**Sustainable buildings with Casalgrande Padana porcelain stoneware tiles**

**Green construction**

The continuous campaigns to protectthe planet and natural resources and the Covid-19 pandemic keep drawing attention to the importance of **safe and healthy spaces** and *environmentally-conscious* buildings.

**Green construction** is a *building science*, a holistic approach to architecture that aims at creating a balanced relationship between a building and the surrounding environment. It’s a new way of designing a building, integrating natural materials and **energy-saving** construction techniques. This meticulous use of resources, materials, and components helps reduce the overall environmental impact.

From the design to the demolition of a building, and along its entire life cycle, **green construction** follows an approach that integrates a series of variables that are essential for both the environment and the wellbeing of the people living in it. These include the site of the building and the choice of **natural materials** that help protect the environment while ensuring **safe and healthy** spaces and insulation without thermal bridges to promote **energy saving**.



*Montebarville (Switzerland)*

**Casalgrande Padana porcelain stoneware is 100% sustainable**

[**Casalgrande Padana ceramic tiles**](https://www.casalgrandepadana.it/it/prodotti/collezioni/?edit_off) are guaranteed and certified. They are one of the most advanced and versatile components that sustainable architecture can offer to create furnishings that meet contemporary **green construction** criteria.

**Casalgrande Padana porcelain stoneware** is made solely with **natural raw materials**, without any plastic or harmful substances. It is **fully recyclable, inert, fire-resistant**, **non-allergic**, and **unalterable.** Moreover, thanks to the [**Bios Ceramics®**](https://www.casalgrandepadana.it/it/soluzioni/bios-ceramics/) technology, it’s also **antibacterial, self-cleaning**, and can even **reduce pollutants.**

**Casalgrande Padana porcelain stoneware tiles** are made through a closed-cycle manufacturing process where sophisticated antipollution equipment allows all the components to be recycled and reused with substantially zero emissions or dispersions: 0% harmful emissions, 100% environmental impact reduction, 99.5% waste recovered, 74% self-produced energy, and 100% environmentally sustainable packaging.

Casalgrande Padana’s cutting-edge production process focuses on sustainability, development, scientific research, and the best environmental experiences. It also aims at reducing pollution as much as possible to protect the landscape and territorial balance. This commitment is demonstrated by Casalgrande Padana’s [**many certifications**](https://www.casalgrandepadana.it/it/azienda/ambiente-e-certificazioni/), including the **LEED** (Leadership in Energy and Environmental Design) and **ISO 14001** **certifications**. But also by the company’s [**Code of Ethics**](https://www.casalgrandepadana.it/it/azienda/modello-di-organizzazione/), which regulates the environmental policies related to its production cycle, and environmental management system compliant with the [**EMAS Regulation**](https://www.casalgrandepadana.it/it/azienda/ambiente-e-certificazioni/) to improve its environmental performance. Casalgrande Padana has also published an **environmental statement** validated by the certification body.

**Bios Antibacterial® :Maximum hygiene at home**

All Casalgrande Padana collections are available in the [**Bios Antibacterial®**](https://www.casalgrandepadana.com/en/technology/antibacterial/) version, which can **reduce by 99.99%** the four main **bacterial strains** in confined spaces (*Staphylococcus aureus*, *Enterococcus faecalis*, *Escherichia coli*, *Pseudomonas aeruginosa*). These tiles can also eliminate bad odours and, in the presence of moisture, which is fertile ground for bacteria, their benefits are even enhanced. All these reasons make these tiles perfect for the floors and walls of rooms where hygiene is a must. In pools and outdoor areas, the Bios Antibacterial® technology also helps **combat mould**, **yeasts**, and **fungi**.



***Flooring: Marmoker Giallo Striato – Coverings: Marmoker Travertino Noce***

**Interlocking tiles for an automated home**

In addition to traditional tiles **laid on screed using glue**, the Casalgrande Padana range includes the [**Ars Ratio interlocking and dry-laid tiles**](https://www.casalgrandepadana.it/it/soluzioni/engineering/pavimento-autoposante-interni/). These tiles allow you to create a smart flooring with sensors and control units under it to control your lighting and climate control systems. The result is a home featuring innovative automated technology that helps **reduce energy consumption and waste** while simplifying domestic life, combining comfort and increased security.

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***Ars Ratio Casalgrande Padana***

**Façade cladding: insulation systems and ventilated walls**

**Thermal insulation** is a distinctive feature of a **green building**, whether new or restored. When it comes to [**cladding**](https://www.casalgrandepadana.it/it/soluzioni/engineering/applicazioni-di-lastre-ceramiche-facciata/), Casalgrande Padana makes **ceramic tiles** for **insulation systems** and **ventilated walls**.

**An insulation system consists in applying insulation panels outside the wall (instead of inside) to ensure the thermal and sound insulation of a building. This creates a homogeneous cladding that reduces thermal bridges, which are responsible for heat dispersion, condensation, and mould. Moreover, an insulation system helps protect the underlying layers, thereby improving the building’s energy performance and aesthetics.**

A **ventilated façade**, on the other hand, is a dry-mounted cladding system bound to the building through mechanical suspension and anchoring elements. A **ventilated façade** protects the building against weather agents and pollutants. It also ensures **thermal and sound insulation**. Moreover, it protects the wall structure, ensures energy saving, eliminates thermal bridges and surface condensation, improves aesthetics, and maintains the aesthetic and technical features over time. All these reasons make it one of the most effective cladding systems.



*Montebarville (Switzerland) – Ventilated façade cladding: Amazzonia Dragon Grey*

**Bios Self-Cleaning®: Casalgrande Padana’s air-purifying porcelain stoneware tiles**

Casalgrande Padana’s [**Bios Self-Cleaning®**](https://www.casalgrandepadana.it/it/tecnologia/self-cleaning/) porcelain stoneware tiles are specific for façades and ventilated envelopes. They feature **self-cleaning properties** and **reduce NOx emissions**, which are among the primary pollutants in urban areas. **Bios Self-Cleaning®** features the excellent performance and aesthetic qualities of porcelain stoneware cladding and drastically **reduces cleaning and maintenance**. All this translates into significant savings while maintaining the quality and characteristics of the architecture.

By reducing NOx emissions, **Bios Self-Cleaning®** helps improve the environmental quality of urban settings. Using Bios Self-Cleaning® over a façade surface of 150 sq.m purifies the air as much as a wooded area as big as a football pitch. It also eliminates the nitrogen oxides (NOx) emitted by 11 cars throughout a day.



*Cladding: Limpha Helix*