CUPA CLAD
by CUPA GROUP

NATURAL SLATE RAINDSCREEN CLADDING SYSTEMS
Developed alongside Danish architects and contractors, CUPACLAD® systems offer a revolution in cladding applications with natural slate. The systems offer a new, durable, sustainable and easy to install alternative with unique character.

The CUPACLAD® rainscreen cladding systems have been developed from the necessity of adapting natural slate to new architectural trends and styles that demand a more sustainable approach. The slate used in our systems is a natural product carefully selected for its durability and characteristics from our 16 quarries. The CUPACLAD® systems combine the efficiency of ventilated cladding and the properties of natural slate offering a competitive and sustainable alternative for all cladding requirements.

The CUPACLAD® range offers a number of alternatives guaranteeing a perfect adaptation for a variety of projects.

The fasteners used for the CUPACLAD® systems have been developed following an in-depth design process to ensure a quick and easy installation.

CUPACLAD® offers a new world of design possibilities using natural slate.
Slate is a natural product of unparalleled technical properties that adds value to any project.

**Durability**

Used since Roman times, natural slate is long-lived, remarkably durable, fire resistant and naturally waterproof. Its aesthetic and technical properties remain unaltered, keeping the elegance and character for much longer than any man-made alternatives.

Each slate is handcrafted by our skilled “splitters.” No additional treatment is required. Natural slate is only subject to extraction and mechanical transformation. Unlike man-made materials, there are no chemical or heating processes involving slate. The low impact processing and unparalleled durability of natural slate result in an extremely low carbon footprint.

**Environmentally friendly**

Characterized by its natural color and individual texture, natural slate is a material that can enhance the value and beauty of any property. Every slate is unique giving an unparalleled character to any project remaining unaltered for many years.

**Character**

Each slate is handcrafted by our skilled “splitters.” No additional treatment is required. Natural slate is only subject to extraction and mechanical transformation. Unlike man-made materials, there are no chemical or heating processes involving slate. The low impact processing and unparalleled durability of natural slate result in an extremely low carbon footprint.

**EXCLUSIVE SELECTION of Natural Slate for The CUPACLAD® systems**

The slate used for our systems is a natural product carefully selected for their technical properties and character from our 16 quarries. We carry out stringent quality control processes to guarantee its exceptional performance for all types of cladding design requirements. Our Exclusive Cladding Range ensures a quick and easy installation due to our selection process for regularity and flatness (against other standard roofing selections). They are also drilled in a specific position depending on the CUPACLAD® system of choice. Even the packaging, smaller in size and weight, is designed for greater ease and speed during installation.

CUPA PIZZARRAS has been quarrying natural slate for more than 120 years. Our quality control experts choose the perfect slate for each system based on wind load and impact criteria to guarantee its performance as a cladding material. Our Exclusive Cladding Range meets and exceeds the highest American quality standards.

**LIFE-CYCLE ASSESSMENT**

Life-cycle assessments allow measurement of the environmental footprint from a cradle to grave perspective. These studies confirm CUPACLAD real, natural slate to be a far more sustainable option than man-made and processed products.

*Life-cycle assessment, studies all the stages of a product’s life from production to recycling. Data calculated for 1 square meter in a year. Sources: CUPACLAD® slate (http://grouo/KXluk); Fiber cement (http://goo.gl/0SaVvU); Zinc (http://goog/eY7eN7q); Terracotta (http://goo.gl/M3kW).

**CUPACLAD® - THE SUSTAINABLE CLADDING**

CUPACLAD® natural slate systems are the perfect choice for an efficient and sustainable cladding. Due to the nature of the slate production process, our CUPACLAD cladding has a lower environmental impact than other man-made alternatives. 5 times less CO2 emissions than fiber cement, 324 times less water absorption than zinc cladding and 10 times less energy consumption than clay.
THE EFFICIENCY OF A RAINSCREEN CLADDING

Rainscreen cladding is a construction solution widely used and popular amongst architects and developers worldwide.

Ventilated facades are now considered the most efficient system for building envelopes or building envelope construction. The combination of a ventilated system together with an insulation system gives numerous advantages in terms of thermal and acoustic properties. It avoids thermal bridges and condensation issues.

