthogonal modulation with locked joints



Vertical orthogonal modulation with straight joints



Vertical orthogonal modulation with locked joints

### Facade structure.

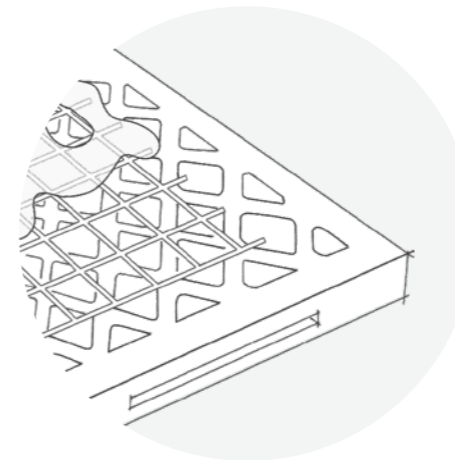
Main characteristics:

- Facade anchoring direct to the building structure.
- Applicable to most structure and enclosure types used in construction.
- Minimum distance between support and facade: 80 mm.
- Structure consisting of only vertical profiles.
- Structure for very light facade: less than 5 kg/m<sup>2</sup>.
- Dual chemical and mechanical fixing system; complete safety.

### Modulation of the facade.

Main characteristics:

- Modulation on one plane and leveled with the facade.
- Horizontal or vertical orthogonal modulation.
- Modulation with straight or locked joints.
- Horizontal installation joints between 5 and 8 mm wide.
- Vertical installation joints starting at 1 mm wide.
- Option of installing with "fish scale" pattern.



### Porcelain panels.

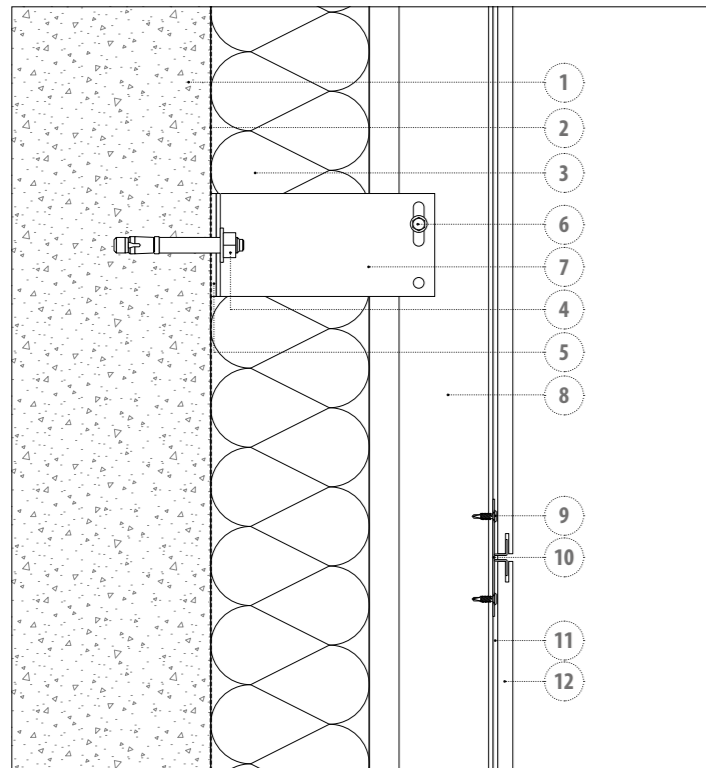
Main characteristics:

- Exclusive design of PORCELANOSA Grupo.
- Wide variety of panel formats: from 297 x 596 mm to 596 x 1800 mm.
- High mechanical resistance: breaking strength greater than 2000 N, as per UNE-EN ISO 10545-5.
- Back -meshed panels to prevent the fall of fragments in case of breakage.
- Weather resistant; the appearance of the panels remains unchanged with the passing of time.
- Easy to clean in the case of paint stains or graffiti.

These drawings are only sketches of tile modulation examples. For technical details of these façade systems, have a look the construction details at the next pages.



## Construction details · Concealed clip system

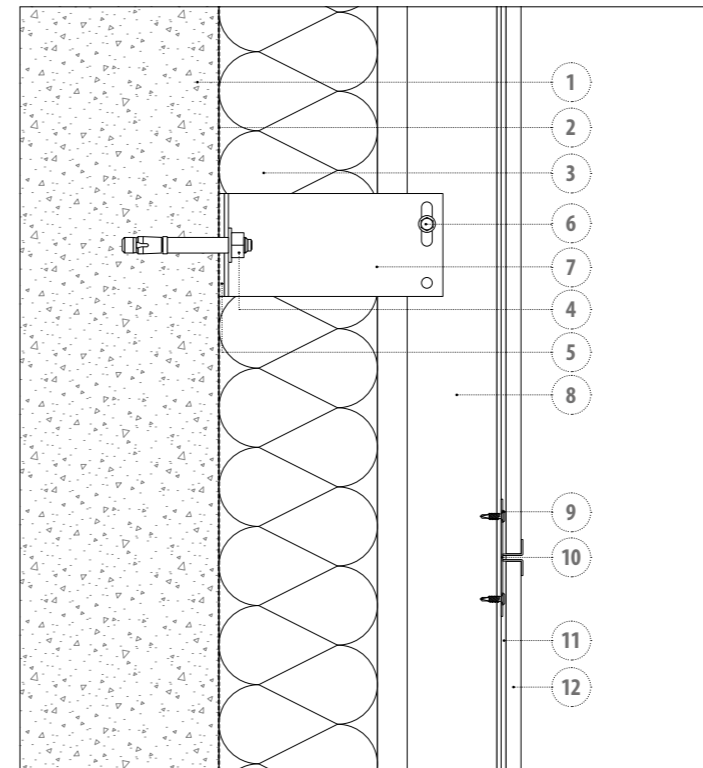


Vertical cross-section

### Elements of the system:

1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. Secondary L-shaped aluminum spacer
8. Aluminum T-shaped upright
9. Self-drilling screw
10. Concealed clip
11. Polyurethane putty
12. Porcelain panel

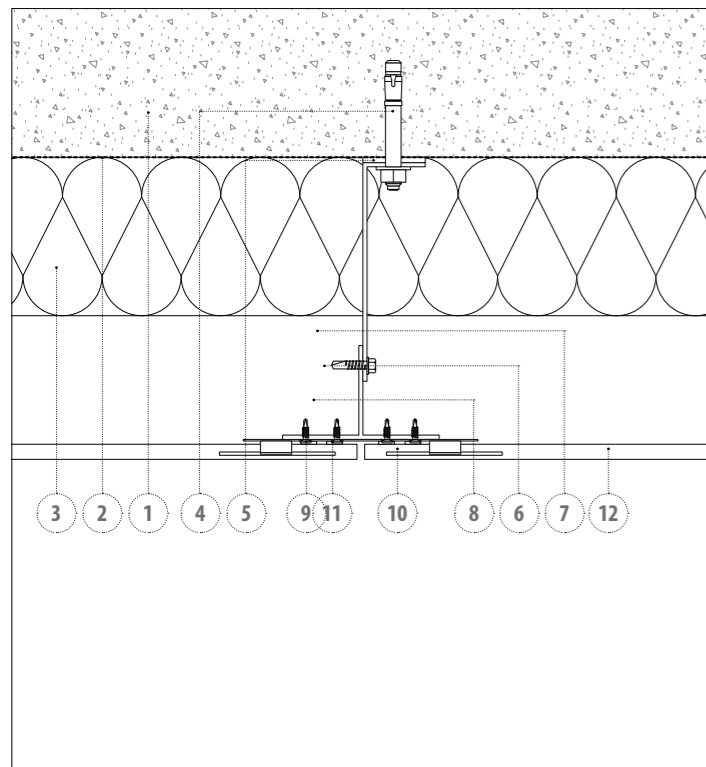
## Construction details · Visible clip system



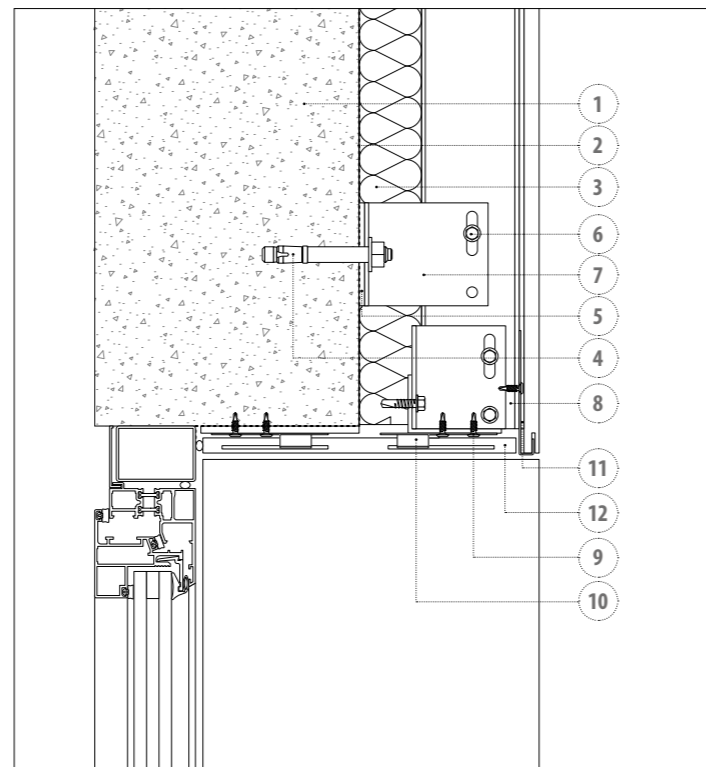
Vertical cross-section

### Elements of the system:

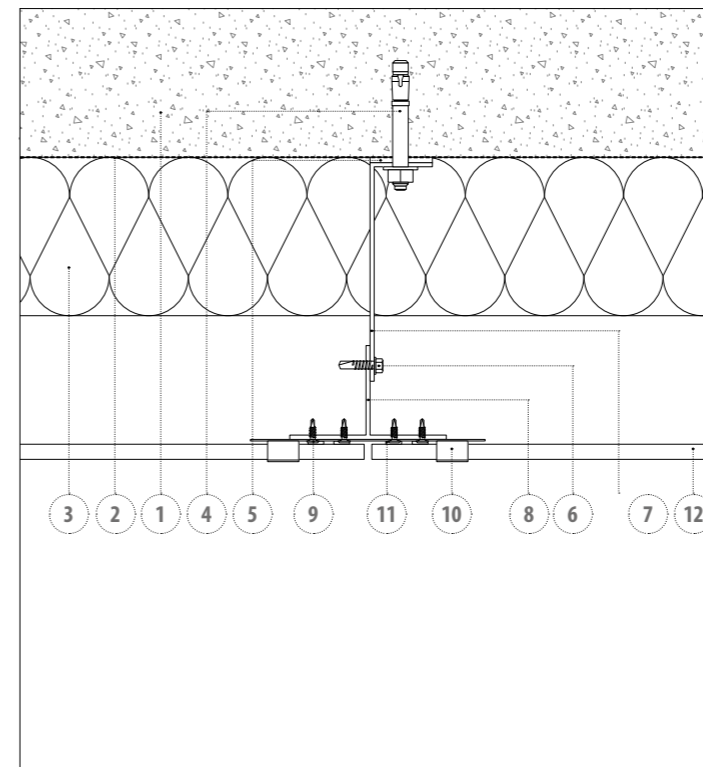
1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. Secondary L-shaped aluminum spacer
8. Aluminum T-shaped upright
9. Self-drilling screw
10. Visible clip
11. Polyurethane putty
12. Porcelain panel



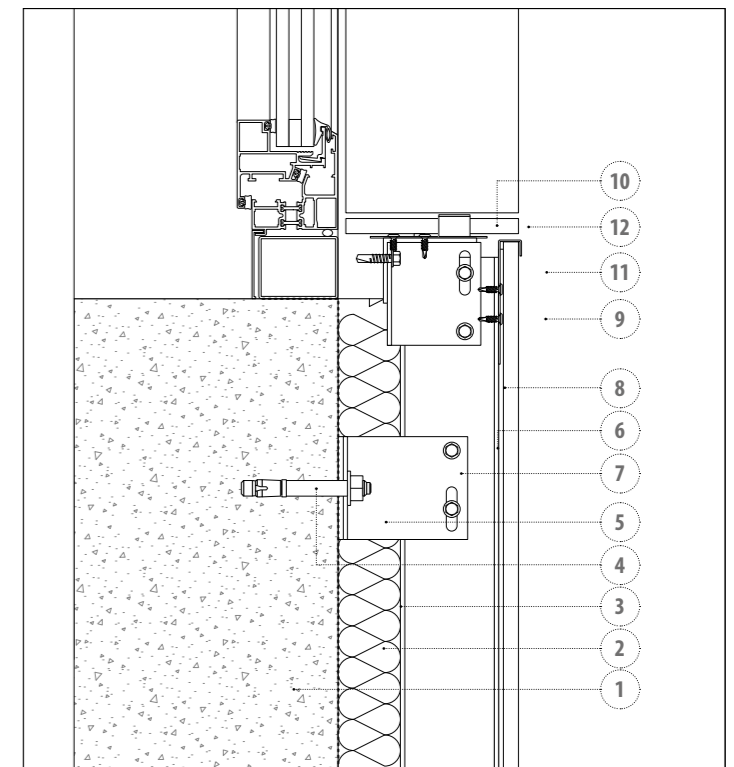
Horizontal cross-section



Lintel

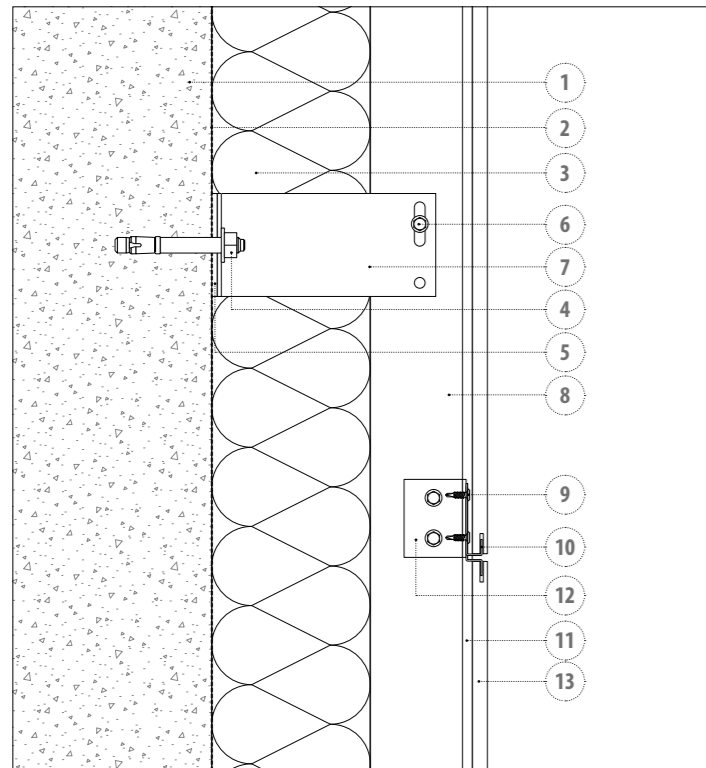


Horizontal cross-section



Sill

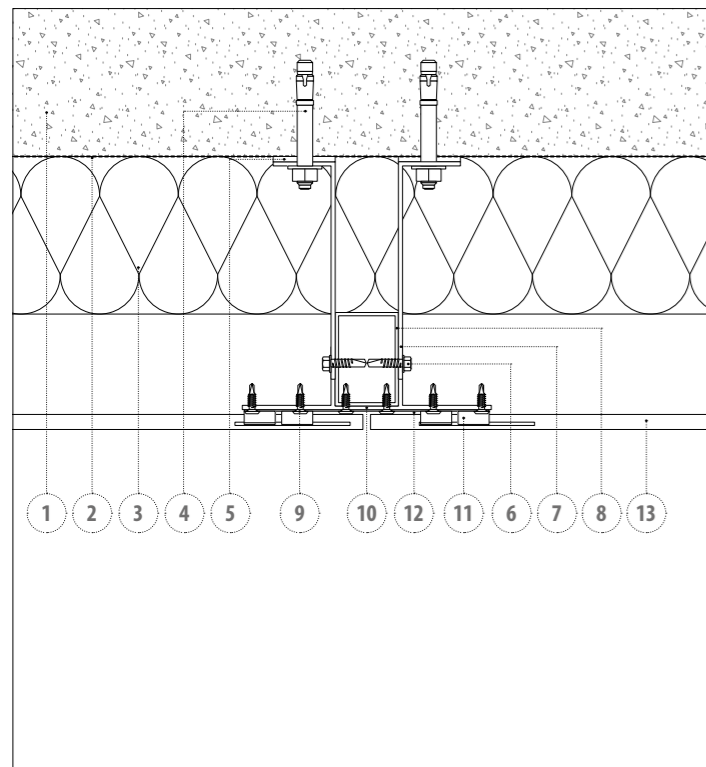
## Construction details · RS system with concealed clip



Vertical cross-section

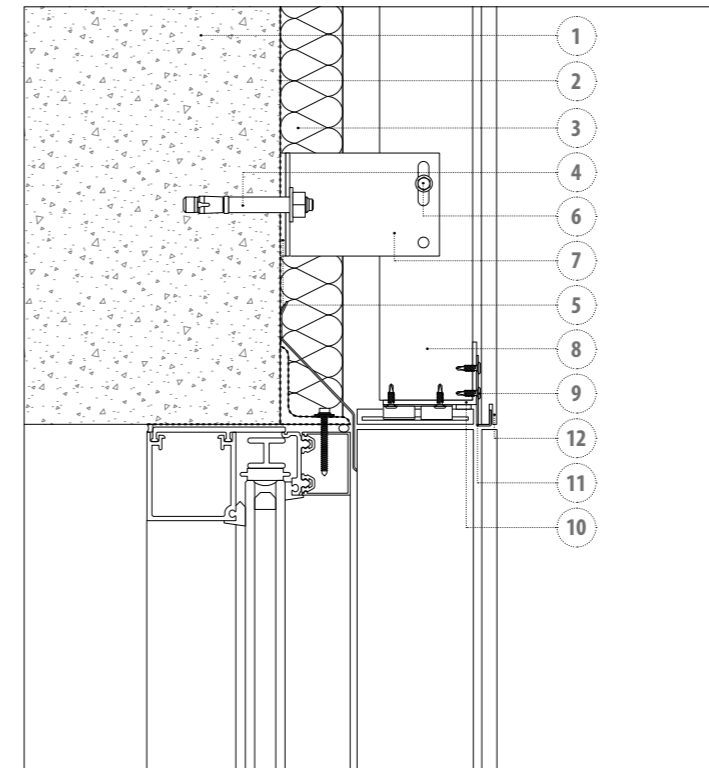
### Elements of the system:

1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. Secondary L-shaped aluminum spacer
8. Vertical aluminum tubular profile
9. Self-drilling screw
10. π-shape reinforcement piece
11. High performance concealed clip
12. Polyurethane putty
13. Porcelain panel



Horizontal cross-section

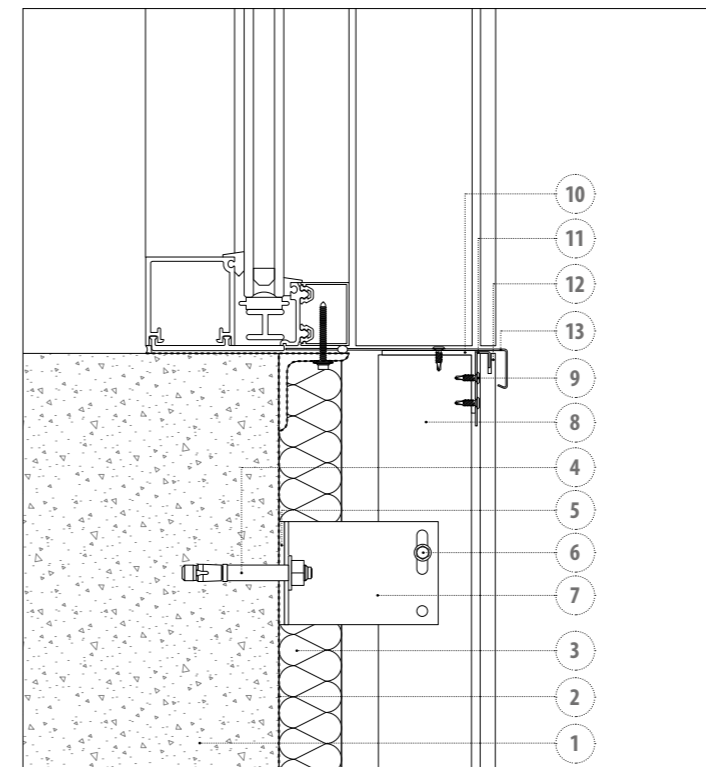
## Construction details · RS system with concealed clip



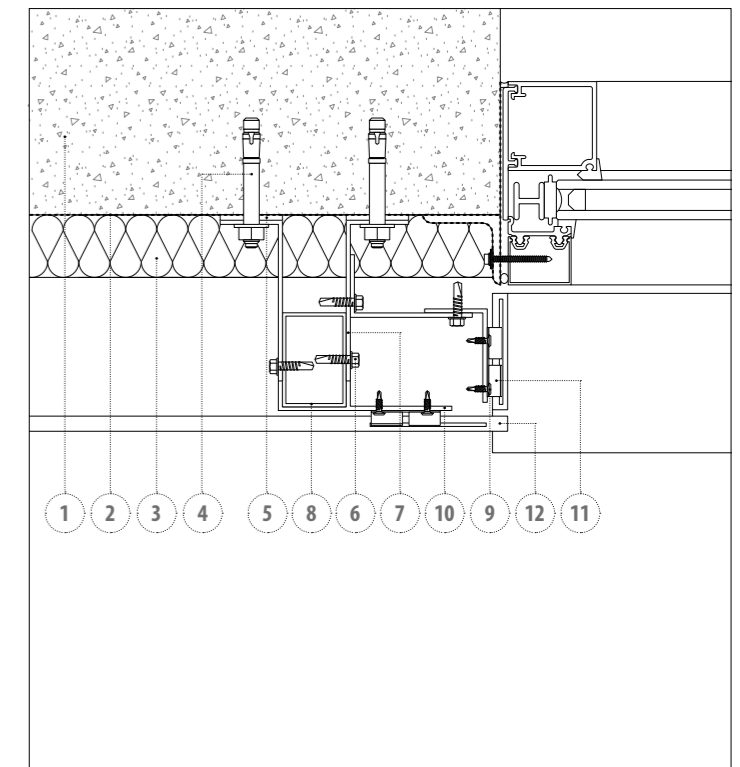
Lintel

### Elements of the system:

1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. Secondary L-shaped aluminum spacer
8. Vertical aluminum tubular profile
9. Self-drilling screw
10. π-shape reinforcement piece
11. High performance concealed clip
12. Porcelain panel
13. Metal window casings



Sill



Jamb

# FV-XLIGHT/XTONE

## Ventilated facade system using XLIGHT/ XTONE porcelain stoneware.

It differs from other methods due to its double anchorage system: one is chemical, using a high-performance polyurethane filler, and the other is mechanical using stainless steel staples that ensure the bonding of porcelain stoneware to the metallic structure of the facade.

