VENTILATED FACADES

ARCHITECTURAL SOLUTIONS

ULMA
01 INTRODUCTION

02 WHAT IS A VENTILATED FACADE

03 PRODUCT RANGE

easy.
Simplicity and Economy

Vanguard
Adaptability and Flexibility

creActive
Endless Customization

COMPARE OUR RANGES

04 ADDITIONAL BUILDING ELEMENTS
INTRODUCTION

THE WORLD IS DRIVEN AND PULLED ALONG BY IDEAS, NOT BY MACHINERY. BEHIND ALL IDEAS ARE PEOPLE, OUR MAIN ASSET.
ULMA ARCHITECTURAL SOLUTIONS’ SPECIALIZATION IN PREFABRICATED BUILDING SYSTEMS, HAS ALLOWED THE DEVELOPMENT OF A WIDE RANGE OF SOLUTIONS AIMED PRIMARILY AT FOUR SEGMENTS:

ARCHITECTURAL PRECAST
This line has an extensive Range of Standard Solutions at competitive prices, with a complete offering of resources as window sills, copings, Slab Faces, etc. Besides they offer Customized Solutions very appropriate for Restoration.

DRAINAGE SYSTEMS
Prefabricated Systems for ULMA Linear Drainage are the result of combining our material, polymer concrete, with its prefabricated capacity, which gives it an unbeatable ease of installation and manpower saving. All of our drainage channels are designed and fabricated in accordance with Standard EN-1433. It offers a complete range of drainage solutions and also for electrical conduits and beaconage.

EXTERNAL WALL SYSTEM
This is a multi-layered self-supporting closing system for the whole building, which includes the thermal and acoustic insulation required in each case. It is a light dry-mounted construction system that enables the different exterior finish layers to be installed. This system offers the best alternative to traditional construction systems for facades.

VENTILATED FACADES
In this dossier we present the building system we have developed at ULMA Architectural Solutions. This system can be used both in new buildings and in restorations. We have a customized solution for each one.

WHO WE ARE
ULMA ARCHITECTURAL SOLUTIONS FORMS PART OF THE ULMA GROUP, ONE OF THE LARGEST BUSINESS GROUPS IN THE NORTH OF SPAIN, WITH NEARLY 50 YEARS OF EXPERIENCE IN THE MARKET AND A CLEAR COMMITMENT TO INNOVATION, EMPLOYMENT AND ADDED VALUE.

The ULMA Group also forms part of the MONDRAGON CORPORATION.

The Group currently has an extensive network of subsidiaries spread over countries in the five continents: Germany, Argentina, Brazil, Chile, China, United States, France, Holland, Mexico, Poland, South Africa, etc. In 2013 we provided direct employment to over 4,000 people with an annual turnover of over 700 million Euros.
OUR MISSION

FOR NEW BUILDING CONSTRUCTION

The Ventilated Facade line which develops the New Works provides the building market with prefabricated solutions for Ventilated Facades made of Polymer Concrete. Its mission is to enrich the urbanite environment, providing specific solutions of the following types:

1. AESTHETIC:
   Exterior cover, building image (lining).

2. TECHNICAL:
   Integral Project Management from design to installation.

3. FUNCTIONAL:
   Building insulation, minimization of energy consumption.

FOR RESTORATION

The Ventilated Facade line developed by Restoration provides the market with Prefabricated solutions for Ventilated Facades made of Polymer Concrete. Its mission is:

1. To help to rehabilitate buildings following energy criteria which comply with the standards of the Technical Building Code (TBE).
2. To contribute to an aesthetic improvement in the lining of the building, increasing the assets of their owners.
3. To contribute to an improvement in constructions processes and to a better ecological footprint throughout the life cycle of the materials.

SUSTAINABILITY COMMITMENT

ULMA Architectural Solutions is a signed-up member of the Spain Green Building Council, an organization which sets out to promote sustainable building in our country.

“ We are committed to recyclable, reusable, non-contaminating and chemically inert material. Optimum for restorations, being endowed with properties which extend the life of the building, promoting Sustainable Construction. The specific features of Polymer Concrete by ULMA, used in the manufacture of our parts, help to create Ecoefficient buildings.”

ULMA Architectural Solutions

FEWER RESOURCES
LESS WASTE
LESS ENERGY
LESS EMISSIONS, REACH COMPLIANT
NO WATER USED
OUR MATERIAL

Polymer concrete is a high-quality material comprising a selected combination of silica and quartz aggregates, bound by stable polyester resins. Worthy of special mention is its exceptional mechanical resistance up to 4 times more resistant to compression than traditional concrete allowing the production of light elements with reduced dimensions.

Check our FACADES MAINTENANCE document at pg. 86

POLYMER CONCRETE

Polymer concrete panels are protected by a gel coat surface shield, Shield Plus, which offers outstanding protection against UV rays and other atmospheric agents.

Its state of the art thermosetting resins, applied using a technology and a process unique to ULMA, give our products a protection against light and weathering that make them ideal for outdoor use.

An absence of porosity, both of the polymer concrete and of the Shield Plus gel-coat mean that the ULMA facade limits maintenance to easy periodic cleaning with soap and water.

PROPERTIES OF OUR PANELS

- CONCEALED AND VISIBLE FIXING
- NON-POROUS PRODUCT
- REPLACEABLE SHEETS
- PRODUCT CAN BE ADJUSTED AT THE WORKS SITE
- VERY LIGHT PANEL
- HIGH RESISTANCE UNDER TRACTION
- HIGH SHOCK RESISTANCE
- ZERO WATER ABSORPTION
- POST- GRAFFITI TREATMENT
- HIGH RESISTANCE UNDER COMPRESSION
- WIDE VARIETY OF TEXTURES AND COLOURS
- HIGH COLOUR DURABILITY
- RESISTANT TO INDUSTRIAL ENVIRONMENTS
- NO HEAVY METALS IN THEIR COMPOSITION
- SPECIAL FINISHES CAN BE PROVIDED
- LONG-LASTING
- HIGHLY RESISTANT TO CHEMICALS
- UNCHANGED IN FREEZING AND THAWING CYCLES
- RESISTANT TO SALTY ENVIRONMENTS
- EASE OF MAINTENANCE

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WHAT IS A VENTILATED FACADE

The ventilated facade is a coating system of the building walls which leaves a ventilated chamber between the coating and the insulation.

