

GRESPANIA  
**TECHNICAL**  
SOLUTIONS

**VENTILATED FAÇADES BY GRESPANIA**

The background of the page is a detailed architectural floor plan of a building. The plan is overlaid with a red grid and various dimension lines. Dimensions are provided in millimeters and include values such as 1520, 1600, 1540, 1360, 810, 1700, 1200, 980, 860, 1460, 4110, 1372, 810, 4110, 2810, 1600, 2300, 2919, 3491, 4110, 810, 1700, 1600, and 1010. The plan shows the layout of rooms, corridors, and structural elements, with some areas highlighted in red to indicate specific technical details or material applications.

GRESPANIA PRESENTATION

COVERLAM & COVERLAM TOP

VENTILATED FAÇADES

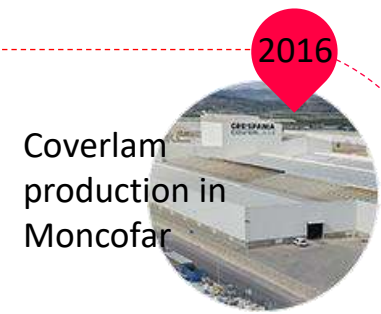
1. EXPOSED CLIP SYSTEM
2. CONCEALED CLIP SYSTEM
3. CHEMICAL SYSTEM
4. SLIM XL 45<sup>®</sup> SYSTEM
5. RIVET SYSTEM
6. ANCHORING SYSTEM

H&C TILES

# GRESPANIA - HISTORY



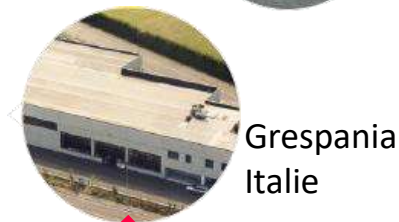
New porcelain production line. 120x120 cm & 80x160 cm, with last available technology - 10,000 tones presses and Full Digital



Porcelain plant in Castellón, The most advanced factory in Spain for technical porcelain tile manufacture



Expansion of the wall factory  
Grespania Polska



Wall tile factory – full production cycle. Ceramic powder production and cogeneration



Founding of  
Grespania

# GRESPANIA - COMPANY

**P&I HOLDINGS**

**GRESPANIA**  
CERAMICA

**PRODUCER**



EuroAtomizado  
Grupo

**RAW MATERIAL**

**ESMALTES**

**GLAZED**

**Grespania France**

**Grespania Italia**

**Grespania Netherlands**

**Grespania UK**

**Grespania Polska**

**Grespania Singapour**

**Grespania USA**

**Grespania Mexico**



# GRESPANIA – CENTERS & SUBSIDIARIES

## FACTORIES

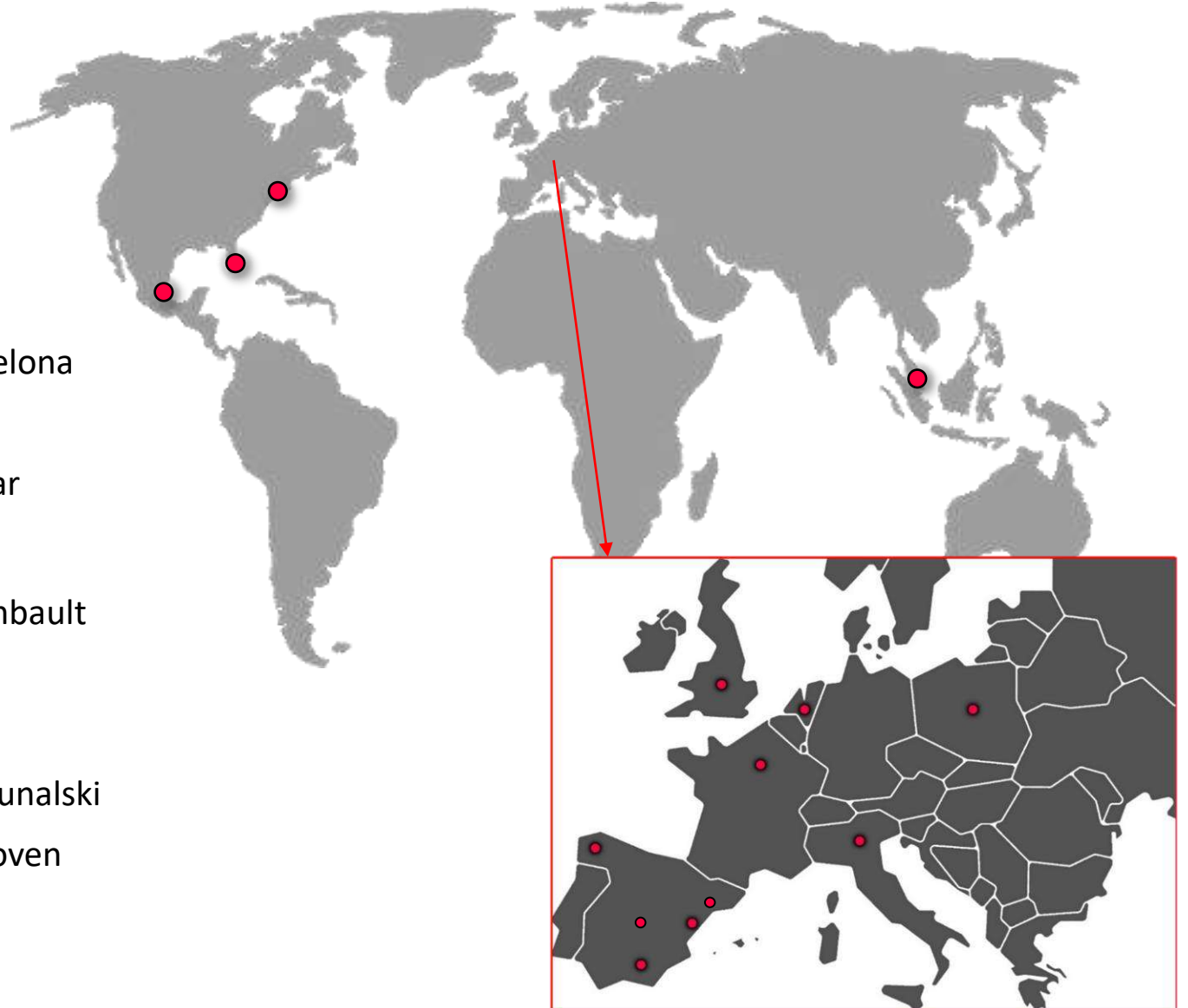
- SPAIN - Castellón (Porcelain tiles)
- SPAIN - Nules (Wall tiles)
- SPAIN - Moncofar (Coverlam)

## SERVICE CENTERS

- SPAIN - Santiago de Compostela
- SPAIN - Granada
- SPAIN – Cerdanyola del Vallès, Barcelona
- SPAIN – Pinto, Madrid
- SPAIN – Castellón / Nules / Moncofar

## SUBSIDIARIES

- GRESPANIA FRANCE – Pontault-Combault
- GRESPANIA ITALIA - Módena
- GRESPANIA UK – Birmingham
- GRESPANIA POLSKA - Piotrków Trybunalski
- GRESPANIA NETHERLANDS – Eindhoven
- GRESPANIA USA – Miami, New York
- GRESPANIA SINGAPUR
- GRESPANIA MEXICO – Ciudad de México



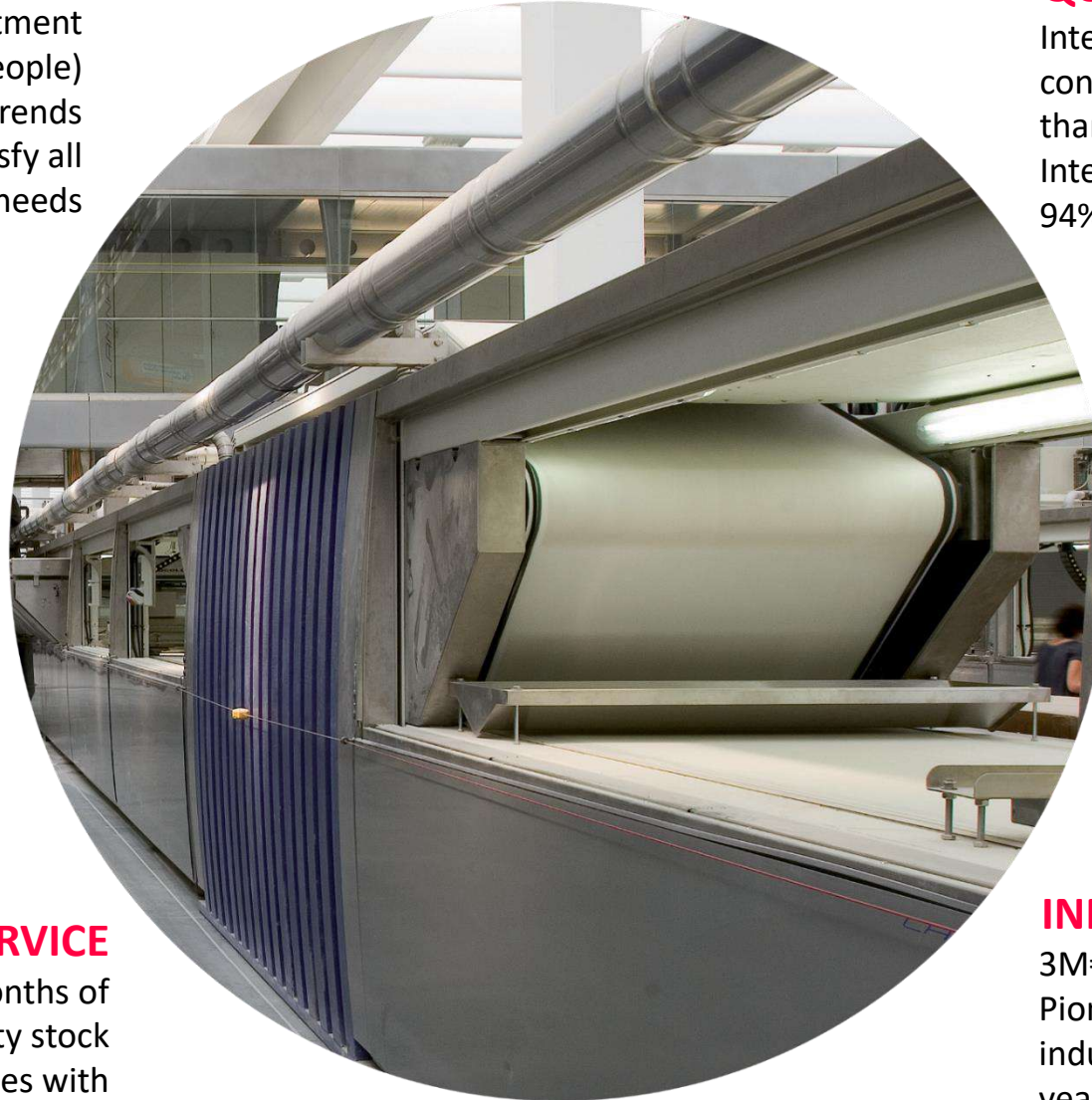
# CORE VALUES

## DESIGN

In-house design department  
(25 people)  
Presence in all design trends  
Broad portfolio to satisfy all  
customer needs

## QUALITY

Internal quality  
controls stricter  
than ISO Standards  
Internal goal of  
94% first grade



## SERVICE

Always: 6 months of  
security stock  
Close: 8 subsidiary companies with  
local salesforce and warehouse

## INNOVATION

3M€ of annual budget for R&D  
Pioneers in most of the ceramic  
industry advances on the last 20  
years

# ENVIRONMENTAL SUSTAINABILITY

## ISO 14001 CERTIFICATE



## ENVIRONMENTAL PRODUCT DECLARATION

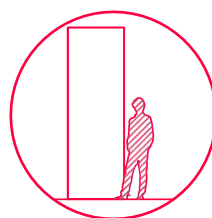


## DECLARATION OF RECYCLED CONTENT



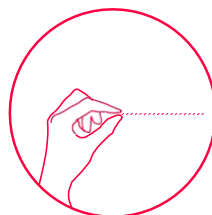
# COVERLAM

TECHNICAL STONE



## LARGE FORMAT

1200x3600 mm / 1000x3000 mm / 1200x2600 mm  
1200x1200 mm / 1000x1000 mm / 500x1000 mm  
1200x2780 mm / 195x1800 mm / 295x1800 mm  
600x1200 mm



## MINIMAL THICKNESS

3.5 mm / 5.6 mm

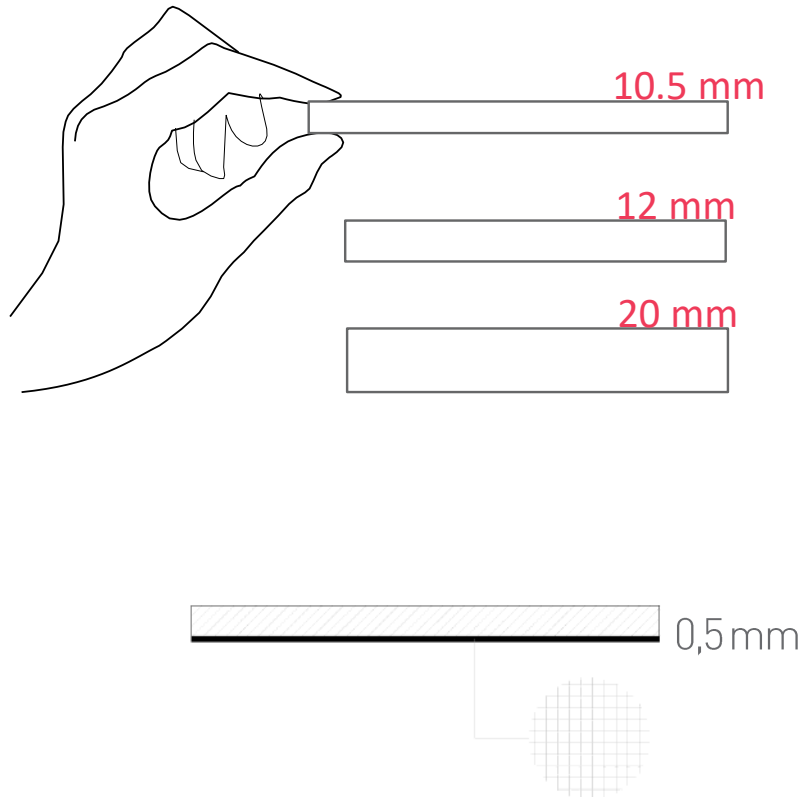
[www.coverlambygrespania.com](http://www.coverlambygrespania.com)

**GRESPANIA**  
CERAMICA



# COVERLAM | TOP

TECHNICAL STONE



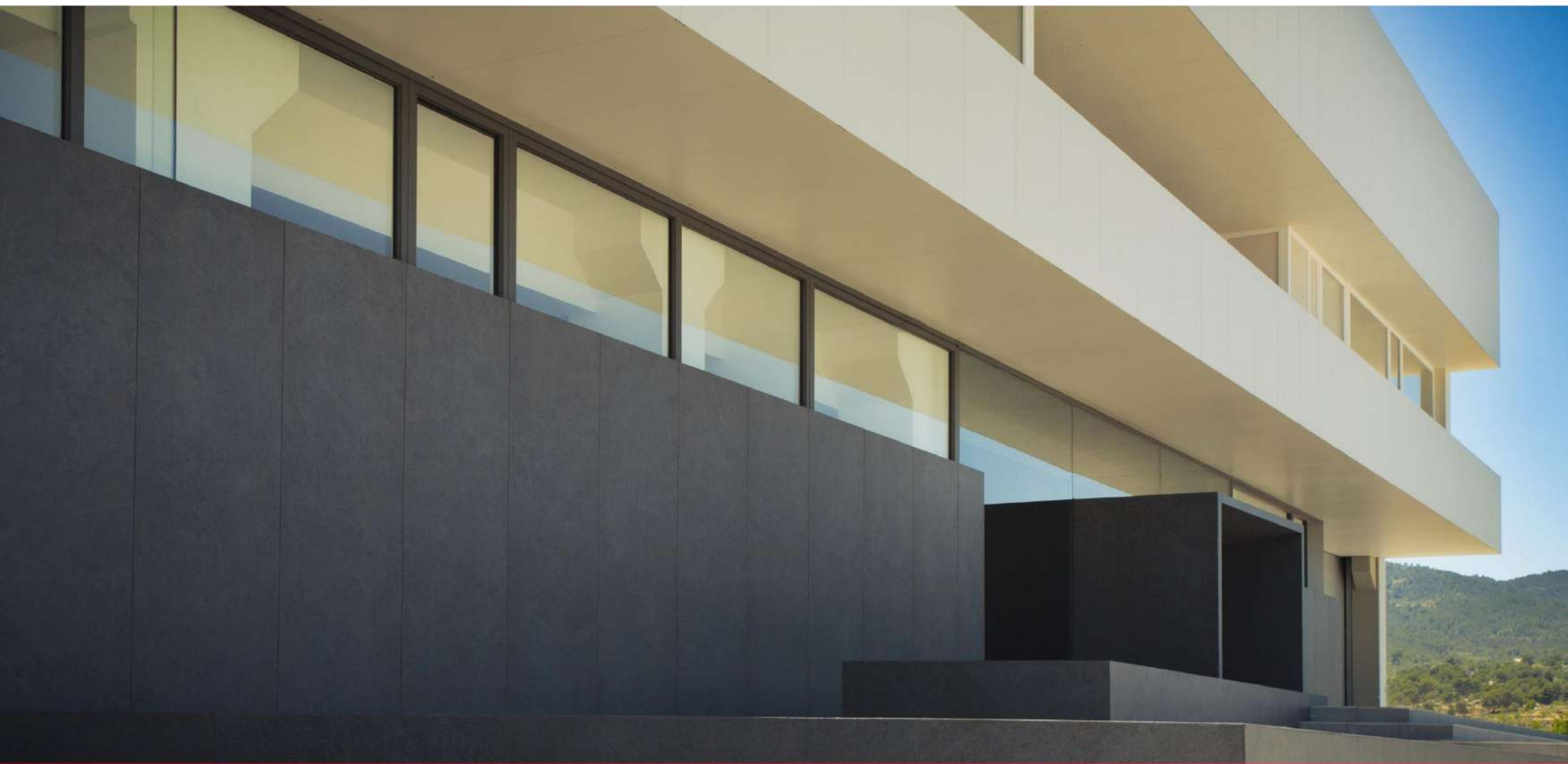
10.5 mm  
12 mm  
20 mm



[www.coverlambygrespania.com](http://www.coverlambygrespania.com)

