

Roca Brasil  
Cerâmica on

# SUS TAIN ABILITY

THERE FOR **YOU**

FOR **US**

FOR THE **PLANET**

# INDEX

Introduction .....	03
The First Step .....	04
We Are Water Foundation .....	05
Materiality .....	06
Human Health .....	07
Quality and Durability .....	08
Environmental Impact .....	09
LEED Certification .....	17
References .....	20

# INTRODUCTION

When you have been in the market for as long as Roca Brasil Cerâmica, the search for best practices is constant, as well as the improvements we make within our line of business. Every positive step we take comes with the responsibility and transparency our customers deserve.

In 2019, our goal was to monitor the key environmental and social impacts of our business more accurately. This project is still under development, but it has already made it possible to draw new sustainable plans and goals that go beyond the practices already required by current environmental laws and regulations.

We hope to take you with us on this journey where we seek the best balance between the pillars governing the concept of sustainability, always with transparency and respect.

**WITH THIS MEASURE WE HAVE CONTRIBUTED WITH OBJECTIVE NUMBER 12 OF THE GLOBAL PACT – ENSURING SUSTAINABLE PRODUCTION AND CONSUMPTION STANDARDS.**

# THE FIRST STEP

## To accurately measure our impacts to maximize our results.

One of the most used natural resources in the production of ceramic floors is water. Of course, this resource has always been at the top of our list of sustainability actions as well.

- In all our units we treat and reuse 100% of the process water. Water treatment follows the strictest quality standards, positively exceeding the standards required by law.
- In the administrative centers we use metals with timers and toilets with water flow reduction, and we promote awareness campaigns so that everyone is united in this purpose.

**Highlight:** in 2019 we participated in the water conservation program of the WE ARE WATER International Foundation. With a commitment to reduce by 18% the amount of water used in our processes. **The goal was reached.**

**WITH THIS MEASURE WE HAVE CONTRIBUTED WITH OBJECTIVE NUMBER 06 OF THE GLOBAL PACT – ENSURING AVAILABILITY AND SUSTAINABLE WATER AND SANITATION MANAGEMENT FOR ALL. AND WITH OBJECTIVE NUMBER 13 OF THE GLOBAL PACT - TAKING URGENT MEASURES TO COMBAT CLIMATE CHANGE AND ITS IMPACTS.**



# WE ARE WATER

Foundation

The foundation has two main goals. The first is to raise awareness and encourage people and institutions to think about the need to create a new culture of water use that enables the development of fair and sustainable management of water resources around the world.

The second is to follow up on all types of activities to reduce the negative effect of lack of adequate water resources. The foundation is involved in infrastructure, education, health and research projects in the most negatively affected parts of the world.

# MATERIALITY

Roca Brasil Cerâmica products are part of the group of materials called Permanent Use Materials – which means they usually remain for two or more years in the environments where they are employed.

Disposing of permanent use products in the environment prior to the end of their life cycle increases our carbon footprint.

To avoid this waste and enhance the life cycle of our products,

Roca Brasil Cerâmica works so its products:

- Promote people's well-being and health;
  - Have quality and durability;
  - Have a contemporary design;
- Minimize environmental impact;
  - Add beauty to environments;
  - Are low-maintenance.

See how our products fulfill these roles.

# HUMAN HEALTH

## **Composition**

Ceramic products are considered inert, that is, they do not emit volatile organic compounds (VOCs) that may be harmful to users' health. Because they are inert, they also do not harm the environment when disposed of properly.

## **Maintenance**

Daily maintenance of our products does not require the use of any chemicals harmful to human health. This reduces the dispersion of toxic substances.

## **Quality of life**

The pace of life in the modern world means that we spend most of our hours indoors. Therefore, being careful when choosing the materials and coatings that will make up these spaces is the main factor responsible for the quality of life we will have inside them.

Natural materials are considered to be especially stimulating because they replicate the properties of natural minerals and other materials found in nature. Humans respond positively to visual and tactile stimuli that evoke nature. Some benefits are increased production, creativity and reduced feeling of anxiety and stress.

Our designs inspired by natural elements fulfill this function within biophilic architecture. To achieve this level of excellence, our Campo Largo factory works with the advanced technique of high-definition digital printing, faithfully reproducing the veins and colors of the most coveted marbles, the variations in tone and irregular reliefs of the woods and natural stones. The fidelity and benefits of natural elements within your project with the lowest carbon footprint.

# QUALITY AND DURABILITY

## Quality

Our products' technical quality is something that we have already consolidated in the market. Our products strictly follow the production parameters required by **NBR 13818-1997 and NBR 15463-2007**. As all our blades are regulated, and so they use fewer installation products.