In European academic community, it is considered as the most efficient system for resolving the building’s insulation, eliminating the unwanted thermal bridges as well as the condensation problems and so achieving an excellent thermal-hygroscopic behaviour of the building.
WHAT IS A VENTILATED FACADE?

With this system a continuous insulation can be achieved for the exterior of the building, protecting the interior sheet as well as the slab edges. In the ventilated chamber, due to the heating of the air layer of the intermediate space compared to the environment air, the so-called “chimney effect” is produced which generates a continuous ventilation in the chamber. Appropriately dimensioned the air entry and exit, a constant evacuation of water vapour coming both from the interior as well as the exterior of the building is achieved, keeping the insulation dry and obtaining a better performance of the insulation and big savings in energy consumption. The Ventilated Facade, additionally to impact in the energy consumption savings of the building, eliminates the direct radiations or the bad weather on walls or slabs protecting them from the pathologies which affect buildings constructed with traditional systems.

The constructive system that we have developed in ULMA Architectural Solutions increases the useful surface of your project without the need of a protective sheet. Also, it constructs perfect planes allowing the correction of possible planar defects of the traditional and structural parameters. It is a safe and light system that distributes its loads on the resistance elements of the building, no on the protections.
**Lower storage costs.** Absorption in warm months. Heat dispersal. Less heat insulation. Reduction in thermal energy savings.

**Possible thermal bridges.** Elimination of thermal Bridges. Air flow renewable resource.

### ADVANTAGES OF THE VENTILATED FACADES


**Technical and Aesthetic Durability** Unbeatable results in terms of tackling corrosion or deterioration owing to pollution. No absorption of dust or dirt. Simple maintenance with soap and water. Promotes humidity dispersal. Chromatic stability with atmospheric agents.

**Protection from Humidity** Protection of coating and floor structures from the entry of rainwater and frost. Corrosion-proof primary and secondary structure material.

**Healthier Environment** Increase in user comfort in accordance with the basic hygiene, health and environmental protection requirements.

### AND FOR RESTORATION?

**Ideal for Restoration** Polymer concrete offers major advantages to undertake facade restoration: the lightness, flexibility and adjustability at the works site of the material allows a wide range of adaptations to be carried out, applying sheets in different formats. What’s more, there is the possibility of installing the ventilated facade without the need to remove the current covering.

**Image Renewal** We have a wide range of shapes, colours and textures which will allow your buildings image to be overlaid, bringing about an amazing transformation.

**Increase in Assets** After the facade restoration you will have achieved an increase in the value of your property which far outweighs the cost of the works. Restoring the facade of your building will considerably increase the value of your assets, not only transforming its appearance but also enhancing the urban setting.

**Improves the Comfort Level** ULMA polymer concrete ventilated facades provide thermal insulation, thereby reducing heat dispersal in cold months and heat absorption in warm months, achieving comfortable temperatures inside the buildings.

#### WARRANTY, RELIABILITY AND QUALITY

We offer a 10 years guarantee of our products. Our commitment to quality and our philosophy of continuous improvement leads us to make tests on our panels with the following results:

**ULMA’S POLYMER CONCRETE PROPERTIES**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENSITY</td>
<td>EN 14617-1:2005: Applegamated stone - Test methods Part 1: Determination of apparent density and water absorption</td>
</tr>
<tr>
<td>WATER ABSORPTION</td>
<td>EN 14617-1:2005: Applegamated stone - Test methods Part 1: Determination of apparent density and water absorption</td>
</tr>
<tr>
<td>FLEXURAL STRENGTH</td>
<td>EN 14617-2:2008: Applegamated stone - Test methods Part 2: Determination of flexural strength (bending)</td>
</tr>
<tr>
<td>FREEZE AND THAW RESISTANCE</td>
<td>EN 14617-5:2012: Applegamated stone - Test methods Part 6: Determination of thermal shock resistance</td>
</tr>
<tr>
<td>THERMAL SHOCK RESISTANCE</td>
<td>EN 14617-6:2012: Applegamated stone - Test methods Part 9: Determination of resistance to freezing (dowel hole)</td>
</tr>
<tr>
<td>RESISTANCE TO FIXING</td>
<td>EN 14617-8:2009: Applegamated stone - Test methods Part 11: Determination of linear thermal expansion coefficient</td>
</tr>
<tr>
<td>THERMAL CONDUCTIVITY</td>
<td>EN 13647: Thermal performance of building materials and products. Determination of thermal resistance by means of guarded hot plate and heat loss meter methods. Products of high and medium thermal resistance.</td>
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</tr>
<tr>
<td>SPECIFIC HEAT</td>
<td>-</td>
</tr>
<tr>
<td>WATER VAPOUR PERMEABILITY</td>
<td>EN ISO-12572: Hygrothermal performance of building materials and products Determination of water vapour transmission properties. (ISO:12572:2001)</td>
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<tr>
<td>WATER VAPOUR RESISTIVITY FACTOR</td>
<td>EN ISO-12572: Hygrothermal performance of building materials and products Determination of water vapour transmission properties. (ISO:12572:2001)</td>
</tr>
<tr>
<td>REACTION TO FIRE</td>
<td>EN 13823: Reaction to fire tests for building products. Building products excluding buildings exposed to the thermal attack by a single burning item</td>
</tr>
<tr>
<td>EN 13501-1: Flame classification of construction products and building elements Part 1: Classification using data from reaction to fire tests</td>
<td>80-50 s</td>
</tr>
</tbody>
</table>

**Agglomerated stone - Test methods**

**Polymer Concrete - Ideal for Restoration and for Facade Restorations**

**ULMA ARCHITECTURAL SOLUTIONS**

**DURIS**

**10 YEARS Warranty**
The absence of porosity, both of the polymer concrete and of the Gel-Coat surface layer, means that the maintenance of the ULMA facade is limited to periodic cleaning with soap and water.