**GRES PANIA**  
CERAMICA

# VENTILATED FAÇADES BY GRESPANIA



[www.grespania.com](http://www.grespania.com)

**GRESPANIA**  
CERAMICA

# **GRESPANIA VENTILATED FAÇADES: SYSTEMS**

- 1. EXPOSED CLIPS SYSTEM**
- 2. CONCEALED CLIPS SYSTEM**
- 3. CHEMICAL SYSTEM**
- 4. SLIM XL 45<sup>®</sup> SYSTEM**
- 5. RIVET SYSTEM**
- 6. ANCHORING SYSTEM**

# VENTILATED FAÇADES BY GRESPANIA

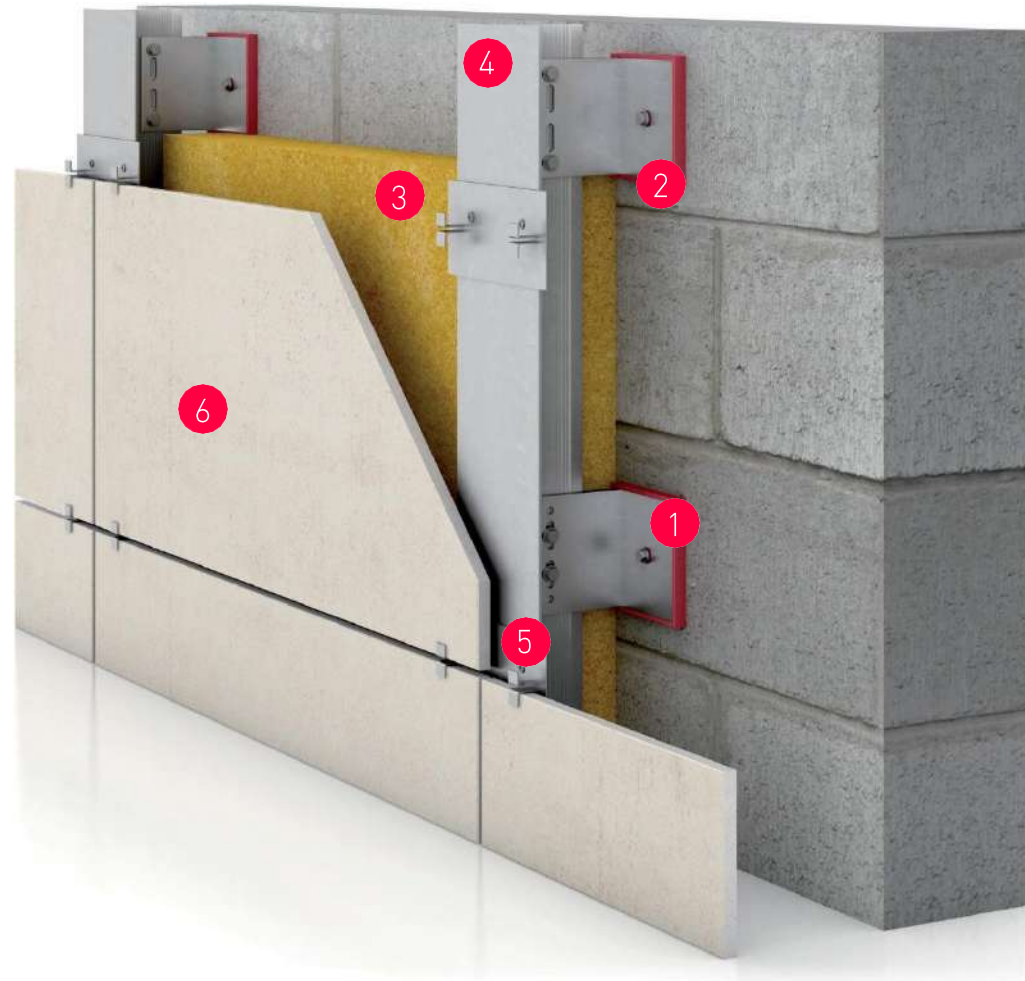
## 1. EXPOSED CLIPS SYSTEM

# 1. EXPOSED CLIPS SYSTEM

- 1 ANCHORAGE
- 2 BRACKET
- 3 INSULATION
- 4 "T" PROFILE
- 5 FIXING CLIP (EXPOSED)
- 6 PORCELAIN TILE

## FORMATS

- 3,5 mm
- 5,6 mm
- 10,5 mm
- 12 mm



# 1. EXPOSED CLIPS SYSTEM

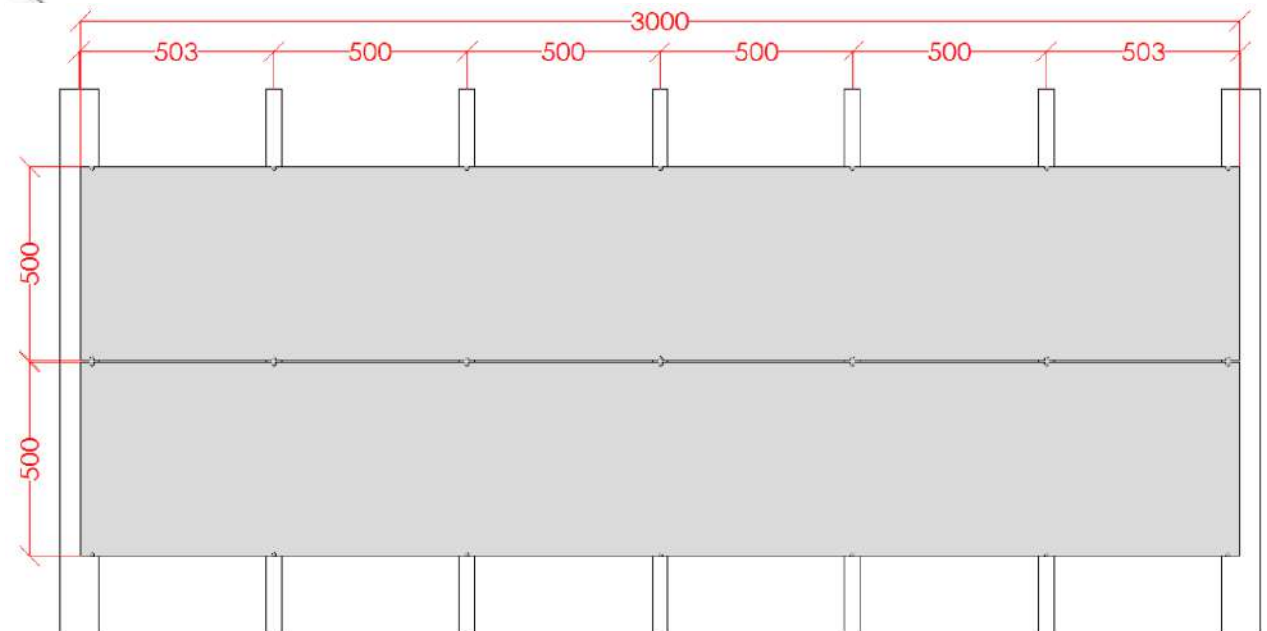
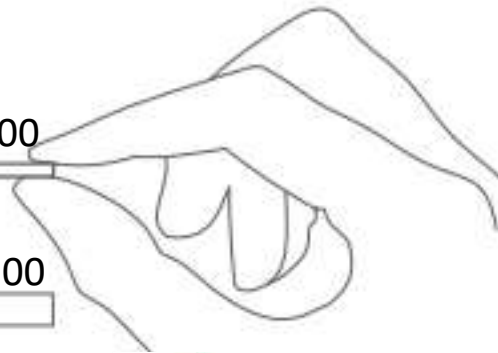
3,5mm 500x3000 / 600x2600

5,6mm 500x3000 / 600x2600 / 800x3200

10,5mm 500x3000 / 1000x3000

12mm 800x3200

20mm 800x3200



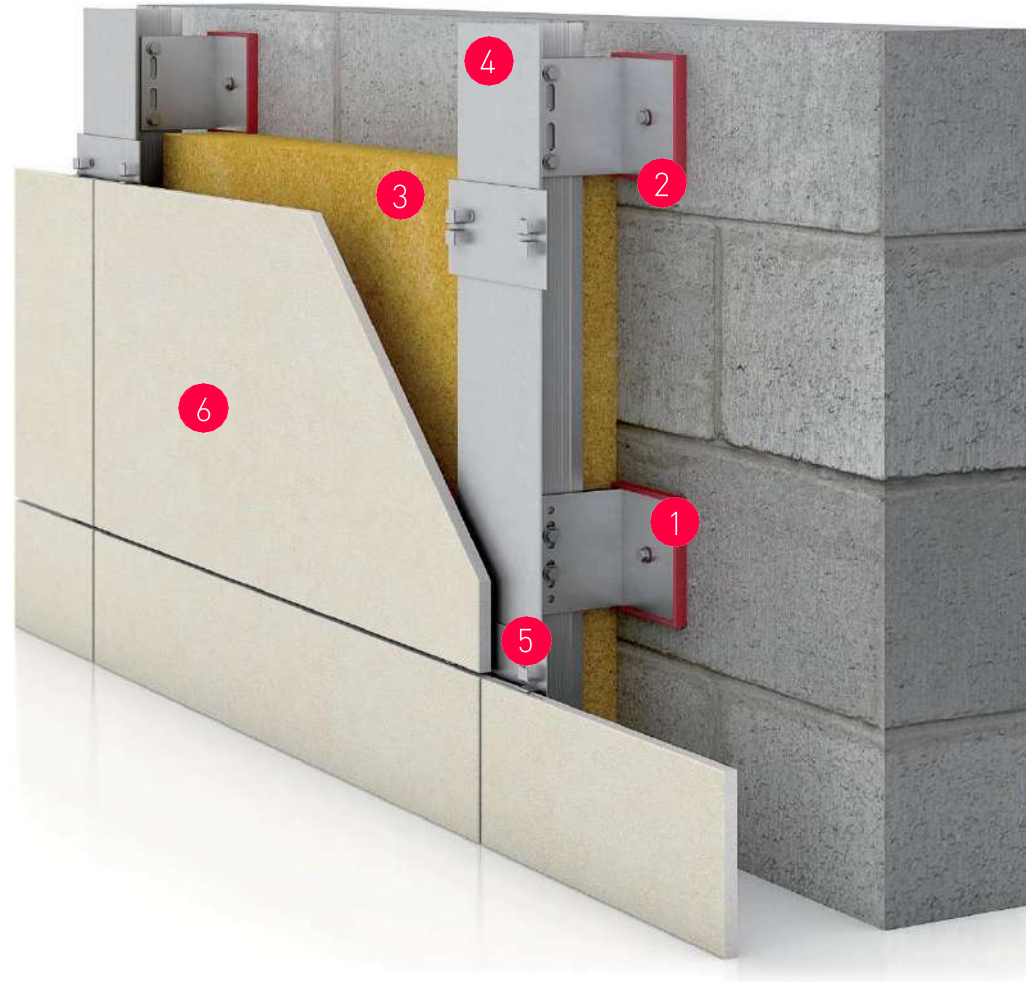
Metal substructure and number and position of anchors must be evaluated by competent designer, considering wind and another loads, thermal expansion requests and any local regulation.

## 2. CONCEALED CLIPS SYSTEM

- 1 ANCHORAGE
- 2 BRACKET
- 3 INSULATION
- 4 "T" PROFILE
- 5 FIXING CLIP (CONCEALED)
- 6 PORCELAIN TILE

### FORMATS

- 10,5 mm
- 12 mm
- 20 mm



## 2. CONCEALED CLIPS SYSTEM

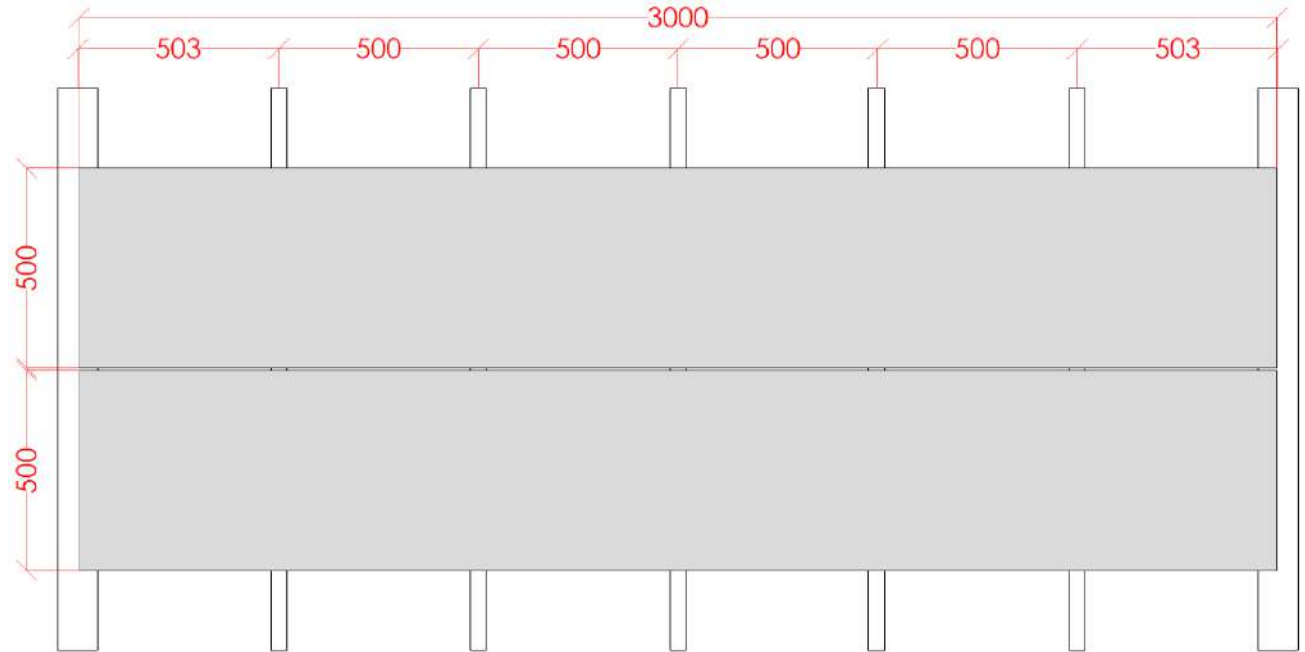
10,5mm 500x3000 / 1000x3000



12mm 800x3200



20mm 800x3200



Metal substructure and number and position of anchors must be evaluated by competent designer, considering wind and another loads, thermal expansion requests and any local regulation.