A rainscreen cladding system consists of a load bearing wall, a layer of insulation and a covering material fixed to the building with the help of a supporting structure. This system creates a gap between the insulation and covering material called an air cavity.

For optimum performance the system must allow constant air circulation through the cavity creating a natural convection process. Warm air inside the cavity is lifted and released to the exterior resulting in a continuous ventilation cycle. This so called “chimney effect” is one of the advantageous characteristics of a rainscreen cladding.

MAIN ADVANTAGES:

Elimination of Humidity
Rainwater penetration is greatly reduced and any moisture is removed through the constant ventilation, reducing the risk of any condensation.

Structural Movement Reduction
The air cavity avoids temperature variations resulting in less pronounced structural movements. This reduces the risk of cracks and other structural issues.

Savings
Thermal efficiency is increased due to the cooling effect in summer and greater heat retention in winter.

Durability
The cladding material is kept dry due to continuous ventilation. Many issues related to humidity (efflorescence etc...) are reduced resulting in a longer life span of the installation.

CUPACLAD® SYSTEMS

CUPACLAD® systems have been developed to be able to adapt to any kind of project combining alternative fastening methods and slate formats.

101 SERIES
Invisible Fastening

101 Logic
Simple and balanced

101 Random
Dynamic and creative

101 Parallel
Uniform and regular

201 SERIES
Visible Fastening

201 Vanguard
Modern and efficient

ACCURACY AND RELIABILITY OF INSTALLATION
MAXIMUM FIRE RESISTANCE
CONFORMITY WITH REQUIRED TECHNICAL STANDARDS
101 SERIES

The slate is fastened using our specially designed self-tapping screws to ensure optimal installation while remaining completely invisible to minimize design impact.

Screws are made of stainless steel with a large flat head that enables an easier and more secure installation.

CUPACLAD® 101 Logic features a balanced design that highlights the unique texture and look of the natural slate.

CUPACLAD® 101 Logic system utilizes 16 x 8 slate fitted horizontally with invisible fasteners.

- **Slate size**: 16” x 8”
- **Nominal thickness**: 1/8” - 3/8”
- **Slates per ft²**: 1.67
- **Weight per ft² (slate)**: ≤ 6.14 lb/ft²
CUPACLAD® 101 Random

DYNAMIC AND CREATIVE

CUPACLAD® 101 Random combines different slate sizes, creating a dynamic and unique design.

CUPACLAD® 101 Random features 20 x 10, 20 x 8 and 20 x 6 slates fitted horizontally with invisible fasteners.

<table>
<thead>
<tr>
<th>Slate size</th>
<th>20&quot; x 10&quot;</th>
<th>20&quot; x 8&quot;</th>
<th>20&quot; x 6&quot;</th>
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<tbody>
<tr>
<td>Nominal thickness</td>
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<td>Slates per ft²</td>
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<tr>
<td>Weight per ft² (slate)</td>
<td>≤ 6.14 lb/ft²</td>
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</tr>
</tbody>
</table>

CUPACLAD® 101 Random features 20 x 10, 20 x 8 and 20 x 6 slates fitted horizontally with invisible fasteners.

Slate size

16" x 10"

Nominal thickness

1/4" - 3/8"

Slates per ft²

1.43

Weight per ft² (slate)

≤ 6.14 lb/ft²

CUPACLAD® 101 Parallel

UNIFORM AND REGULAR

CUPACLAD® 101 Parallel features a regular design with even joints. This results in a uniform and consistent layout that highlights the character of natural slate.

CUPACLAD® 101 Parallel features 16 x 10 horizontally aligned slates fitted with invisible screws.

Slate size

16" x 10"

Nominal thickness

1/4" - 3/8"

Slates per ft²

1.43

Weight per ft² (slate)

≤ 6.14 lb/ft²
Fastening the metal brackets

The metal brackets are installed in alternate courses on each side of the vertical profile. It is required to use both fixed point metal brackets (on the upper end of each profile) and brackets with a sliding point to allow for expansion of the profile.

Installation of insulation

Choose the most suitable insulation material based on the project requirements. Install in accordance with the manufactures recommendations.

Installing the trim

Install a ventilation flashing at the first course of the cladding and the metal flashings at single points (edges, window frames, etc).

Installation of insulation

Choose the most suitable insulation material based on the project requirements. Install in accordance with the manufacturers recommendations.