In order to conserve your ULMA facade over time in the same condition as on the first day, you should follow some minimum maintenance procedures.

WE RECOMMEND CLEANING THE PANELS IMMEDIATELY AFTER INSTALLATION.

We have a complete document on facade maintenance available on our website and at the back of this dossier on page 86.
PRODUCT RANGE
easy.

SIMPLICITY AND ECONOMY
THE EASY RANGE ARISSES FROM THE CHALLENGE OF PROVIDING A SIMPLE, VERSATILE AND COMPETITIVE RANGE. IDEAL FOR RESTORATION PROJECTS AND NEW CONSTRUCTION.

TEXTURES
- DESERT
- MOON
- OCEAN

COLORS
There is a wide range of colours for the different textures of the Easy range, and the possibility of customizing them. Every day we investigate new possibilities to make available to architects and construction professionals.

FORMATS AND THICKNESSES
These are the existing formats:

- (H) 300
- (H) 450
- (H) 600
- (L) 600
- (L) 1000
- (L) 1200

Panel thickness: 9 mm + 2 mm - 1 mm
Longitudinal tolerance: ± 2 mm
Height tolerance: ± 1 mm
Panel weight: 23 kg/m².
**BASE WALL**
**THERMAL INSULATION**
**POLYMER CONCRETE PANEL BY ULMA**

**TECHNICAL INFORMATION**

**VENTILATED FACADE EASY SYSTEM**

Horizontal Section

1. Superior Staple
2. Staple for fixing two panels
3. Staple for fixing four panels
4. Metal coping, finishing detail

Vertical Section

1. Polymer concrete ventilated facade panel by ULMA
2. Vertical T-rail (sub-frame)
3. Thermal insulation
4. Corner bracket to floor slab and base wall
5. Self-drilling screw for compression spring connection
6. Compression spring
7. Staple for fixing polymer concrete panel
8. Connection to floor slab and base wall
9. Self-drilling screw for staple connection to upright and for corner connection to upright

**Download DWG & PDF details here**
RESIDENTIAL BUILDING
Located: Zarautz
Area: Basque Country
Country: Spain
Architects: Gaizka Larrañaga
Landatx Bulego Teknikoa
Application: Residential
Texture: MOON
Colour: M06, M03

BUILDING ELISABETH II
Located: Donostia-San Sebastián
Area: Basque Country
Country: Spain
Architects: Iñaki Retegi Altuna
Arquitectura R&A Urbanismo
Application: Residential
Texture: DESERT
Colour: M10, M11
RESIDENTIAL BUILDING
Located: Zumarraga
Area: Basque Country
Country: Spain
Architects: Iñaki Ondarra and José Manuel Diegi Kerejeta
Application: Residential
Texture: DESERT
Colour: M05

NEW CONSTRUCTION

100 FLATS BARREIROS
Located: Vigo
Area: Galicia
Country: Spain
Architects: Guillén, Mateos and Llópiz Architects
Application: Residential
Texture: MOON
Colour: M05, M11, M17

NEW CONSTRUCTION
Vanguard Range gives a solution to suit each project, giving the possibility of flexible panel formats and enabling panel cuts as needed. Adaptability, flexibility and quality assurance are the keys that define our most innovative range.

**ADAPTABILITY AND FLEXIBILITY**

**YOUR PROJECT IN INCHES**

Length (L): from 600 mm to 1800 mm in multiples of 100 mm.

Height (H): from 250 mm to 500 mm in multiples of 50 mm and from 500 mm to 900 mm in multiples of 100 mm. Cut to any size.

**COLOURS**

There is a wide range of colours and the possibility of customizing them to taste. Every day we investigate new possibilities to make available to architects and construction professionals.

**FORMATS AND THICKNESSES**

Length (L): from 600 mm to 1800 mm in multiples of 100 mm.

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**TEXTURES**

Air, Earth, Water
There are 2 installation systems: Vertical System and Horizontal System.

**HORIZONTAL SYSTEM**

**HORIZONTAL INSTALLATION SYSTEM**

- **FLOOR SLAB**
- **BASE WALL**
- **THERMAL INSULATION**

Polymer Concrete Ventilated Facade Panel by ULMA
- Continuous starter rail profile
- Continuous intermediate rail profile
- Continuous inverted starter rail profile

Watch the assembly video.

**TECHNICAL INFORMATION**

**VENTILATED FACADE HORIZONTAL SYSTEM**

**INSTALLATION SYSTEM**

- Anti rodent grid
- Rail profile detail
- Rail Profile Joint
- Air output from chamber

Connection at floor slab and base wall
- Sliding point bracket
- Fixed point bracket

Download DWG & PDF details here

A. FLOOR SLAB
B. BASE WALL
C. SILL WATERPROOFING WITH EPDM MEMBRANE OR SIMILAR
D. WINDOW
E. LINTEL WATERPROOFING WITH EPDM MEMBRANE OR SIMILAR

- Polymer concrete ventilated facade panel by ULMA
- Vertical T-rail (sub-frame)
- Thermal insulation
- Support angle for inverted starter rail profile connection to upright
- Self-drilling screw for carrier wall bracket or support angle connection to upright
- ULMA inverted starter rail profile
- ULMA Continuous intermediate rail profile
- Polymer concrete windowsill by ULMA
- Silicone adhesive for Polymer concrete windowsill by ULMA
- Anti-Movement structural silicone at corner panel
- Support angle for corner
- Brait
- Connection at floor slab and base wall
- Carrier bracket to floor slab and base wall
- Self-drilling screw for rail profile connection to upright
- ULMA starter rail profile
- Anchorage angle for L profile connection to support angle
- Self-drilling screw for L profile connection to upright
- L profile
- Polymer concrete lintel by ULMA
- Self-drilling screw for support angle for corner connection to rail profile
- Weep hole
- Polymer concrete window jamb by ULMA
- Polymer concrete window coping by ULMA
- Locking piece.
**VERTICAL SYSTEM**