# VENTILATED FAÇADES BY GRESPANIA



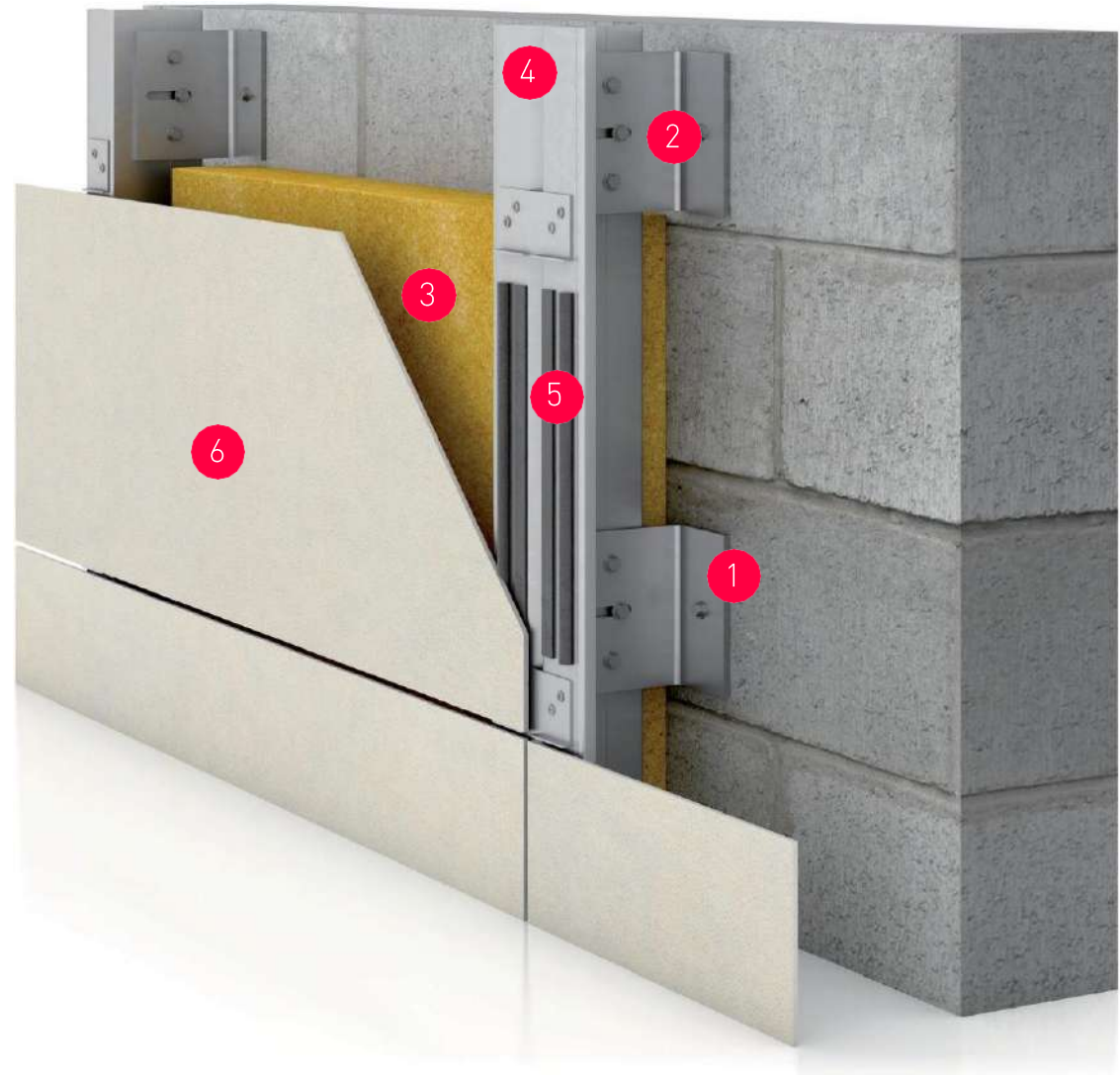
## 3. CHEMICAL SYSTEM

# 3. CHEMICAL SYSTEM

- 1 ANCHORAGE
- 2 BRACKET
- 3 INSULATION
- 4 "T" PROFILE
- 5 ADHESIVE
- 6 COVERLAM

## FORMATS

- 3,5 mm
- 5,6 mm



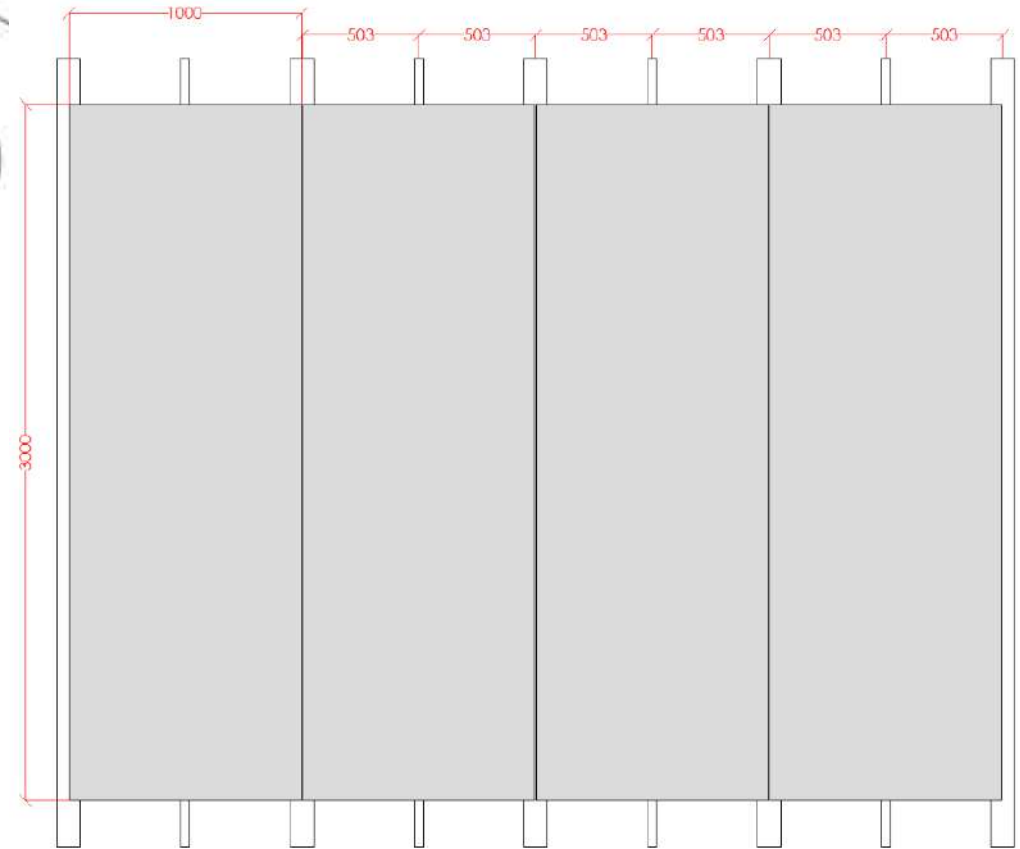
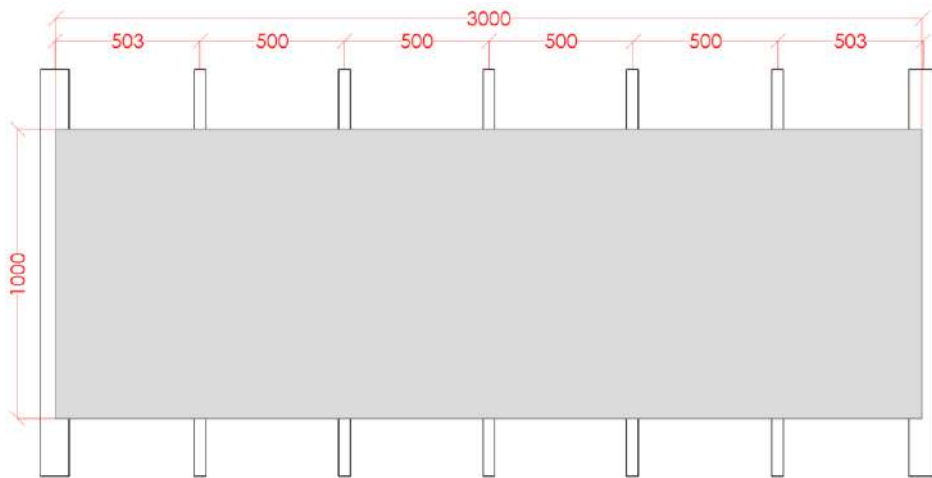
# 3. CHEMICAL SYSTEM: FORMATS

3,5mm 1200x2600 / 1200x2780 1000x3000

1000x3000 / 1200x2600

5,6mm

1200x2780 / 800x3200



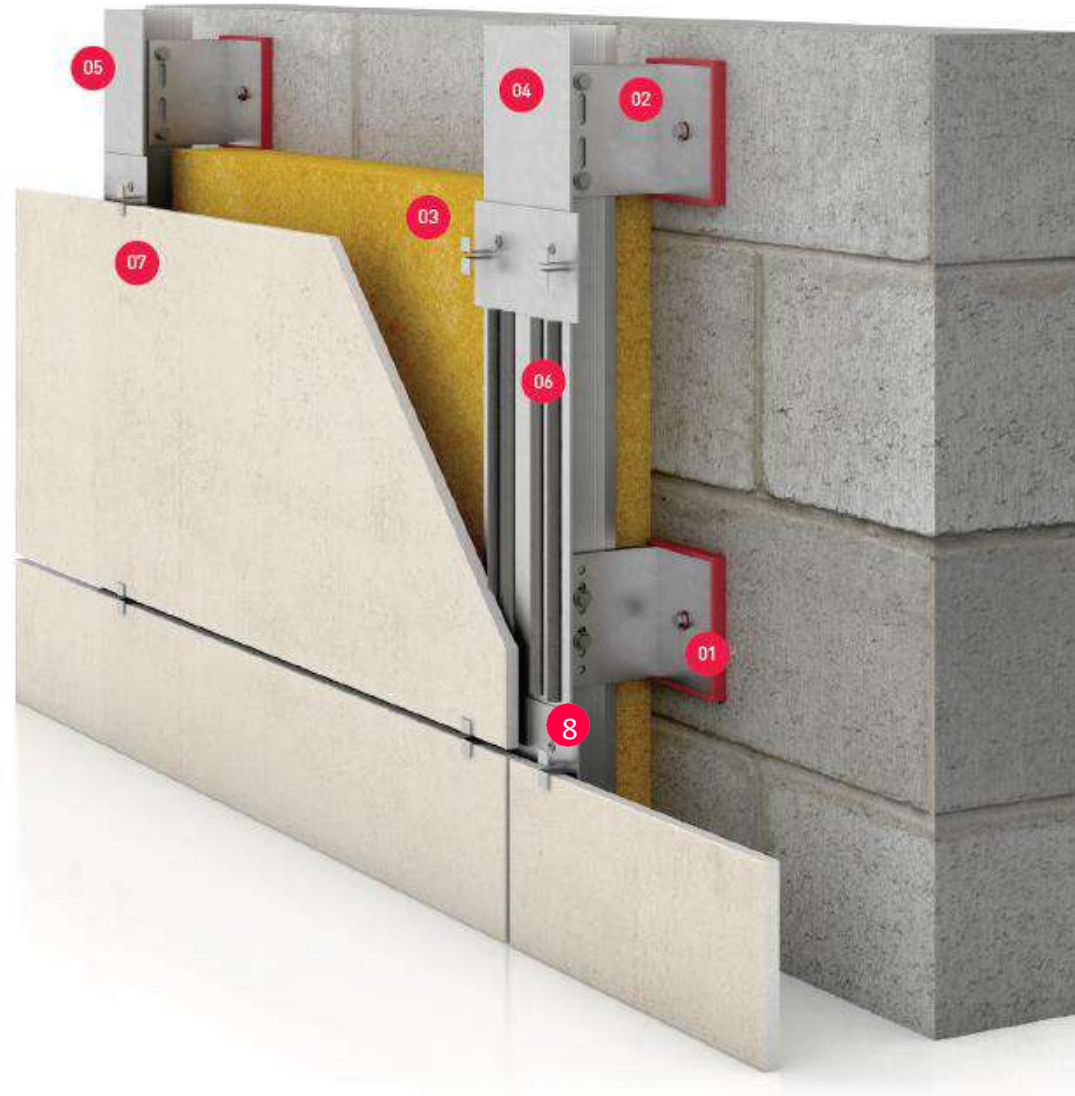
Metal substructure and number and position of anchors must be evaluated by competent designer, considering wind and another loads, thermal expansion requests and any local regulation.