URBATEK XLIGHT porcelain stoneware plates are characterised by their large size, measuring up to 1200 mm x 2500 mm and 6 mm thick; very low water absorption, less than 0.1%, in accordance with UNE-EN ISO 10545-3; and are reinforced at the back with a fibreglass mesh that prevents fragments from falling in the event of breakage. The pieces used in XLIGHT ventilated facades with hidden anchorage are supplied fixed to a metal substructure that allows them to be fixed on to the building structure.

### Estructura metálica de la fachada ventilada

- Mechanically anchoring the facade to the enclosure, according to the type of support.
- L-shaped aluminium separators determine the cavity between the enclosure and the ceramic coating.
- Vertical aluminium pillars onto which the porcelain stoneware pieces are fitted.
- Stainless steel staples for anchoring the XLIGHT plates to the vertical pillars.
- Self-drilling screws to connect vertical pillars and aluminium separators.

The metallic structure of the ventilated facade is made of AW 6005A aluminium, while the mechanical anchors are AISI 304 stainless steel.

- Anchoring the facade directly to the building structure.
- Minimum distance of 80 mm between support and facade.
- Very light facade structure: less than 5 kg/m<sup>2</sup>.
- Dual chemical and mechanical anchorage system; full security.
- Plane modulation and level with the facade. Horizontal or vertical angle. With straight or locked joints.
- Horizontal placement joints of between 5 mm and 8 mm in width. Vertical placement joints from 1 mm in width
- Wide variety of plate formats: from 1200 mm x 2500 mm to 5500 mm x 3000 mm.
- Mesh on the back of the pieces to prevent fragments from falling in the event of breakage.
- Resistance to climate agents; the elements' physical appearance remains unchanged with the passage of time.
- Easy to clean in the event of paint marks or graffiti.

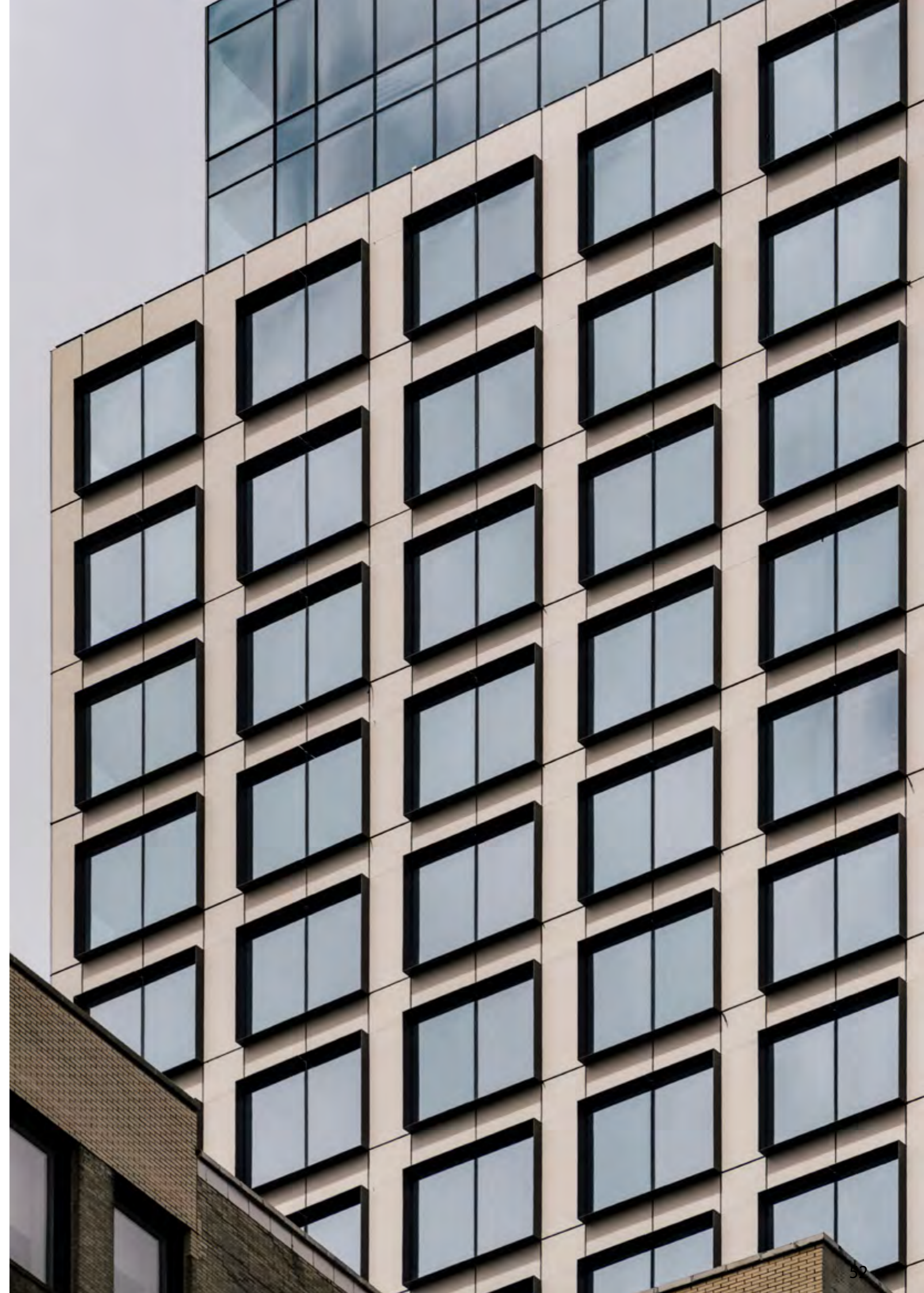
## Certifications and technical testing

Spain **Resistance to wind pressure and suction** 13/7157-2977.

**Impact resistance** 13/6955-923.

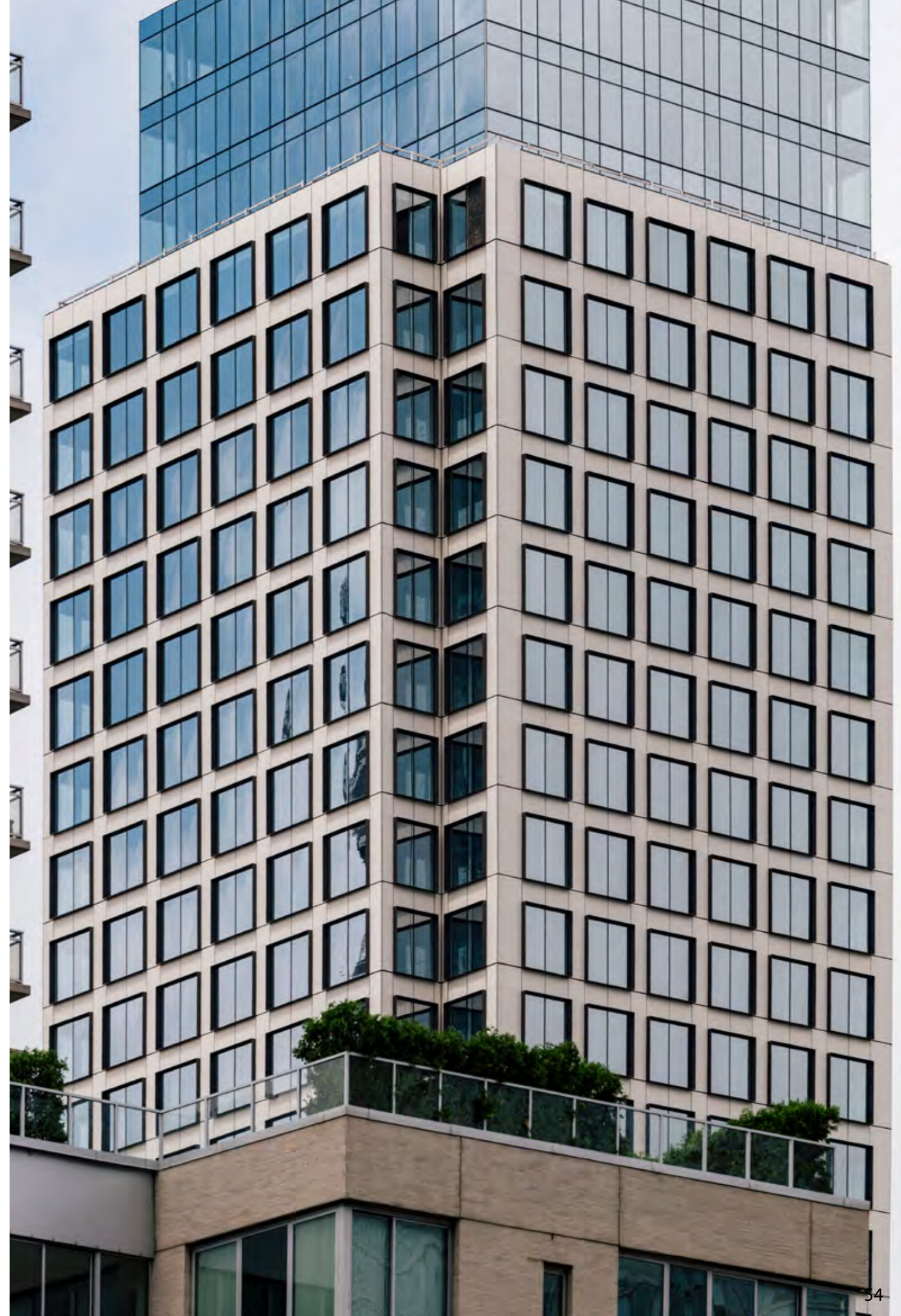
**Wind load, impact, and water permeability testing** by the Vinci Technology Centre laboratory.

Residential building Hudson 36, New York, U.S.A.  
VF Porcelain system with concealed clips  
Architect: Ismael Leyva Architects · Photography: Imagen Subliminal



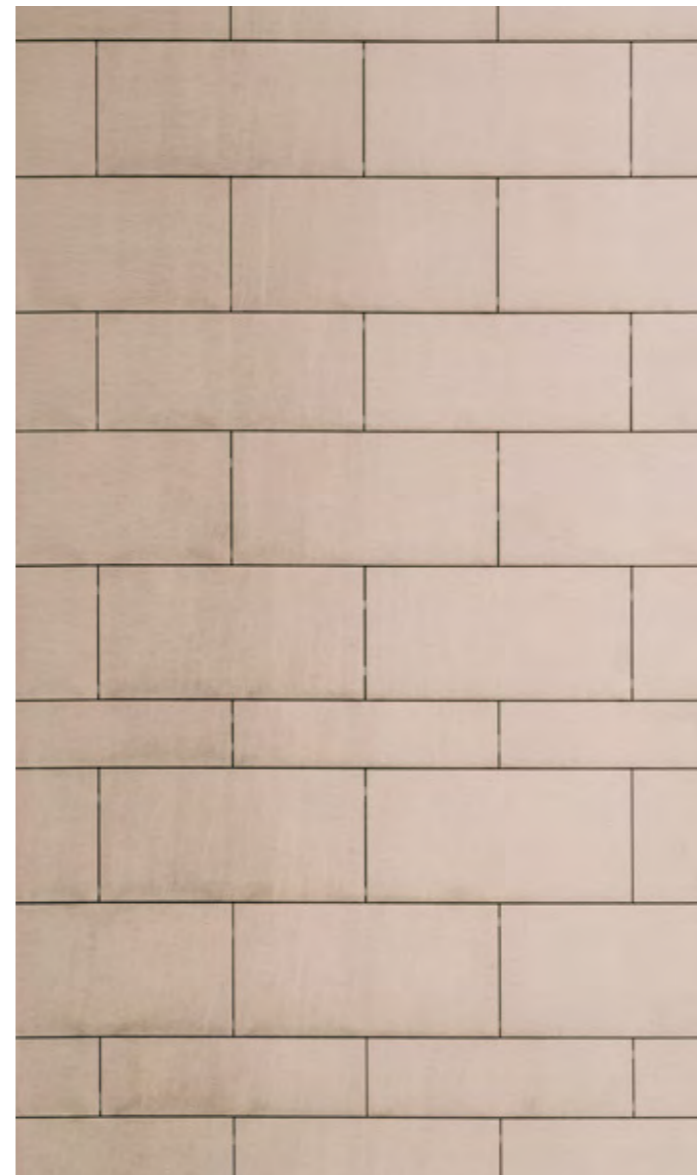
## Built projects

Residential building Hudson 36, New York, U.S.A.  
VF XLIGHT Porcelain system with concealed clips  
Architect: Ismael Leyva Architects · Photography: Imagen Subliminal



## Built projects

Residential building One The Explanade, Toronto, Canada  
VF XLIGHT Porcelain system with concealed clips  
Arquitect: Page+Steele Architects · Photography: Imagen Subliminal

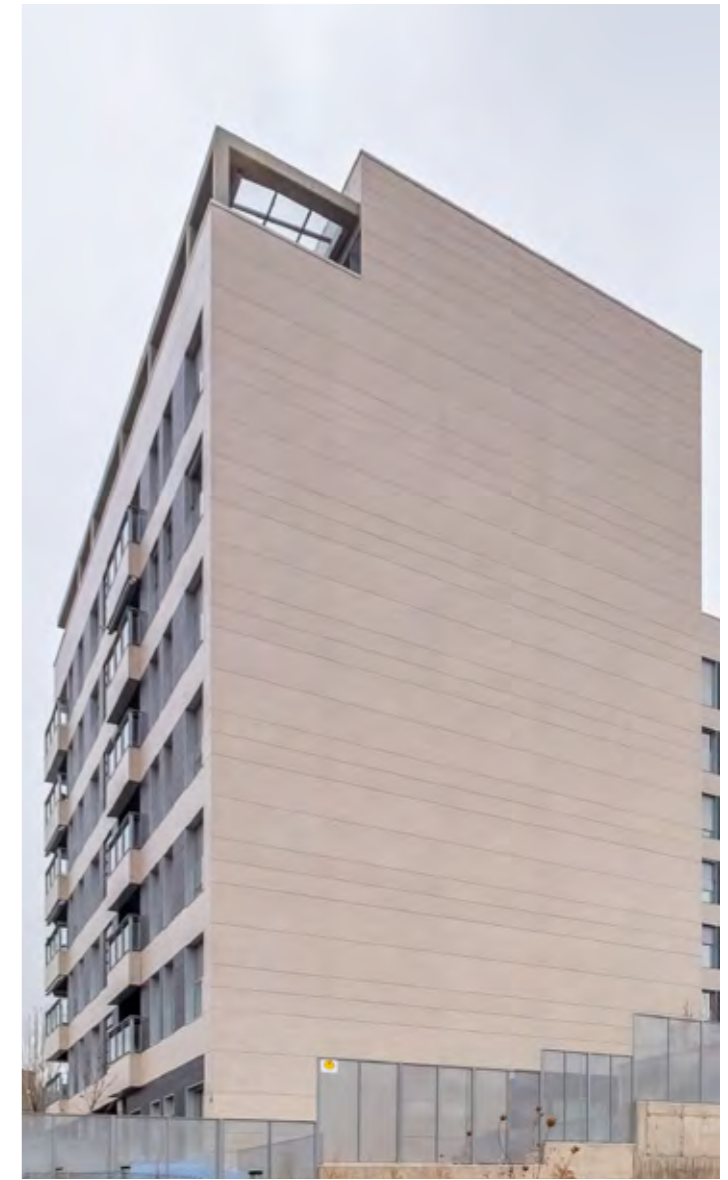
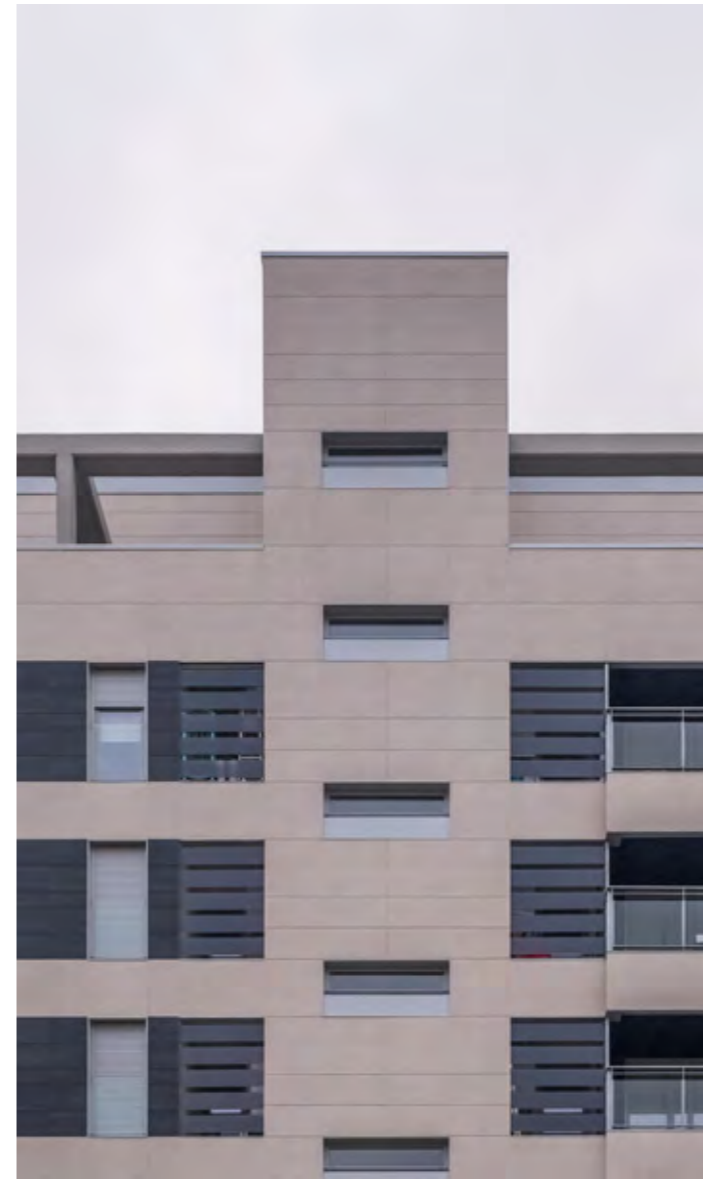


## Built projects

Residential building Residencial Nexia, San Sebastián de los Reyes, Spain

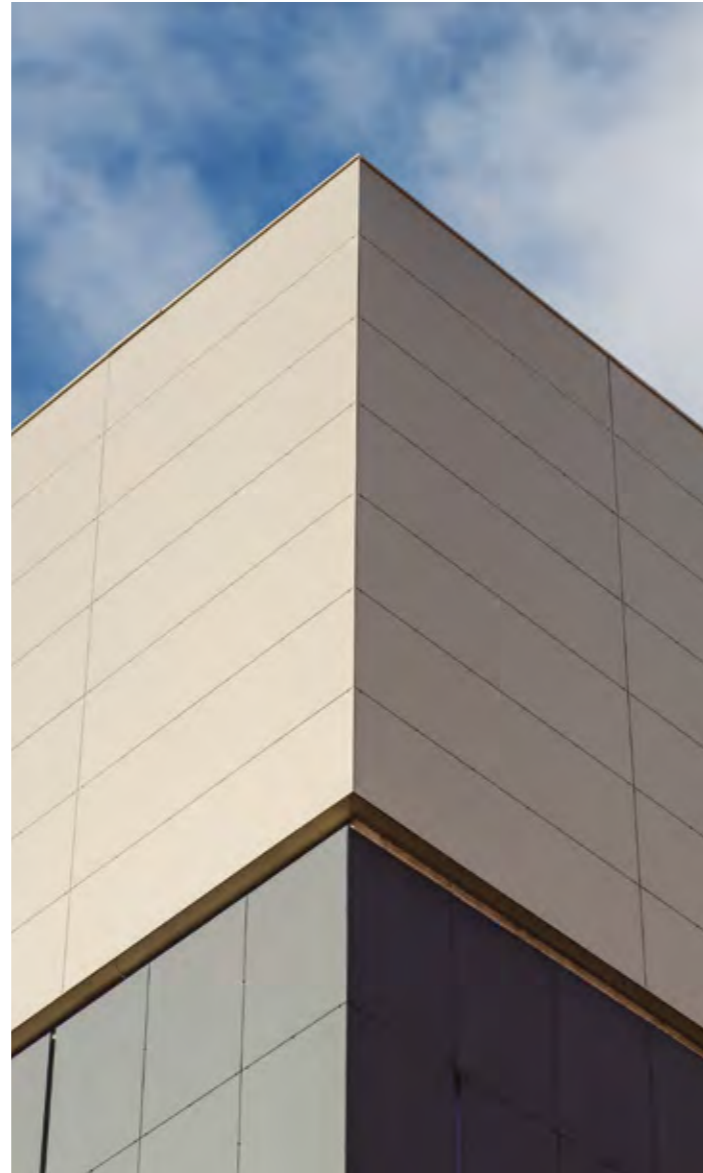
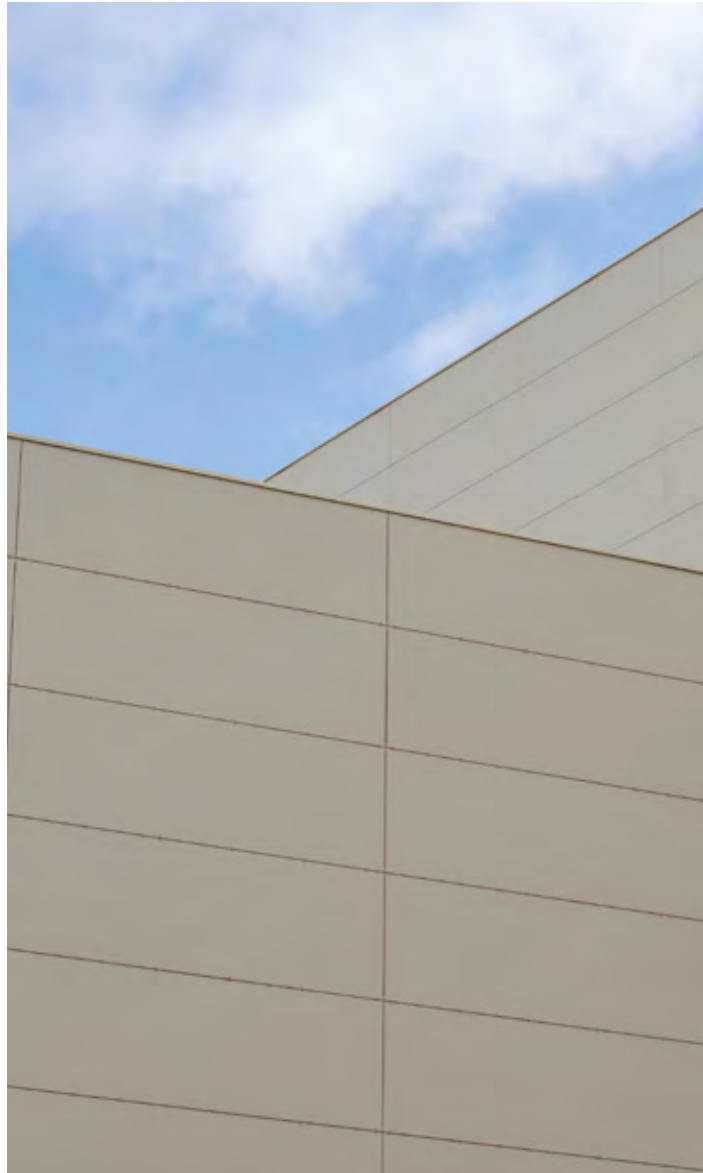
XLIGHT VF system with concealed clips