## Durability

Regarding durability, we also attest that we follow NBR 15575-2013, which observes the performance of buildings and the materials used to build them. The durability of the materials and their resistance to external actions guarantee prolonged use within the environment, preventing them from being discarded or replaced ahead of time, which would bring costly consequences to the environment such as:

- Waste of electric power and water;
- Shortage of natural resources;
- Increased emissions of greenhouse gases into the atmosphere.

## Timelessness and Flexibility

Adaptable design, product lines with neutral hues and textures that fit any lifestyle. Basic yet striking tones are more likely not to be replaced if the space in which they were inserted is redecorated. This saved up on natural resources and the energy used throughout the process chain, installation and disposal. All these impacts translate into economic and environmental benefits.

**WITH THIS MEASURE WE HAVE CONTRIBUTED WITH OBJECTIVE NUMBER 12 OF THE GLOBAL PACT: ENSURING SUSTAINABLE PRODUCTION AND CONSUMPTION STANDARDS. AND WITH OBJECTIVE NUMBER 15 OF THE GLOBAL PACT: PROTECTING, RECOVERING AND PROMOTING SUSTAINABLE USE OF LAND ECOSYSTEMS, SUSTAINABLE MANAGEMENT OF FORESTS, COMBATING DESERTIFICATION, STOPPING AND REVERSING LAND DETERIORATION AND REVERSING LOSS OF BIODIVERSITY.**



# ENVI RONMEN TAL

## Impact

Working with eco efficiency means combining environmental responsibility with market intelligence. Developing products that will bring benefits to our users' quality of life while respecting and optimizing the use of natural resources so that they remain balanced within our environment.

# RAW MATERIALS

- Responsible extraction and in accordance with environmental legislation;
- The factories located in Campo Largo and São Mateus do Sul have been strategically positioned in regions that have an abundance of raw materials and at the same time have easy access to a road network that connects their products to major distribution centers throughout the country;
- The location brought economic and environmental convenience to the Group, 63% of the raw materials for our products are obtained in Paraná, supporting the local economy;  
We have internal policies for reusing raw materials or minimizing waste during our production process, with 11% recycled raw materials;
- In the conventional line produced in São Mateus do Sul we reuse all the flocculated mass that is led along the water to our treatment plant. This mass returns to the entire process, maximizing the use and value of the extracted raw material.
- In the continuous line produced in Campo Largo we have a modern system that uses less raw materials in the production of thin ceramic tiles, as well as laser printing that uses a minimum amount of ink and has impressive quality results.

# MINERAL DEPOSITS

Roca Brasil Cerâmica, in accordance with the National Environmental Policy represented by Law n. 6.938 of August 31, 1981, recovers all its deposits, preserving biodiversity. The Group employs qualified professionals that control these actions and monitor the deposits while they are being explored.

The deposits, both owned and outsourced, are periodically monitored by environmental professionals, who make scheduled visits to generate quarterly and/or semi-annual monitoring reports. The goal is to carry out the mining work with minimal impact on the environment and promote all necessary actions in the implementation of environmental control. The company has a dedicated annual budget for environmental recovery and improvement of the areas they use for mining.

- With this detailed monitoring of the mineral raw material used in our products we are able to maintain a thorough control in environmental and social matters.
- This responsibility extends to our supply chain as well, ensuring that 100% of our activities comply with applicable laws.

# ELECTRIC POWER

We seek to optimize the energy used within our production processes, choosing to use energy from clean sources whenever possible. In a few processes we still use fossil sources due to their high calorific potential which allows us to produce more with less natural resources being employed.

- 79% of the energy used in production comes from clean energy sources;
  - The ovens and dryers operate 100% with natural gas;
- Within our operating units the process of replacing conventional mercury lamps with LED lamps is underway and we expect to complete this standard very soon. This, in addition to helping the environment, since LED lamps have higher efficiency, also brings comfort to the Group's employees, since LED lamps dissipate much less heat compared to traditional lamps, thus generating better thermal comfort.

# WATER

As mentioned in the highlight of this report, water is one of the top elements in our concern for the environment.

The goal is to optimize our water footprint, which as we stated, is already four times smaller than those reported in standard wet processes.

- The manufacturing process at the Campo Largo units uses water from the Cambuí River Basin. The water that enters the process is treated in its own water treatment plant (WTP), with water reuse after treatment in its own water treatment plant (ETP), and only the excess is returned to the Cambuí river, following the parameters approved by the environmental license. On average 18% of treated water is discarded and monitored so that the quality is superior to the quality of water withdrawn from the river.
- The manufacturing process at the São Mateus do Sul unit was initially supplied by the dam and currently the water used in the process comes from its own artesian well. The Industrial Unit today recycles 100% of the water needed in the process. A lung-pond is used to balance the process cycle.

