

ECO-INNOVATION for a sustainable future

We develop creative and multipurpose projects that combine aesthetic and technical functions with the following objectives:

- Environmental protection,
- Energy efficiency,
- Preservation of health and well-being,

To promote new solutions for sustainable construction.

We create a better environment, both in and outside the home.

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1. SENSE TILES

Sensitive Ceramics serving architecture and public health

DESCRIPTION

Ceramic wall or floor tiles that incorporate an invisible sensor that operates when in proximity with the piece, **without contact or pressure**, activating all types of electronic devices (e.g. turning on a light, opening a faucet, making an emergency call, etc.).

This area – ranging between 2 x 2 cm and 5 x 5 cm – with a sensor is marked with a luminescent icon (*).

ADVANTAGES

- Greater architectural integration (avoids application of external devices such as switches, bells, etc.)
- Greater **safety, hygiene and comfort for the user**, as no contact is necessary
- Avoids propagation of bacteria in public places
- Permits interfacing of house automation technologies and electronic systems

APPLICATIONS

Product suited to public and residential spaces.

It can be applied to any porcelain tile product, in any format and/or finish of the Revigrés collections.

PROJECT PARTNERS:



Revigrés is the head of the consortium.

(*) LUMINESCENT ICON ON THE CERAMIC PIECE

The luminescent icon can be applied using ceramic serigraphy.

The sensitive area is marked with a luminescent icon that accumulates energy in the presence of light and becomes visible in the dark.

2. ANTI-BACTERIA WALL TILES

DESCRIPTION

This product has a surface treatment that incorporates a silver salt solution that eliminates 99.9% of the most harmful bacteria (S. Aureus and E. Coli).

ADVANTAGES

- Prevents bacteria growth at the surface of the ceramic product
- Reduces contamination risks
- Improves hygiene in public places and domestic environments
- Ensures additional protection between cleanings

APPLICATIONS

Interior Wall Tiles

This product is especially recommended for hospitals, senior citizens homes, day care centres, gymnasiums and domestic areas in general.

It can be applied to any **polished** porcelain tile product, in any format, of the Revigrés collections.

TESTS

This product has already been tested in terms of bactericide, but remains in the testing phase as regards the durability of the bactericide effect. The first studies point to a duration of two to three years; this action can be renewed with local treatment by cold application.

CERTIFICATE

The Nanobiomatters Report confirms that the product polished with BactiBlock 101 R1.47 treatment exhibits a high level of anti-microbial performance.

3. SELF-CLEANING TILES

Self-Cleaning Wall Tiles

DESCRIPTION

Ceramic product to which titanium oxide has been applied and which breaks down gaseous pollutants when it comes into contact with sunlight, namely nitrogen oxides (NOx) and volatile organic compounds (COV), transforming them into innocuous components.

This product has self-cleaning properties, as it reduces the surface tension of the water, forming a water film that eliminates dirt (along with broken down components) whenever the material is wet.

Atmospheric pollution has increased over the past decades, with consequences not only for the quality of the urban environment, but also impacting the cost of maintaining buildings, especially their façades. A city's architectural heritage provides an extensive surface of contact between construction materials and atmospheric pollutants; such agents create greater problems related to dirt and deterioration.

ADVANTAGES

- Multipurpose product that includes aesthetic, functional and protective effects
- Greater resistance of the façades to atmospheric intrusions and pollution effects
- Greater control of the NOx (nitrogen oxides) produced in the cities, helping to improve the environment and air quality, thereby favourably contributing to public health
- Delays accumulation of surface residues, and maintains the original appearance of the tiles
- Easy to clean in hard to reach areas, such as tall buildings
- Durability of the self-cleaning effect via the chemical process that produces it
- Cost cutting in relation to maintenance and cleaning of buildings

Runoff water can cause stains that reduce the aesthetic value of the façades. Outdoor wall tiles can therefore remain clean and their exposure limited to sunlight and rainwater, due to the photo-catalytic and hydrophilic properties of titanium dioxide.

APPLICATIONS

The properties of these products are activated by direct action from the light and by water, and as such are especially recommended for outdoor use.

They can be applied to any porcelain tile product, in any format and/or finish of the Revigrés collections.

CERTIFICATE

Determination of photo-catalytic activity (Main Laboratory Sassuolo), tested for a 24 h effect.