Arquitect: EM&A Espinosa de los Monteros & Arquitectos Asociados SLP · Photography: Luzestudio



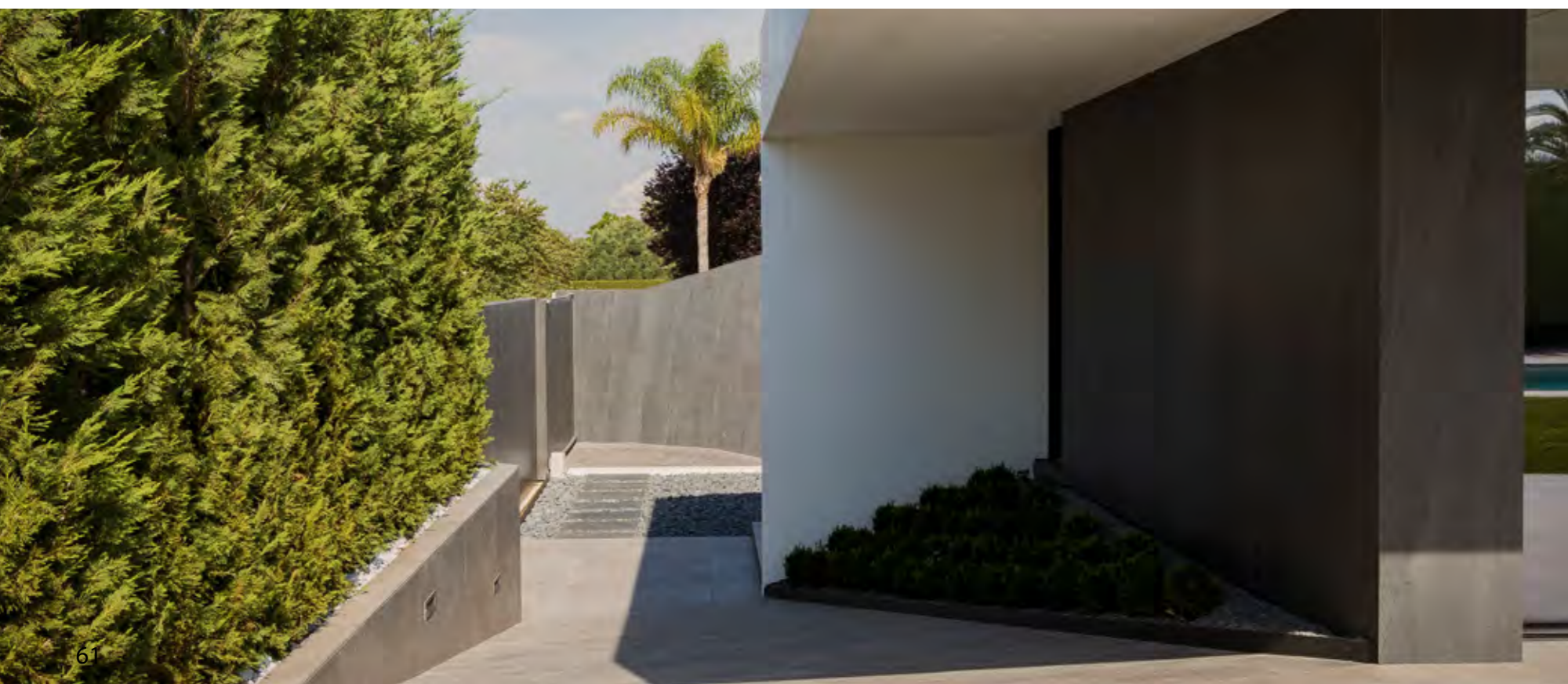
## Built projects

Cultural and Commercial Center Paseo Aldrey, Mar de Plata, Argentina  
XLIGHT VF system with visible clips  
Arquitect: Estudio de arquitectura Mariani-Pérez Maraviglia  
Photography: Sebastian Vecchi



## Built projects

Single-family home Bueno, Algemesí, Spain  
VF Porcelain system with concealed clips  
Arquitect: Chiralt Arquitectos · Photography: Eva Pérez





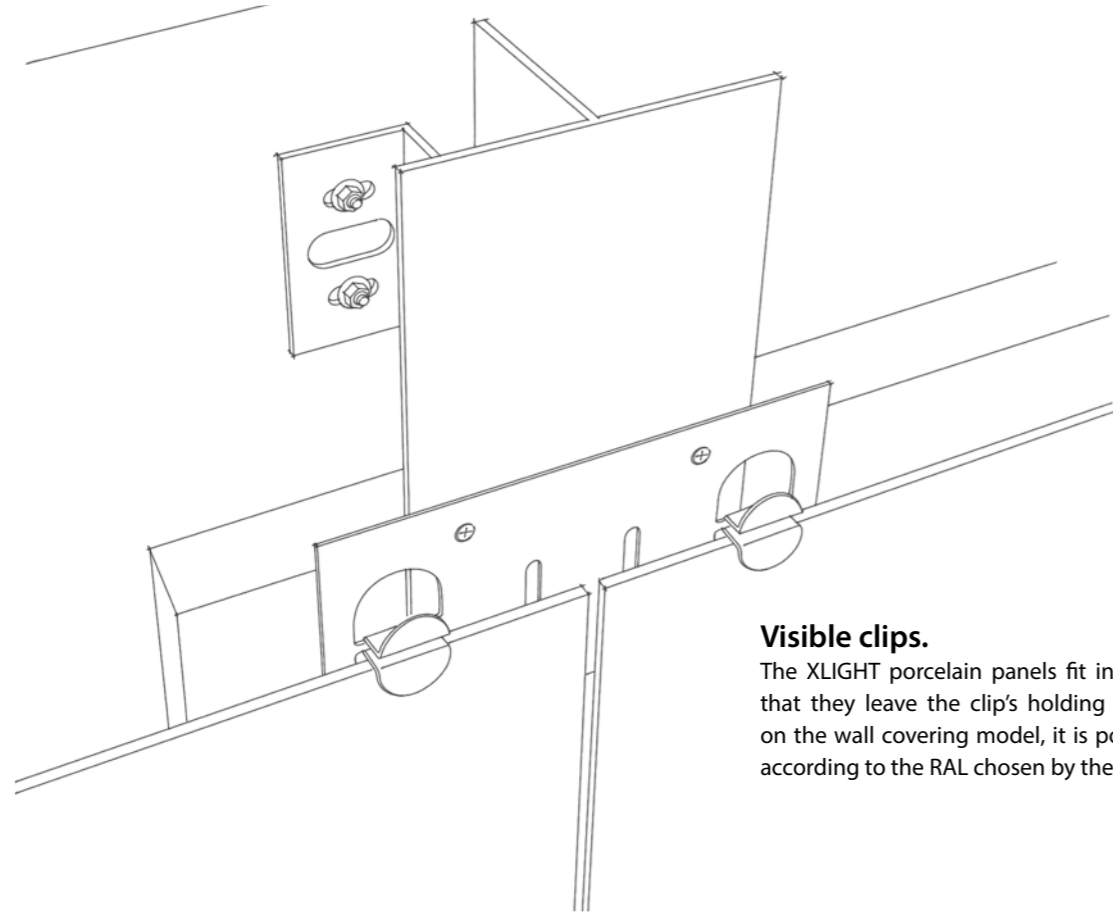
## Built projects

Single-family home Marble House, Ratchadapisake Road, Bangkok  
VF Porcelain system with concealed clips  
Arquitect: Openbox Architects · Photography: Wison Tungthunya



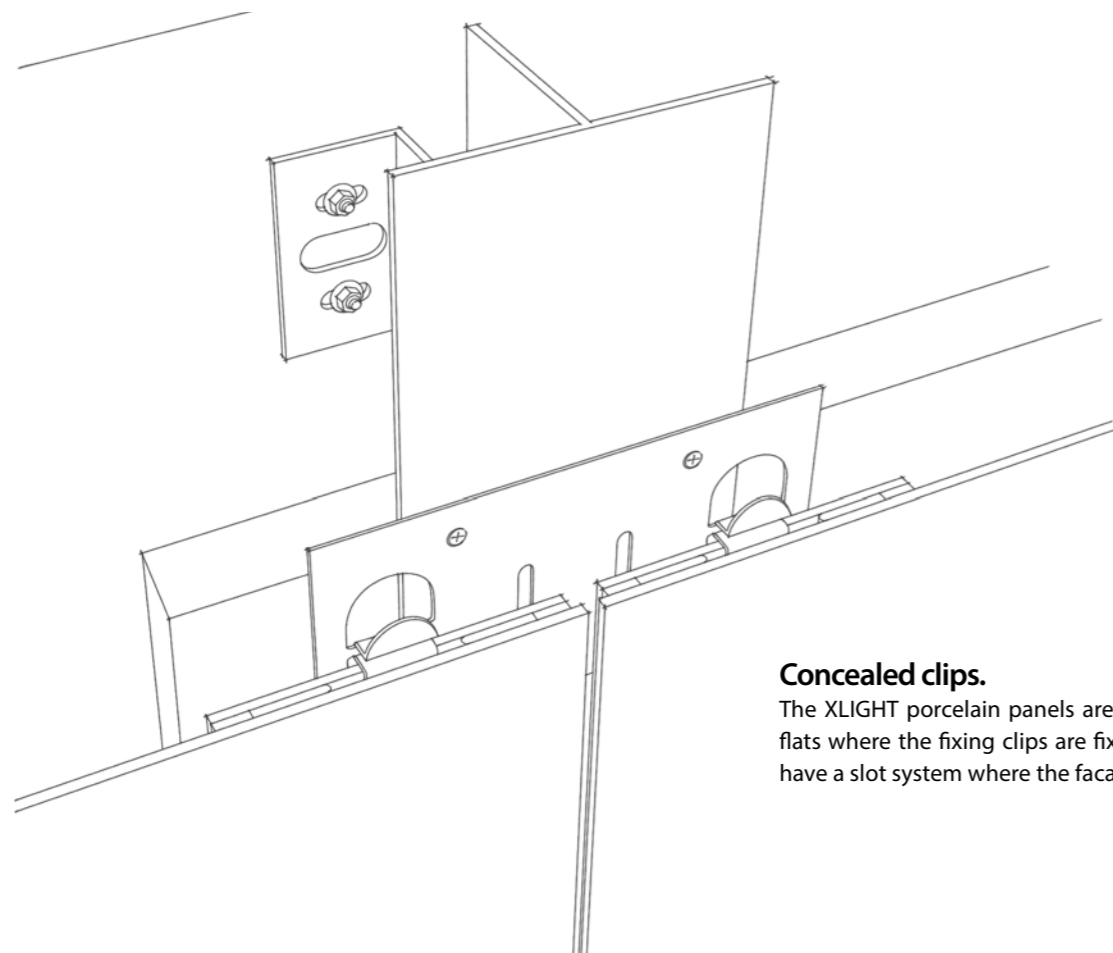
## Facade types

Depending on the XLIGHT porcelain panel fixing system to the facade structure, we can define two types of facade:



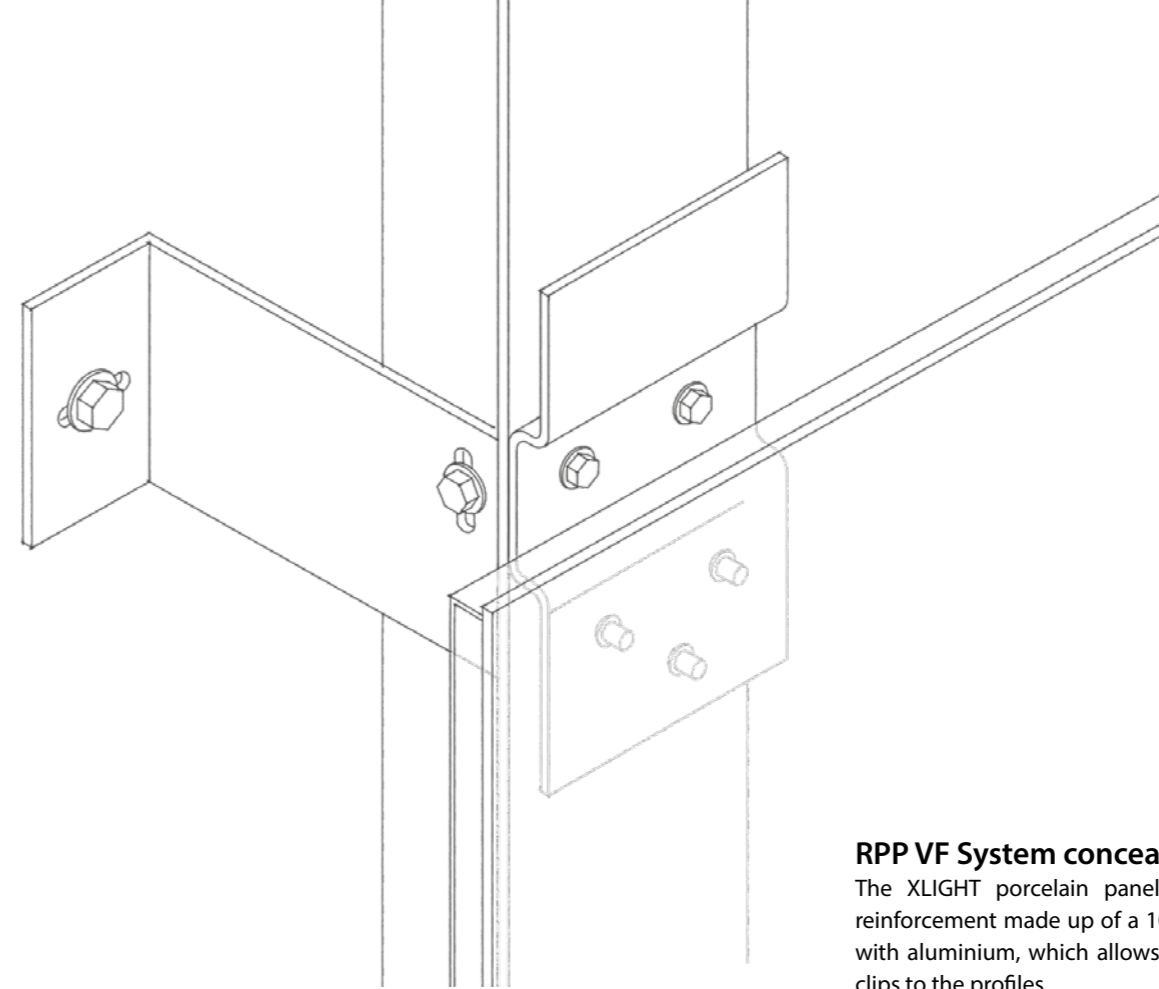
### Visible clips.

The XLIGHT porcelain panels fit into a stainless-steel clip so that they leave the clip's holding tabs exposed. Depending on the wall covering model, it is possible to lacquer the clips according to the RAL chosen by the client.



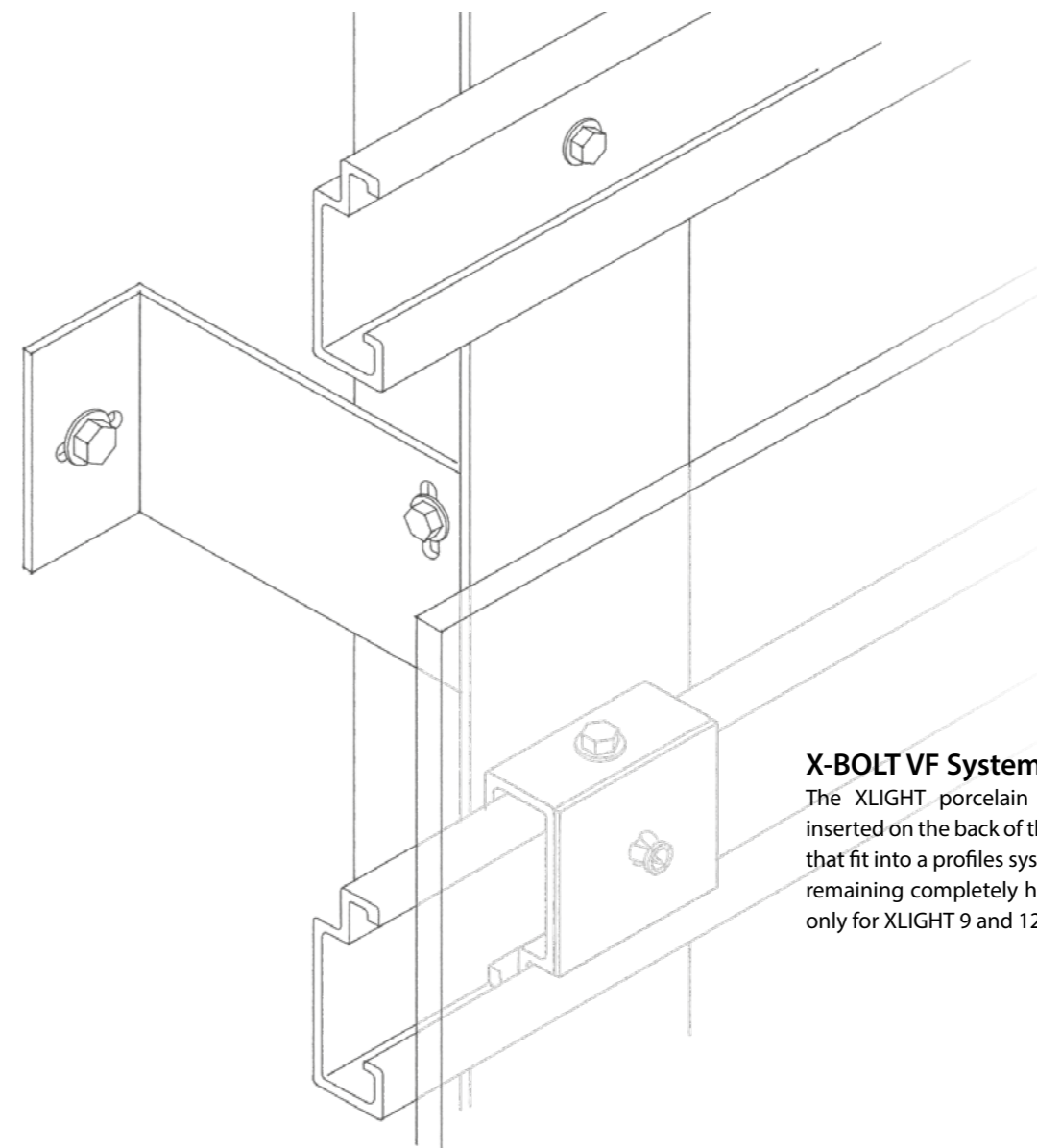
### Concealed clips.

The XLIGHT porcelain panels are supplied attached to metal flats where the fixing clips are fixed to the uprights. The flats have a slot system where the facade clip tabs fit into.



### RPP VF System concealed clips.

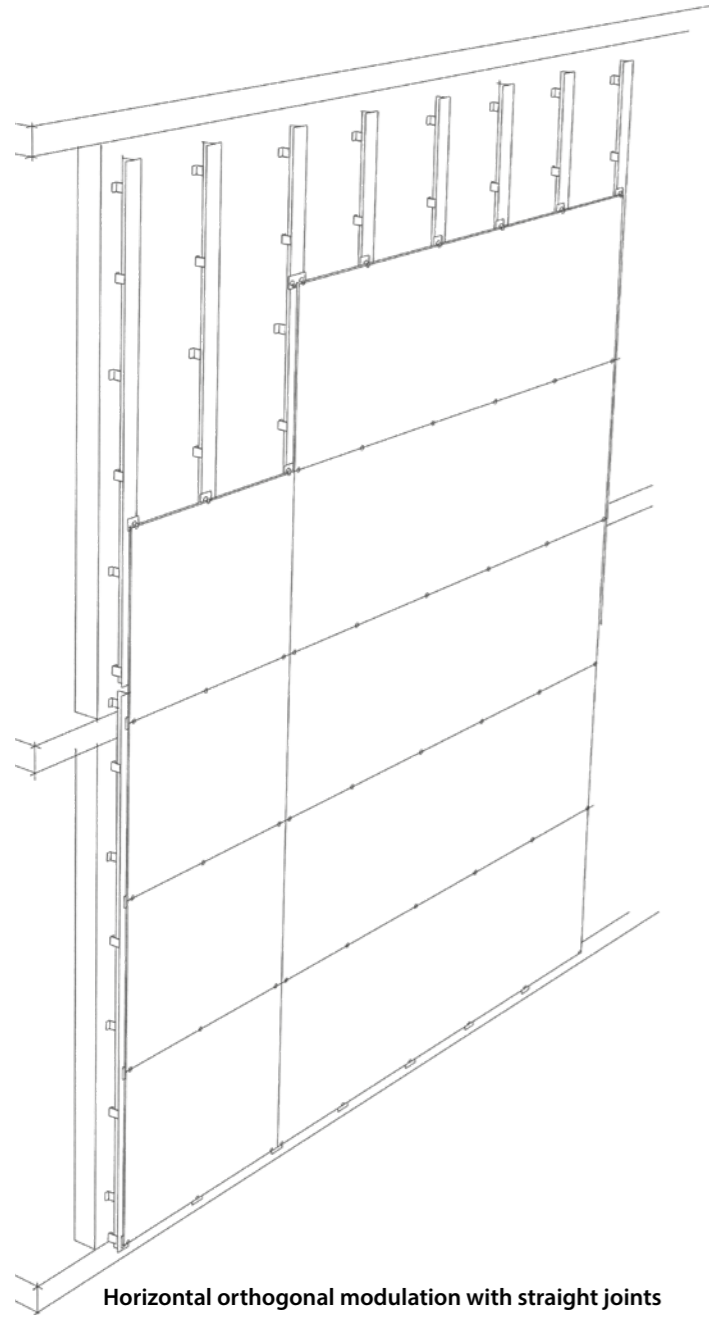
The XLIGHT porcelain panels are supplied with a back reinforcement made up of a 10 mm thick PET panel covered with aluminium, which allows the fixing of the fixing plates clips to the profiles.