Installing the first course slate

Cut a slate to a height of 3 1/4" approx. Fasten it inverted matching the bottom edge of the slate with the first 101 horizontal batten.

Fasten the "L" shaped profiles

Fasten the vertical profiles to the metal brackets allowing at least 3/4 for an air cavity. The vertical profiles must be perfectly level before fitting the remainder of the system components.

Installing the CUPACLAD® 101 horizontal profiles

Install the horizontal battens with the vertical ones at each intersection. The horizontal battens must be perfectly level as their position will dictate the final position of the slate. The bottom batten for the first course of slate must be inverted for proper installation.

Fastening the slates with the self-drilling CUPACLAD® 101 screw

Each slate must be aligned with the upper edge of the batten and fitted with two stainless steel CUPACLAD® 101 self-drilling screws.
1. Pizarra natural CUPA PIZARRAS
2. Pizarra de arranque
3. Tornillo autotaladrante CUPACLAD
4. Perfil horizontal CUPACLAD
5. “L” shaped vertical profile 50 x 60

EXTERNAL WINDOW REVEAL

TOP FLASHING FOR PITCHED ROOF

AIR CAVITY

CONSTRUCTION DETAILS CUPACLAD® 101 (Logic, Random, Parallel)

VENTILATED PROFILE AND TOP FLASHING

1. CUPA PIZARRAS natural slate
2. First course slate
3. Self-drilling CUPACLAD® 101 screw
4. Horizontal CUPACLAD® 101 profile
5. “L” shaped vertical profile 20 x 24
6. Self-drilling stainless steel screw
7. “Fixed point” metal bracket
8. “Sliding point” metal bracket
9. Insulation
10. Load bearing wall
11. Ventilated flashing
12. Top metal flashing
13. Sill metal trim
14. Metal lintel trim
15. Metal jambs trim
16. Metal trim
CUPACLAD® 201 Vanguard stainless steel clips have been designed by our R&D department. Every slate is fastened to the horizontal batten using two clips that remain partially visible once the system is installed.

**FASTENING SYSTEM**

**201 Vanguard**

The stainless steel clips have flanges that work just like a spring absorbing differences in the thickness of the slates. The result is a perfectly leveled cladding surface.

**EASE OF INSTALLATION**

Our metal rails feature small holes in them to mark the exact position where the clips should be placed. This avoids the necessity of drawing vertical guidelines and individual fastening for the clips.

**PERFECT RESULT**

The stainless steel clips have flanges that work just like a spring absorbing differences in the thickness of the slates. The result is a perfectly leveled cladding surface.

**CUPACLAD® 201 Vanguard**

Main feature is the combination of large pieces of slate and stainless steel clips; giving it the result of a clean, contemporary appeal.

**MODERN AND EFFICIENT**

CUPACLAD® 201 Vanguard features 24”x 12” slate fitted horizontally with visible hook fasteners.

**SERIES 201**

CUPACLAD® 201 series is identified by the use of stainless steel visible fasteners. The contrast between natural slate and steel gives this cladding a unique modern appearance.

**VISIBLE FASTENER SYSTEM**

CUPACLAD® 201 Vanguard is a patented system developed by our R&D department that is designed to meet the highest technical requirements of the construction industry.

**PATENTED SYSTEM**

CUPACLAD® 201 Vanguard is identified by the use of stainless steel visible fasteners. The contrast between natural slate and steel gives this cladding a unique modern appearance.

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**SPECIFICATIONS**

- **Slate size**: 24”x12”
- **Nominal thickness**: 1/4” - 3/8”
- **Slates per ft²**: 0.64
- **Weight per ft² (slate)**: ≤4.10 lb/ft²
Fastening the metal brackets

The metal brackets are installed in alternate courses on each side of the vertical profile. It is required to use both fixed point metal brackets (on the upper end of each profile) and brackets with a sliding point to allow for the profile movement.

Installing of insulation

Choose the most suitable insulation material based on the project requirements. Installing in accordance with the manufacturers recommendations.

Installing the flashing

Fasten a ventilated flashing at the first course of the cladding and the metal flashings on “singular” points (edges, window frames, etc).

Installing the slate to the top of the cladding

At the top of the cladding when joining the gutters or flashing it is necessary to use the 201V top profile to which the slate must be fitted with two self-drilling screws or rivets.