**VERTICAL INSTALLATION SYSTEM**

- **A**: FLOOR SLAB
- **B**: BASE WALL
- **C**: THERMAL INSULATION

**INSTALLATION SYSTEM**

- Polymer Concrete Ventilated Facade Panel by ULMA
- Continuous starter rail profile
- Continuous intermediate rail profile
- Continuous inverted starter rail profile

**TECHNICAL INFORMATION**

1. Anti rodent grid
2. Single support angle
3. Double support angle
4. Connection at floor slab and base wall
5. Sliding point bracket
6. Fixed point bracket

**VENTILATED FACADE VERTICAL SYSTEM**

- Vertical System Profiling Diagram
- Vertical Section
- Horizontal Section

**DOWNLOAD DWG & PDF DETAILS HERE**
WE ADAPT TO THE NEEDS OF EACH PROJECT AND OFFER DIFFERENT SERVICE OPTIONS

Supply and Installation. We supply the necessary materials (panels, profiles, rails ...) and take care of the installation, so that the whole process is in our hands.

Technical Consulting. We provide technical advisory service to assist more complex or unique elements of the facade.

Panels supply only. We can just supply the panels for the project, if you already have a trusted installation team.

Panel cutting as needed. We offer the flexibility to cut the panels to the exact size of the project requirements. (for Vanguard and Creative range).

Complete facade solutions. We study the solution of all items in the facade: [covers, surrounds, lintels, corners, ceilings ...].

SERVICES

The Eduardo Torroja Construction Sciences Institute grants the TECHNICAL APPROVAL DOCUMENT to the ULMA Ventilated Facade Lining System with Polymer Concrete Sheets. What’s more, the System complies with the TECHNICAL BUILDING CODE.

CERTIFICATIONS

DIT

ULMA ARCHITECTURAL SOLUTIONS PROVIDES A 10-YEAR WARRANTY FOR THE ULMA VENTILATED FACADE PRODUCT COMPRISING POLYMER CONCRETE PANELS.

10 YEAR WARRANTY

WARRANTY

ULMA ARCHITECTURAL SOLUTIONS PROVIDES A 10-YEAR WARRANTY FOR THE ULMA VENTILATED FACADE PRODUCT COMPRISING POLYMER CONCRETE PANELS.
PLAZA MARQUÉS
RESIDENTIAL BUILDING
Located: Gijón
Area: Asturias
Country: Spain
Architects: Jorge Noval Muñiz
Application: Residential
Texture: EARTH & WATER
Colour: M06, M10, P09, M11
Formats: 1200 x 450 mm / 1200 x 650 mm / 1300 x 450 mm / 1300 x 650 mm / 1400 x 450 mm / 1400 x 650 mm

FONSANTA COMPLEX
Located: Barcelona
Area: Catalunya
Country: Spain
Architects: J.A. Marín Sánchez
Application: Residential
Texture: WATER, AIR
Colour: M26, M27
Formats: 1700x600 mm, 1800x700 mm and others

Restoration of 14,000 m² facade made from outside of the building for the convenience of the residents and in eight months, record time.
The material is ideal for buildings that are located near the sea, because the material does not absorb water, so it is not affected by the environment, maintaining its image for years.
BARBERÀ MEDICAL CENTER
Located: Barcelona
Area: Catalunya
Country: Spain
Architects: Pere Puig Arquitecte
Application: Health
Texture: AIR SHINY
Colour: M05
Formats: 1800 x 900 mm

EDERTEK
Located: Arrasate-Mondragón
Area: Basque Country
Country: Spain
Architects: LKS Ingeniería
Application: Industrial & Office Buildings
Textures: EARTH
Colour: M12, M03
Formats: 1800 x 900 mm

NEW CONSTRUCTION
NUMANCIA HOSPITAL
Located: Barcelona
Area: Catalunya
Country: Spain
Architects: CPVA Arquitectes
Application: Health
Texture: AIR & EARTH
Colours: M05, M02, P02, P03
Formats: 1800 x 600 mm

This project includes the combination of both systems, the horizontal and the vertical. According to Joan Prats, one of the authors of the project, the versatility of the product and the availability of ULMA’s technical team were essential to complete the project.

FECOMERCIO OFFICES
Located: Sao Paulo
Area: Brasil
Country: Brasil
Architects: Julio Neves Arquitectura
Application: Offices
Texture: EARTH
Colour: P14
Formats: 875 x 1125 mm

NEW CONSTRUCTION
MANRESA COURT
Located: Manresa
Area: Catalunya
Country: Spain
Architects: Cinnamond-Torrentó-Sala Arquitectes (CTSARQ)
Application: Industrial & Office Buildings
Texture: AIR & EARTH
Colour: P13
Formats: 1500 x 500, 1500 x 300 mm

NEW CONSTRUCTION

The architects commented: “It is important the comprehensive service that ULMA offers, supplying the material and also installing it, we are very satisfied.”

TREASURY ESTATE BUILDING
Located: Sabadell
Area: Catalunya
Country: Spain
Architects: Lluís Rius Cortina
Application: Industrial & Office Buildings
Texture: AIR
Colour: M05
Formats: 1800 x 300 mm

NEW CONSTRUCTION

The project’s uniqueness lies in solving the pillars and ceilings besides placing the ventilated facade cladding.
LÚCANO TOWER
Located: Benidorm
Area: Comunidad Valenciana y Baleares
Country: Spain
Architects: Adolfo Rodríguez
Application: Residential
Texture: Earth
Colour: M05
Formats: 1100-1800 x 450-750 mm

The wide range of finishes and different formats of the panels and the resolution of the construction details, give the building a large thermal inertia that makes better use of the Benidorm weather conditions and a lower impact on HVAC energy expenditure, both in winter and summer.