# 3. COMBINATED SYSTEM

- 1 ANCHORAGE
- 2 BRACKET
- 3 INSULATION
- 4 T PROFILE
- 5 L PROFILE
- 6 ADHESIVE
- 7 COVERLAM TILE
- 8 CLIP

## FORMATS

- 3,5 mm
- 5,6 mm
- 10,5 mm
- 12 mm



# VENTILATED FAÇADES BY GRESPANIA

## 4. SLIM XL 45<sup>®</sup> SYSTEM

## 4. SLIM XL 45<sup>®</sup> SYSTEM

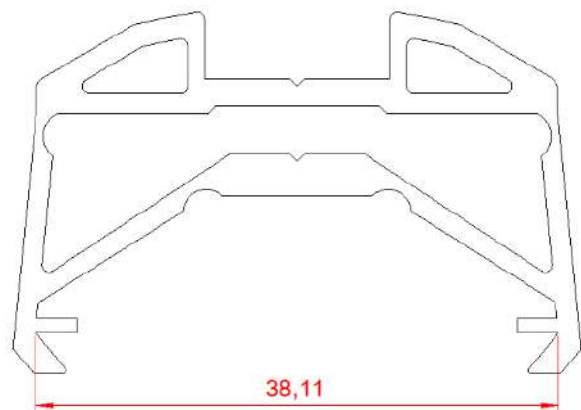


### FORMATS

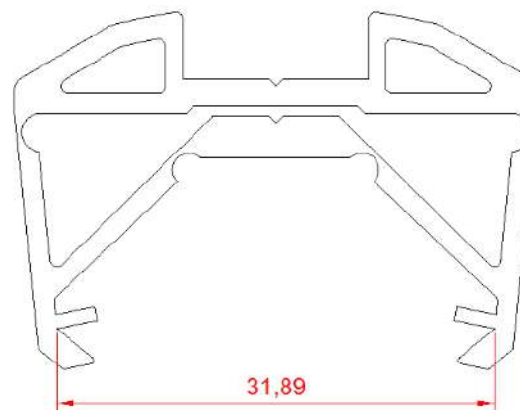
- 5,6 mm
- 10,5 mm
- 12 mm
- 20 mm

# 4. SLIM XL 45<sup>®</sup> SYSTEM

RESTING CLIP

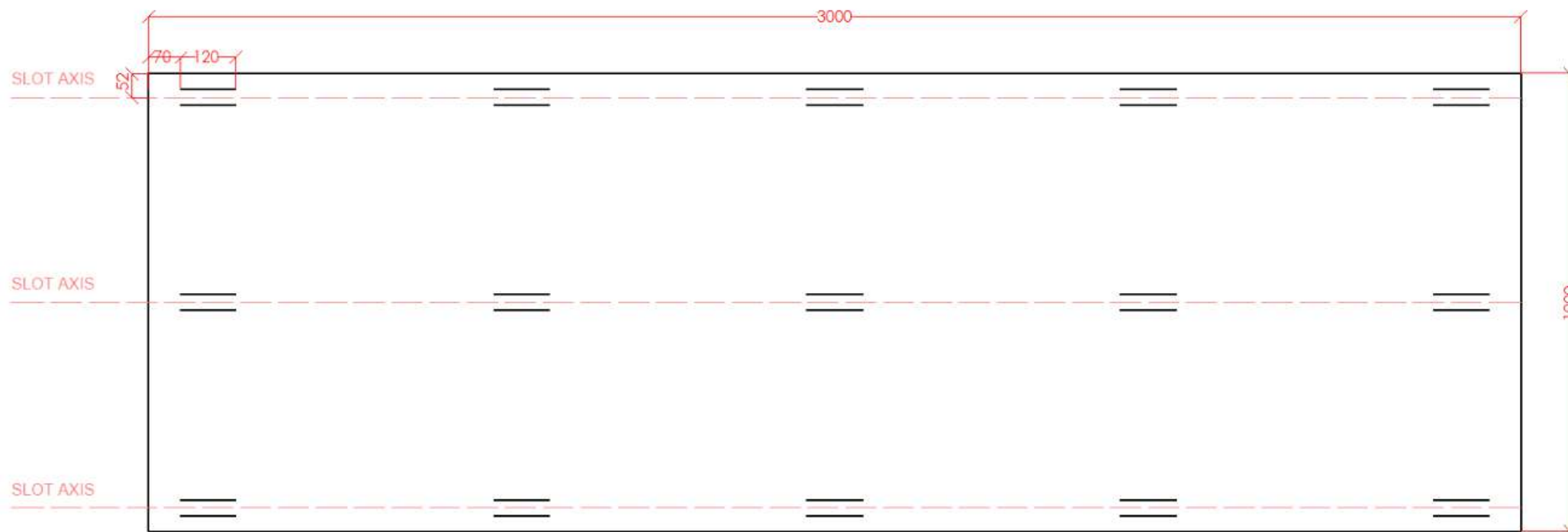


CLOSING LIMIT



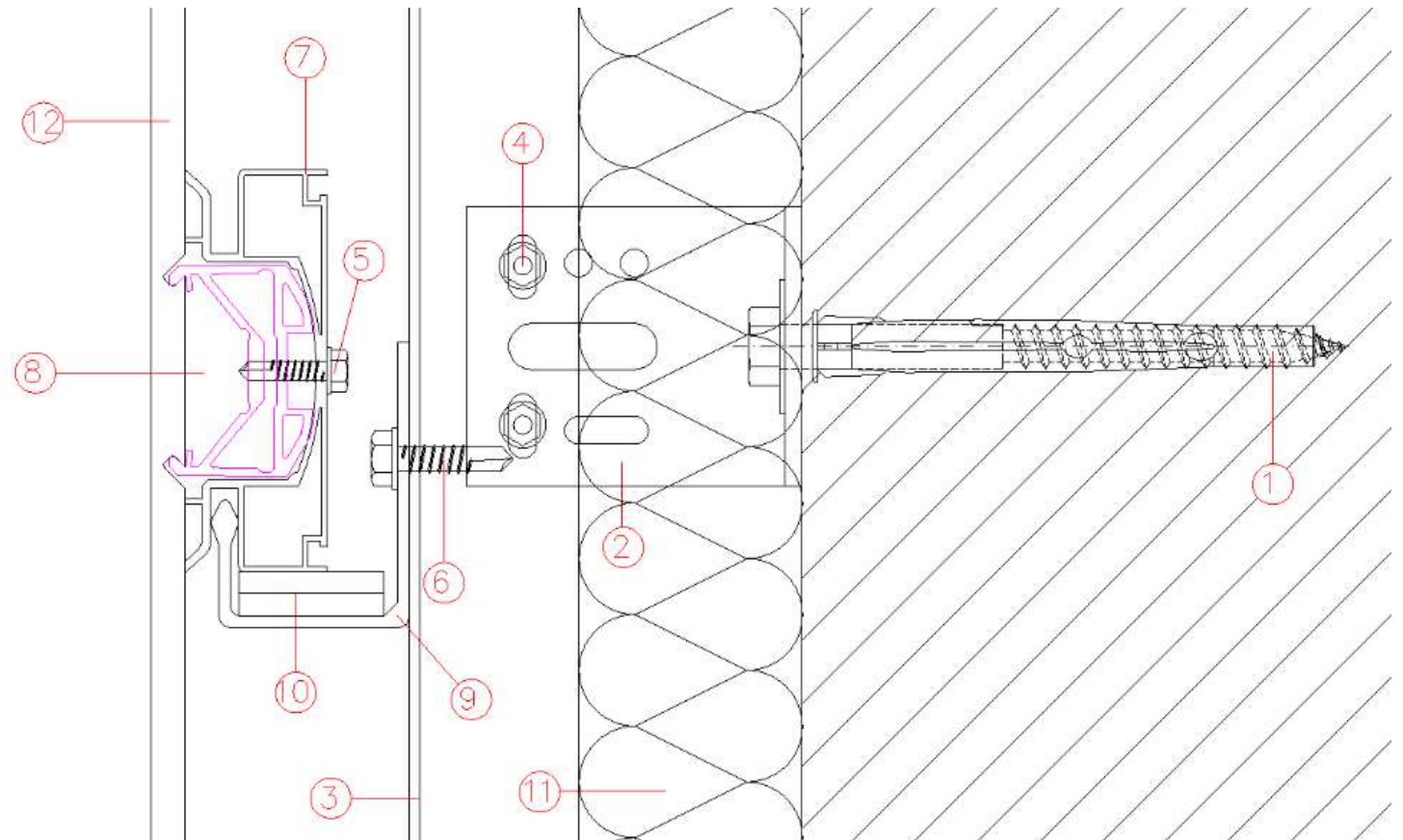
## FORMATS

- 5,6 mm
- 10,5 mm
- 12 mm
- 20 mm



## 4. SLIM XL 45<sup>®</sup> SYSTEM

1. ANCHORING SET TACO-NYLON
2. ALUMINUM BRACKET
3. VERTICAL T PROFILE
4. DIN 7504 4.8x25 INOX SCREW
5. DIN 7504 4.8x16 INOX SCREW
6. DIN 7504 6.3x25 INOX SCREW
7. XL 45 EXTERIOR HORIZONTAL PROFILE
8. XL 45 INTERIOR CLIP
9. XL 45 SIMPLE CONTINUOUS PROFILE
10. LOAD COMENSATING SPRING
11. ISOLATION
12. 5,6 mm COVERLAM SLAB



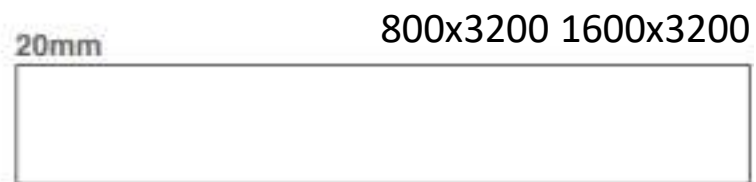
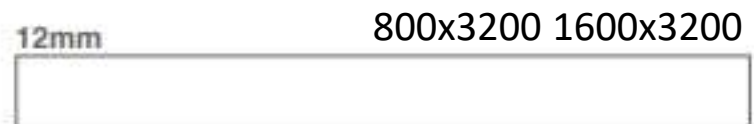
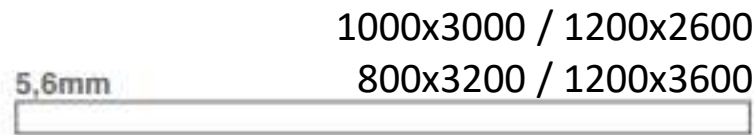


## 4. SLIM XL 45<sup>®</sup> SYSTEM

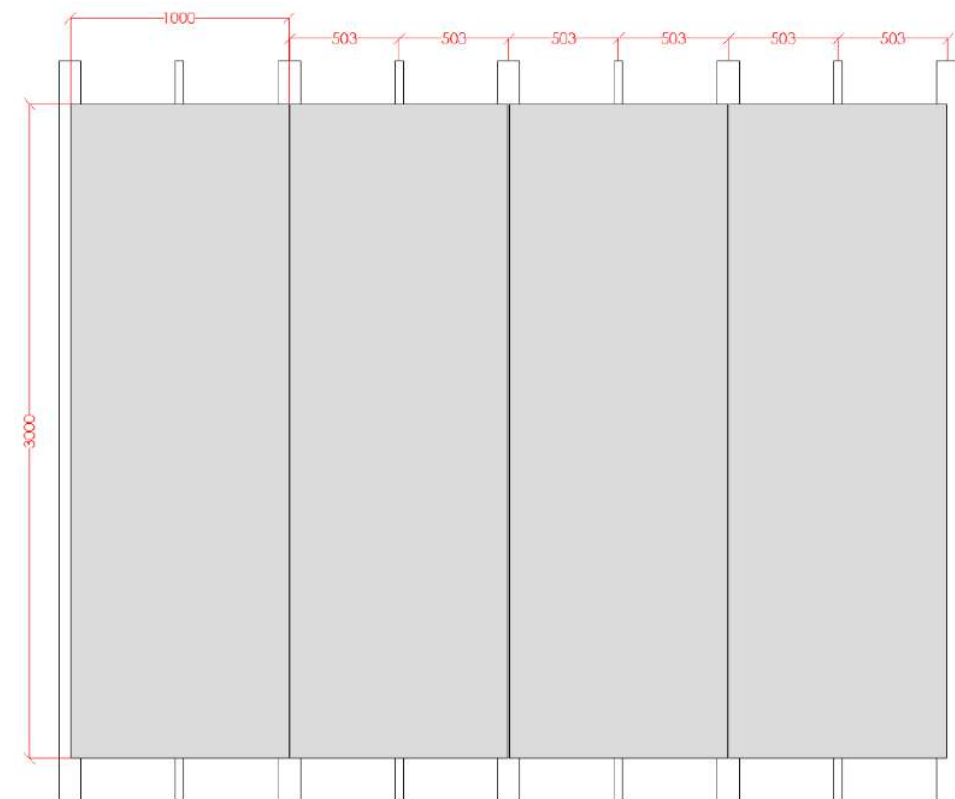
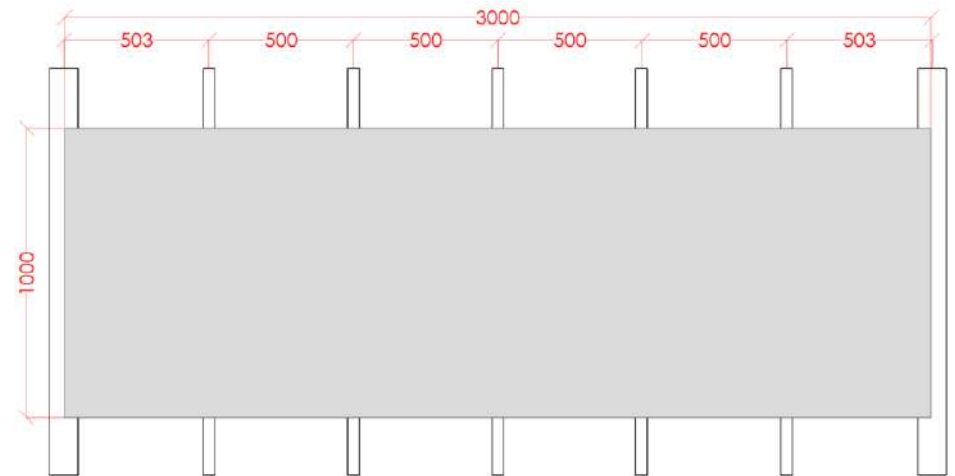


Sistema Slim XL 45 Façade

# 4. SLIM XL 45<sup>®</sup> SYSTEM: FORMATS



Metal substructure and number and position of anchors must be evaluated by competent designer, considering wind and another loads, thermal expansion requests and any local regulation.



# VENTILATED FAÇADES BY GRESPANIA

## 5. RIVET SYSTEM

# 5. RIVET SYSTEM

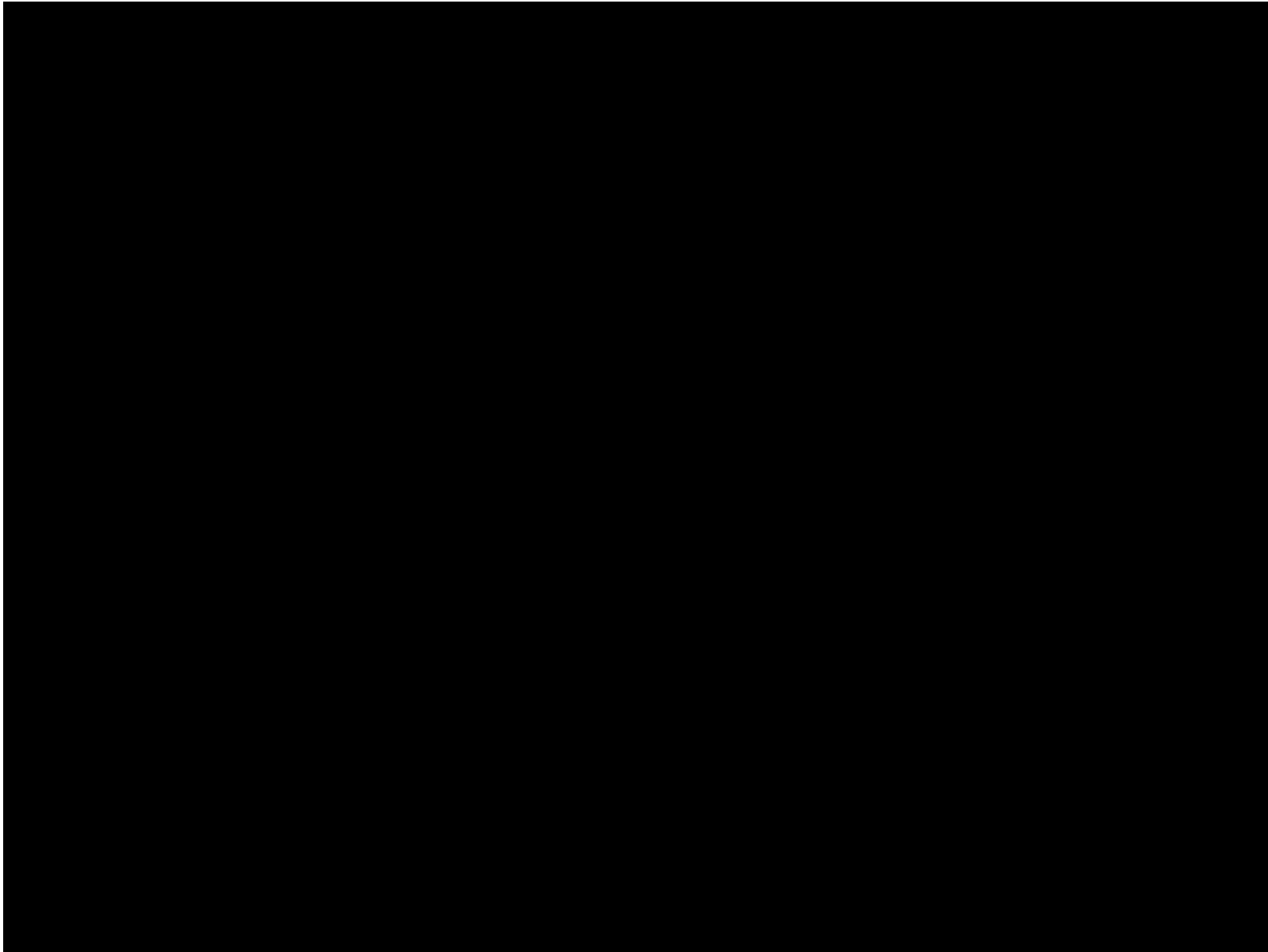


## FORMATS

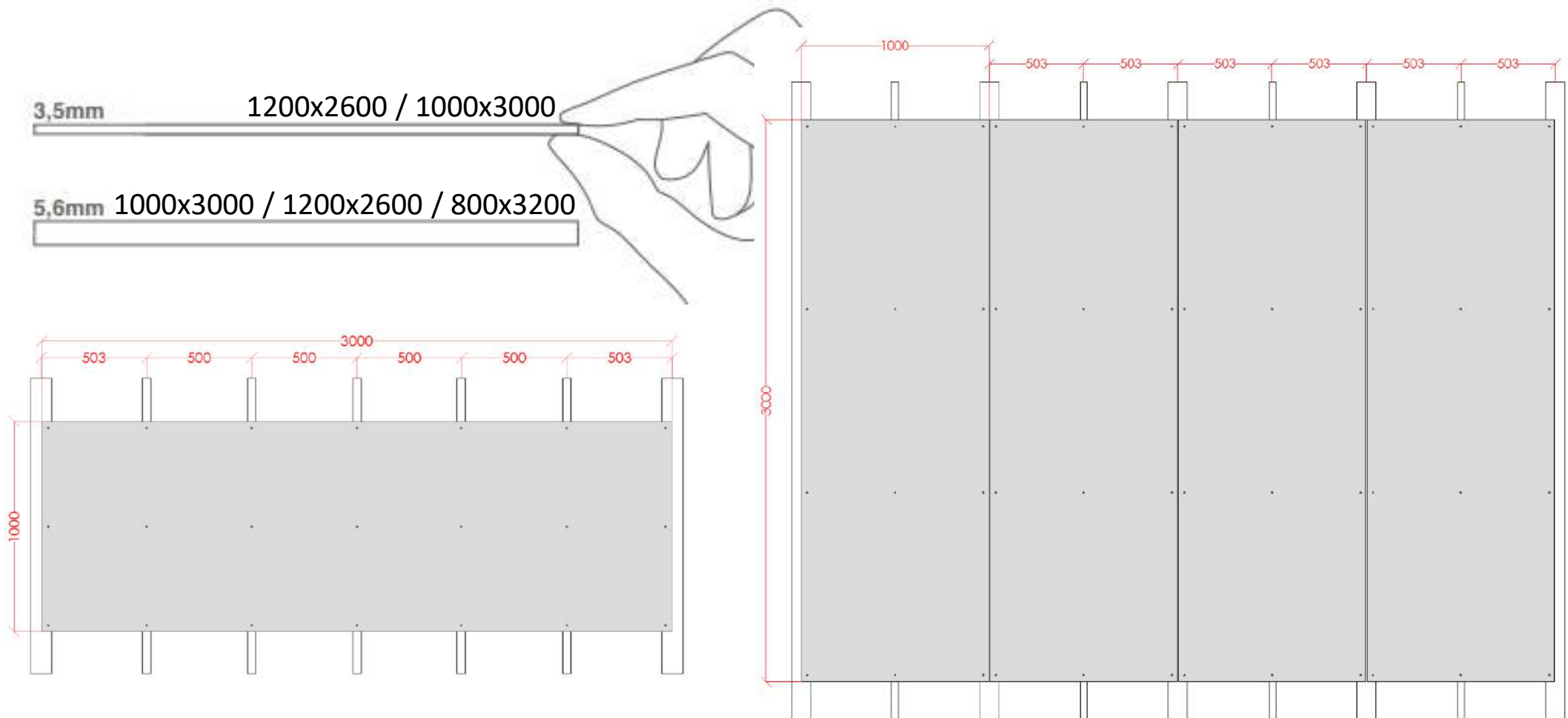
- 3,5 mm
- 5,6 mm

Metal substructure and number and position of anchors must be evaluated by competent designer, considering wind and another loads, thermal expansion requests and any local regulation.