4. LIGHT TILES

DESCRIPTION

Innovative product with half the thickness and half the weight of the traditional product.

ADVANTAGES

- ½ Thickness
- ½ Weight
- ½ Raw materials
- ½ Energy
- ½ Environmental impact
- ½ Transport costs
- ½ Work to apply
- ½ Effort in handling large pieces
- 2 x m² per box
- 2 x Load optimization

APPLICATIONS

REVIGRÉS LIGHT WALL TILES

Especially suited for:

- Ventilated façades
- Space refurbishment
- Application to lightweight walls (e.g. plasterboard)

REVIGRÉS LIGHT FLOOR TILES

- Greater flexibility
- Greater resistance to impact
- Also recommended for irregular floors
- Allows for easier remodelling (clean and quick)

Can also be applied in new buildings: indoors or outdoors, public or private premises – using conventional application.

Can be used with all products from the Revigrés Light collection.

5. SOLAR TILES

DESCRIPTION

Solar Tiles is a project for developing photovoltaic ceramic materials for the surfaces and roofs of buildings (ventilated façades or roof shingles) in view of capturing and using solar energy to produce electricity.

ADVANTAGES

- Multipurpose product
- Wall surfacing
- Energy producing
- Allows for greater architectural integration

APPLICATIONS

This project seeks to contribute to sustainable construction, using photovoltaic ceramic materials on building façades and roofs, combining **aesthetics and technique with a view to energy efficiency**.

It can be executed on porcelain tile products with natural finish (completely smooth surfaces) in the 60 x 60 cm and 60 x 120 cm formats.

This project is in the prototype phase.

PARTNERS

9 national entities – ceramics industries, universities, technological centres and other entities – that Revigrés supports.



6. SOLARPLUS

DESCRIPTION

Revigrés SolarPlus solar photovoltaic panels are comprised of an overlapping of laminated amorphous silicon semiconductors between a glass panel and the Light ceramic tile.

These panels have superior energy performance and provide thermal insulation for buildings, even on days with little sunlight and high temperature variations, addressing a vast range of climatic conditions.

ADVANTAGES

- Allows greater architectural integration due to the uniformity of the parts
- Ability to generate power efficiently, regardless of the angle of incidence, light diffusion and high temperature variations
- Thermal insulation of buildings
- Provides an A+ building classification
- Easy assembly and replacement, shatter-resistant and applicable to new or existing buildings

APPLICATIONS

Due to their low weight, the panels can be used with light and economical support structures – making them ideal for ventilated façades – with the ability to combine photovoltaic panels with ceramics.

They can be used with the products from the Revigrés Light collection in the 60 x 120 cm format.

TARGET PRICE

The price of this product must be budgeted on a case-by-case basis, as there are various details to analyse (area and orientation of the façade, number of necessary modules, etc.).

7. SPECIAL PIECES

DESCRIPTION

1. Double step (60x32.5x5 cm and 120x32.5x5 cm)
2. Curved bullnose
3. Corner pieces
4. Corner (elephant's foot)

ADVANTAGES

Meets the most rigorous hygiene and sanitation needs
Easier to clean with industrial equipment
Less cutting and joints during installation, allowing for better aesthetic results

APPLICATIONS

Only in some cases; subject to prior study in accordance with the project in question.

1. Double step

Minimum quantity: 500 units per format

Price: varies in accordance with the format

Note: cannot be produced in the 30 x 30 cm format



2. Curved bullnose

Minimum quantity: 1000 units per format

Price: varies in accordance with the format



3. Corner pieces

Minimum quantity: 1000 units per format

Price: varies in accordance with the format



4. Corner (elephant's foot)

Because of the specific nature of this product (produced with resin):

- Cannot be produced in all colours
- Subject to minimum ordering quantities
- Each project is subject to analysis of the supply conditions



8. VENTILATED FAÇADE

DESCRIPTION

Used more and more in modern construction, today's ventilated façade system is an efficient solution for solving thermal insulation problems in buildings, while simultaneously allowing the design of projects of high aesthetic and functional quality.

The ventilated façade consists of a construction system that separates the exterior layer of the buildings from the interior layer, thereby creating an intermediate area.