NEW CONSTRUCTION

BBK ELDERLY RESIDENCE
Located: Bilbao
Area: Basque Country
Country: Spain
Architects: Javier Aja y Beatriz Pagoaga, IDOM Ingeniería
Application: Health
Texture: Water
Colour: M10
Formats: 1800 x 560 mm

NEW CONSTRUCTION
PROMALAGA OFFICE
Located: Málaga
Area: Andalucía
Country: Spain
Architects: Julio Cardenete Pascual, Jose Ramón Pérez Dorao, Juan I. Soriano Bueno
Application: Industrial & Office Buildings
Texture: WATER
 Colour: M05, M03
Formats: 900x900 mm, 900x450 mm

UNIVERSITY OF THE BASQUE COUNTRY
Located: Vitoria-Gasteiz
Area: Basque Country
Country: Spain
Architects: Gop Oficina de Proyectos
Application: Education
Texture: AIR
Colour: M10
Formats: 1250 x 700 mm

NEW CONSTRUCTION
SCHOOL OF “EL TREN DE FORT PIENC”
Located: Barcelona
Area: Catalunya
Country: Spain
Architects: Pich-Aguilera
Application: Education
Textures: AIR, EARTH & Perforated
Colour: M05
Formats: 1800 x 900 mm, 900 x 450 mm

NEW CONSTRUCTION

MILENIUM BUILDING
Located: Madrid
Area: Madrid
Country: Spain
Architects: Carlos Cameo and Miguel Ángel Oliete
Application: Residential
Texture: EARTH
Colour: M05
Formats: 1800 x 900 mm, 1800 x 300 mm

NEW CONSTRUCTION

This project has vertical planes, polygonal and sloping roofs. The lightweight material allows larger format with minimal thickness.
MUNICIPAL CENTER
Located: San Sebastián de los Reyes
Area: Madrid
Country: Spain
Architects: Alberto Martín de Lucio
Application: Education
Texture: AIR, AIR SHINY
Colour: M03
Formats: 1800 x 900 mm, 900 x 300 mm, 900 x 900 mm

The uniqueness of this project stands in the cubes, whose idea came from the teamwork developed by the architect and the sculptor and painter Luis Feito, a key figure in contemporary Spanish art.

CIVIC CENTER IBAIONDO
Located: Vitoria-Gasteiz
Area: Basque Country
Country: Spain
Architects: ACXT Arquitectos. Jesús Armendariz, Amaia Los Arcos Larumbe, David Resano
Application: Culture and Leisure
Texture: WATER
Colour: M03
Formats: 900 x 900 mm

NEW CONSTRUCTION
POLICE CENTER
Located: Lleida
Area: Catalunya
Country: Spain
Architects: Mestura Arquitectes
Application: Industrial & Office Buildings
Texture: EARTH
Colour: P13
Formats: 650 x 1500 mm

GENERAL HOSPITAL OF MENORCA
Located: Mahón
Area: Comunidad Valenciana y Baleares
Country: Spain
Architects: Mario Corea y Lluís Morán
Application: Health
Texture: AIR
Colour: M05
Formats: 1750 x 450 mm
NURSERY HENRIKE KNOIRR
Located: Vitoria-Gasteiz
Area: Basque Country
Country: Spain
Architects: Bontias Neon Tejada Donlay, Angel Cadarso de Santillan and Eduardo Moscoso del Prado
Application: Education
Texture: AIR
Colour: M21, M11 and M20
Formats: 1200 x 600 mm, 1200 x 300 mm and 900 x 900 mm

ULMA HANDLING SYSTEMS
Located: Bilbao
Area: Basque Country
Country: Spain
Architects: LKS Ingenieria
Application: Industrial & Office Buildings
Texture: EARTH
Colour: M11
Formats: 900 x 900 mm

For this project, the colour was customized. Inspired in Corten steel.
HOSPITAL OF MOLLET
Located: Mollet del Vallès
Area: Catalunya
Country: Spain
Architects: Mario Corea y Lluís Morán
Application: Health
Texture: AIR
Colour: M05
Formats: 1800 x 780 and 1300 x 450 mm

RESIDENTIAL BUILDING
Located: Girona
Area: Catalunya
Country: Spain
Architects: Joaquín Bover Busquet
Application: Residential
Texture: AIR SHINY
Colour: M04, M10, M12
Formats: 1500X 750 mm, 1400 x 750 mm
LEA ARTIBAI SCHOOL
Located: Markina
Area: Basque Country
Country: Spain
Architects: Carlos Arrizabalaga and Nuria Arrizabalaga
Application: Education
Texture: AIR
Colour: M03
Formats: 1800 x 540 mm

CRAG CENTER
Located: Barcelona
Area: Catalunya
Country: Spain
Architects: Eduardo Talón Cortiñas
Application: Education
Texture: AIR
Colour: M01, M02, M05, M12, M13, M14, M15
Formats: 1800 x 800 mm
ELDERLY RESIDENCE MARISTAS
Located: Cartagena
Area: Murcia
Country: Spain
Architects: Francisco Martín Hernandez and José Gomez Acesta
Application: Health
Texture: AIR
Colour: M02, M04, M06, M08, M11, M17, M18
Formats: 900 x 800 mm, 600 x 800 mm

BENALMADENA CLINIC
Located: Málaga
Area: Andalusia
Country: Spain
Architects: José Manuel López Zarco
Application: Health
Texture: AIR, EARTH
Colour: M05
Formats: 1800 x 900 mm, 900 x 900 mm

NEW CONSTRUCTION
SPORT CENTER ETXADI
Located: San Sebastián
Area: Basque Country
Country: Spain
Architects: LKS Engineering
Application: Culture and Leisure
Texture: AIR
Colour: M05, M14, M15
Formats: 1500 x 450 mm

RESIDENTIAL BUILDING CORDOBA
Located: Córdoba
Area: Andalucía
Country: Spain
Architects: Joaquín Caro
Application: Residential
Texture: WATER
Colour: M19
Formats: 1800 x 650 mm
There is nothing better to define this range than to show several examples of actual projects where the teamwork between ULMA and the project designers results in buildings with great personality.

**AZAL PROJECT**

The challenge was to make a building intended to house a nursery appear like a hedge on the horizon, with the intention of creating a parallel with nature. Thus, after various trials and tests, we carried out the final design of the panel, developing an innovative ventilated facade system.