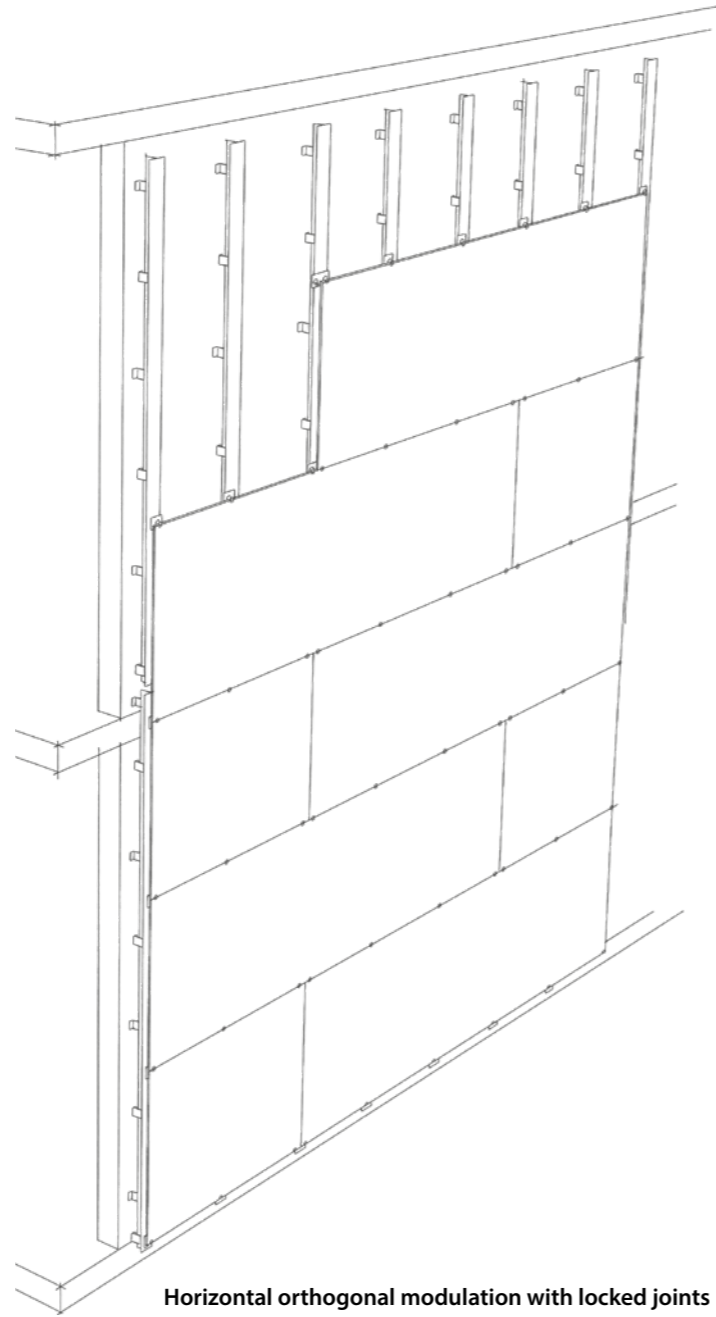
### X-BOLT VF System concealed clips.

The XLIGHT porcelain panels are supplied with anchors inserted on the back of the pieces through expandable screws that fit into a profiles system attached to the facade structure, remaining completely hidden from view. This system is valid only for XLIGHT 9 and 12 mm thick panels.

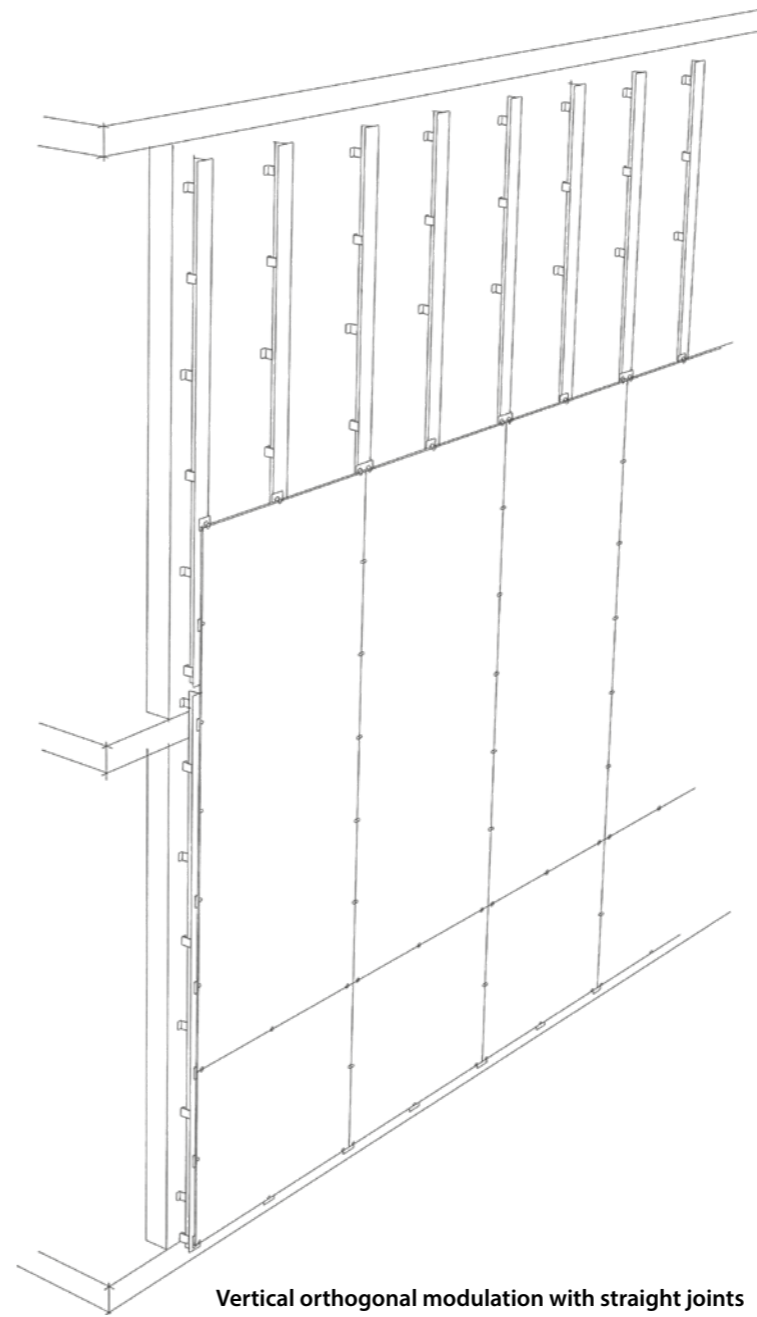
## Characteristics



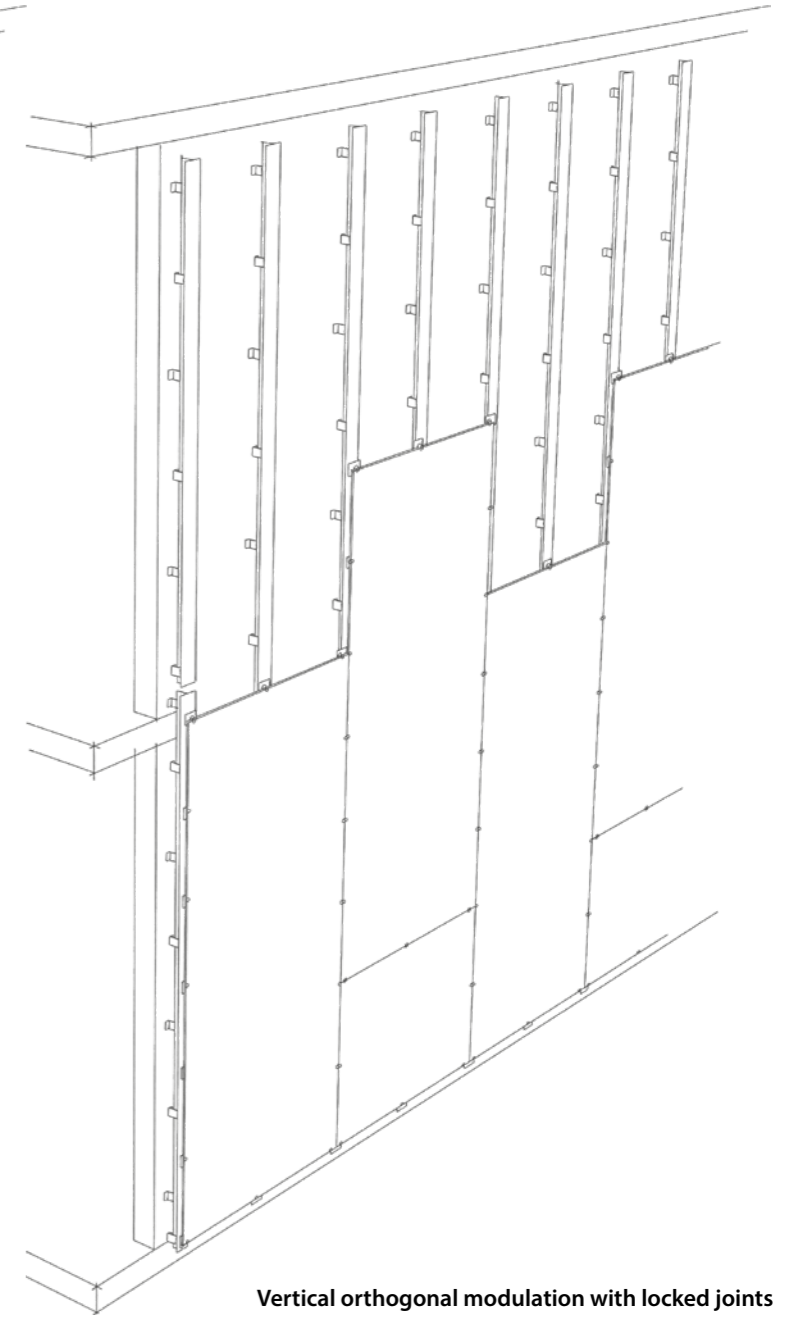
Horizontal orthogonal modulation with straight joints



Horizontal orthogonal modulation with locked joints



Vertical orthogonal modulation with straight joints



Vertical orthogonal modulation with locked joints

### Facade structure.

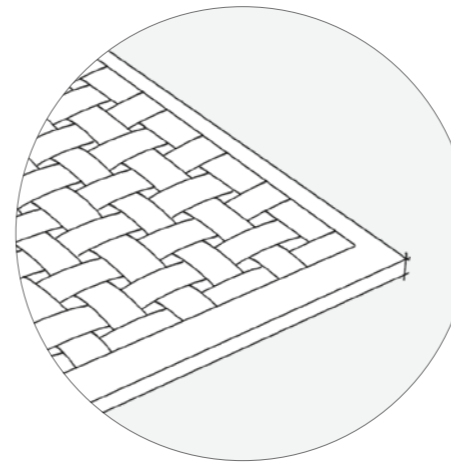
Main characteristics:

- Facade anchoring direct to the building structure.
- Applicable to most structure and enclosure types used in construction.
- Minimum distance between support and facade: 80 mm.
- Structure consisting of only vertical profiles.
- Structure for very light facade: less than 5 kg/m<sup>2</sup>.
- Quick assembly.

### Modulation of the facade.

Main characteristics:

- Reduced presence of installation joints.
- Modulation on one plane and leveled with the facade.
- Horizontal or vertical orthogonal modulation.
- Modulation with straight or locked joints.
- Horizontal installation joints between 5 and 8 mm wide.
- Vertical installation joints starting at 1 mm wide.



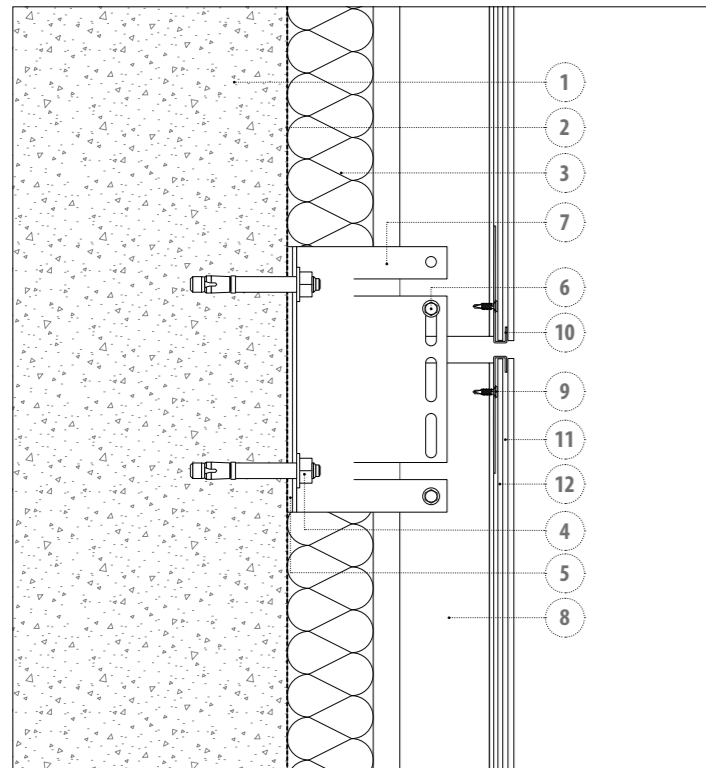
### XLIGHT panels.

Main characteristics:

- Exclusive design of PORCELANOSA Grupo.
- Large format: up to 1000 x 3000 mm in the XLIGHT lines.
- Minimum thickness for XLIGHT panels: 3.5 mm.
- In the case of XLIGHT, extremely light panels: 9 - 12 kg/m<sup>2</sup>.
- Back -meshed panels to prevent the fall of fragments in case of breakage.
- Weather resistant; the appearance of the panels remains unchanged with the passing of time. Resistant to paint stains or graffiti.
- In the case of XLIGHT facade with exposed clip, excellent price/m<sup>2</sup>

These drawings are only sketches of tile modulation examples. For technical details of these façade systems, have a look the construction details at the next pages.

## Construction details · Concealed clip system

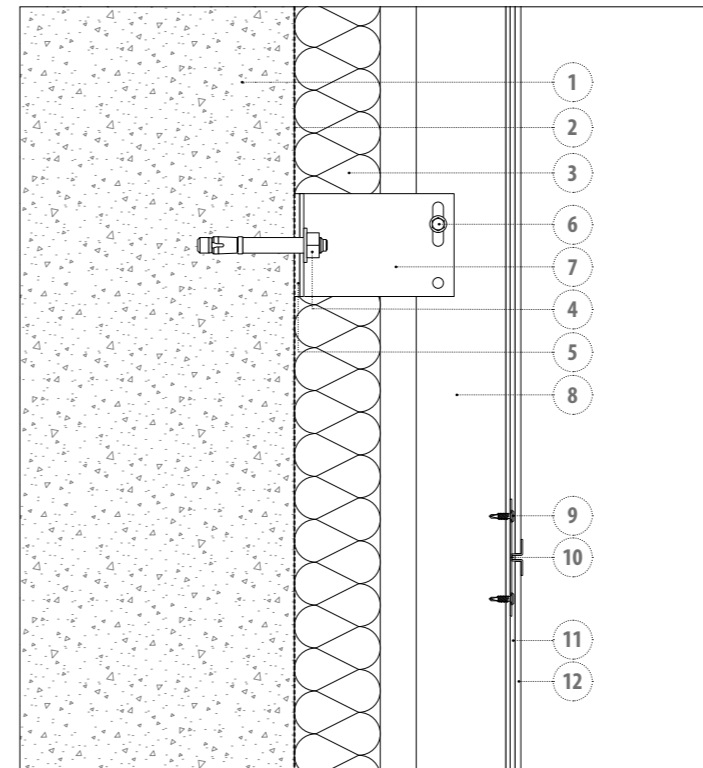


Vertical cross-section

### Elements of the system:

1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. L-shaped aluminum spacer
8. Aluminum T-shaped upright
9. Self-drilling screw
10. Concealed clip
11. Polymer adhesive
12. Aluminum plate (flat)
13. XLIGHT

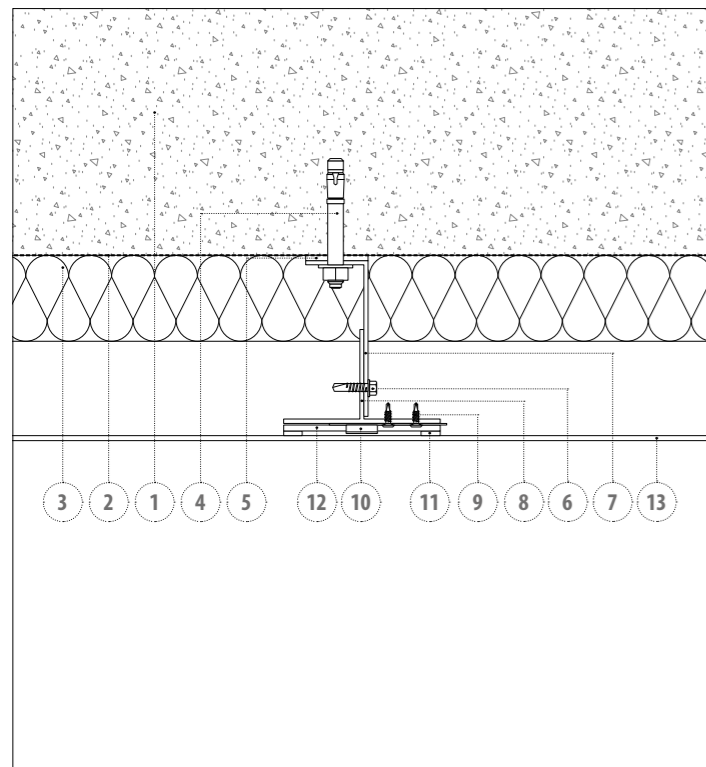
## Construction details · Visible clip system



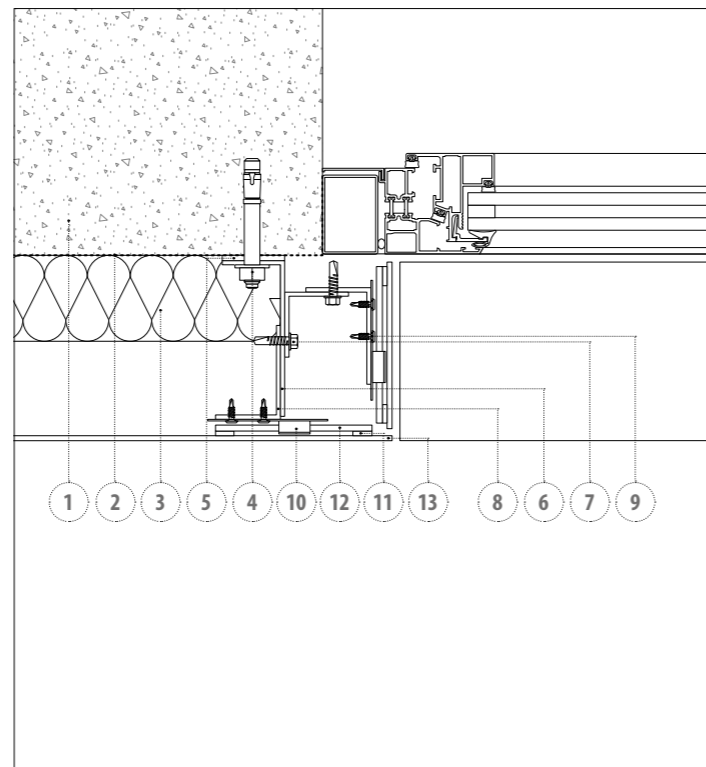
Vertical cross-section

### Elements of the system:

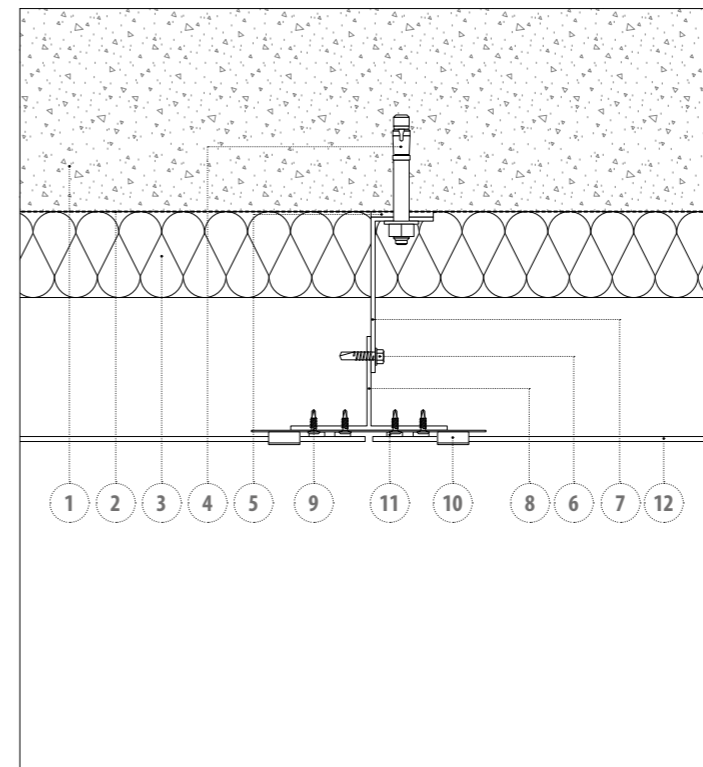
1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. L-shaped aluminum spacer
8. Aluminum T-shaped upright
9. Self-drilling screw
10. Visible clip
11. Polymer adhesive
12. XLIGHT



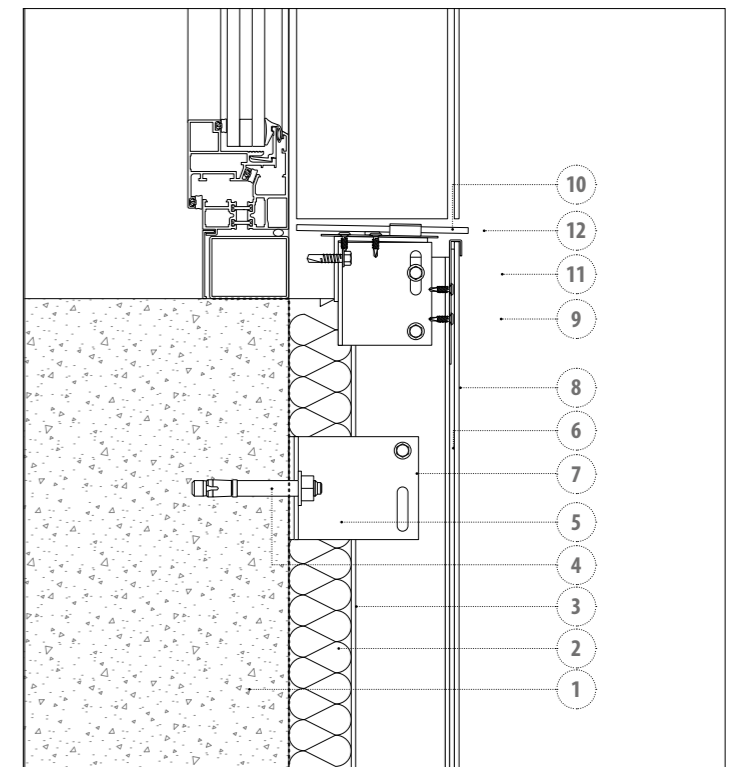
Horizontal cross-section



Lintel

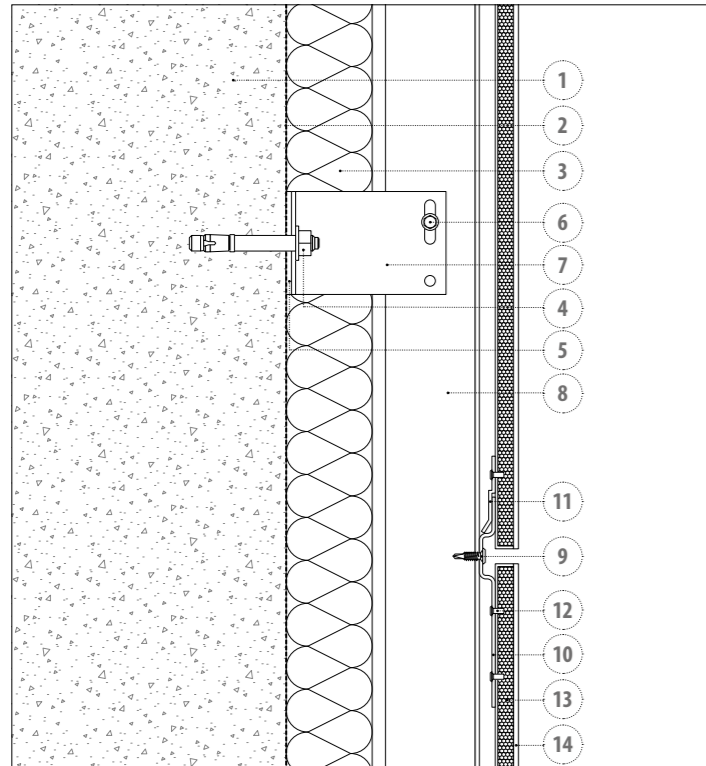


Horizontal cross-section



Sill

## Construction details · RPP concealed clip system

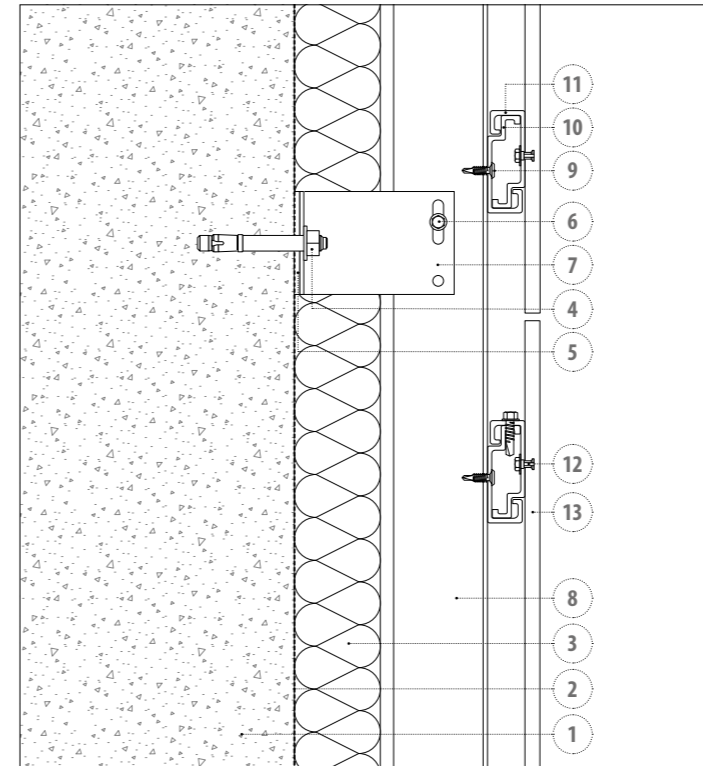


Vertical cross-section

### Elements of the system:

1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. Secondary L-shaped aluminum spacer
8. Vertical aluminum tubular profile
9. Self-drilling screw
10. K-Bolt main fixing clip
11. K-Bolt secondary fixing clip
12. Attachment Rivet
13. PET panel
14. XLIGHT
15. K-BOLT supporting clip
16. Metal window casings