# 5. RIVET SYSTEM



# 5. RIVET SYSTEM

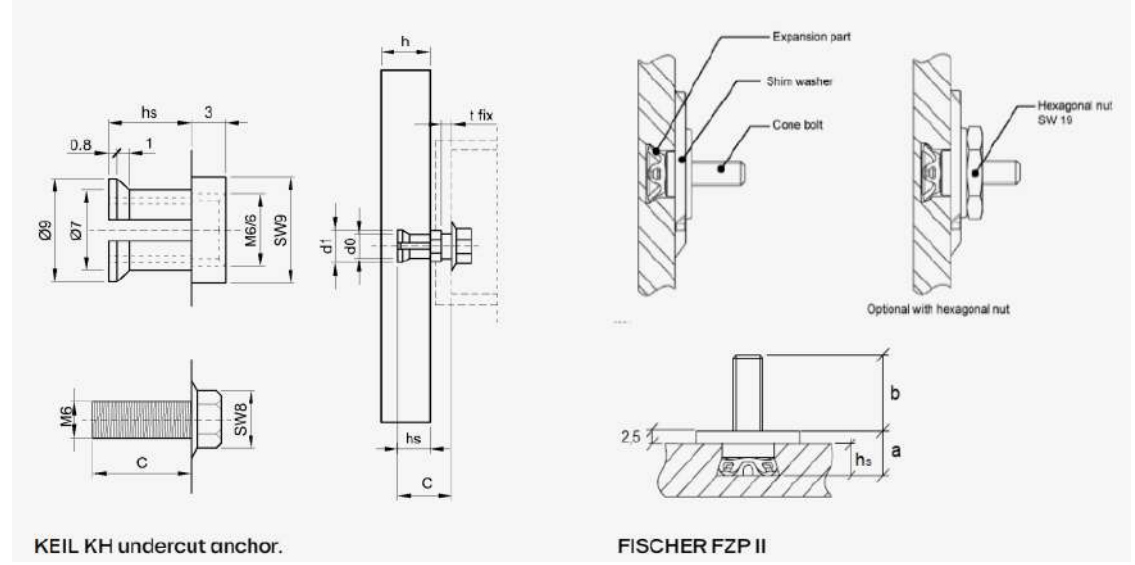
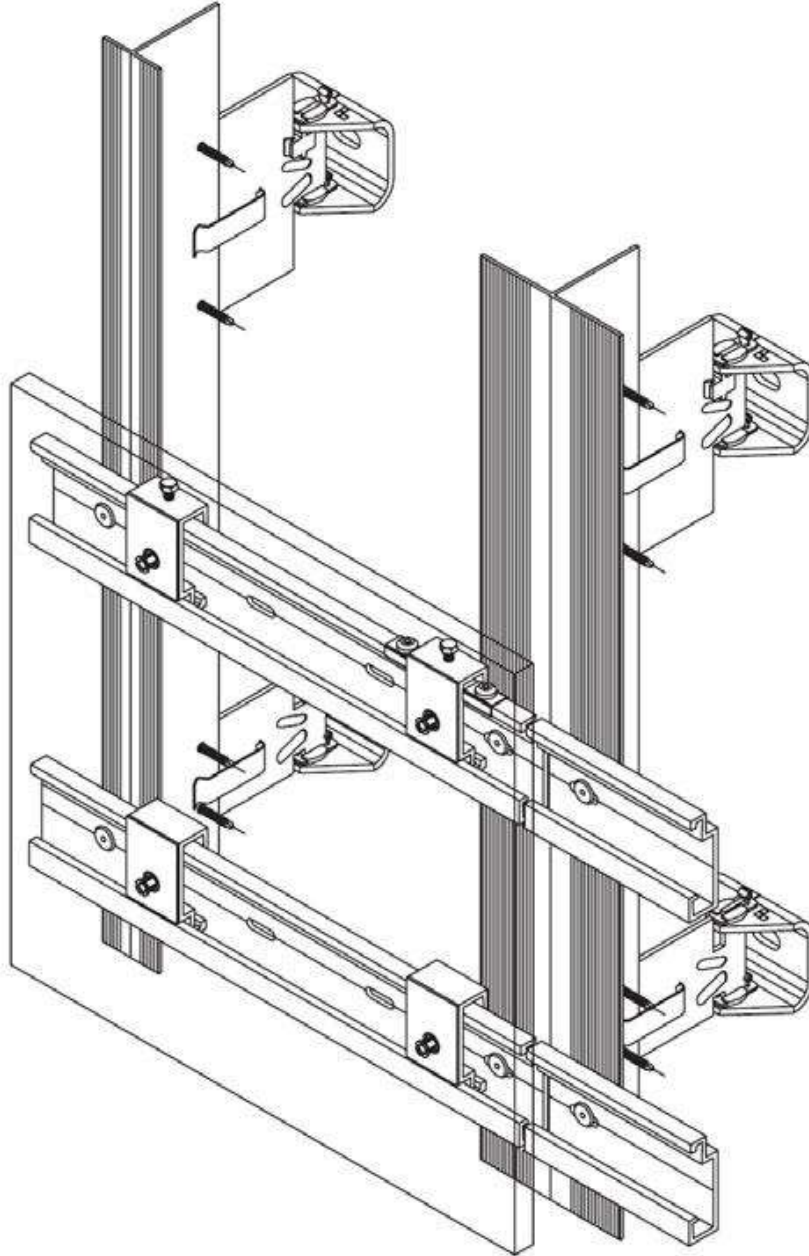


Metal substructure and number and position of anchors must be evaluated by competent designer, considering wind and another loads, thermal expansion requests and any local regulation.

# VENTILATED FAÇADES BY GRESPANIA

## 6. ANCHORING SYSTEM

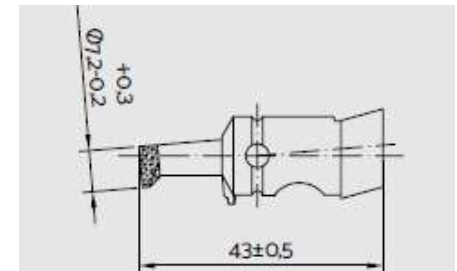
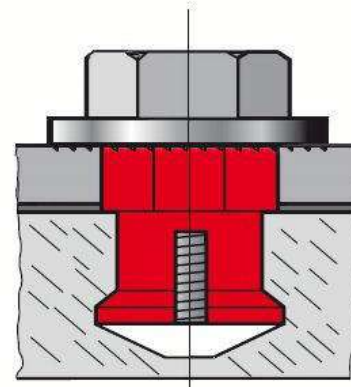
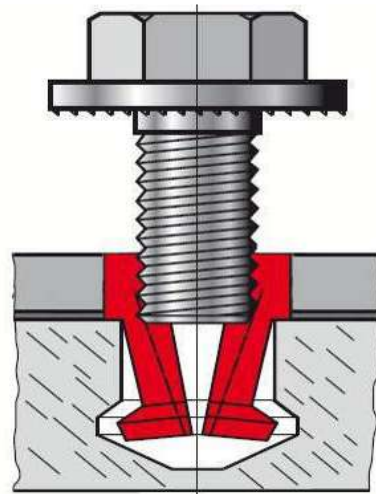
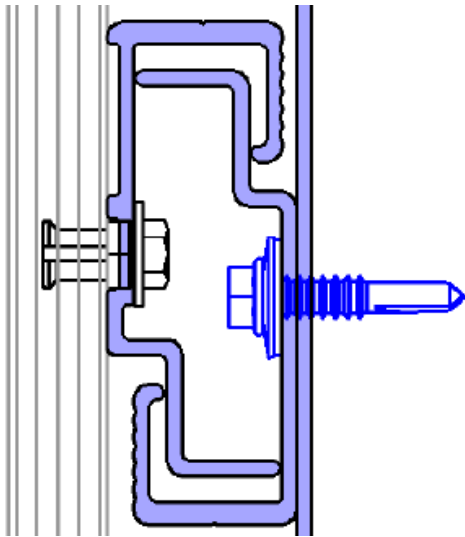
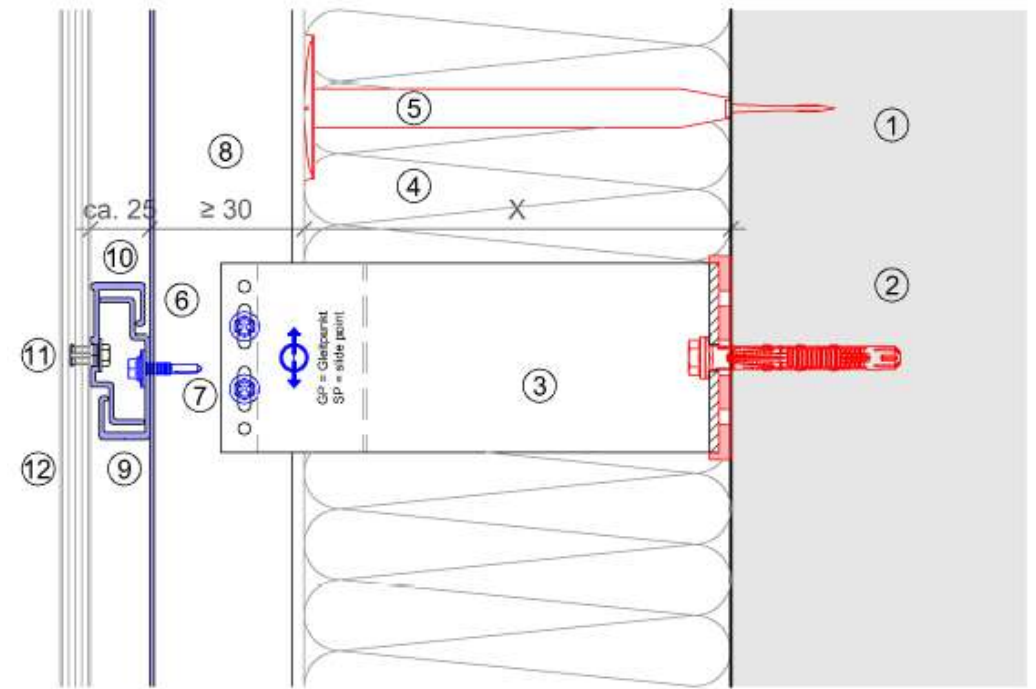
# 6. ANCHORING SYSTEM



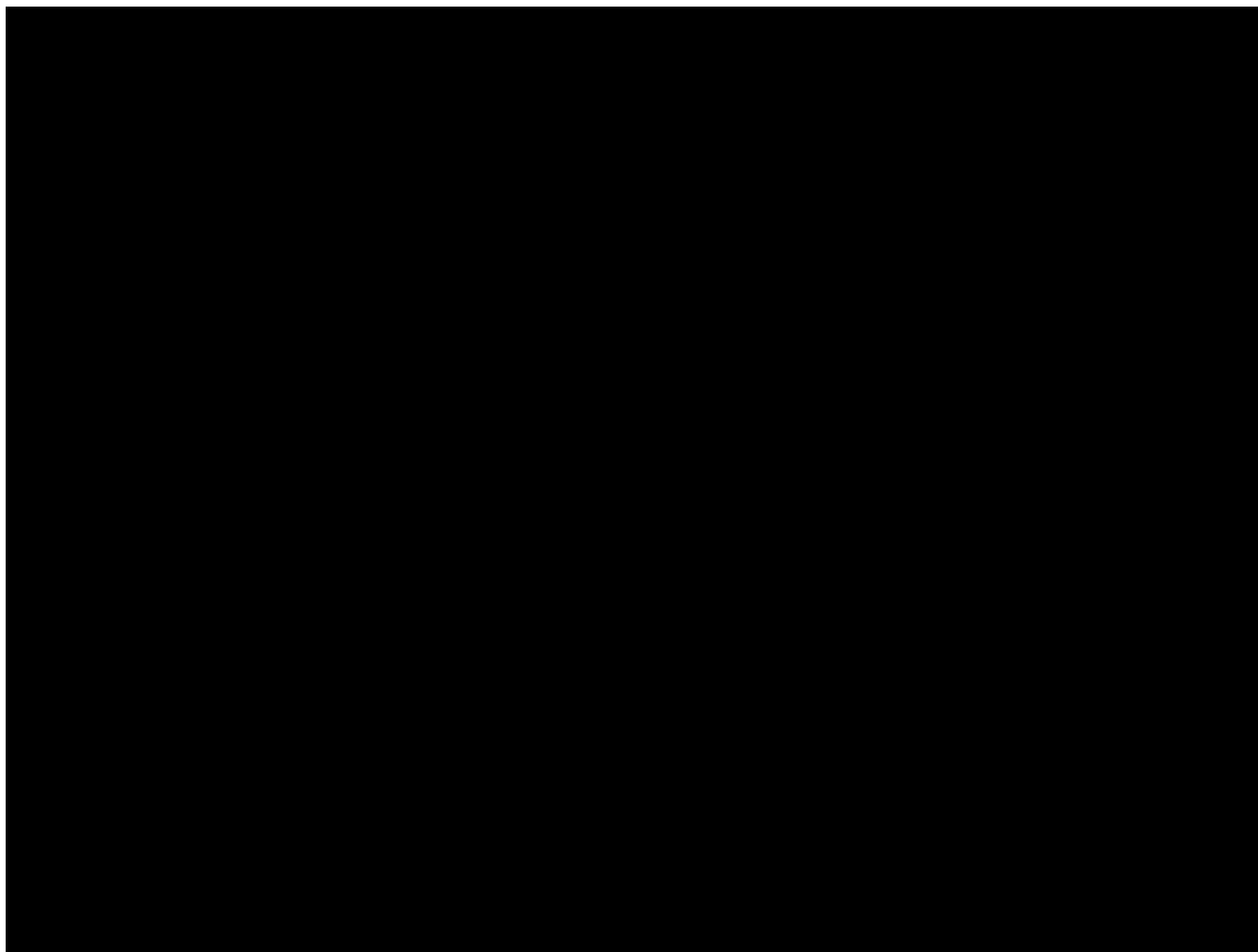
- FORMATS**
- 10,5 mm
  - 12 mm
  - 20 mm