The possibility of applying a first phase of the research in a nursery led to the development of a wall system in which a detailed analysis of natural skins was made, seeking the ideal shape, size and texture, to create an enclosure to fit the space, creating structural elements with organic forms of a continuous nature.

The result was a hexagonal panel, combined with the texture of an inner pentagon in bas relief, whose placement allows many and varied composition and design possibilities. The play of light on the piece achieves a surface that changes throughout the day. The colours chosen for the facade piece, and its final placement, allowed the nursery to look like a mass of vegetation rather than a building.

The knowledge and in-depth study of a product, of its manufacturing processes and of its possibilities of creating systems and, more than this, the involvement and attention of the professional in the concerns of the project in its broadest sense (aesthetic, utilitarian, behavioural), have enabled us to create complicity that has gone beyond the specific solutions for a particular building.”

 Says TERESA BATLLE, project designer along with FELIPE PICH AGUILERA.

**ENDLESS CUSTOMIZATION POSSIBILITIES**

This is our most versatile range, the range of expression and imagination for architects, where the design and creativity possibilities are endless, the creation of unique, customized facades being unlimited in design, texture and colour.

Our Engineering Department, supported by the necessary technology, works to obtain the products that best suit the artistic proposals of our clients. Active Artistic Creation.
Customization and Tribute

Located in the historic centre of Roses, the former “Estanco de la Punta” building houses the sociocultural equipment by request of the previous owner, who gave it to the city council with this condition.

For the cladding of the building, polymer concrete panels were chosen, achieving a very special and customized finish. We wished to pay tribute to Anna Mares, the former owner, and therefore installed perforated panels which, by the combination of holes, form geometric figures with the same pattern as the original mosaic that covered the floor. In the installation, great care has been taken to place each piece correctly to allow the final pattern to be viewed properly.

24 different panels were designed to make the mosaic.

The aim was to place all the emphasis on the history of the site where the new building stands and bear witness to the former existence of the popular Estanco de la Punta de Anita.

The project has applied the latest innovations in building systems, which seek more sustainable and environmentally friendly models.

Work has been done in accordance with the standards of the LEED Certification, which selects materials and techniques from among those having less impact on the environment in terms of pollution and consumption of non-renewable resources, taking into account the manufacturing process, assembling, maintenance and recycling, and considering aspects such as solar radiation and energy consumption.

CA L’ANITA
PROJECT

OLÈRDOLA
PROJECT

Educational institution located in the Alt Penedés region, Barcelona, surrounded by vineyards. The ULMA Architectural Solutions project team in collaboration with the architect, Gustau Gili, developed a panel with customized colour and texture.

COLOUR

To obtain the colour resembling the appearance of the vineyard, vine leaves were collected from the fields and sent to the factory to achieve the exact shade.

DESIGN

As for the design of the texture, this was based on a sketch made by the architect, and was given relief and depth to achieve the desired texture.

"The willingness to customize, the technical assistance and the collaboration with the ULMA team in the project were essential in developing the final product.”

PROJECT DESIGNERS: GUSTAU GILI GALFETTI
ULMA GROUP HEADQUARTERS

PROJECT

To house the ULMA Group headquarters and the UPTC Technology Centre we sought to design a building with its own identity and presence.

“One of the ideas was the horizontality of the building, as a metaphor of the cooperative formula, where the political basis between partners is equality: ONE PERSON, ONE VOTE”

In this particular case, the customization comes from the horizontal fretwork texture sought by the project designers. The facilities have an area of 6,500 m² (2,500 m² of laboratory), where the Technology Centre for Packaging Innovation (ULMA PTC) operates, the division engaged in R&D.

KEY SUBJECTS

The continuity of the panels throughout the facade was achieved by designing the matching of the fretwork so that it matched the height of the upper panel where the panels met, having performed the cutting. The details of the installation were essential.

COLOUR

We wanted the elegance of black but not as a single colour but with the addition of grey shades in the form of droplets of various sizes.

TEXTURES

This Creative range is characterized by its unlimited possibilities of colour development.

FORMATS AND THICKNESSES

The panels will have the formats and thicknesses to suit the needs of the work and the design they are intended for.
## Compare Our Facade Systems Ranges

<table>
<thead>
<tr>
<th></th>
<th>Easy</th>
<th>Vanguard</th>
<th>Creative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel Thickness (mm)</strong></td>
<td>9</td>
<td>14</td>
<td>-</td>
</tr>
<tr>
<td><strong>Length (mm)</strong></td>
<td>600, 1000, 1200</td>
<td>600 ... 1800</td>
<td>1800 max</td>
</tr>
<tr>
<td><strong>Height (mm)</strong></td>
<td>300, 450, 600</td>
<td>250 ... 900</td>
<td>900 max</td>
</tr>
<tr>
<td><strong>Weight (Kg/m²)</strong></td>
<td>23</td>
<td>33</td>
<td>-</td>
</tr>
<tr>
<td><strong>Texture</strong></td>
<td>Desert, Moon, Ocean</td>
<td>Air, Earth, Water</td>
<td>By Designer</td>
</tr>
<tr>
<td><strong>Colours</strong></td>
<td>Monochromes</td>
<td>Monochromes &amp; Polychromes</td>
<td>By Designer</td>
</tr>
<tr>
<td><strong>Fixing System</strong></td>
<td>Visible staple</td>
<td>Continuous concealed fixing</td>
<td>Concealed fixing</td>
</tr>
<tr>
<td><strong>Joint (mm)</strong></td>
<td>10 mm aligned</td>
<td>3 mm alternated and/or aligned joint</td>
<td>3 mm min. Joint depends on project</td>
</tr>
</tbody>
</table>
ADDITIONAL BUILDING ELEMENTS

To complement the integrated implementation of the ventilated façade we have building solutions such as:

- Insulation
- Metal window surrounds
- External Wall Systems
With its commitment to providing Integrated Facade Solutions, ULMA Architectural Solutions includes in its offer the supply and installation of insulation as part of its move towards the idea of the integrated facade. Greater control of the building process in terms of the sequence and guarantee of the work performed will lead to the benefit of our clients, who will enjoy the reduction of the already short implementation times offered by our system and the security provided by the proven experience of ULMA Architectural Solutions in the field of Construction.