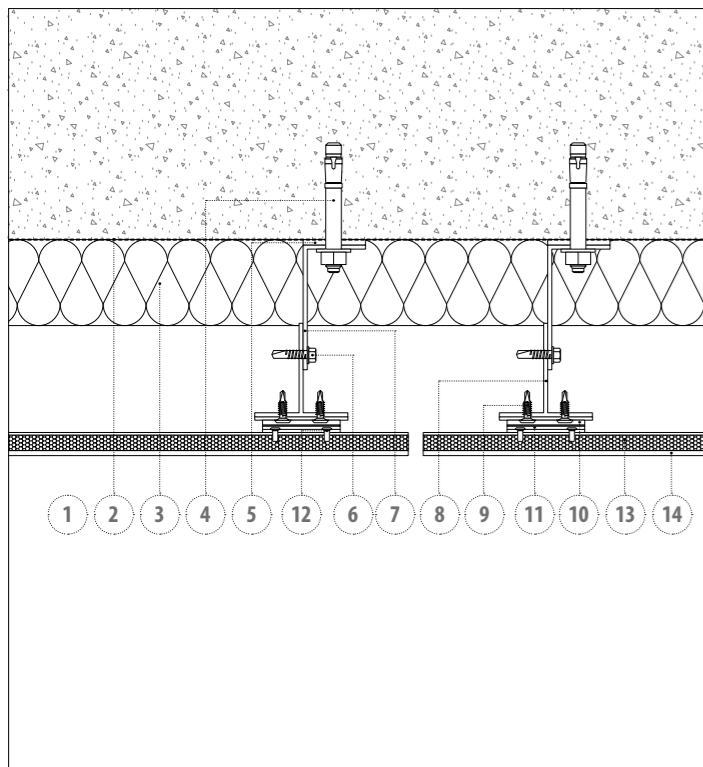
## Construction details · X-BOLT concealed clip



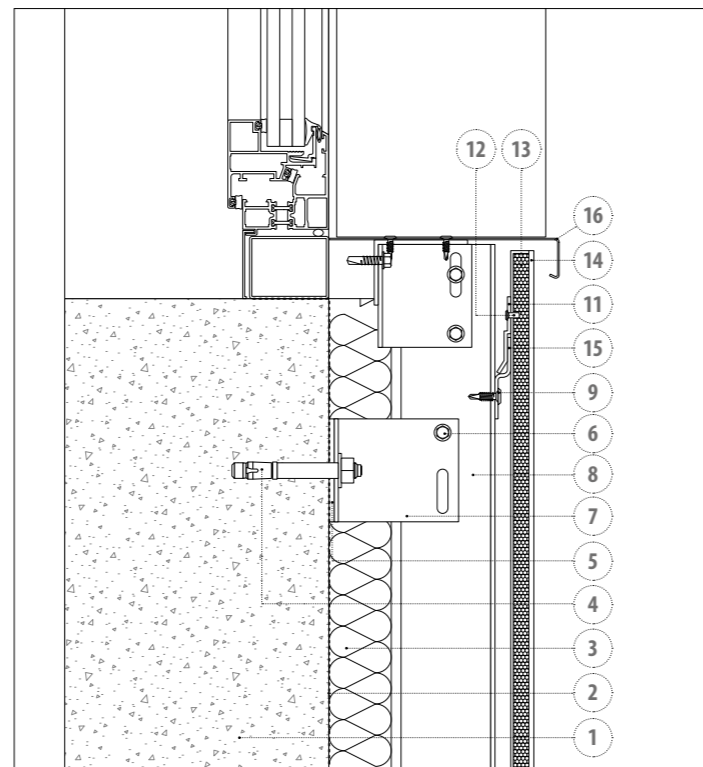
Vertical cross-section

### Elements of the system:

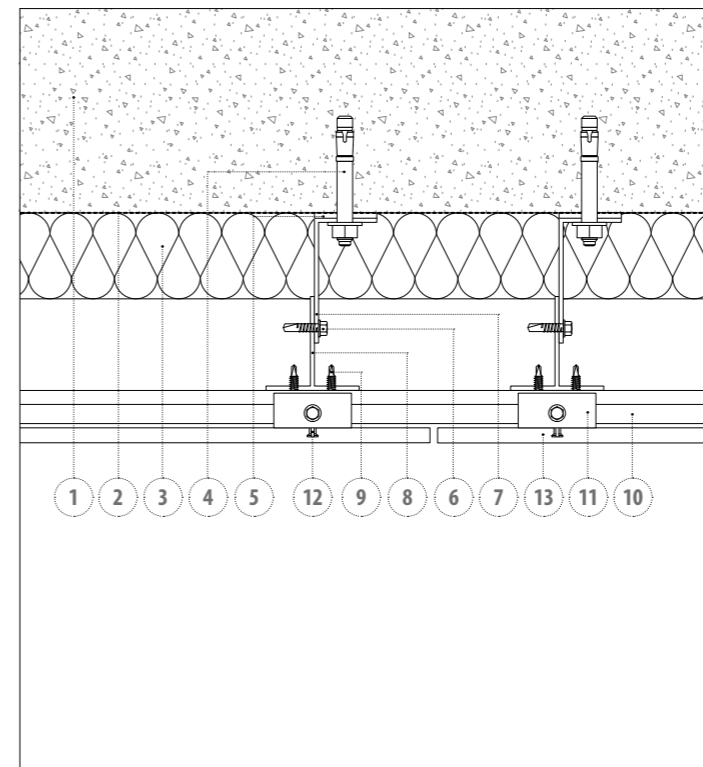
1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. Secondary L-shaped aluminum spacer
8. Vertical aluminum tubular profile
9. Self-drilling screw
10. X-Bolt main fixing clip
11. X-Bolt secondary fixing clip
12. X-Bolt screw
13. XTONE



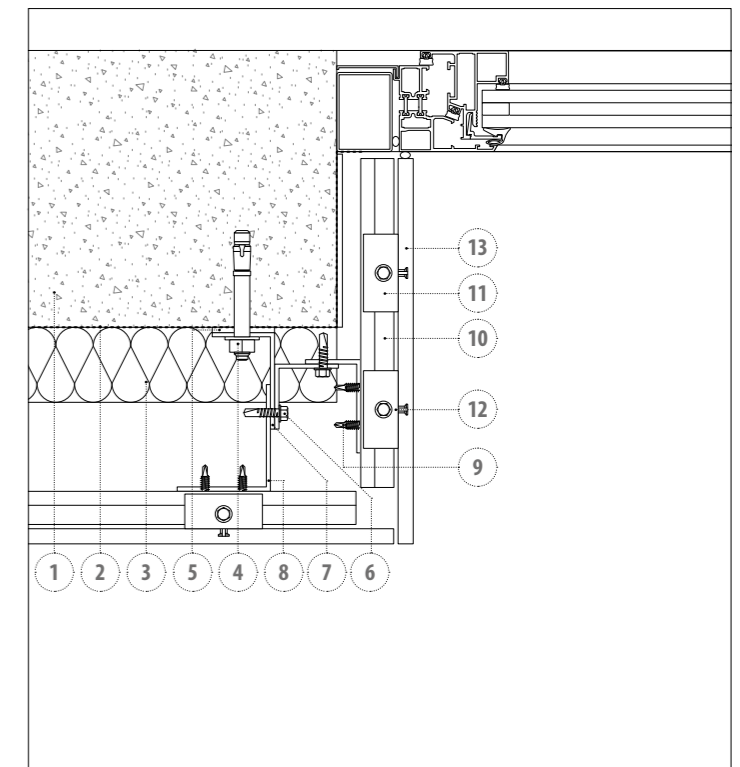
Horizontal cross-section



Sill



Horizontal cross-section



Jamb

# VF KRION

**Ventilated facade system with a final covering consisting of KRION® Solid Surface panels. It is characterized by a dual chemical and mechanical fixing system between the solid surface panel and the aluminum structure.**

This cladding of type of facade consists of KRION® panels attached with BUTECH profiles.

This high-performance solid surface, composed by two-thirds of ATH, alumina trihydrate, and a low percentage of acrylic resins, has an excellent performance against fire and UV radiation, which allows its application for uses such as facades.

KRION®'s technical characteristics, such as its compact, uniform, and bright nature, the possibility of transforming it by cutting, pasting, machining, injection, or thermo-curving, along with the possibility of surface polishing, allows for the creation of all kinds of shapes as well as panels up to 6080 x 3680 mm. It is a perfect material for all types of Contemporary Architectural projects.

KRION® panels are delivered machined for mechanical fixing to the facade structure. Depending on the project they can be engraved, back-lit, and combined with signs and lighting.

The metallic structure of the ventilated facade includes the following elements:

- Facade to enclosure mechanical anchors depending on the type of substrate.
- Aluminum L-shaped spacers, which determine the chamber between the enclosure and the ceramic covering.
- Aluminum uprights on which the KRION® panels are installed.
- Stainless steel self-drilling joint screws between vertical uprights and aluminum spacers.
- Stainless steel metal clips for fixing KRION® panel to the uprights.

The metal structure of the ventilated facade is made of AW 6005A aluminum, while the mechanical clips are manufactured in AISI 304 stainless steel.

## Certifications



ETA-17/0387



France  
AT-2.2/14-1624\_V1



United Kingdom  
2018/73  
2018/74



USA  
FL#21546

Office building Diagonal 525, Barcelona, Spain  
KIRON K-FIX VF system  
Arquitect: Sanzpont Arquitectura · Photography: David Cardelús



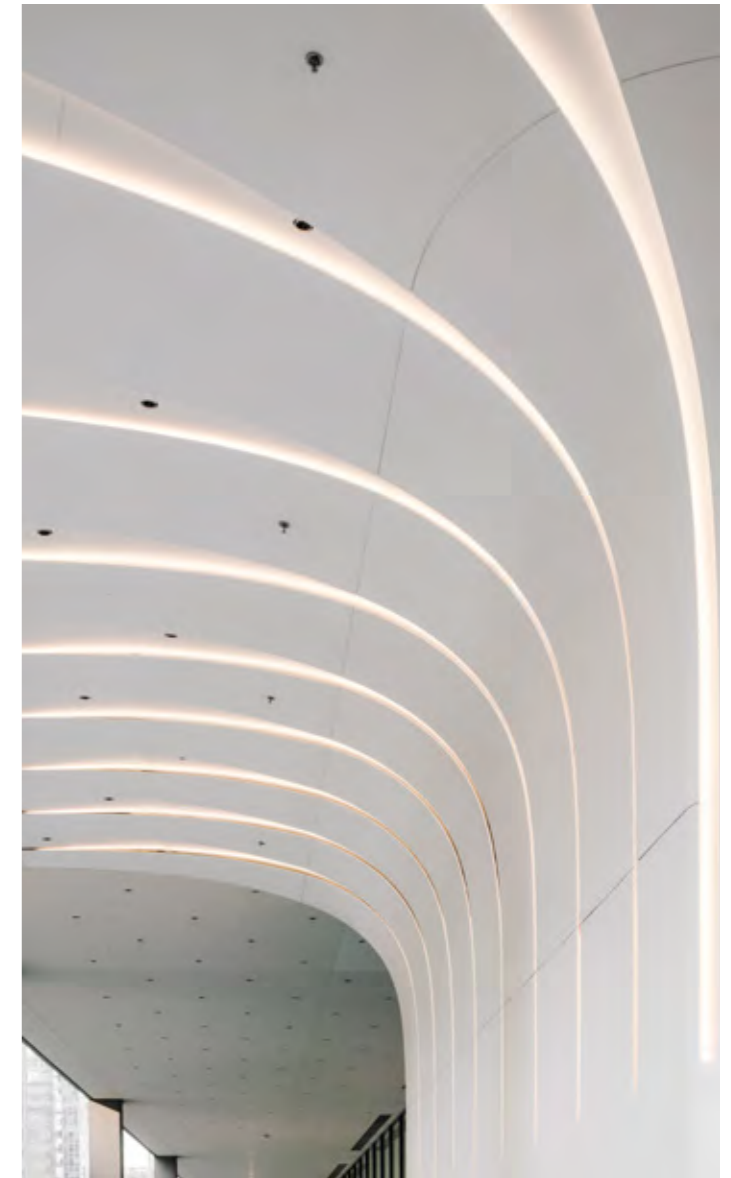
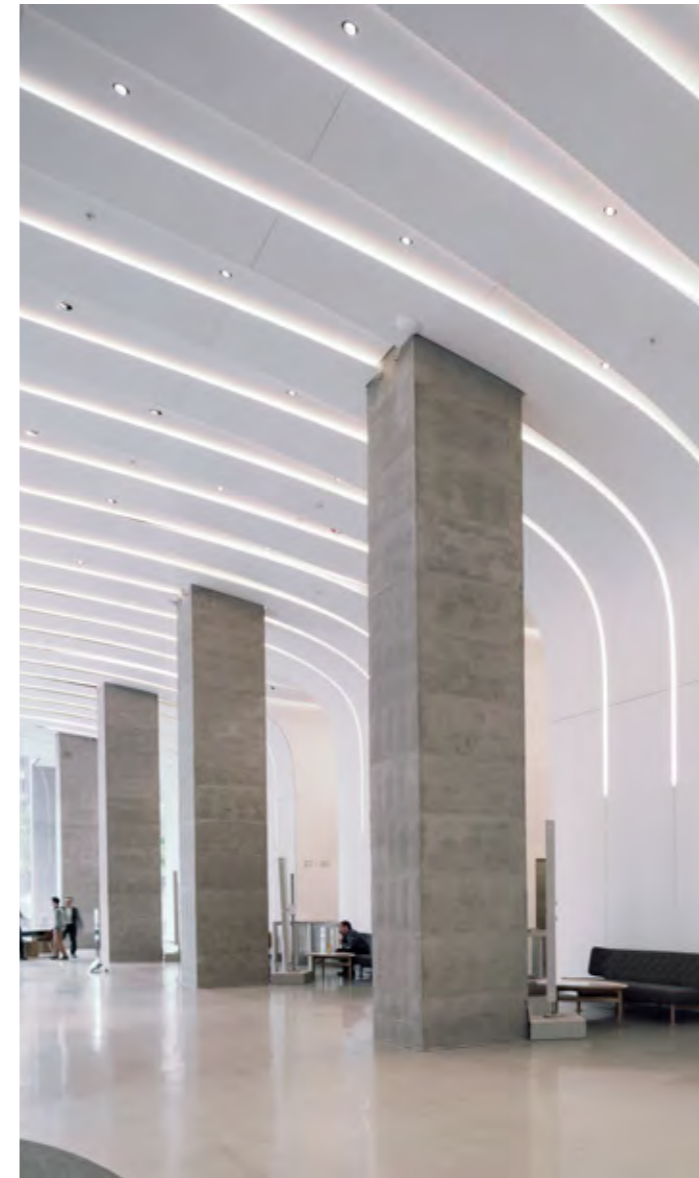
**Built projects**

Office building Diagonal 525, Barcelona, Spain  
KIRON K-FIX VF system  
Arquitect: Sanzpont Arquitectura · Photography: David Cardelús



**Built projects**

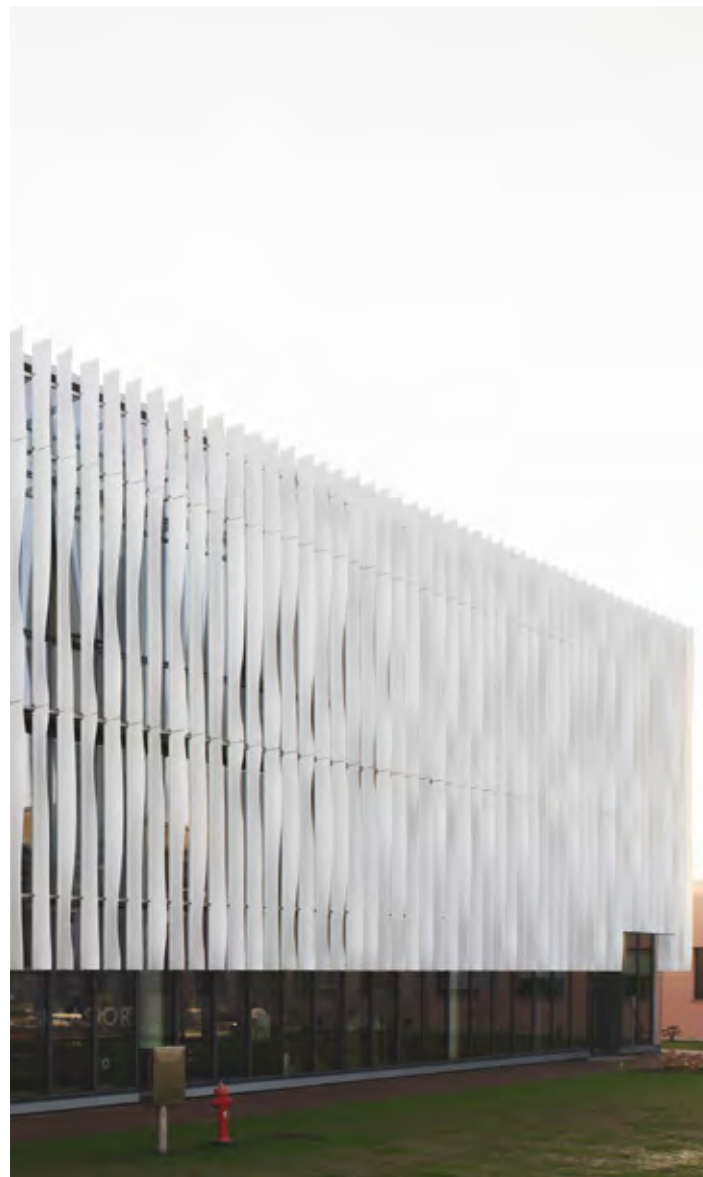
Mercantile Exchange CME Center, Chicago, U.S.A.  
KIRON K-FIX VF system  
Arquitect: Krueck + Sexton Architects · Photography: Imagen Subliminal





## Built projects

Office building Zamasport Headquarter, Novara, Italy  
Système FV KRION K-FIX  
Arquitect: Frigelio Desing - Photography: Mario Frusca



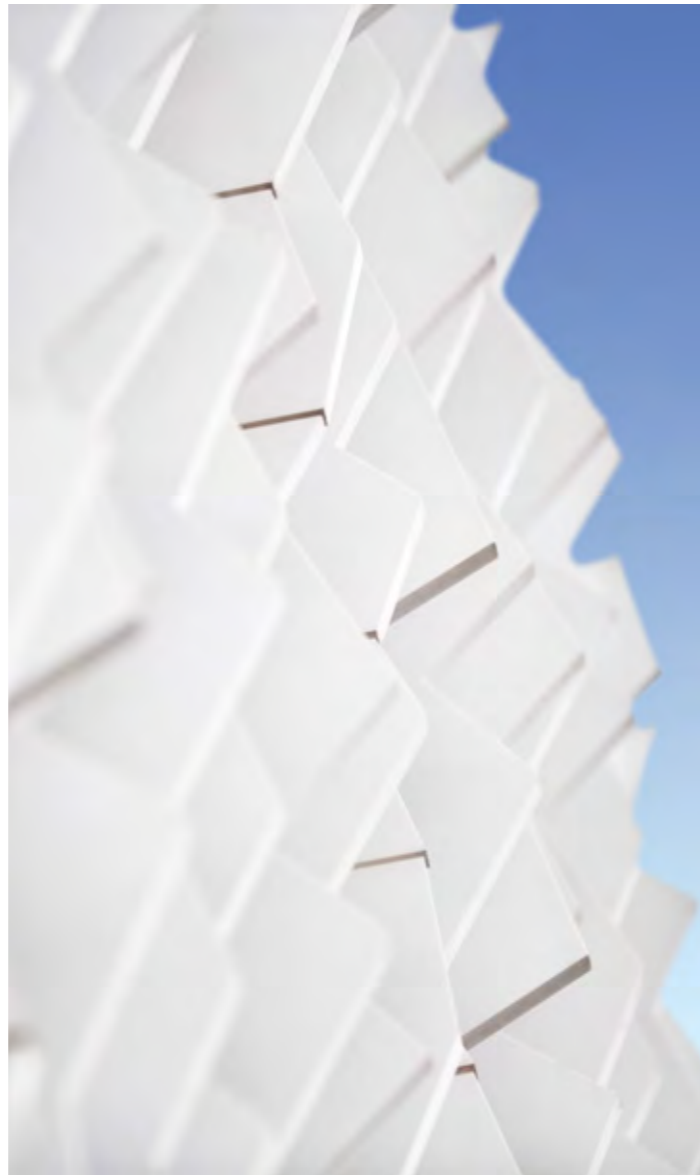
## Built projects

Office building BG Agro, Varna, Bulgaria  
KIRON K-BOLT VF system  
Arquitect: STARH · Photography: Dian Stanchev