# EXTERNAL AIR QUALITY

In 2019 we celebrated Tree Day – September 21st – by planting seedlings.

Did you know that they consume much more carbon while growing up than a mature tree?

Thus, planting new trees contributes considerably with CO<sub>2</sub> absorption from the atmosphere. Each hectare of planted forest removes an average of 175 tons of CO<sub>2</sub> from the atmosphere. Each hectare of land holds an average of 1600 tree seedlings, varying according to species.

In addition to promoting the recovery of deposits, the group also holds 820 hectares of rural areas in Paraná and Santa Catarina, of which 168 hectares comprise PPAs (Permanent Preservation Areas), 153 hectares of Legal Reserve, and 262 hectares of forests surpluses maintained on the properties, contributing positively to the local microclimate and the quality of life.

Around our operating units we also maintain control of emissions and air quality. We have met and positively exceeded the standards regulated by

**SEMA n. 016/14 and Ordinance 001/2008/IAP/GP.**

# NATURAL GAS BURNING EMISSIONS

- Particles – 33x below the levels required by law.
- Carbon Monoxide – 10x below legally required indexes.

# PETROLEUM COKE BURNING EMISSIONS

- Particles – 2x below the levels required by law.
- Carbon Monoxide - 5x below the levels required by law.

# PACKAGING

Our packaging is 100% recyclable and we optimize it by reducing the amount of material used in each package without compromising product integrity.

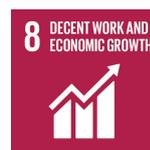
Our pallets are produced with reforestation wood.

# RESIDUES

We maintain careful control over the quantities and types of waste generated in our production. We have a team that evaluates which are the noblest destinations for each of them and direct them, intensifying their recycling and reuse.

We continue our commitment to reduce our waste generation so that we can further save the energy and water used in its final treatment.

**WITH THIS ACTION WE HAVE CONTRIBUTED WITH OBJECTIVE NUMBER 08 OF THE GLOBAL PACT: PROMOTING SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL. AND WITH OBJECTIVE NUMBER 15 OF THE GLOBAL PACT: PROTECTING, RECOVERING AND PROMOTING SUSTAINABLE USE OF LAND ECOSYSTEMS, SUSTAINABLE MANAGEMENT OF FORESTS, COMBATING DESERTIFICATION, STOPPING AND REVERSING LAND DETERIORATION AND REVERSING LOSS OF BIODIVERSITY.**





# LEED

## Certification

“LEED® (Leadership in Energy and Environmental Design) is an international certification and environmental guidance system for buildings used in 143 countries, and aims to encourage the transformation of building designs, works and operations, always focusing on their sustainability.”

*GBC Brasil.org*

# LEED CERTIFICATION

Among the LEED® V 4.1 system credits, our products fall into the following item:

**IEQ - Indoor Environmental Quality**

**IEQc4.1 - Low Emitting Material -Flooring**

## INDOOR ENVIRONMENTAL QUALITY

IEQc4.1 – Low Emitting Material – Flooring

### **Floors**

At least 90% of all installed flooring, per cost or per surface area, is within permissible VOC emissions OR Product is an inherently non-VOC source OR meets reclaimed and reused product criteria.

### **Low Emitting Criterion**

### **Inherently Non-Emitting Source**

The product is an inherently non-VOC source (stone, ceramic, powder coated metal, plated or anodized metal, glass, concrete, clay brick and untreated or unfinished solid wood) and has no surface coatings, binders or organic-based integral sealants.

**Decreasing the amount of VOC contaminants that have strong odors and are detrimental to the comfort and health of installers and future indoor occupants.**

"Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors.

VOCs are emitted for a variety of products that number in the thousands. Examples include: Inks and Varnishes, paint thinners, cleaning products, pesticides, building materials, furniture, office equipment such as copiers and printers, concealers, self-copying paper, printing and stationery materials such as glue, adhesives, pens permanent and photo solution."

*United States Environmental Protection Agency - [www.epa.gov](http://www.epa.gov)*

# REFERENCES

**Roca Brasil Cerâmica**, [www.rocaceramica.com.br](http://www.rocaceramica.com.br) [www.incepa.com.br](http://www.incepa.com.br)

**GBC Brasil**, [www.gbcbrasil.org.br](http://www.gbcbrasil.org.br)

**USGBC**, [www.usgbc.org](http://www.usgbc.org)

**United States Environmental Protection Agency**, [www.epa.gov](http://www.epa.gov)

THIS  
REPORT WAS  
WRITTEN  
BY:

**Samantha Meira**

Architect and Consultant, LEED AP BD+C

**Wellington Sakamoto**

Chemical Engineering Assistant and Intern

*The intellectual property in this document is protected by Law 9610 of 1998 and any reproduction of the material without prior permission is prohibited.*