# 6. KEIL® ANCHORING SYSTEM

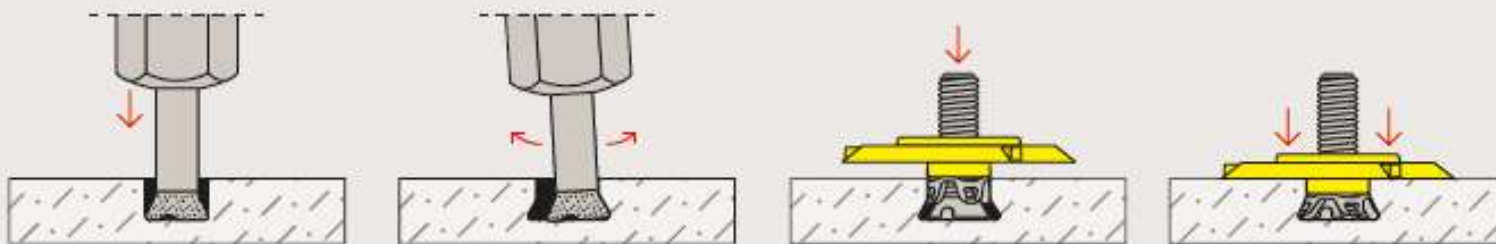


# 6. ANCHORING SYSTEM



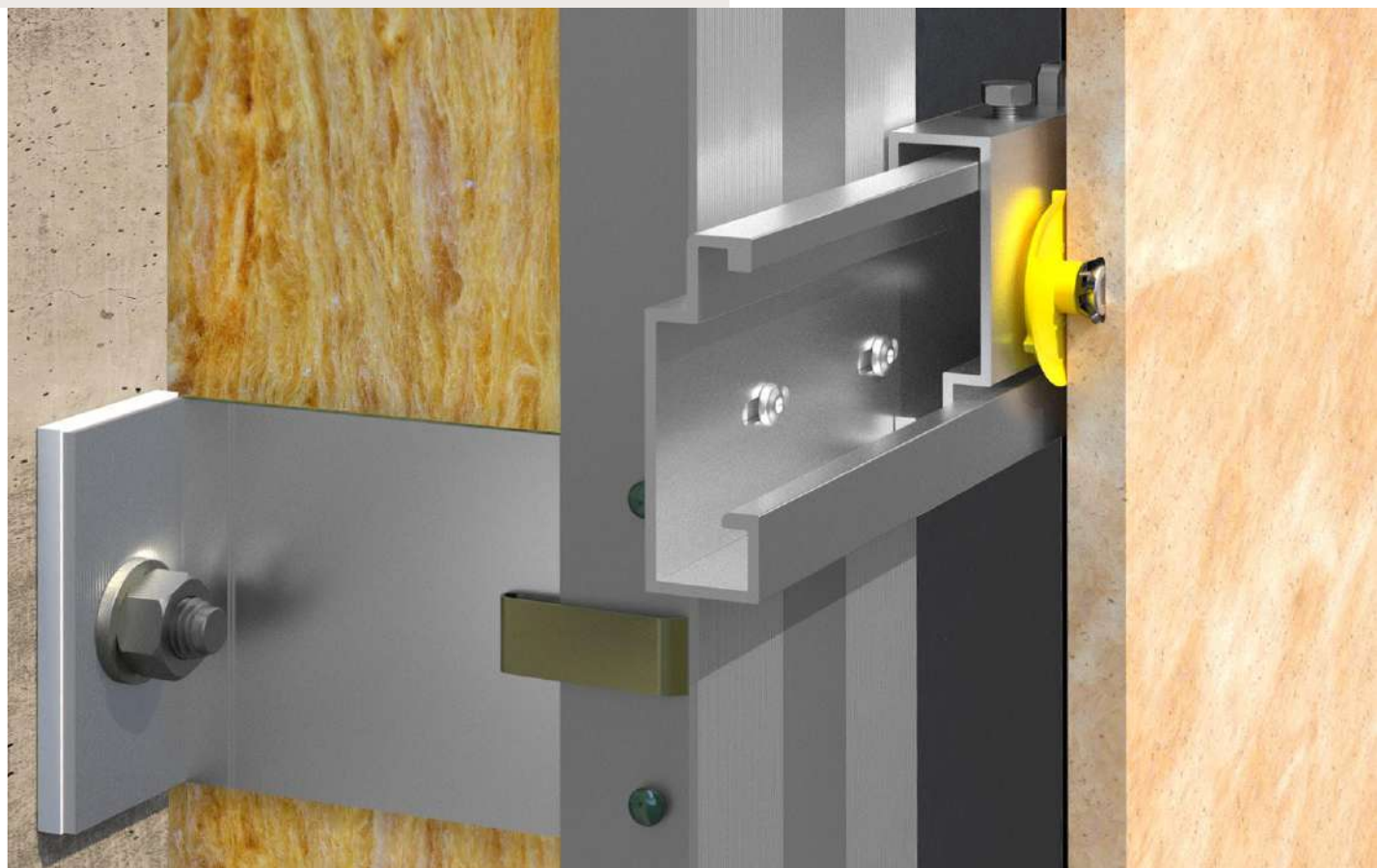
# 6. FISCHER® ANCHORING SYSTEM

## Installation



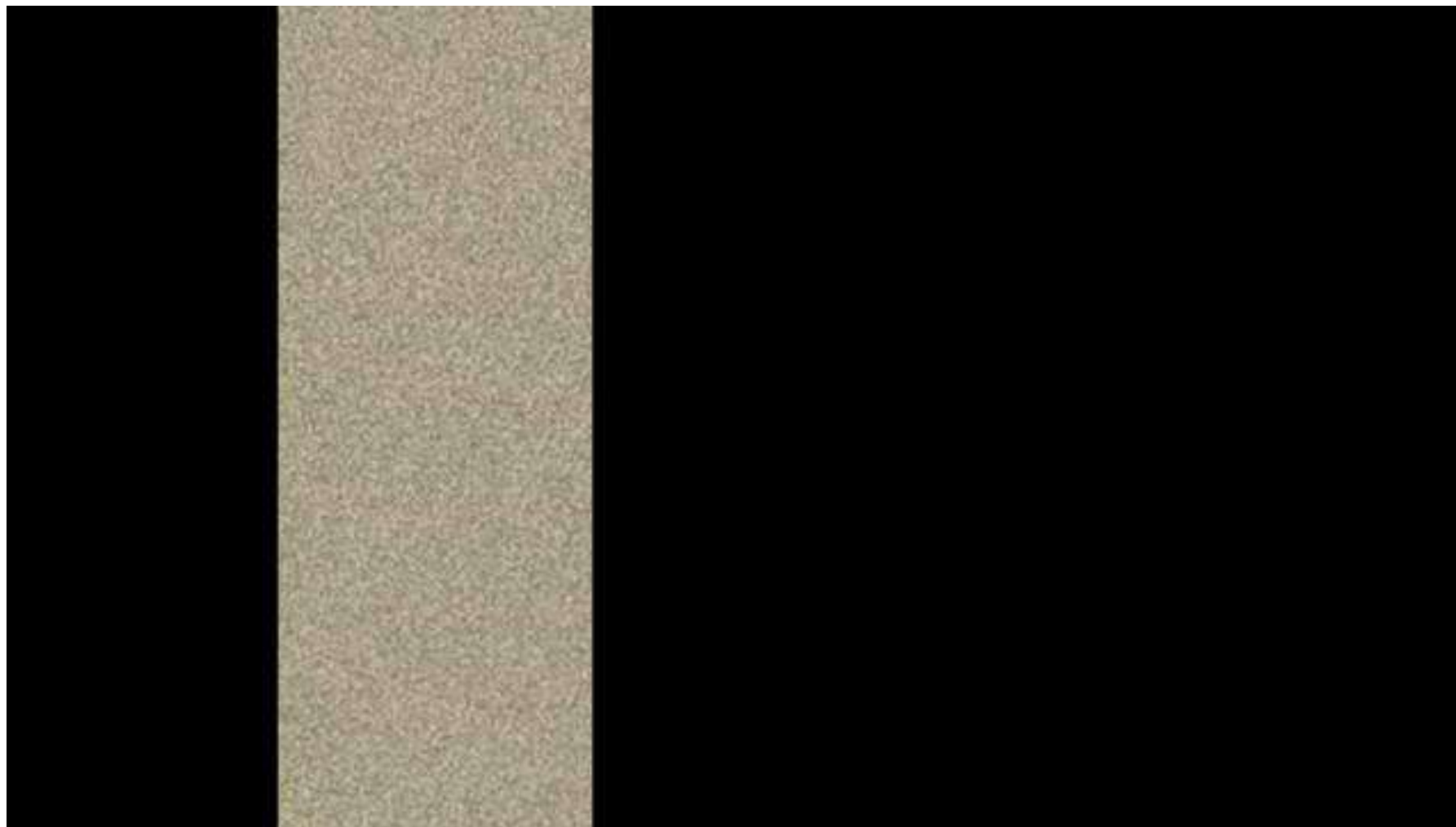
## FORMATS

- 10,5 mm
- 12 mm
- 20 mm



# 6. ANCHORING SYSTEM

fischer 



# 6. ANCHORING SYSTEM

## TEST REPORT KEIL Undercut Fixing



### Material

Description : Coverlam Top 12mm  
 Size of panel : 200 mm x 200 mm x 12,2 – 12,5 mm  
 Manufacturer / supplier : Grespania S.A.  
 Date of order : 26.05.2023

### Test Description

Anchor : KEIL Undercut Anchor KH  
 Insertion depth :  $h_s = 7$  mm  
 Drill hole size : cylindrical  $\varnothing 7$  mm  
 undercut  $\varnothing 9$  mm  
 Tested minimum edge distance : 100 mm  
 Type of drill : KEIL Diamond Facade Drill Bit  
 Type of load : central pull  
 Support :  $\varnothing 70$  mm

### Test Results

sample no.	fracture load [ kN ]	type of rupture	
		excavation cone [ mm ]	breakage of sheet
1	3,58	$\varnothing 55$	
2	3,48	$\varnothing 60$	
3	3,44	$\varnothing 65$	
4	3,96	$\varnothing 60$	
5	3,64	$\varnothing 60$	
6	3,88	60 x 50	
7	3,45	$\varnothing 50$	
8	3,48	65 x 60	
9	3,46	70 x 60	
10	3,34	$\varnothing 50$	

Arithmetic average : 3,57 kN  
 Coefficient of variation : 5,64 %  
 5 % quantile (75%) : 3,18 kN

## TEST REPORT KEIL Undercut Fixing



### Material

Description : Coverlam Top 12mm  
 Size of panel : 400 mm x 200 mm x 12,2 – 12,5 mm  
 Manufacturer / supplier : Grespania S.A.  
 Date of order : 26.05.2023

### Test Description

Anchor : KEIL Undercut Anchor KH  
 Insertion depth :  $h_s = 7$  mm  
 Drill hole size : cylindrical  $\varnothing 7$  mm  
 undercut  $\varnothing 9$  mm  
 Tested minimum edge distance : 100 mm  
 Type of drill : KEIL Diamond Facade Drill Bit  
 Type of load : shear load

### Test Results

sample no.	fracture load [ kN ]	type of rupture	
		excavation cone [ mm ]	breakage of sheet
1	6,34		X
2	6,19		X
3	6,15		X
4	6,33		X
5	6,55		X
6	6,34		X
7	6,38		X
8	6,39		X
9	6,65		X
10	6,27		X

Arithmetic average : 6,36 kN  
 Coefficient of variation : 2,37 %  
 5 % quantile (75%) : 6,05 kN

# 6. ANCHORING SYSTEM

10,5mm

1000x3000



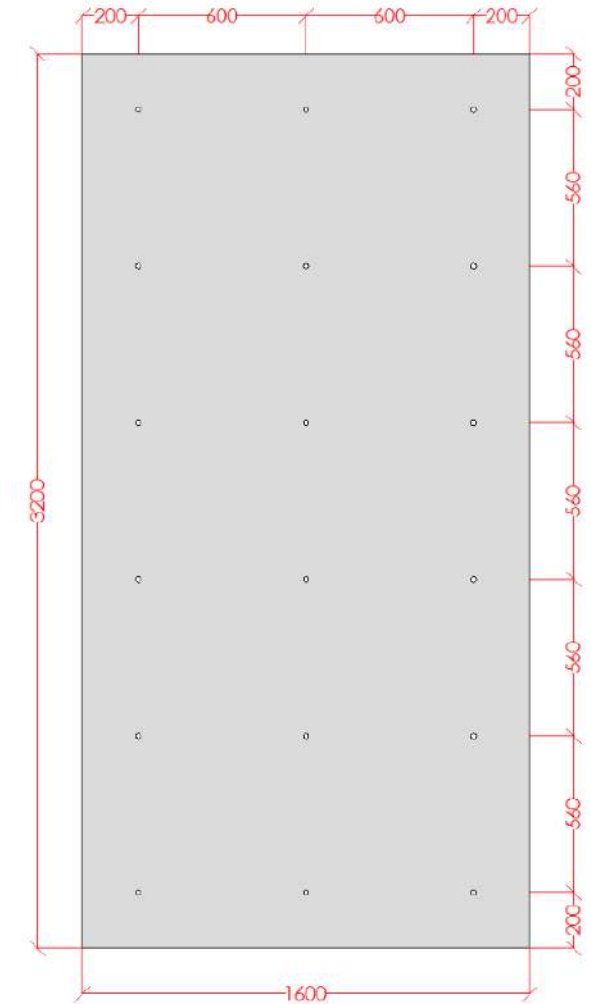
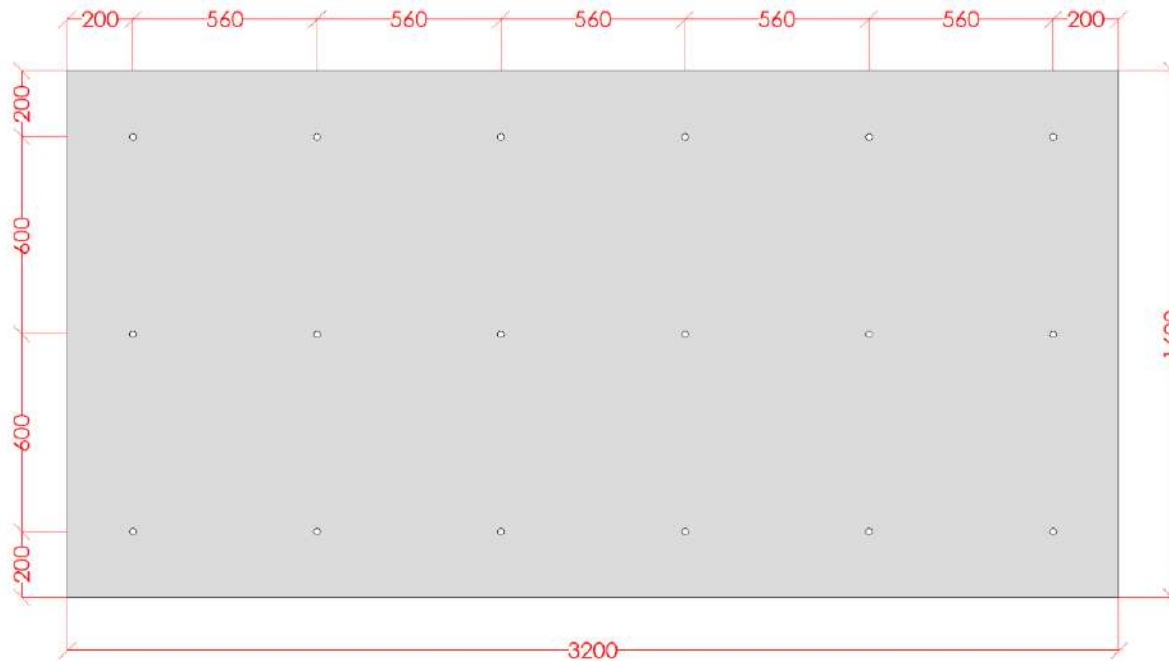
12mm

1600x3200



20mm

1600x3200



Metal substructure and number and position of anchors must be evaluated by competent designer, considering wind and another loads, thermal expansion requests and any local regulation.

# VENTILATED FAÇADES BY GRESPANIA



## ESTIMATED COSTS

# VENTILATED FAÇADE: ESTIMATED COSTS

Prices are estimated for a 1,000 sqm façade with 1000x3000 mm slabs and basic metal frame structure. The system 6.Anchoring has been estimated with 6 anchorages.

	1. EXPOSED CLIPS	2. CONCEALED CLIPS	3. CHEMICAL	4. SLIM XL 45®	5. RIVET	6. ANCHORING	
						KEIL	FISCHER
<b>PROFILES</b>	45 – 60 €/m <sup>2</sup>	45 – 60 €/m <sup>2</sup>	45 – 60 €/m <sup>2</sup>	45 – 60 €/m <sup>2</sup>	45 – 60 €/m <sup>2</sup>	60 – 70 €/m <sup>2</sup>	50 – 60 €/m <sup>2</sup>
<b>FIXATION</b>	10 – 12 €/m <sup>2</sup>	10 – 12 €/m <sup>2</sup>	20 – 25 €/m <sup>2</sup>	-	AS PER MANUFACTU RER	4-4.50 €/m <sup>2</sup>	3.5-4 €/m <sup>2</sup>
<b>MACHINING</b>	-	6 – 7 €/m <sup>2</sup>	-	14 – 16 €/m <sup>2</sup>	AS PER MANUFACTU RER	12 – 15 €/m <sup>2</sup>	12-15 €/m <sup>2</sup>
<b>TOTAL</b>	<b>55 – 75 €/m<sup>2</sup></b>	<b>60 – 80 €/m<sup>2</sup></b>	<b>65 – 85 €/m<sup>2</sup></b>	<b>60 – 75 €/m<sup>2</sup></b>	AS PER MANUFACTU RER	<b>75 - 90 €/m<sup>2</sup></b>	<b>65 - 80 €/m<sup>2</sup></b>

Metal substructure and number and position of anchors must be evaluated by competent designer, considering wind and another loads, thermal expansion requests and any local regulation.