## Built projects

Office building La Fiduciaire, Bordeaux, France  
Système FV KRION K-FIX  
Arquitect: Nicolas Ragueneau & Antoine Roux · Photography: Stéphane Adam



## Built projects

Residential Building and Commercial Center Centralcon Building, Shenzhen , China  
KIRON K-FIX VF system  
Arquitect: Zhao Guo Xing - Peddle Thorp Architects · Photography: Salva Méndez



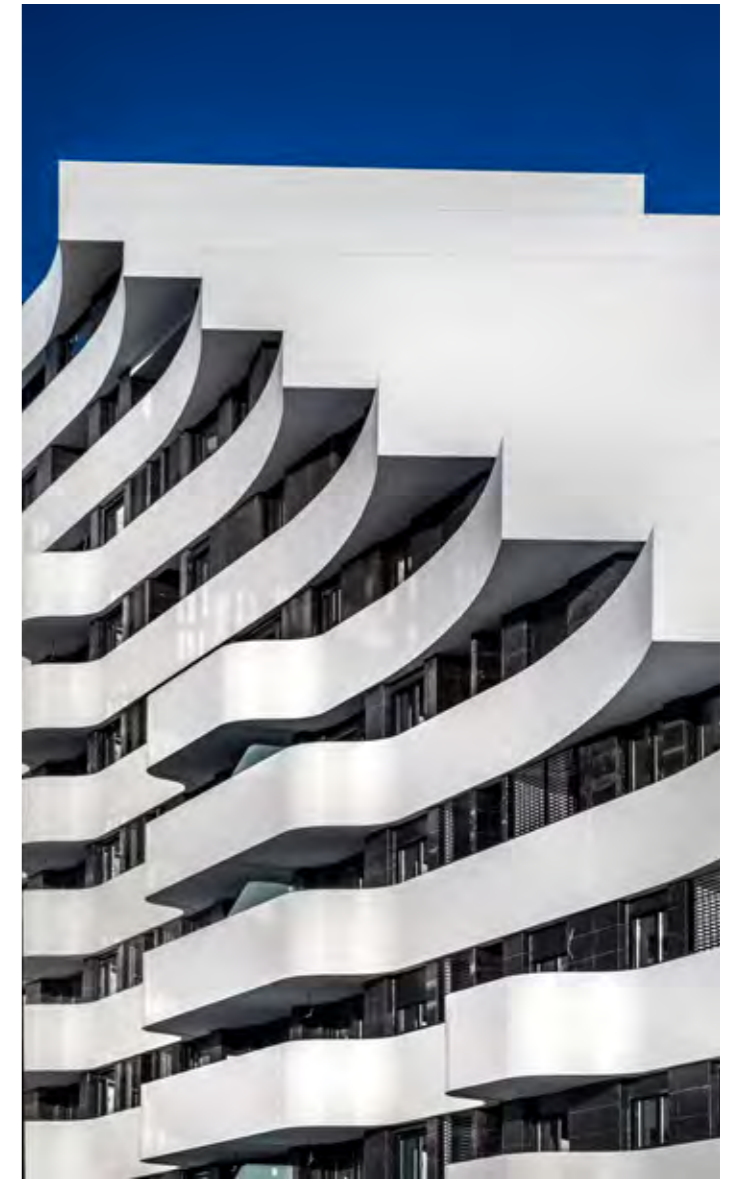
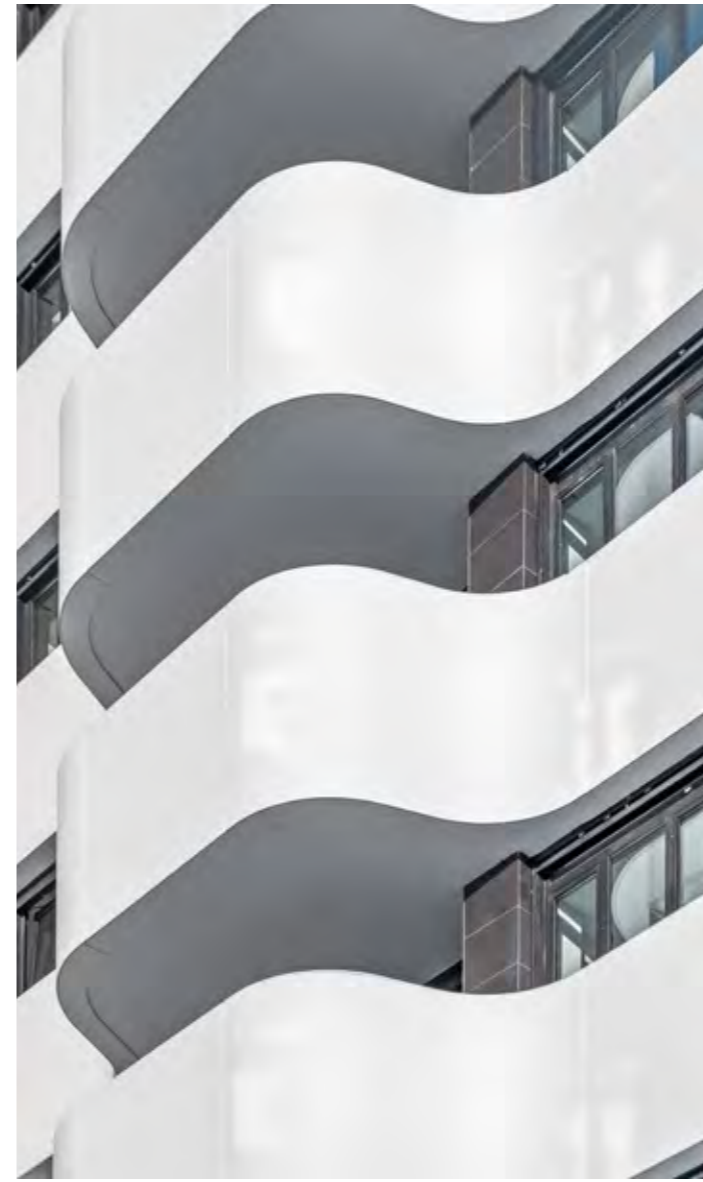
**Built projects**

Ibiza Corso Hotel & Spa, Ibiza, Spain  
KRION K-FIX VF system  
Arquitect: José María García Sánchez · Photography: Alex del Río



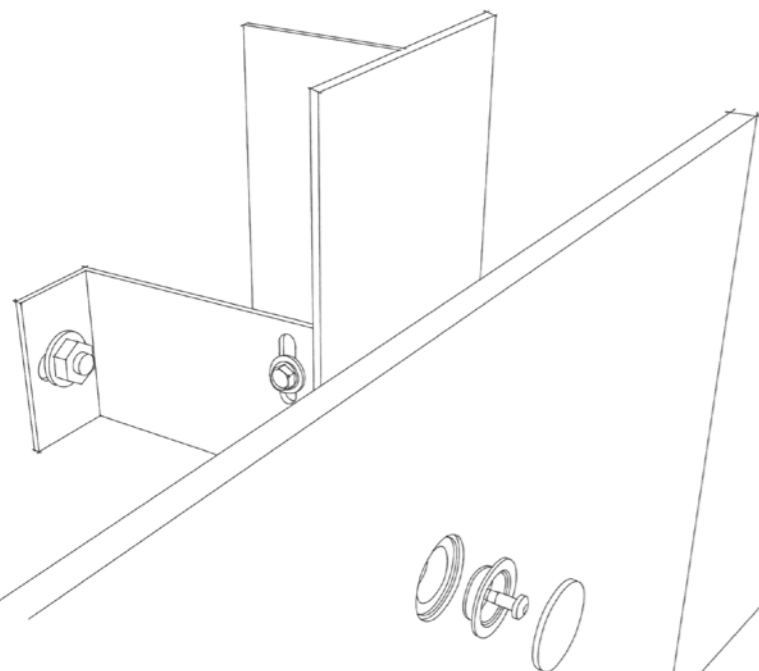
## Built projects

Residential building Terrazas del Lago, Madrid, Spain  
KIRON K-FIX VF system  
Arquitect: Estudio de Arquitectura Morph · Photography: Luzestudio



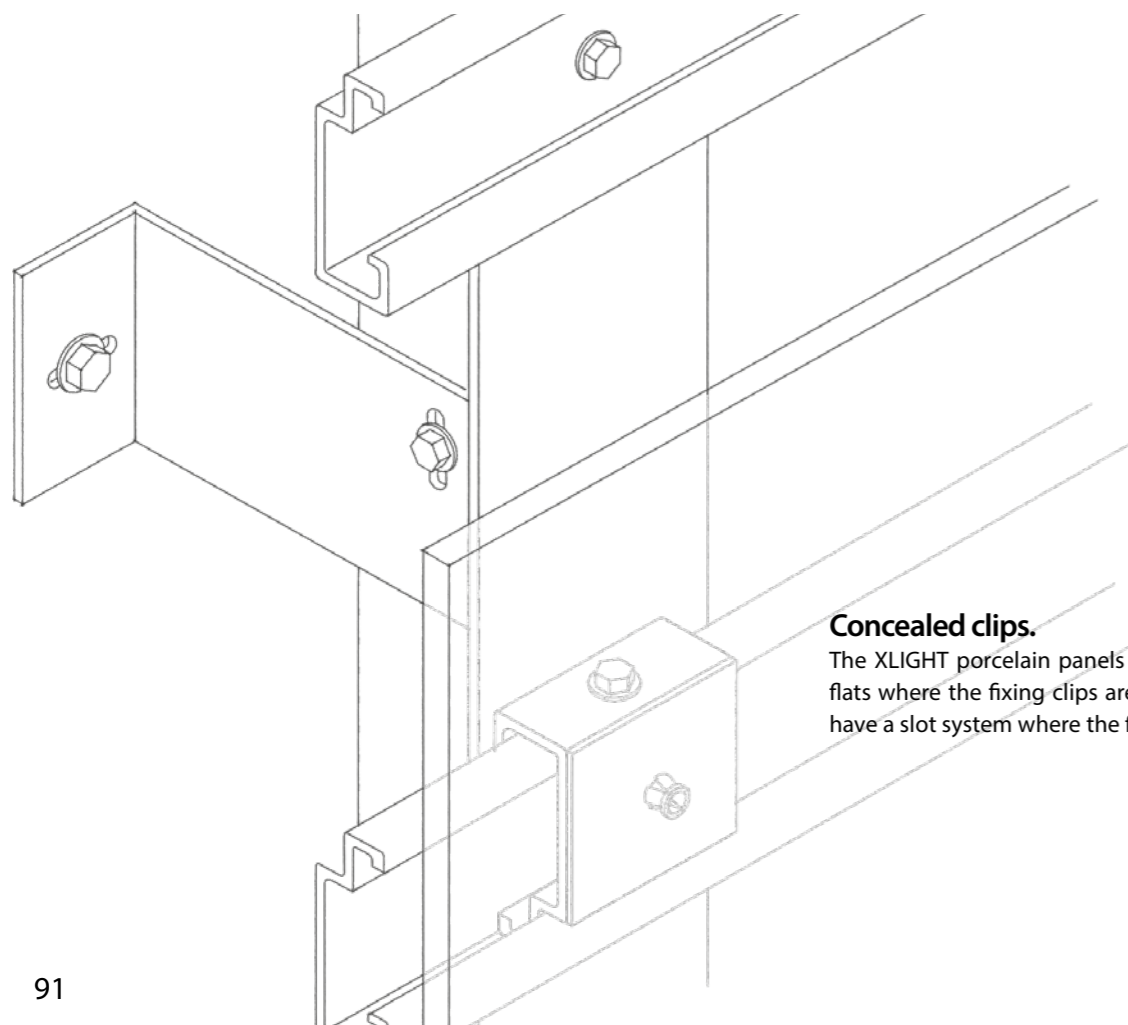
## Facade types

Depending on the XLIGHT porcelain panel fixing system to the facade structure, we can define two types of facade:



### Visible clips.

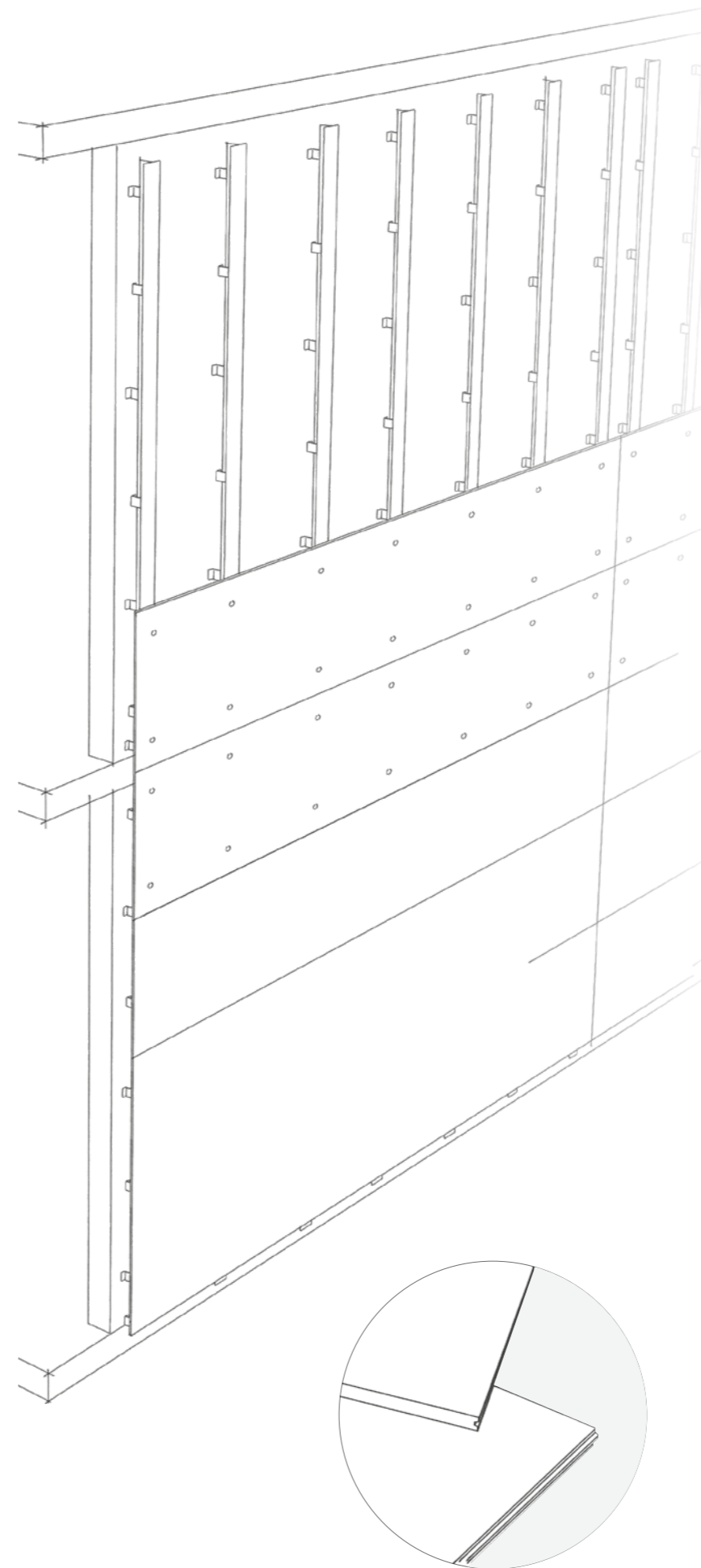
The XLIGHT porcelain panels fit into a stainless-steel clip so that they leave the clip's holding tabs exposed. Depending on the wall covering model, it is possible to lacquer the clips according to the RAL chosen by the client.



### Concealed clips.

The XLIGHT porcelain panels are supplied attached to metal flats where the fixing clips are fixed to the uprights. The flats have a slot system where the facade clip tabs fit into.

## Characteristics



### Facade structure.

Main characteristics:

- Facade anchoring direct to the building structure.
- Applicable to most structure and enclosure types used in construction.
- Structure consisting of only vertical profiles.
- Structure for very light facade: less than 5 kg/m<sup>2</sup>
- It allows for 3D facade designs and cantilevered pieces.
- Dual chemical and mechanical fixing system; complete safety.

### Modulation of the facade.

Main characteristics:

- Large joint-free areas, depending on the location and the design of the project, up to 6000 x 3670 mm.
- Total freedom in the facade design, including curved shapes.
- Modulation at as many levels as needed. Potential for 3D or cantilevered facades.
- Possibility of engraving, cutting, or perforating panels according to design.
- Excellent material to combine with signage and lighting systems.
- Different types of open joint between panels, reducing the visual impact of the joints.

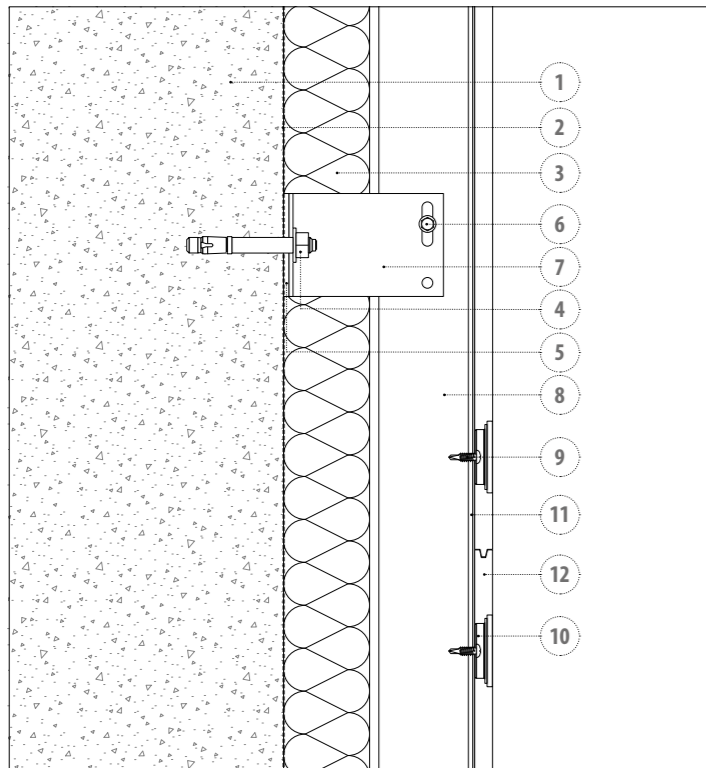
### KRION® panels

Main characteristics:

- Acrylic stone, uniform throughout its thickness, compact, pore-free, and with high mechanical resistance.
- Intense brightness and purity of color.
- Unlike other materials such as ceramics, this material is transformable and machinable following the design and project.
- Weather resistant; the appearance of the panels remains unchanged with the passing of time.
- Fire-resistant.
- Antibacterial.

These drawings are only sketches of tile modulation examples. For technical details of these façade systems, have a look the construction details at the next pages.

## Construction details · K-FIX Concealed clips

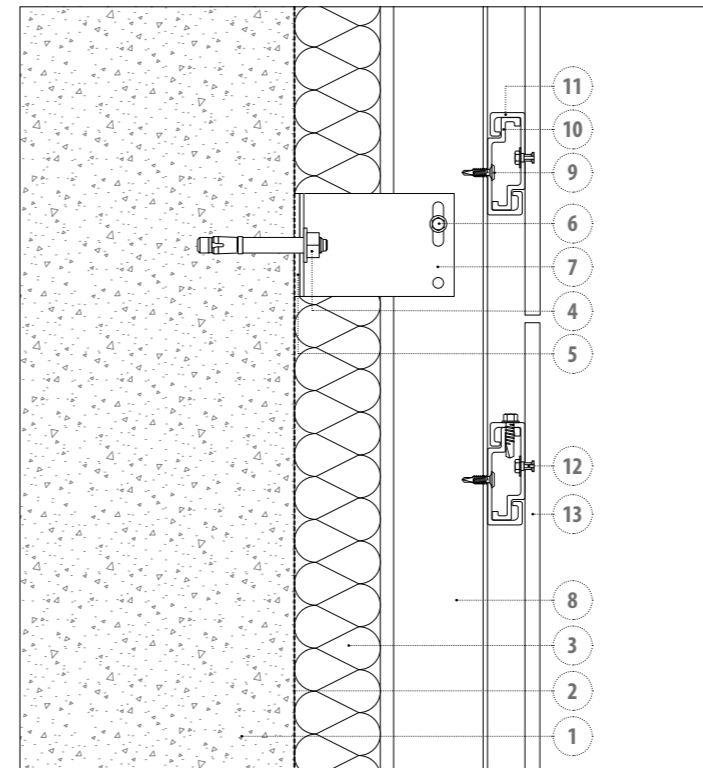


Vertical cross-section

### Elements of the system:

1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. Secondary L-shaped aluminum spacer
8. Aluminum T-shaped upright
9. Self-drilling screw
10. Aluminium fixing clip
11. Polyurethane putty
12. KRION®

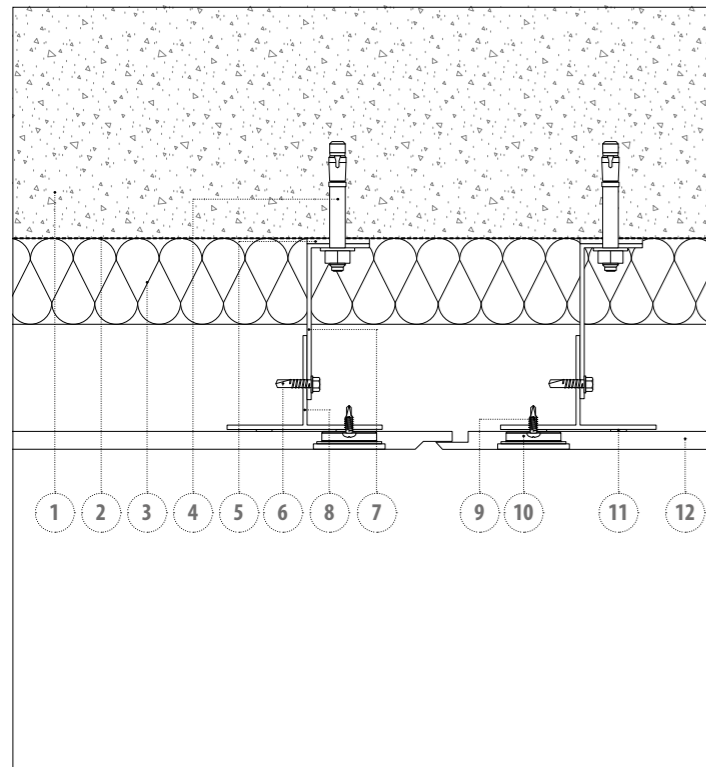
## Construction details · K-BOLT Concealed clips