ADVANTAGES

- Efficient ventilation of all components
- Prevents humidity and condensation
- Facilitates electrical and plumbing installations
- Allows quick access in case of maintenance or repair
- Applicable over any existing material (remodelling)
- Quick to finish
- Guaranteed safe use
- Energy efficient
- Elimination of thermal bridges with continuous insulation
- Greater thermal inertia due to exterior placement of insulation
- Sound insulation
- No efflorescence
- Good façade performance against weathering, when used with proper ceramic products

APPLICATIONS

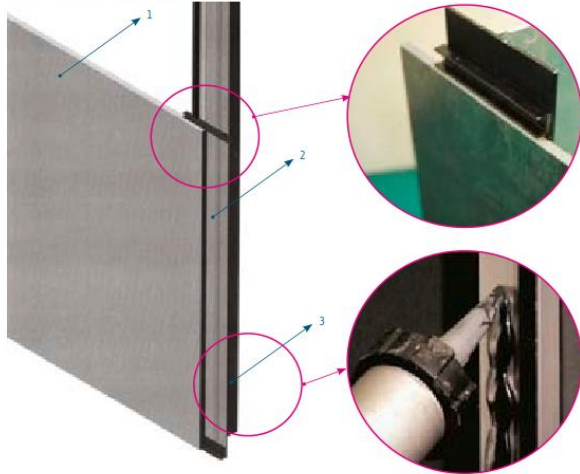
The Revigrés collection includes a number of products perfectly suited from a technical and aesthetic standpoint to today's diverse construction systems – façades using adhesives (A) or fasteners (hidden fastener (B) or visible fastener (C)). Revigrés LIGHT wall tiles, by combining aesthetics, lightness and easy installation, are ideal for this type of construction by capitalising on all of this system's advantages.

VENTILATED FAÇADE COMPANIES

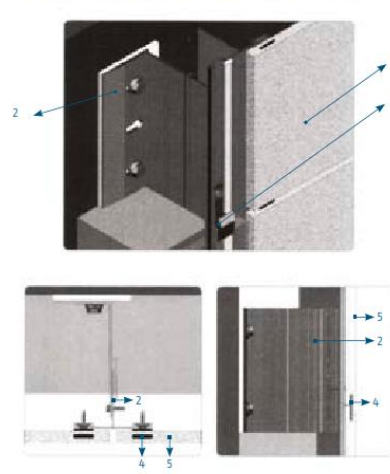
There are various companies that design and apply ventilated façades (see [Attachment 1](#) with contact information).

The price information for a ventilated façade depends on various factors: type and area of the façade, metallic structure, type of fastener, etc.; therefore, each project must be budgeted and analysed individually.

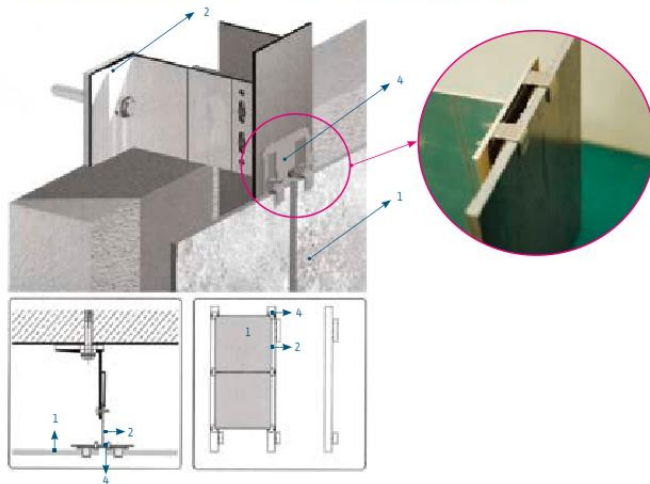
A - FACHADA COLADA - FAÇADES USING ADHESIVES
 FAÇADE COLLÉE - VERANKERTE FASSADE



B - FACHADA COM GRAMPO OCULTO - FAÇADES USING HIDDEN FASTENERS
 FAÇADE AGRAFÉE AVEC AGRAFE OCCULTE - VERANKERTE FASSADE MIT VERDECKTEN ANKERN



C - FACHADA COM GRAMPO À VISTA - FAÇADES USING VISIBLE FASTENERS
 FAÇADE AGRAFÉE AVEC AGRAFE APPARENTE - VERANKERTE FASSADE MIT SICHTBAREN ANKERN



1. Ceramic piece
2. Vertical profile of wall application
3. Elastic adhesive for façade
4. Stainless steel fastener
5. Ceramic piece with slit