# VENTILATED FAÇADES BY GRESPANIA



## PROJECTS

# VENTILATED FAÇADES: PROJECTS

MAXIC BOX OFFICES

Model: Basic blanco

Architect: OMA Octavio Mestre Arquitectos

Interior designers: Elastiko Architects

Location: Barcelona, Spain



Photo: José Hevia



# VENTILATED FAÇADES PROJECTS

TOURISM AGENCY

Arquitect: Sanahuja & Partners

Material: Basic Blanco and Tabaco (H&C E) Location:

Alcocebre, Spain



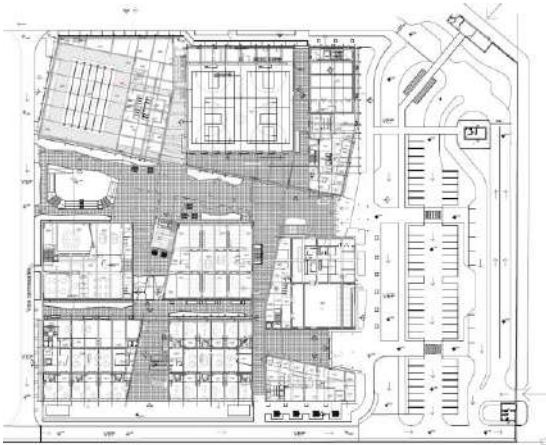
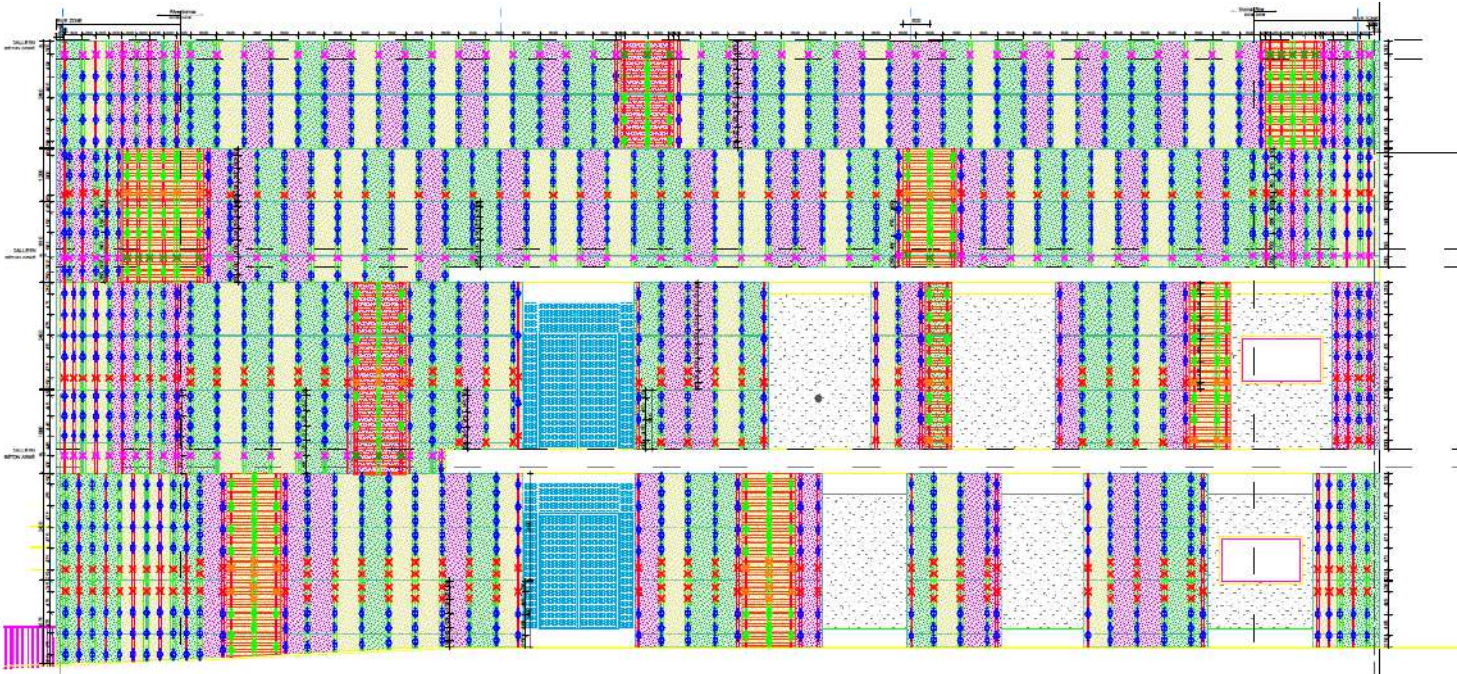
# VENTILATED FAÇADES PROJECTS

ÉCOLE AMERICAINE  
Arquitect: Omar Alaoui  
Material: Volga 60x120  
Location: Rabat, Morocco



# VENTILATED FAÇADES PROJECTS

ÉCOLE AMERICAINE  
Arquitect: Omar Alaoui  
Material: Volga 60x120  
Location: Rabat, Morocco



# VENTILATED FAÇADES PROJECTS



ÉCOLE AMERICAINE  
Arquitect: Omar Alaoui  
Material: Volga 60x120  
Location: Rabat, Morocco

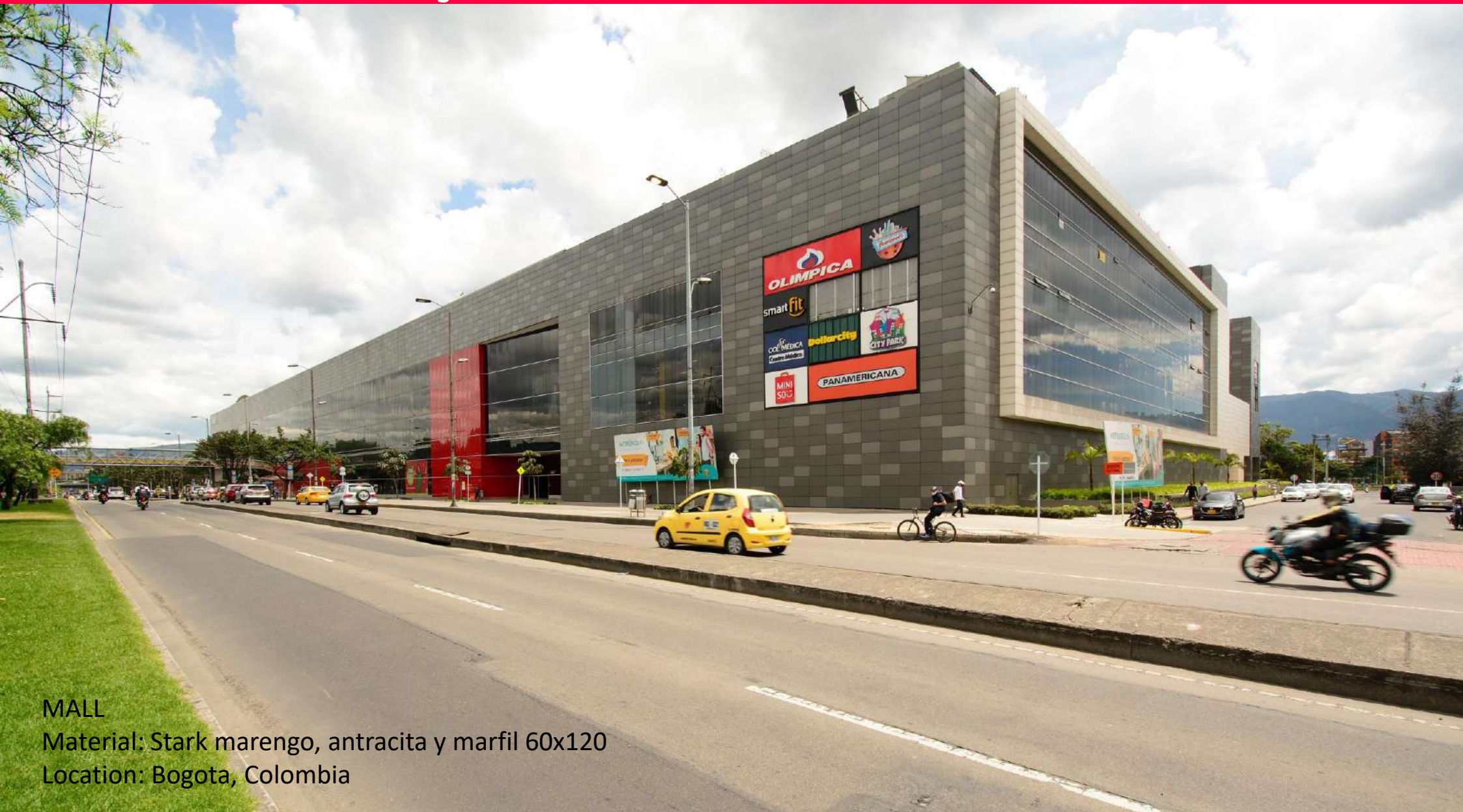


# VENTILATED FAÇADES PROJECTS



ÉCOLE AMERICAINE  
Arquitect: Omar Alaoui  
Material: Volga 60x120  
Location: Rabat, Morocco

# VENTILATED FAÇADES PROJECTS



MALL

Material: Stark marengo, antracita y marfil 60x120

Location: Bogota, Colombia



# VENTILATED FAÇADES PROJECTS

PARTICULAR LOGEMENT

Studio: Studio Architecture Horizons Group

Material: Coverlam Oxido 100x300 Marfil and Negro

Location: Pristina, Kosovo



# VENTILATED FAÇADES PROJECTS

## DAELIM ACRO FOREST TOWERS

Arquitecto: Ratio Design

Interioristas: Heerim

Material: Coverlam (H&CTiles)

Location: Seoul, South Korea



# VENTILATED FAÇADES PROJECTS

## DAELIM ACRO FOREST TOWERS

Arquitecto: Ratio Design

Interioristas: Heerim

Material: Coverlam (H&CTiles)

Location: Seoul, South Korea



# VENTILATED FAÇADES PROJECTS

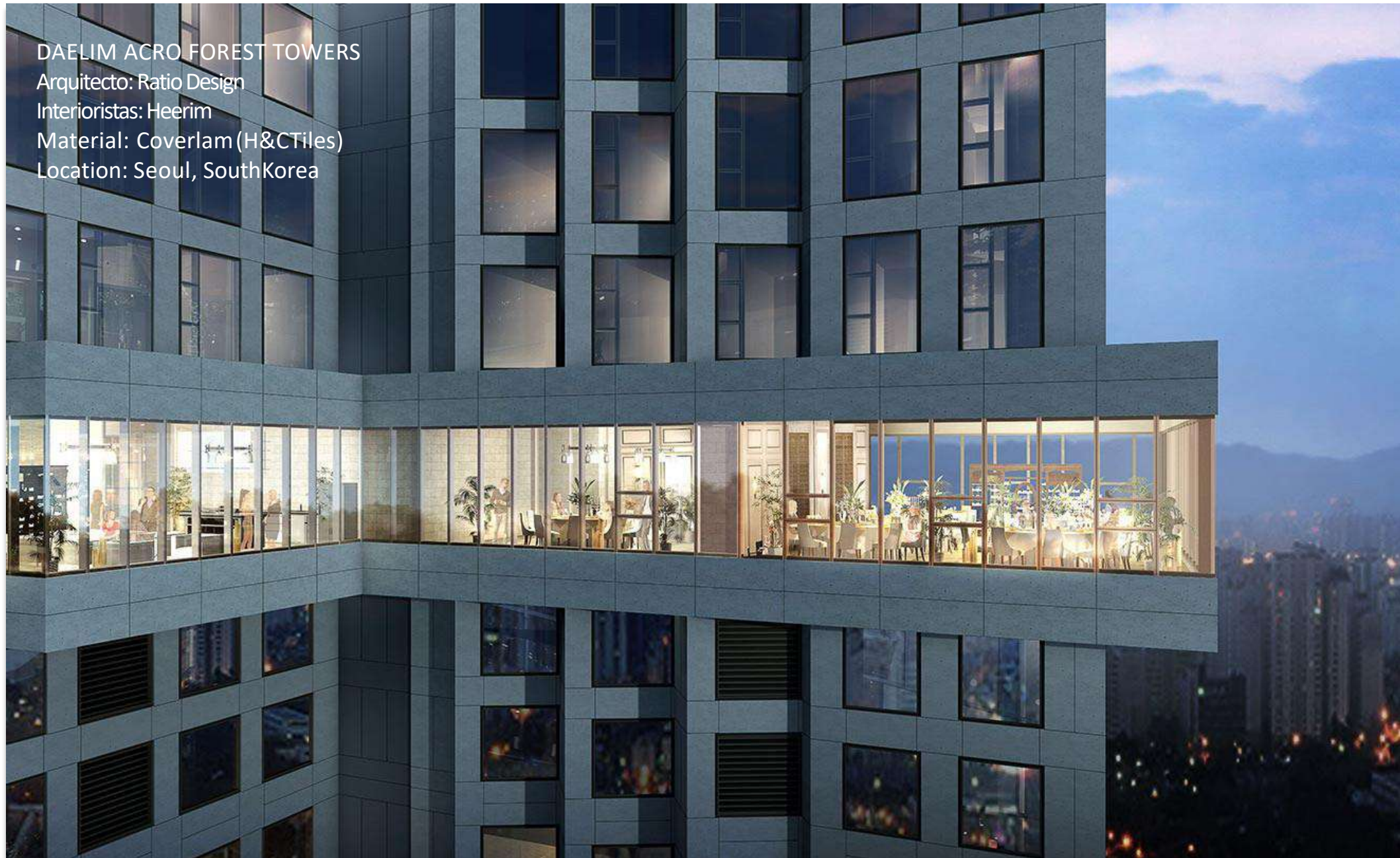
DAELIM ACRO FOREST TOWERS

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# H&C TILES



[www.grespania.com](http://www.grespania.com)

**GRESPANIA**  
CERAMICA

# H&C TILES

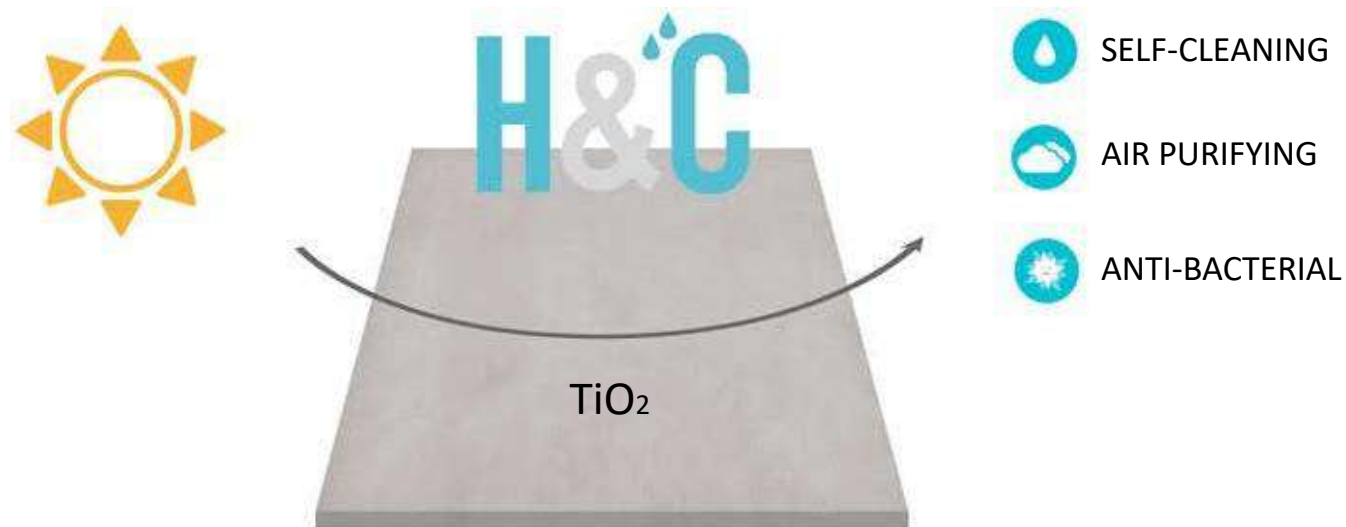


**H&C**  
Healthyand-  
**TILES**



# WHAT IS H&C TILES

H&C TILES is the ceramic application using Hydrotect technology. A titanium dioxide coating provides ceramics with three properties:



The exposure of Titanium Dioxide to ultraviolet radiation produces a photocatalytic reaction that generates **active oxygen** and decomposes the dirt in smaller and less adhesive particles.

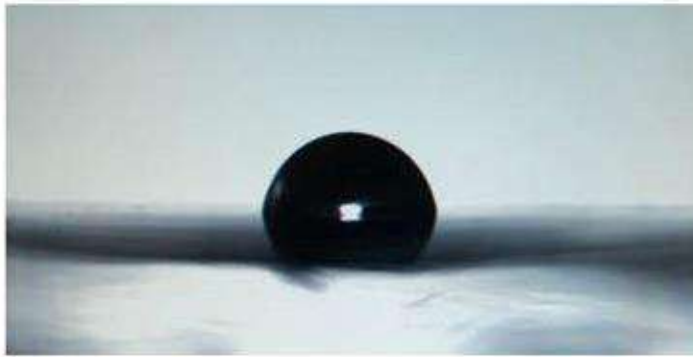
Thanks to the **hydrophilia** properties the water expands on the surface uniformly, facilitating the dragging and the elimination of the dirt.



# WHAT IS HYDROPHILIA

Hydrophilia is defined as the conduct of any material with an affinity for water causing the water to expand and drag the particles more easily.

Water repellent  $> 90^\circ$



The water is distributed in the form of droplets that subsequently generates marks and dirt.

Highly hydrophilic material  $< 10^\circ$



The water is distributed homogeneously creating a sheet thin film and enhancing the self-cleaning effect.

