

**REQUIREMENTS FOR LEED CERTIFICATION: PORCELAIN CERAMIC TILES**

In accordance with de LEED certification the ceramic tiles of the PORCELAIN CERAMIC TILES can contribute to LEED points in the following requirements:

MR-Material & Resources (1)	MR Credit 4.1-4.2 Recycled Materials Content	<b>Minimum amount of pre-consumer recycled content: 37%</b>
MR-Material & Resources (2)	MR Credit 5.1-5.2 Regional Materials	<b>Use of materials in a radius &lt;800 km.</b>
EQ-Indoor Environmental Quality (3)	EQ Credit 4.3 Low-Emitting Materials	<b>No VOCs emission</b>
SS-Sustainable Sites (4)	SS Credit 7.1 Heat Island Effect	<b>SRI (Light colours) &gt;29.</b>
ID-Innovation in design (5)	ID Credit 1 Environmental Innovation	<ul style="list-style-type: none"> <li>•Contain of Recycled Material</li> <li>• Global EPD (Environmental Product Declaration).</li> </ul>

(1) Ceramic tiles of the PORCELAIN CERAMIC TILES contain a percentage of pre-consumer recycled material of 64%. Certificate of the content of recycled material is attached.

(2) Ceramic tiles are manufactured using an atomized powder as raw material, where the distance of origin is less than 800 km. Certificates are attached.

(3) None of the ceramic tiles of the PORCELIN CERAMIC TILES release VOC's (Volatile Organic Compounds) and therefore do not emit any air pollution, which translates into an increase in Indoor Environmental Quality.

(4) Ceramic tiles with light colours have a Solar Reflectance Index (SRI) equal to or greater than 29, contributing to the reduction of the "heat island effect".

(5) Ceramic tiles of the PORCELAIN CERAMIC TILES contribute to innovation in design through environmental innovation. GLOBAL EPD (Environmental Product Declaration) and ISO 14021:1999 certificates are attached.

Quality Department

June 23, 2021

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**CERTIFICATE NO CONTAIN VOCs**

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The Quality Department certifies that ceramic tiles **do not contain VOCs** (Volatile organic Compounds) and **do not release any toxic substance to the environment.**

Ceramic tiles have zero VOCs because they are manufactured at high temperatures, from 1050 to 1200 °C, depending on the type of the product. This temperature guarantee the total destruction of any possible organic residue. At temperatures above 450-500°C, no organic compounds can be present in the fired ceramic tiles.

## SUSTAINABLE DEVELOPMENT

The manufacture of ceramic tiles has been associated with environmental impacts. They range from the removal of the clay raw materials to disposal as solid or demolition waste after they have been installed in any building.

Our objective is reducing the environmental impacts associated with our production process and get a “greener” by constantly applying the most technologies available to create an innovative, efficient and sustainable product. This “green” production allows us to increase the respect for the planet on which we live and that future generations can continue to enjoy it. Therefore, our vision is to continue to produce increasingly efficient and innovative ceramic tiles. Thanks to that our production process is characterized by:



### EFICIENCIA ENERGÉTICA

Optimización de todas las etapas del proceso productivo, que se traduce en una optimización de la energía consumida y en un aumento de la eficiencia.

**Energy Efficiency:** This is defined by applying the latest new technologies to increase the efficiency and profitability of the production process. The result is a decrease in the amount of natural gas and raw materials used in the manufacture of ceramic tiles. This allows us to reduce the ratio of energy consumption per square meter manufactured and also the ratio between the amounts of raw materials per square meter. All this translates into a decrease in the exploitation of natural resources which favors the non-extinction of flora and fauna, soil impoverishment, de-forestation, etc. This is a way to ensure sustainability over time so that future generations can benefit from these natural resources.

**Atmospheric Emissions:** In order to comply with the Kyoto Protocol, one of our main objectives is to reduce the CO<sub>2</sub> emissions to the atmosphere. This allows us to contribute to the fight against climate change. The decrease in consumption of natural gas and raw materials during the productions of ceramic tiles results in a reduction of CO<sub>2</sub> emissions resulting in a reduction of global warming and a reduction of the famous “greenhouse effect”. This is achieved due to the application of the most advanced and new technologies that increase the efficiency of the production process.



### EMISIONES ATMOSFÉRICAS

Reducción de las emisiones de CO<sub>2</sub> a la atmósfera y cumplimiento del Protocolo de Kioto debido a la alta eficiencia energética del proceso productivo.



### GESTIÓN DE RESIDUOS

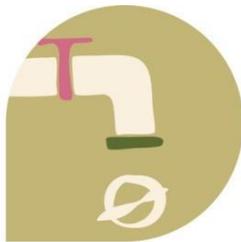
Minimización de los impactos ambientales generados durante nuestro proceso de producción.

**Waste Management:** The manufacture of ceramic tiles entails the generation of number of wastes that are associated environmental impacts. Some of these wastes are reused and others are managed by an authorized manager. The main wastes generated are known as solid process losses or solid waste and water waste and they are reused in other industries such as the cement industry or atomization clay. This reduces the environmental impacts associated.

**Reuse of Resources:** During the manufacture of ceramic tiles large quantities of industrial wastewater and waste from the raw materials are generated. This waste is reused in the process of atomization of raw materials. It reduces the consumptions natural resources. Before becoming waste, they are natural resources called water and clay and they are extracted directly by from the planet on which we live. Reuse them in the atomization process reduces the consumption of water and clay so that the exploitation of natural resources is diminished. This allows an increase of the sustainability of the production process. Thus, future generation will have access to these natural resources.



**REUTILIZACIÓN DE LOS RECURSOS**  
Reutilización en el proceso productivo de las aguas residuales generadas y del polvo atomizado y tiesto crudo, reduciéndose el consumo de materias primas.



**VERTIDO CERO**  
Durante el proceso productivo existe vertido cero de las aguas residuales generadas.

**Zero Discharge:** The generation of industrial wastewater is a significant environmental aspect in the manufacture of ceramic tiles. Mainly, this water comes from cleaning operations performed on the stage of preparation and application of glazes. This wastewater is reused as raw material in the wet atomization process of clays which are used in forming the ceramic support by pressing. Therefore, industrial wastewater is not discharged. This is called “zero discharge”.

**Useful Life:** The lifetime of a ceramic tile is estimated at 50 years. Which ensures that the environmental impact associated with it is low. The long useful life that has a ceramic tile leads to a reduction or solid waste or demolition waste generated. The long life translates into a reduction of solid or demolition waste over time. In addition, ceramic tile is characterized as an inert product that does not requires energy consumption for proper operation when it is installed in any building. The ceramic tile is a product that reduces the environmental impacts associated with her lifecycle.



**VIDA ÚTIL**  
Las baldosas cerámicas son uno de los materiales de la construcción de mayor vida útil, reduciendo de este modo el volumen de residuos generados.



**Integrated management:** The cardboard packaging wastes generated by our production of ceramic tiles are recycled through an integrated management system. For this we are associated with ECOEMBES. This is a non-profit company aimed at the selective collection and recovery of packaging waste for further processing, recycling and recovery.