## TRADITIONAL ENCLOSURE

<table>
<thead>
<tr>
<th>Name</th>
<th>U-Factor w/m²·K</th>
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<tbody>
<tr>
<td>Frame</td>
<td></td>
</tr>
<tr>
<td>Length mm</td>
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<tr>
<td>Basis</td>
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</tbody>
</table>

## TRADITIONAL ENCLOSURE WITH VENTILATED FACADE SYSTEM

<table>
<thead>
<tr>
<th>Name</th>
<th>U-Factor w/m²·K</th>
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<tbody>
<tr>
<td>Frame</td>
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<tr>
<td>Length mm</td>
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<tr>
<td>Basis</td>
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## EXTERNAL WALL SYSTEM

<table>
<thead>
<tr>
<th>Name</th>
<th>U-Factor w/m²·K</th>
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<tbody>
<tr>
<td>Frame</td>
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<td>Basis</td>
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</table>
Mineral wool

Supply and installation of exterior facade thermal-acoustic insulation based on flexible water-repellent panels, in roll format, of NATURAL MINERAL WOOL, in accordance with the EN 13162 standard, with a nominal thickness of 50 mm and a thermal resistance of 1.40 m².K/W, reinforced on the outside with a black glass fabric, which increases their tensile strength and give them a pleasant aesthetic finish, fixed to the supporting wall with white polypropylene plugs, diameter 10 mm, length 90 mm and head diameter 90 mm.

ADVANTAGES OF THE PRODUCT

• Energy savings
• Economic savings.
• Thermal comfort.
• Environmental protection.
• Minimizes the emission of air pollutants.
• Excellent acoustic insulation.
• Fire insulation.
• Reaction to fire Euroclass A1 (Fireproof).
• Water-repellent (Very low water absorption).
• Vapour permeable.
• Non-carcinogenic.
• Lightweight.
• Easy handling.
• Easily attachable to the facade surface.
• Easy and effective attachment.
• High thermal insulation.

MINERAL WOOL SURROUNDS

In order to provide maximum guarantees in the implementation of the Integrated Facade, and to complement our Polymer Concrete border solution, we offer the alternative of aluminium for this constructive solution.

METAL WINDOW SURROUNDS

In order to provide maximum guarantees in the implementation of the Integrated Facade, and to complement our Polymer Concrete border solution, we offer the alternative of aluminium for this constructive solution.

MAIN ADVANTAGES

• Maximum adaptability in terms of format.
• Fast execution.
• Durability.
• Available in any RAL colour.
• Economy.

ADVANTAGES FOR THE CLIENT

• We do not depend on other companies. We install everything ourselves, following a more logical and productive building sequence.
• Compared with other materials, thickness is not a limiting factor.
• High performance in roll format with zip scaffolding.
• palletizing in roll format means less need for space and lower transport costs.
• Insulation that best adapts to the wall.
• Easy to cut and handle.
• Breathable and non-hydrophilic.
• Industrialized product: same thickness at all elevations.
• Takes up less storage space than other materials.
• Non-flammable.
• Option of ecological material.

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• Option of ecological material.
ULMA External Wall System are self-supporting, multi-layered closing systems which solve the complete/integral housing with acoustic and thermal insulation required in each case. It is a light dry-mounted construction system that enables the different exterior finish layers to be installed.

ULMA External Wall System meet the requirements of the Technical Building Code as regards fire resistance, water tightness and thermal and acoustic insulation with the relevant test having been carried out. The fact it is a dry work allows the generation of waste at the works site to be kept to a minimum, thereby complying with the maximum sustainability criteria in a manner which is speedy, economical, efficient and flexible.

AS IT IS A MULTICOATED SYSTEM, IT PERFORMS WELL IN TERMS OF COMFORT AND INSULATION AT A COST SIMILAR TO THAT OF CONVENTIONAL VERTICAL CLADDING, ACHIEVING FAR BETTER PERFORMANCE IN TERMS OF IMPLEMENTATION AT THE WORKS SITE AND EASE OF CONTROL.

The technology applied to our ULMA External Wall System has revolutionized building design and construction. This system provides architects as well as promoters and constructors with the best alternative to traditional construction systems for facades.

ADVANTAGES OF THE PRODUCT

- Fire-resistant
- Resistant to the dynamic pressure of the wind
- Resistant to earthquakes
- Waterproof and permeable to steam.
- Sustainable
- Recyclable
- Economical
- Affords Energy Savings
- Thermal and Acoustic Insulation
- Rapid installation
- Minimum waste generation at the works site
- Versatile
- Customizable textures
- Different possible skin (polymer concrete, metallic...)
- Compliance with Technical Building Code (TBE)
- Dry work

TECHNICAL INFORMATION

HORIZONTAL SYSTEM WALL

Coping + Lintel
Sill + Floor Edge Passage
Window Jamb

To watch the assembly video
OUR PROJECTS

CA L’ANITA CULTURAL CENTER
- Located: Roses
- Area: Catalunya
- Country: Spain
- Architects: Exe Arquitectura
- Application: Culture and Leisure
- Texture: PERFORATED
- Colour: M08
- Formats: 600x900 mm, 1500x900 mm

ENDING PROCESS
- Located: Hospitalet de Llobregat
- Area: Catalunya
- Country: Spain
- Architects: Fernando Tortajada Rodes
- Application: Residential
- Texture: WATER
- Colour: M05
- Formats: 1800x800, 1800x700 mm and 1800x550 mm

NEW CONSTRUCTION

42 FLATS
- ENDING PROCESS
- Located: Hospitalet de Llobregat
- Area: Catalunya
- Country: Spain
- Architects: Fernando Tortajada Rodes
- Application: Residential
- Texture: WATER
- Colour: M05
- Formats: 1800x800, 1800x700 mm and 1800x550 mm
MAINTENANCE OF ULMA ARCHITECTURAL SOLUTIONS PANELS

As the polymer concrete and the surface layer of Gel-Coat are not porous, the maintenance of ULMA façades is reduced to periodic cleaning with soap and water.