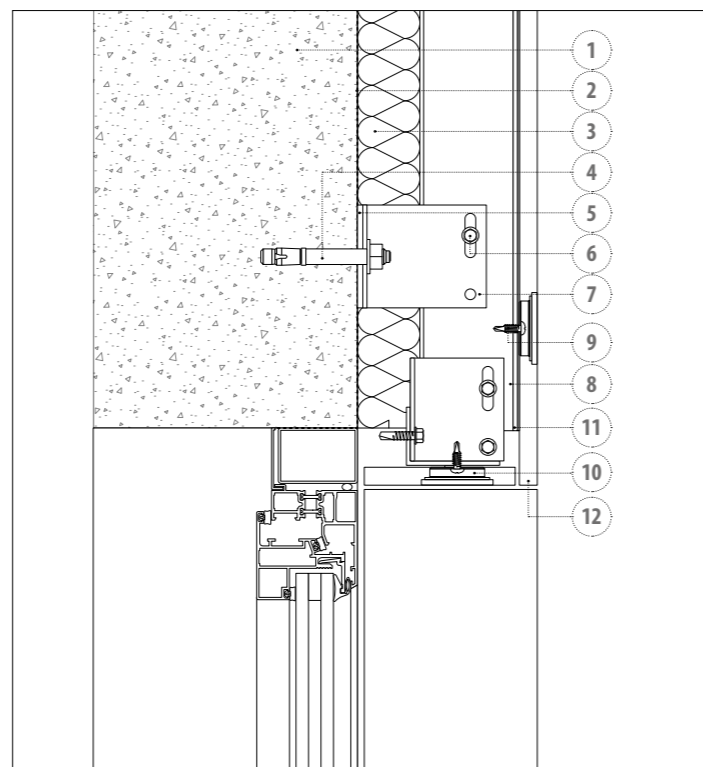
Vertical cross-section

### Elements of the system:

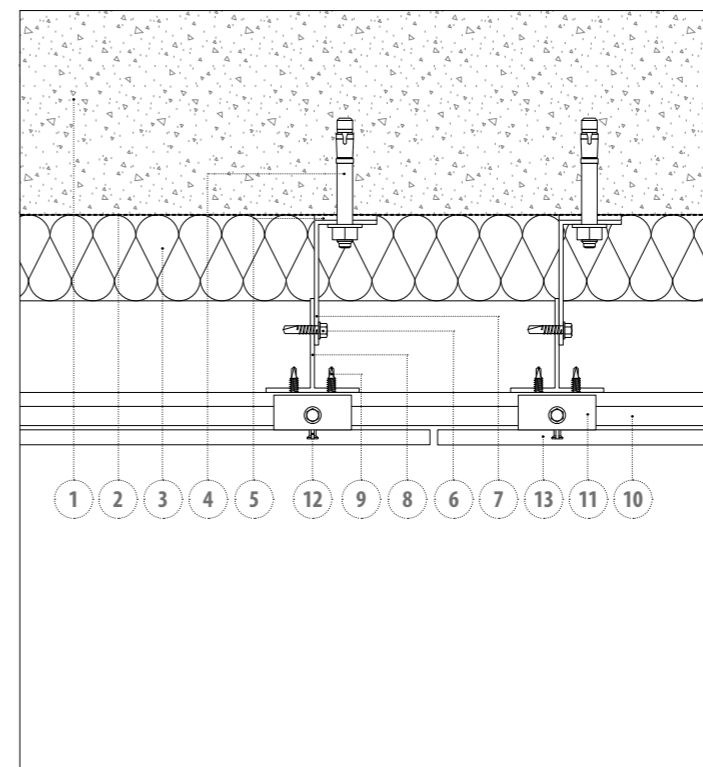
1. Concrete support
2. Waterproofing sheet
3. Thermal insulation
4. Anchor for concrete
5. Thermal break
6. Stainless steel self-drilling screw
7. Secondary L-shaped aluminum spacer
8. Vertical aluminum tubular profile
9. Self-drilling screw
10. C-Bolt main fixing clip
11. C-Bolt secondary fixing clip
12. C-Bolt screw
13. KRION®



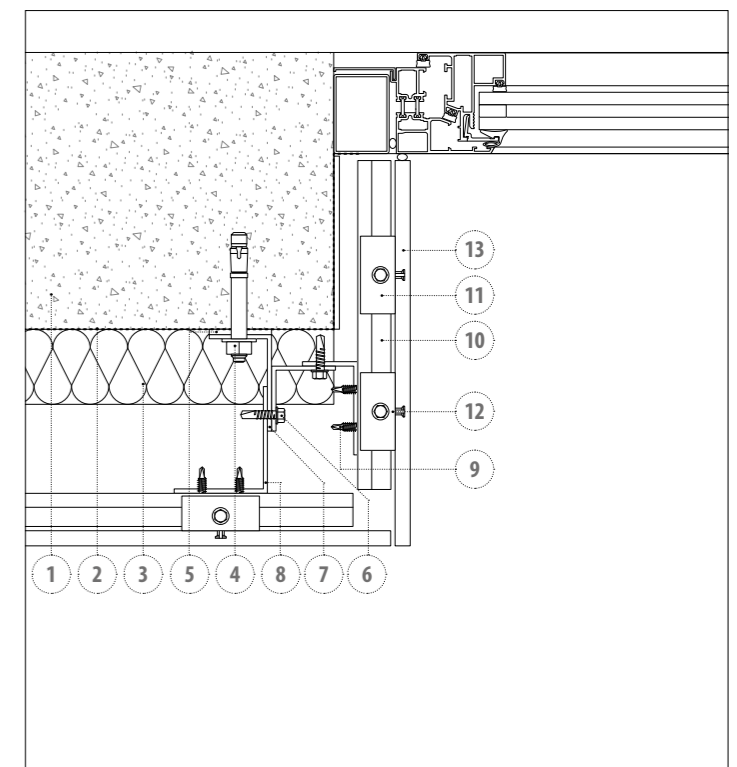
Horizontal cross-section



Lintel



Horizontal cross-section



Jamb



# MODFACADES

**Innovative lightweight facade construction system, which due to the quickness of its installation and its contribution to the building's energy efficiency, make it a system that adds value to the finished product, for a price lower than traditional construction.**

The system is made up of two outer FERMACELL PANEL panels and an inner core consisting of three 4 cm thick insulation layers, thus achieving the highest energy efficiency performance for your building. This facade system lets us build the enclosure and the facade wall covering at the same time, which reduces construction times.

The facade panels are supplied from the factory with built-in XLIGHT wall covering, as well as the openings for windows and other facade elements. The modular system panels are supplied ready-to-install, only needing to finish the inner enclosure depending on the needs of the project.

It is supported by a tubular steel structure that anchors the panel to the building structure.

## Advantages of the system

- **Quick installation.**  
The modular system reduces enclosure construction times so that we can obtain a performance of up to 3 m<sup>2</sup>/hour per worker.
- **Auxiliary means are not needed.**  
Using crane or scaffolding is not required as it is assembled from the inside of the building.
- **Reduction in waste production.**  
As the enclosure panels are supplied ready-to-install there is no need for any machining on-site that would generate waste.
- **Energy efficiency.**  
Butech's modular system is made up mostly of insulating material, thus achieving the highest energy efficiency performance.
- **100% Recyclable.**  
The system components are entirely recyclable, ideal for sustainable construction.

## Certifications and technical testing

**Spain** 13/7215 Applus testing to determine air permeability, water tightness, and resistance to wind load, by Applus.

13/7213-3138 Part 2 Applus testing to determine **Fire resistance.**

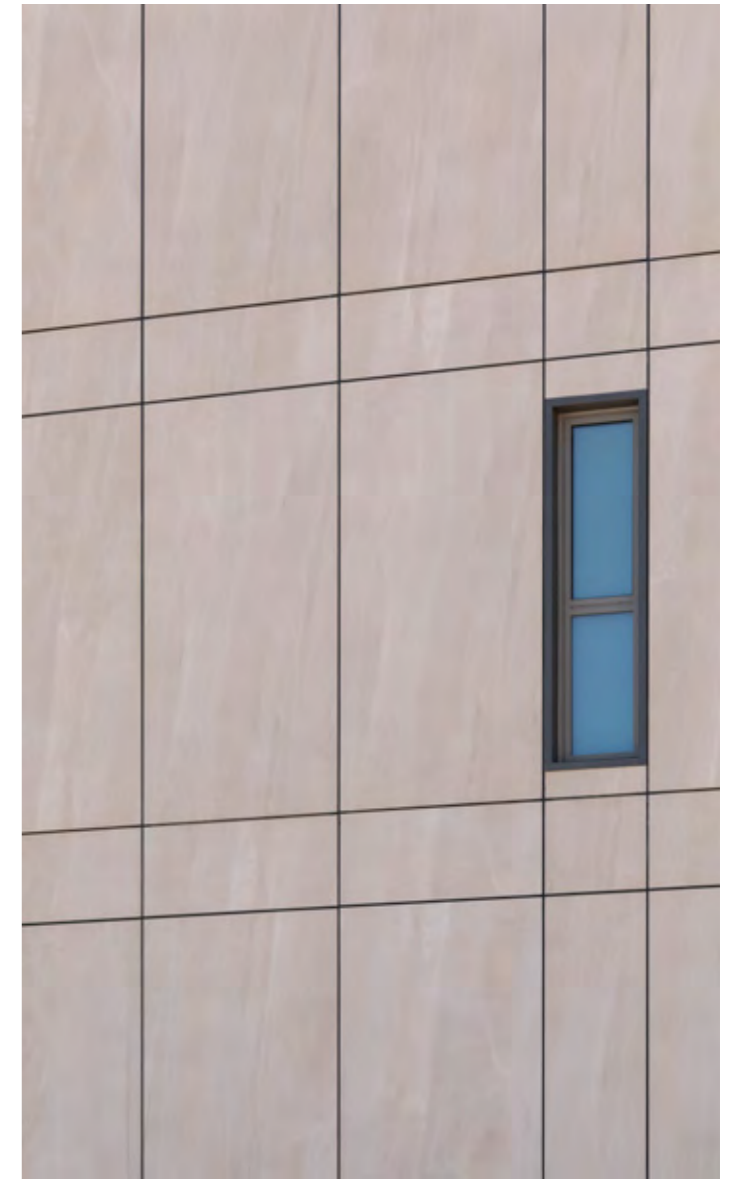
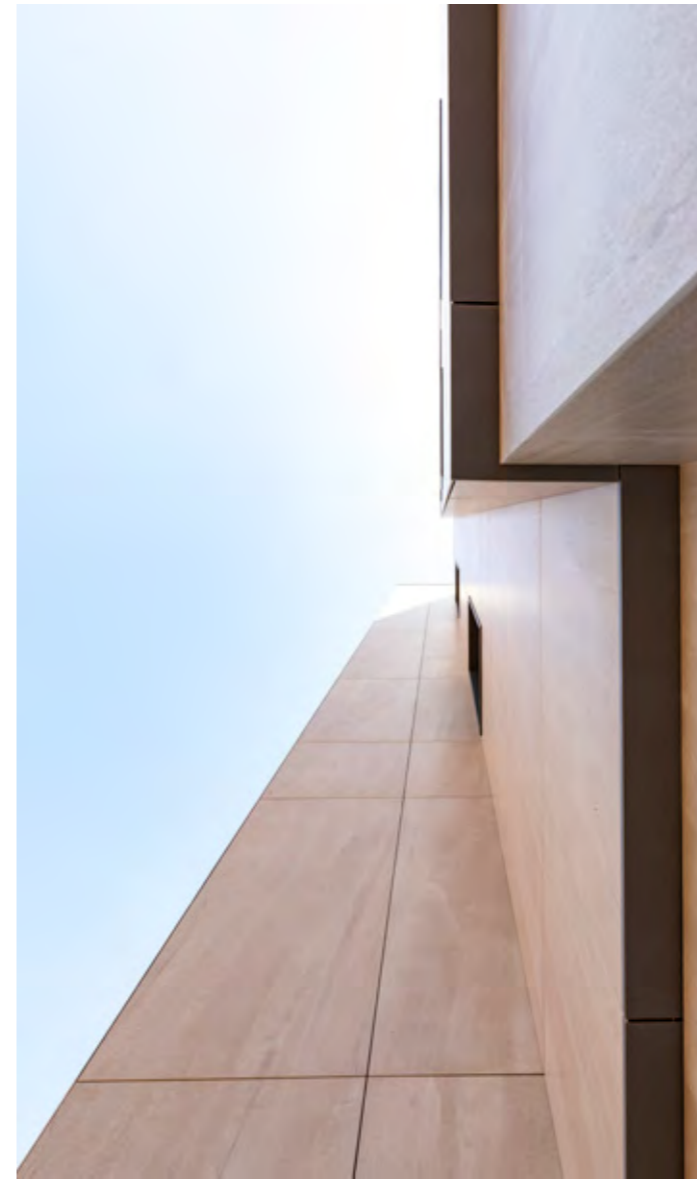
13/7215-3156 Applus testing to determine the level of **acoustic insulation for airborne noise.**

Hotel & Spa Castillo Peñíscola, Peñíscola, Spain  
MODFACADES system  
Arquitect: GRY Asociados



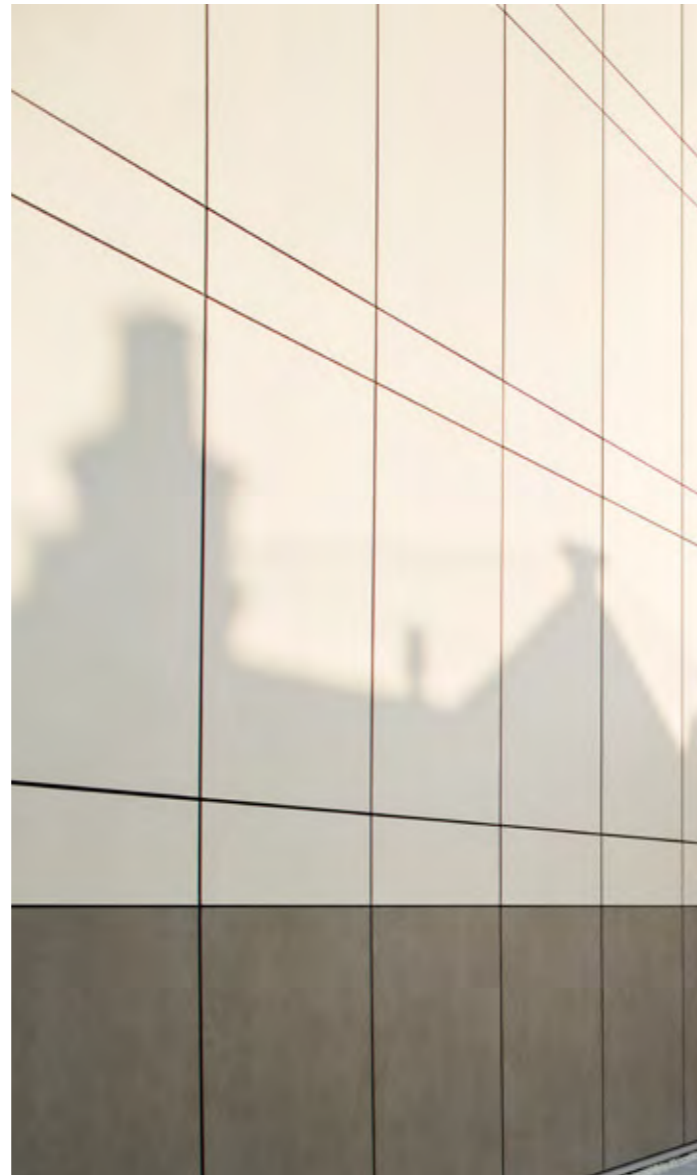
## Built projects

Hotel & Spa Castillo Peñíscola, Peñíscola, Spain  
MODFACADES system  
Arquitect: GRY Asociados



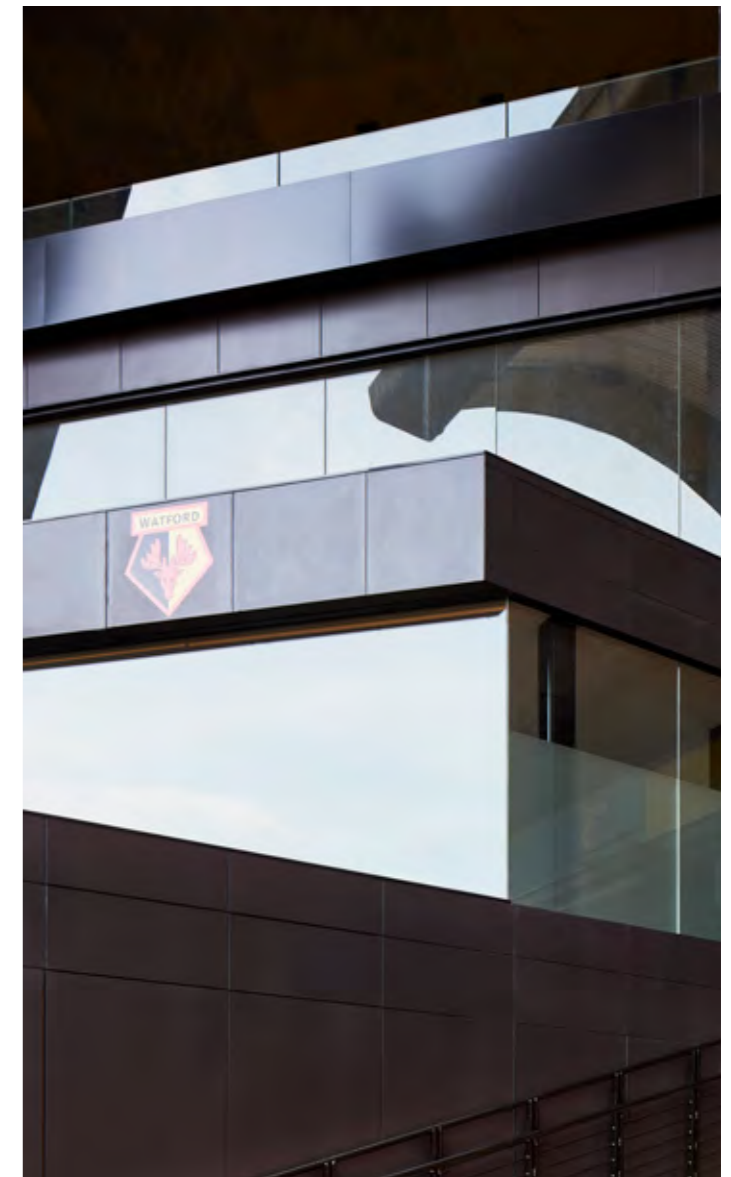
## Built projects

Residential building Berkshire House, Maidenhead, United Kingdom  
MODFACADES system  
Arquitect: Goddard Manton Architects · Photography: AA Creative



## Built projects

Watford Football Stadium, Hertfordshire, United Kingdom  
MODFACADES system  
Arquitect: D. Guillermo Sánchez Galdó · Photography: Joel Knight



**Built projects**

Residential building Millworks, New York, U.S.A.  
MODFACADES system  
Arquitect: Butech Technical Department · 3D Render: Pb3drender

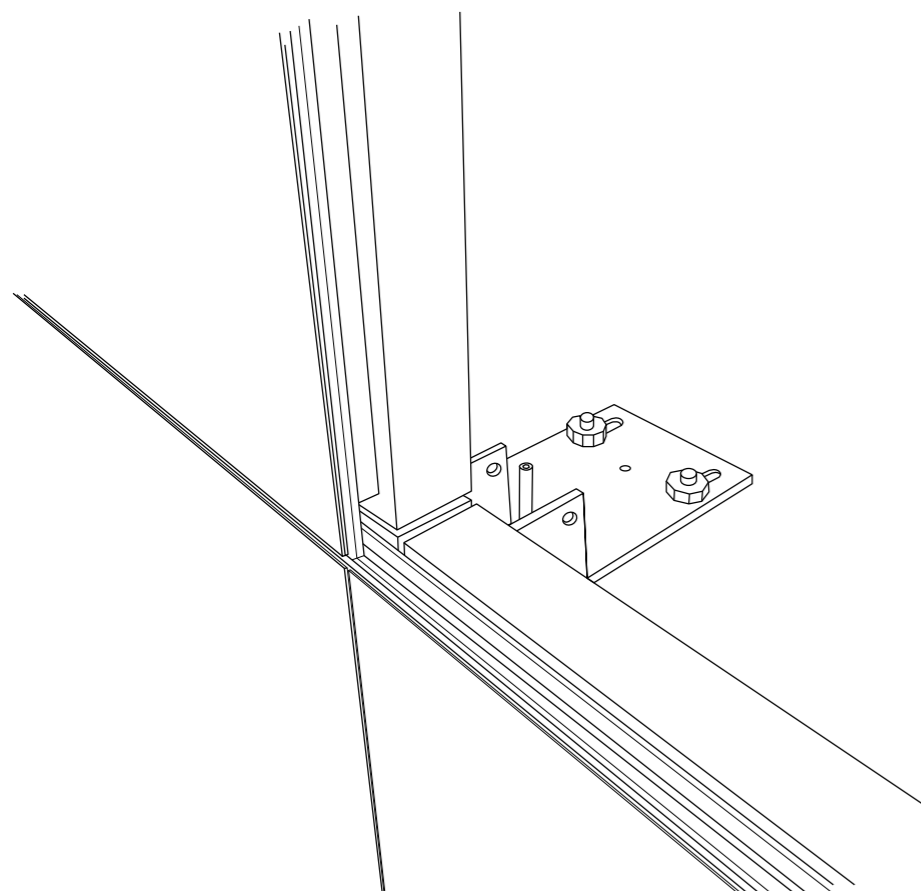


## Built projects

Office building Modsquare, New York, U.S.A.  
MODFACADES system  
Arquitect: Butech Technical Department · 3D Render: René Bolea