# APPLICATIONS

## OUTDOOR FORMULA



- Self-cleaning
- Air purifying



## INDOOR FORMULA

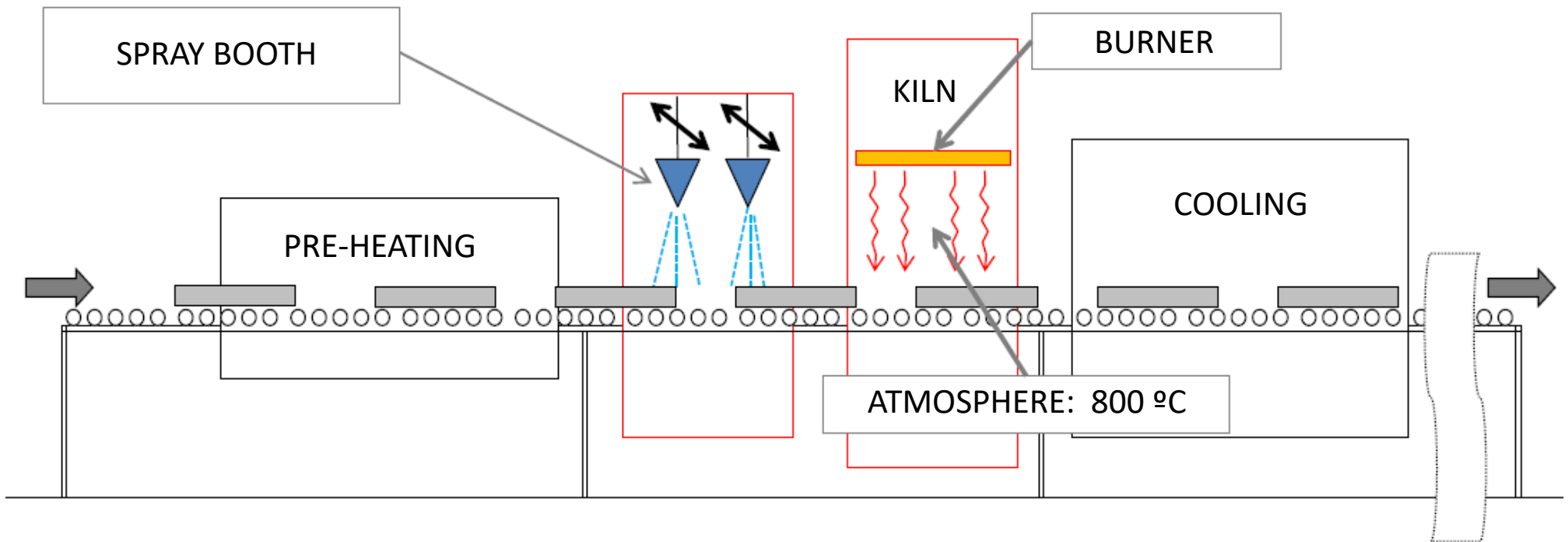


- Anti-bacterial



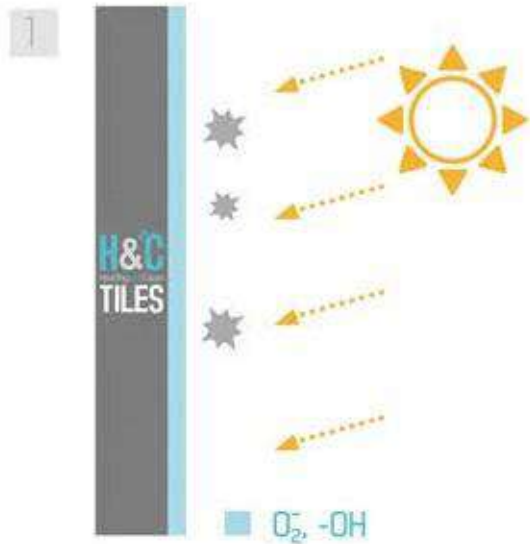
# APPLICATION PROCESS

PROCESS AFTER THE TOTAL MANUFACTURING. THE SLAB BAKED AGAIN

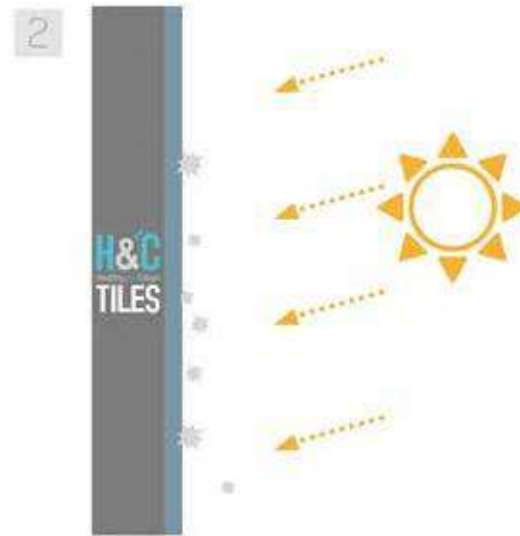


- H&C TILES raw material is water-base coating liquid including  $\text{TiO}_2$
- Apply coating liquid on tiles by spray **on the whole surface**
- Bake tiles under 800°C

# SELF-CLEANING



- When sunlight radiates a surface treated with H&C TILES, a thin layer of **active oxygen** ( $O_2, -OH$ ) is generated, which reduces the static adhesion of dirt particles in the atmosphere

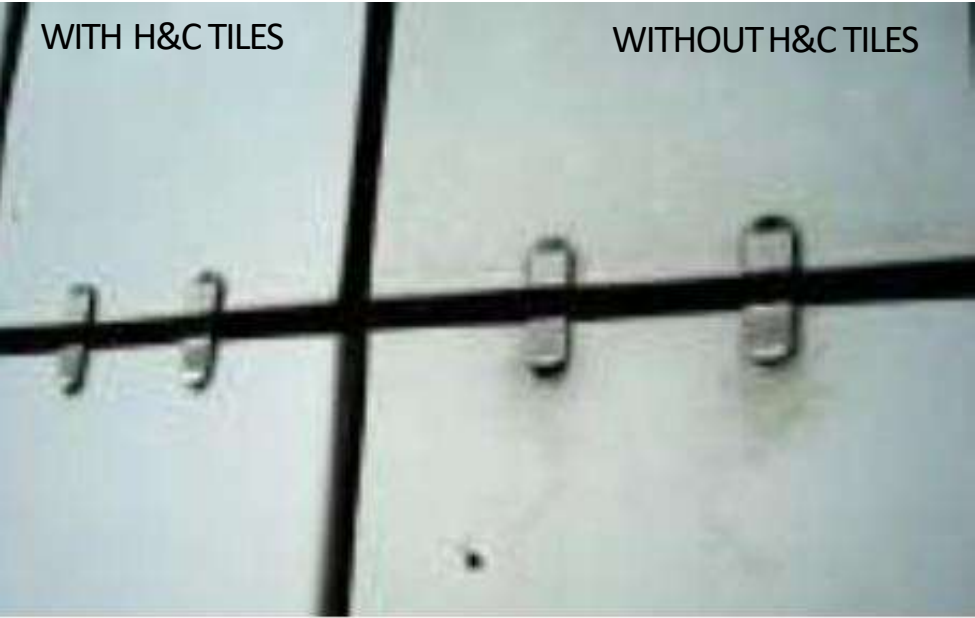
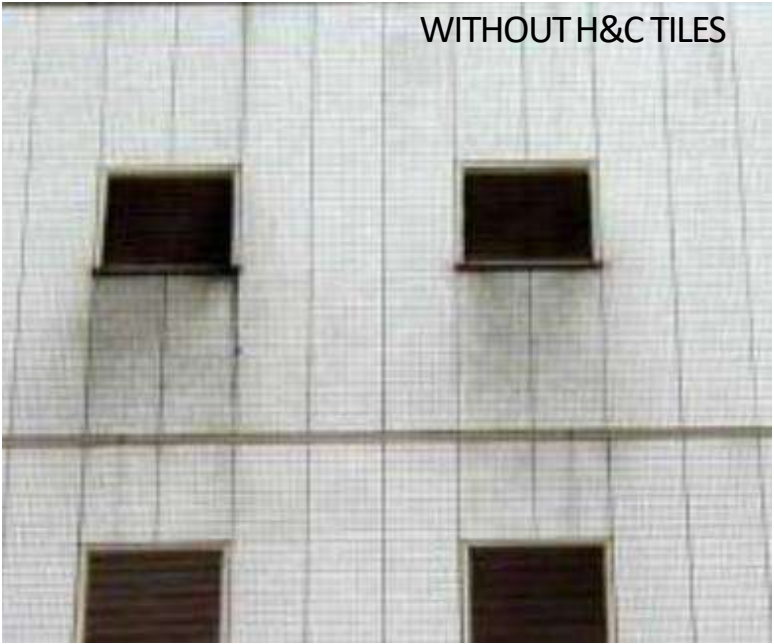


- The active oxygen **breaks down** the dirt, thus reducing its adhesion capacity / strength.



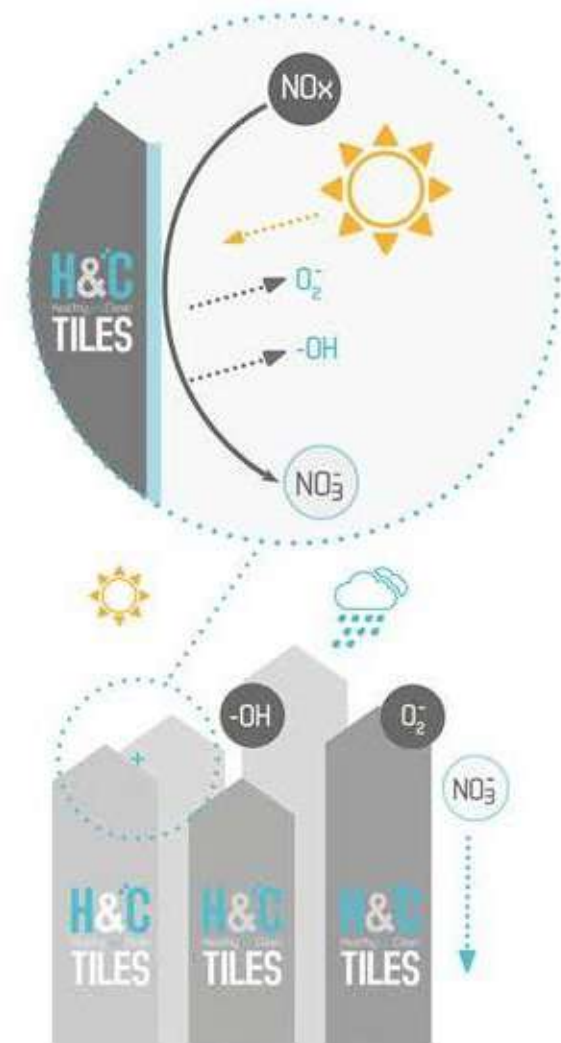
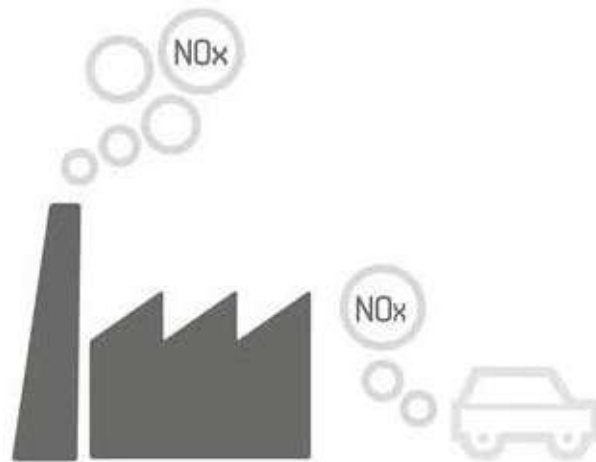
- The higher **hydrophilic** properties of H&C TILES ease the homogeneous distribution of water between the surface of the ceramic material and the layer of dirt, removing the latter by means of the drag of the water.

# SELF-CLEANING



# AIR PURIFYING

- One of the main problems for the environment and for people today is **environmental pollution** due to the presence of NO<sub>x</sub> (Nitrogen Oxide).
- H&C TILES façades is a key agent in the removal of this compound from the atmosphere.
- H&C TILES facades generate **active oxygen**, which transforms the **NO<sub>x</sub> into NO<sub>3</sub>**
- The removal of NO<sub>3</sub> from the facade occurs when **rainwater** hits the surface of the tile.



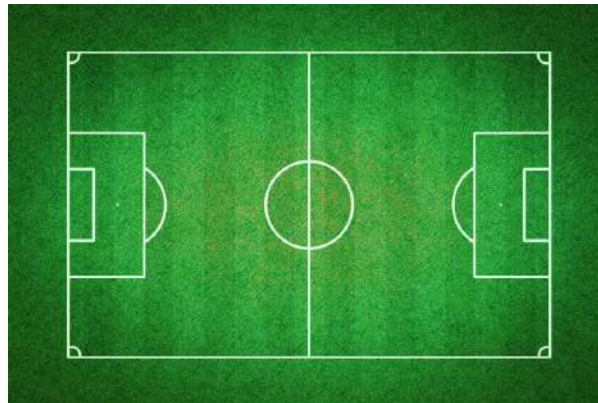
# AIR PURIFYING

Due to H&C TILES, nitrogen oxides become non-harmful substances

10,000 m<sup>2</sup> façade treated with H&C TILES



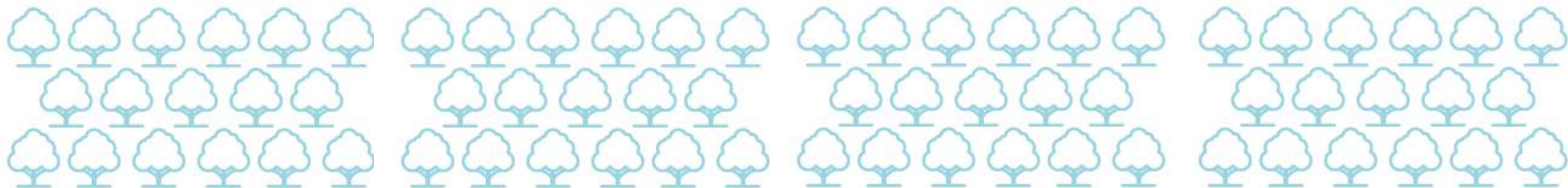
Air purifying capacity equivalent to a forest the size of 9 football fields



Eliminates the NO<sub>x</sub> emitted by 740 cars a day



Façades with H&C TILES make up clean and ecological cities.



# ENERGETIC CERTIFICATION

## CONTRIBUTIONS TO LEED CERTIFICATION

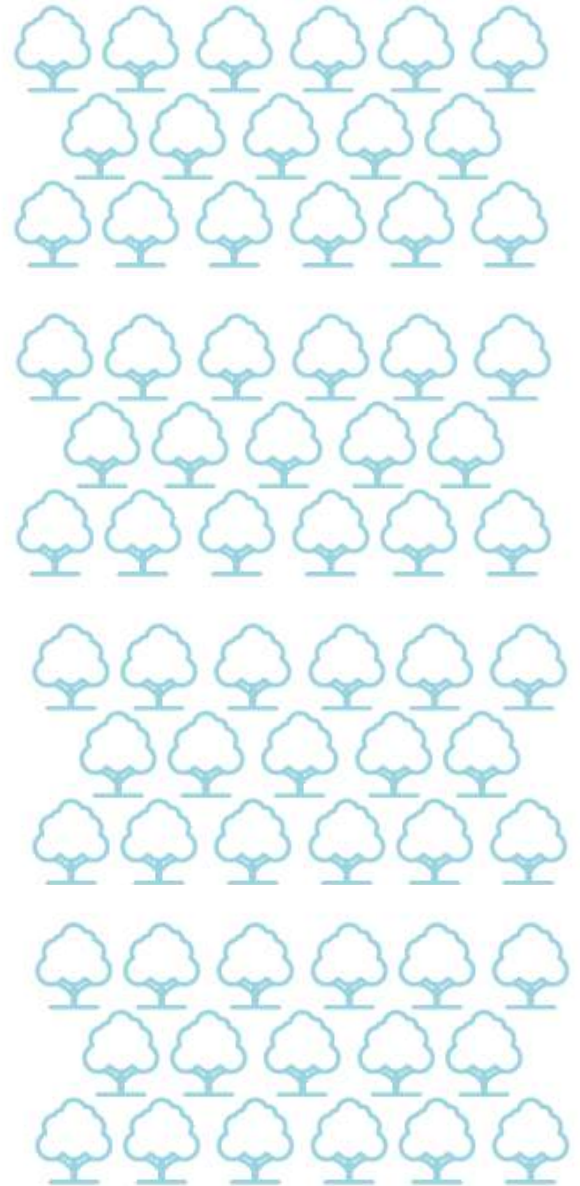
*Leadership in Energy and Environmental Design*

Up to **5 POINTS** in Energy and Environmental Design

## CONTRIBUTION TO BREEM CERTIFICATION

*Building Research Establishment Environmental Assessment Method*

MAT 3: Responsible sourcing of materials





# PROJECTS

## COVERLAM TECHNICAL STONE GRESPANIA

DAELIM ACRO FOREST TOWERS

Arquitecto: Ratio Design Material: Coverlam (H&CTiles)

Interioristas: Heerim Location: Seoul, SouthKorea

# Thank you!

**GRESPANIA**  
CERAMICA

GRESPANIAS.A. CV-16  
Ctra. Castellón-Alcora km2,200 P.O.Box 157  
12080 Castellón  
tel +34964 34 44 11  
fax +34 964 34 4401  
[mail@grespania.com](mailto:mail@grespania.com)

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14001:2004 certificate N° 44 104127697