Fastening the “L” shaped vertical profiles

Fasten the vertical profiles to the metal brackets allowing at least 3/4” for an air cavity. The vertical profiles must be perfectly plumbed before attaching the rest of the system components.

Fastening the CUPACLAD® 201 Vanguard horizontal battens

Install the horizontal battens with the vertical ones at each intersection. The gap between horizontal battens when fitting a 24 x 12 slate must be 10”. The horizontal battens must be perfectly level as their position will dictate the final position of the slates.

Installing the slate with the special CUPACLAD® 201 Vanguard clips

The clips are fitted to the holes in the horizontal battens. Each slate is supported by two clips on the lower edge while fitted with another two on the top.
1. CUPA PIZARRAS natural slate
2. CUPACLAD® 201-V Clip
3. Horizontal CUPACLAD® 201-V batten
4. L shaped 50X60 vertical profile
5. CUPACLAD® 201-V top profile
6. Metal bracket “sliding point”
7. Metal bracket “fixed point”
8. Self-drilling stainless steel screws
9. Insulation
10. Load bearing wall
11. Ventilated profile
12. Top metal flashing
13. Sill metal flashing
14. Metal lintel flashing
15. Metal jambs flashing
16. Metal flashing
CUPACLAD®
201 Vanguard
The dimension of the metal bracket will depend on the thickness of the insulating material to be installed in each case, and the spacing between should be specified for each project.

The fasteners used for the wall brackets must be specified on a per project basis by the manufacturer who will take into consideration the characteristics and detail of the supporting wall and the exposure on site.

• Vertical L profile

The “L” shaped 2” x 2 3/8” vertical profiles manufactured from 6060-T6 aluminum alloy supplied in 1/4” lengths. The gap between the vertical rails must be clarified on a project basis taking into account the following variables: exposure of the site, building height, and location.
The vertical profiles must be perfectly plumb before they support all the other components of the system.

d. Screws

The joints between the vertical profiles, the metal brackets and between the horizontal battens and vertical profiles, will be secured with rivets or stainless steel screws A2 (Ø2 1/4”).

Horizontal battens must be fastened to the vertical profiles in each intersection. In areas where two consecutive horizontal profiles meet, the following must be taken into consideration:
- The end of each batten must have its own connection.
- Allow a gap of 1/8” between both profiles.

e. Air cavity

The substructure must allow for an air cavity between the insulation and cladding material.

f. Insulation material

There are various types of insulation on the market suitable for ventilated rainscreens. The nature and thickness of the insulation must be carefully calculated on an individual project basis taking into account the varying factors (type of building, location and exposure).

g. Waterproof Membrane

For timber buildings it is advisable to cover the supporting wall with a waterproof membrane. It is important to ensure the membrane is perfectly installed and will not cause any obstruction for correct ventilation.

h. Trim

Flashing can be produced in galvanized steel, aluminum or zinc, and are used for edges, window frames and other sections of the cladding.

i. Load bearing wall

The supporting wall must ensure the stability of the building. The wall must be sufficiently stable to support not only the weight of the cladding but also take into account the wind loads transmitted through the substructure.

CUPACLAD® stands for personalized attention

You can contact our technical department on CUPACLAD.com or cupaclad@cupagroup.com
The quality of our product lies in our total control of the entire production process (from extraction to shipment) and by putting in place the highest quality and environmental policy requirements demanded by ISO 9001 Quality and ISO 14001 Environmental certifications.

Our strength of commitment to quality has earned us the confidence of thousands of architects, contractors and clients worldwide. With more than a century of experience CUPA PIZARRAS has become the world leader in natural slate production, sales and marketing. We strive to keep ourselves in this privileged position by focusing on quality, investing in innovation and maintaining our commitment to sustainable growth.

One in every three slates used throughout the world is a CUPA PIZARRAS natural slate. Our 16 quarries and 22 processing facilities combine the latest technology with our traditional know-how and craftsmanship.

Our thorough inspection from extraction to processing to shipment allows us to produce unique natural slate recognized worldwide for their quality.

Today we export over 98% of our production to 60 countries on 5 continents.

CUPA PIZARRAS is part of the CUPA GROUP. 65 companies whose mission is to offer innovative building solutions with natural materials.