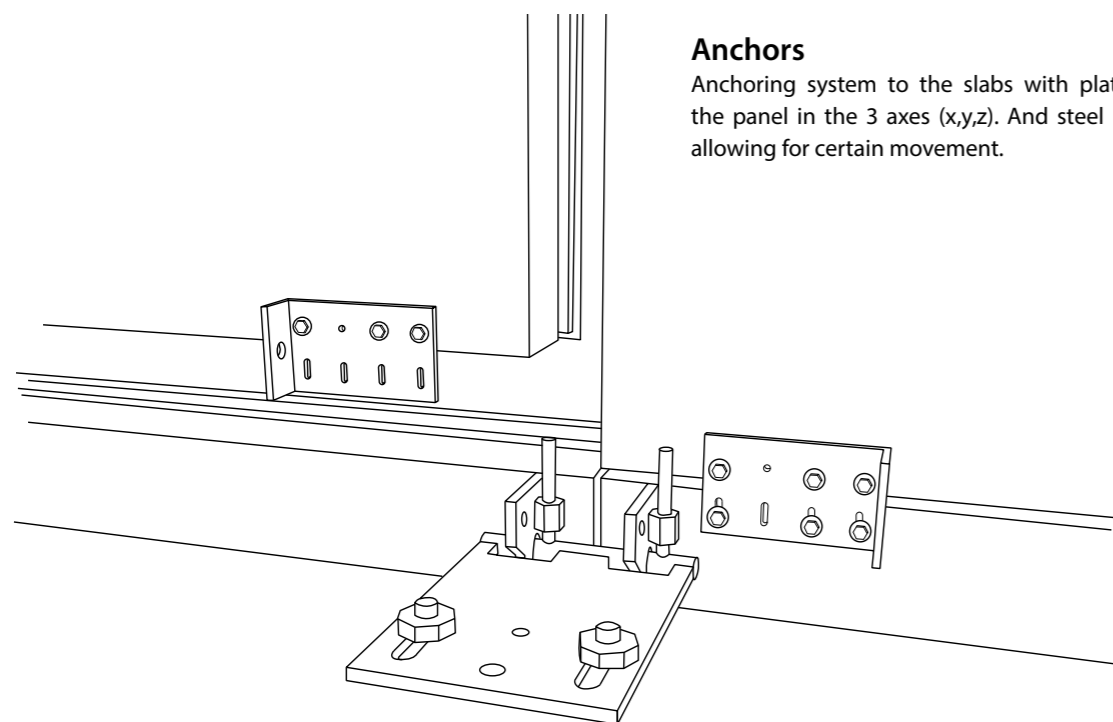


## Characteristics

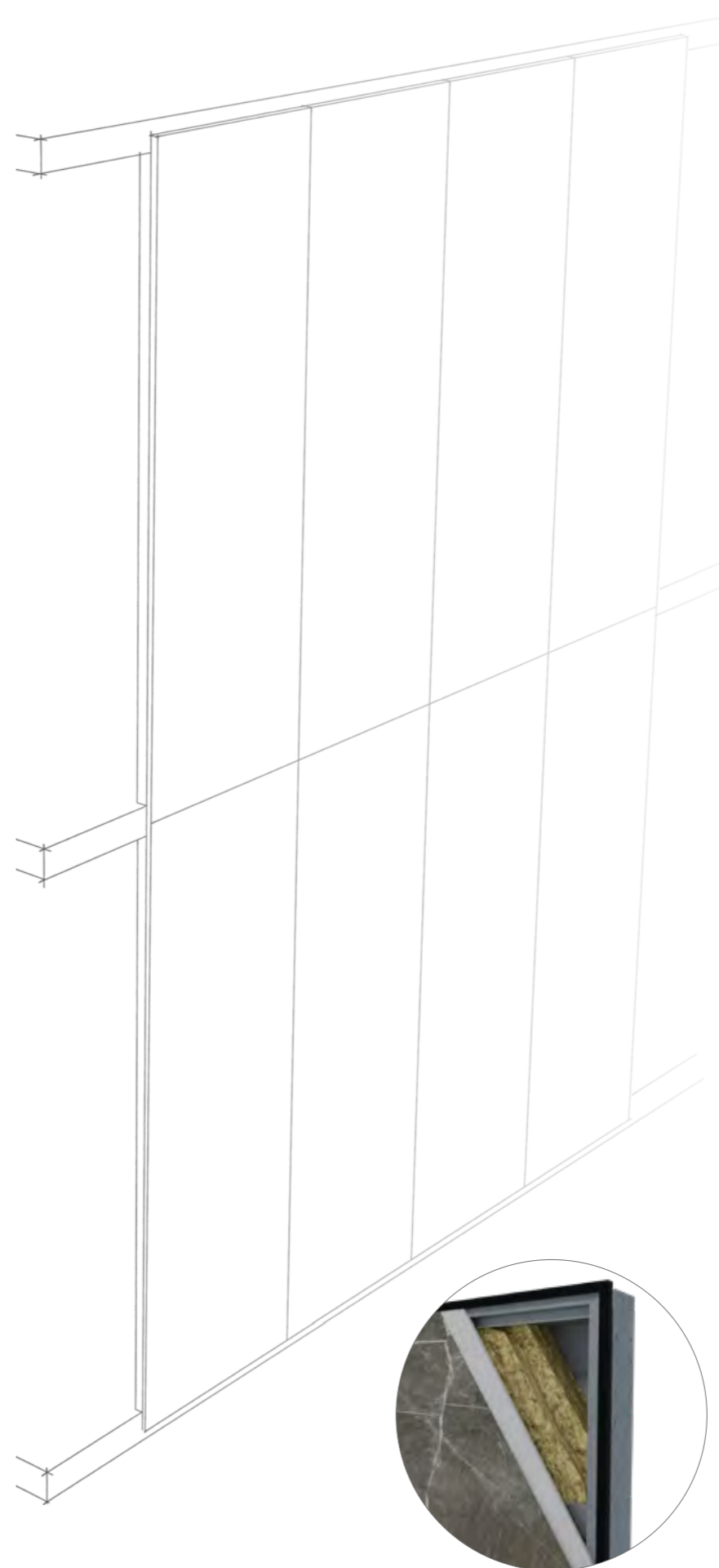


### Anchors

Anchoring system to the slabs with plates allowing to level the panel in the 3 axes (x,y,z). And steel plates joining panels allowing for certain movement.



## Characteristics



### Façade structure.

Main characteristics:

- Façade anchored directly to the main structure of the building.
- Adapted to most of the structural systems used in building construction.
- Façade panels delivered from the factory completely finished, saving time and costs of work on site.
- Fast installation allowing to save time and costs during building process compared to traditional systems.
- Installation from the interior of the building without scaffolding reducing costs.
- Excellent thermic and acoustic performance.

### Modulation of the facade.

Main characteristics:

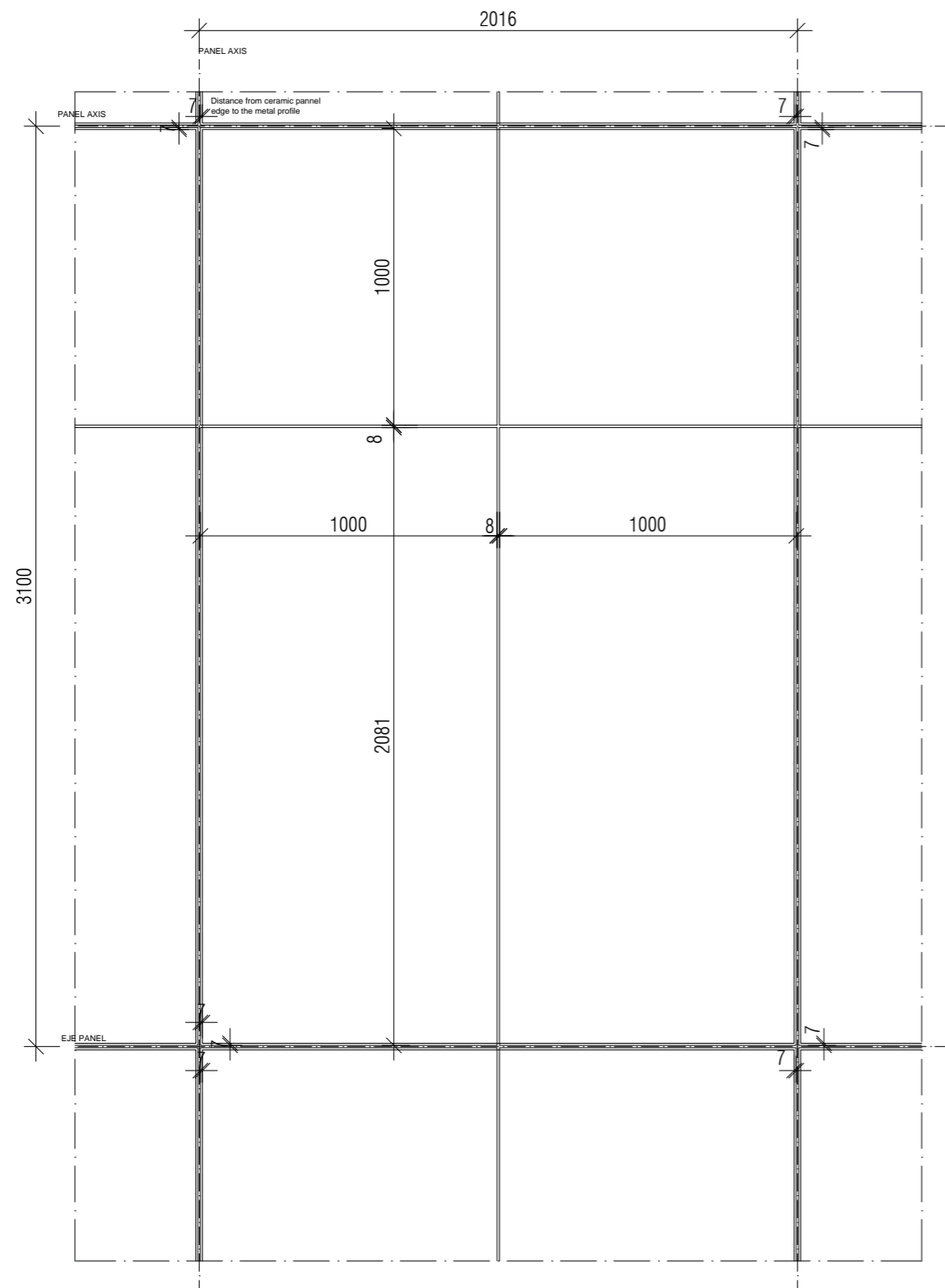
- Allows to cover the full span between slabs with just one panel using big format ceramics.
- Reduces the presence of joints in the façade.
- Joints 8mm width.

### XTONE panels

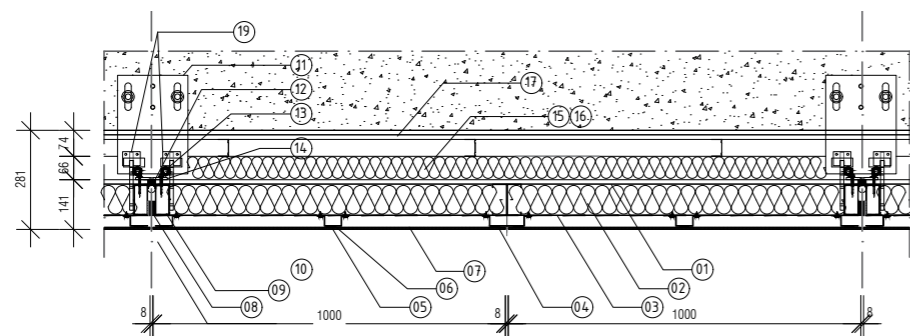
Main Features:

- Exclusive design by PORCELANOSA Grupo.
- Large format: up to 1500 x 3000 mm. For other dimensions, please consult Butech.
- Extremely light tiles: 7-15 kg/m<sup>2</sup>.
- Resistant to atmospheric agents, the appearance of the slabs remains unchanged over time. Resistant to paint stains or graffiti.

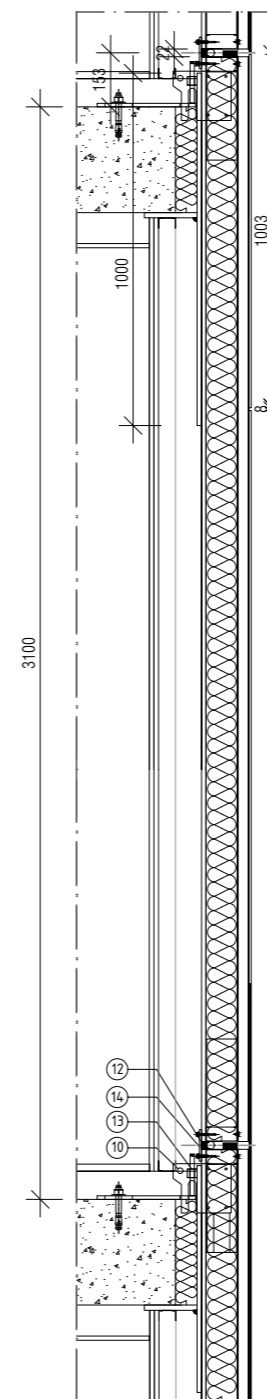
These drawings are only sketches of tile modulation examples. For technical details of these façade systems, have a look the construction details at the next pages.



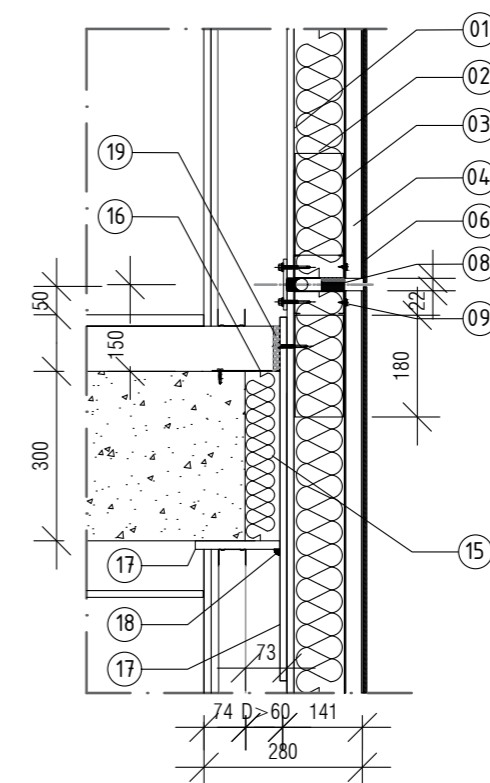
Vertical section opaque zone



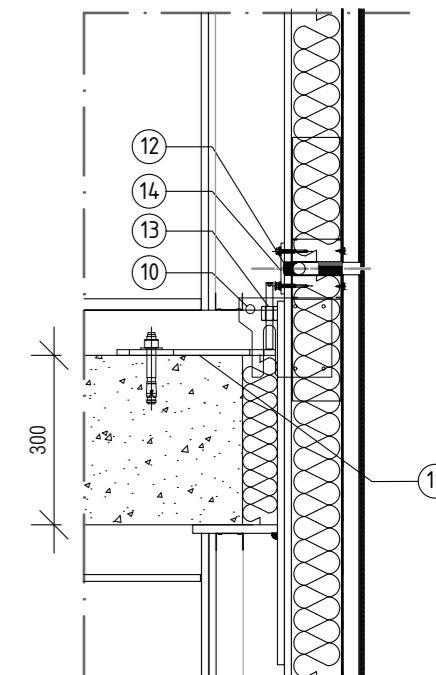
Horizontal section



Vertical section



VS middle point in panel

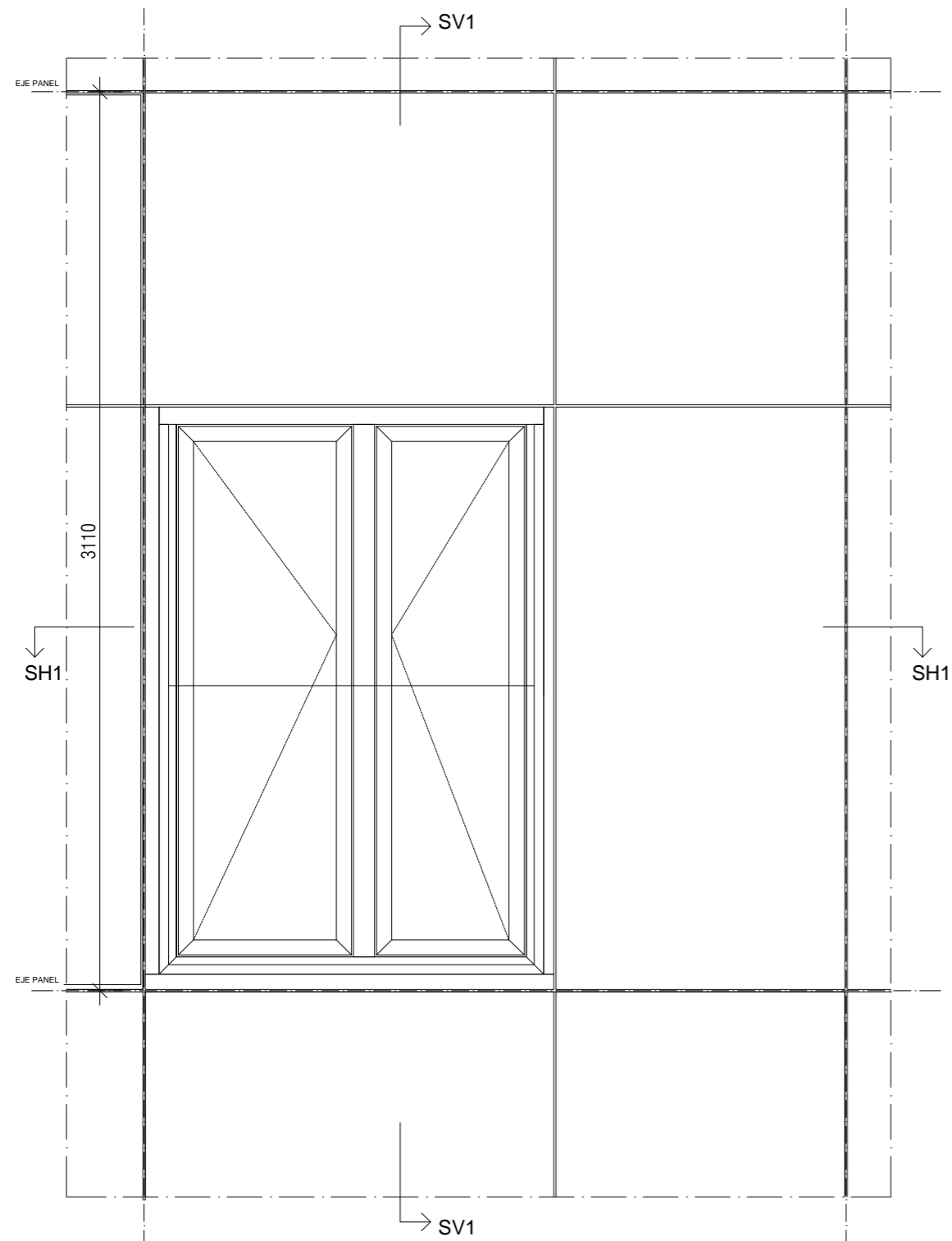


VS sides showing anchors

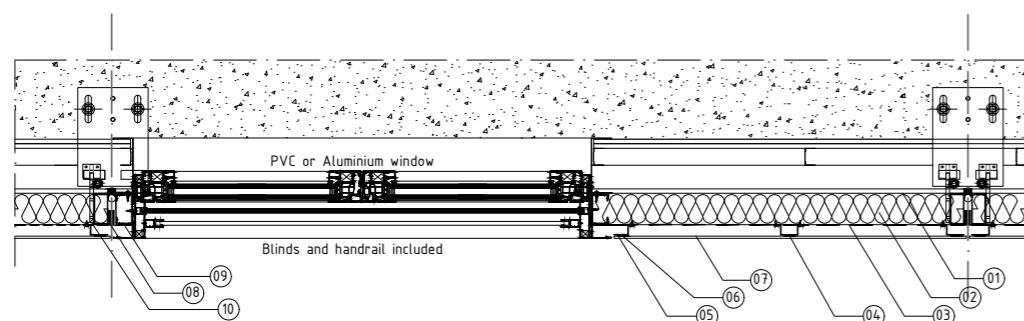
**System elements:**

1. Waterproofed plasterboard
2. Mineral wool 90 mm
3. Waterproofed membrane
4. Aluminium omega profile 140.30
5. Aluminium omega profile 90.30
6. Double side tape & polymeric adhesive MS
7. Ceramic tile (6mm)
8. Neoprene joint
9. Hot-dipped galvanized steel frame (1,2 mm)
10. Hot-dipped galvanized hanging plate
11. Hot dipped galvanized plate anchored to the slab
12. Interior sealing: expansive joint filler and silicone sealant
13. Levelling screw
14. Hot-dipped galvanized plate joining panels
15. Rockwool (Fire barrier)
16. Hot-dipped galvanized steel L profile (Fire barrier)
17. Fireproofed plasterboard
18. Fireproofed sealant
19. Pavement joint (By others)

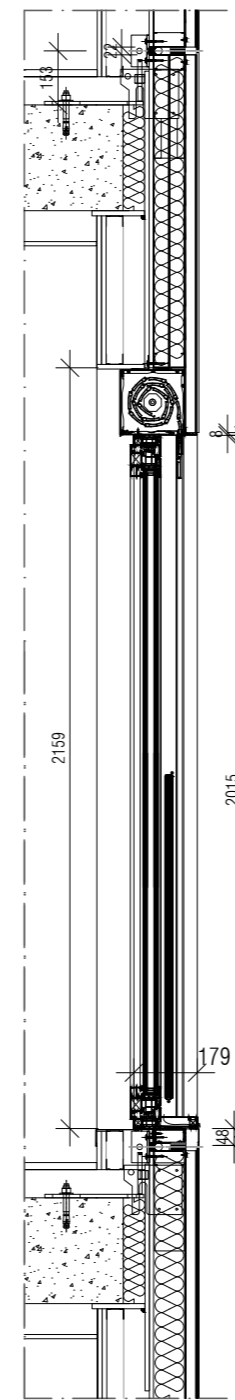




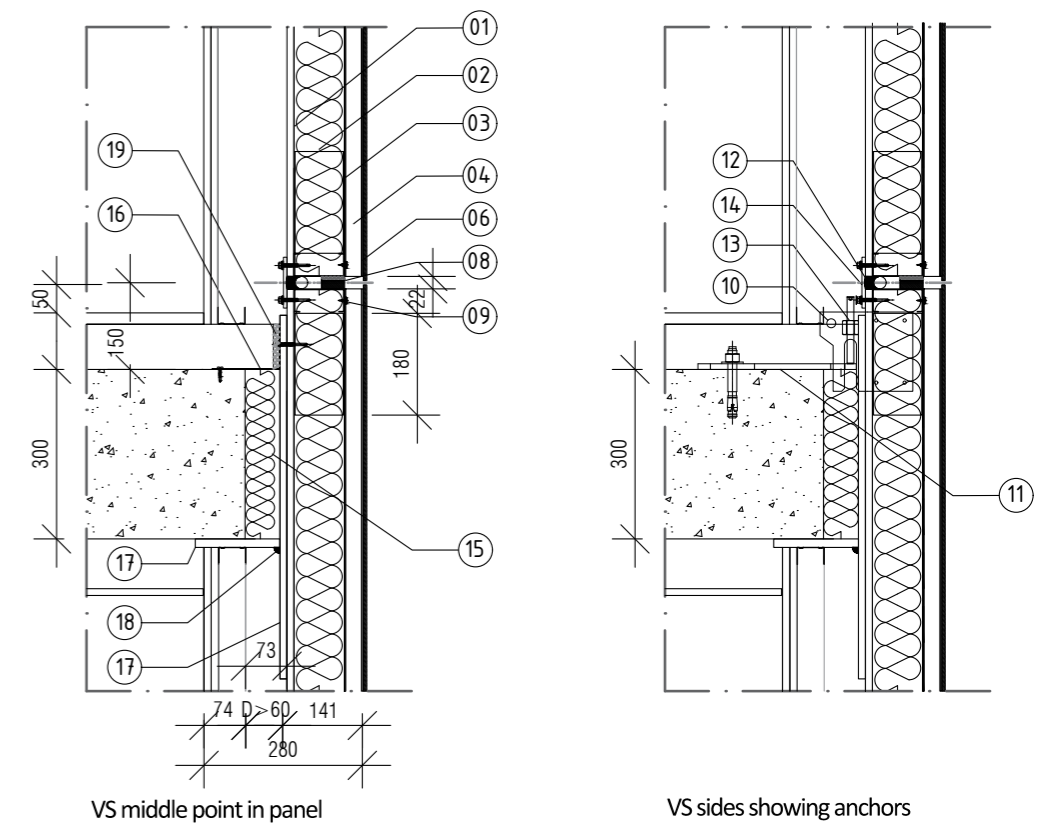
Vertical section trough window



Horizontal section trough window



Vertical section



**System elements:**

1. Waterproofed plasterboard
2. Mineral wool 90 mm
3. Waterproofed membrane
4. Aluminium omega profile 140.30
5. Aluminium omega profile 90.30
6. Double side tape & polymeric adhesive MS
7. Ceramic tile (6mm)
8. Neoprene joint
9. Hot-dipped galvanized steel frame (1,2 mm)
10. Hot-dipped galvanized hanging plate
11. Hot dipped galvanized plate anchored to the slab
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14. Hot-dipped galvanized plate joining panels
15. Rockwool (Fire barrier)
16. Hot-dipped galvanized steel L profile (Fire barrier)
17. Fireproofed plasterboard
18. Fireproofed sealant
19. Pavement joint (By others)

Questions?

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