ULMA recommends cleaning the panels after being installed on site, and after that, once a year. If you do not follow this recommendation, it may be harder or even impossible to clean the panels. If the system or facade panels are handled without authorization from ULMA, or if the cleaning and/or maintenance of the facade are carried out incorrectly, the validity of the Warranty Certificate issued by ULMA Architectural Solutions will be cancelled.

TYPES OF DIRT

Below is a list of possible types of dirt that may affect the panels:

CONSTRUCTION PHASE
During the construction phase the panels may be affected by dust, cement, etc. These materials stick to the panels over time.

GREASE AND DIRT
Over time, rain, wind, traffic and industrial pollution leave a layer of dirt on the panel surface.

POLLUTION
Depending on the area in which the building with the ventilated facade is situated, dirt caused by environmental pollution may appear, mainly because of exhaust gases.

BUILDING DESIGN
The building design can cause water and dirt to gather in certain places.

GRAFFITI
This kind of stain is caused by vandalism.

RUST STAINS
Of natural origin: The composition of the concealed side of the panel, and, in turn, the cut edge, may occasionally contain a minute amount of material liable to pyrite surface oxidation. When in contact with water and oxygen, this material may generate a rust spot. Furthermore, in some cases, owing to the dissolving of the rust spot in water, bleeding may be created from the rust spot of the edge to the smooth side of the panel, generating the occasional surface stain. It is not the spreading of rust but rather of the rust stain. The origin of this material liable to rusting derives from the pyrites that supply the aggregates which form the composition of the polymer concrete. The pyrites are not able to guarantee the total absence of pyrites as it is a material of natural origin which cannot be removed and which depends on the quarry face. This type of surface stain does not affect either the metallic structure of the facade, the mechanical integrity of the panels or their durability; it is a purely aesthetic aspect. Generated owing to operations carried out at the works’ site: welds, metal cuttings etc. near the facade.

NOT CARRYING OUT PERIODIC CLEANING
If the panels are not cleaned periodically, the dirt can stick to them and they will be harder or even impossible to clean. Because of the irregular accumulation of dirt on the panels, ageing can happen heterogeneously, and the most visible effect is on dark colours. Depending on the area in which the building is situated, pollution, pollen, rain, wind. All these elements may contribute in some way to generate a layer of dirt, which is gradually harder to remove if periodic maintenance to remove accumulated dirt is not carried out.

CLEANING THE FACADE

INITIAL CLEANING
ULMA recommends cleaning the facade once the construction work has finished. The Polymer Concrete facade panels should be cleaned with neutral soap and water, using an absorbent cloth or similar cloth, but never with a hard brush or scourer (except for a soft fiber scourer). Rub until the stains disappear, rinse with plenty of water and dry with a clean cloth, to avoid lines.

If the stains do not come off after cleaning normally with neutral soap and water, you should not use any cleaning product because it could contain abrasive materials that could damage the colour of the panels. It is better to contact our technical department for these stains.

PERIODIC CLEANING
ULMA recommends cleaning the facade once a year, following the procedure described above. Depending on the amount of dirt gathered on the facade, ULMA recommends applying the special ULMA maintenance product after cleaning with soap and water.

SPECIAL CLEANING
PAINT: if the panels are stained with two-component paint and it dries, it will be very hard to remove it without damaging the colour of the panel, and even more so on dark colours. ULMA recommends removing it immediately with soap and water, and rinsing with plenty of water before the panel dries completely.

GRAFFITI: ULMA recommends using a special 3M product or similar brand. If you do not act quickly there might be a dark patch left after removing the graffiti. Before using the product on all the graffiti, test to see if it works on a small area.

RUST STAINS:
If the surface rust stain is of natural origin, it is easy to remove using a white fibre scouring pad with the aid of water and neutral soap. This type of stain does not affect either the metallic structure of the facade, the mechanical integrity of the panels or their durability; it is a purely aesthetic aspect.

By contrast, if the rust stain derives from operations carried out at the works’ site (welds, metal cuts etc. near the facade), it should be tried to remove it following the same procedure, though its removal is not guaranteed.

REPLACING BROKEN PANELS
If the panels break by accident, they can be replaced following the ULMA panel replacement system. For this, we recommend contacting our technical department.

If the system or facade panels are handled without authorization from ULMA, or if the cleaning and/or maintenance of the facade are carried out incorrectly, the validity of the Warranty Certificate issued by ULMA Architectural Solutions will be cancelled.

CLEANING THE PANELS CUT ON SITE

The panels should be cleaned as soon as they are cut.

1. Use a non-abrasive brush to remove most of the dust when dry.
2. Clean with a damp white fiber Scotch Brite pad and neutral soap, and rub well (never use a green fiber scourer or any other abrasive one).
3. Rinse with clean water
4. Dry with a clean white cloth

BASIC DAILY CLEANING
1. At the end of the day clean the installed panel with clean white cloths.
2. For tougher or more visible stains, use a white fiber Scotch Brite pad, neutral soap and clean water.

CLEANING AT THE END OF THE CONSTRUCTION WORK
1. Clean with a damp white fiber Scotch Brite pad and neutral soap, and rub well (never use a green fiber scourer or any other abrasive one).
2. Rinse with clean water.
3. Dry with a clean white cloth.
4. Apply a maintenance product (do not use for shiny finish) Wet the clean white cloth with the maintenance product.
5. Remove the excess of maintenance product with a white cloth.

Note: When applying the maintenance product on the smooth finish, apply horizontally (not in circles).

COMMENTS
- Always use a mask, safety goggles and gloves when cutting panels on site.
- Do not dirty them with the dust from cutting the installed panels, or from those that are nearby (panels on pallets, panels placed to be assembled afterwards, etc.).
- We recommend having a special cutting area for panels on site.
- Do not dirty the panels when handling them – always use clean gloves.