HERITAGE
CERAMICS

SME CENTRE | CONFERENCE 2022

NAVIGATING THE FUTURE OF
SUSTAINABILITY

31 AUGUST 2022 | MARINA BAY SANDS

THINKING GREEN, LIVING GREEN

WITH HERITAGE CERAMICS

OUR PRACTICES

GETTING INTO THE GREEN SCENE

- WHO WE WORK WITH

FACTORIES
(which meet the highest standards of emissions to environment including recycling of waste products and water

REPUTABLE MANUFACTURERS
(ensures that our products meet our sustainability standards)

SUSTAINABILITY EXPERTS
(to tailor training modules where we educate staff on the sustainability framework and carbon footprint reduction)

OUR PRODUCTS

All our products under Space, Studio and Shape have been awarded green certificates under the Singapore Green Label Scheme.

space™ Ceramics + Porcelain

GreenLabel SINGAPORE

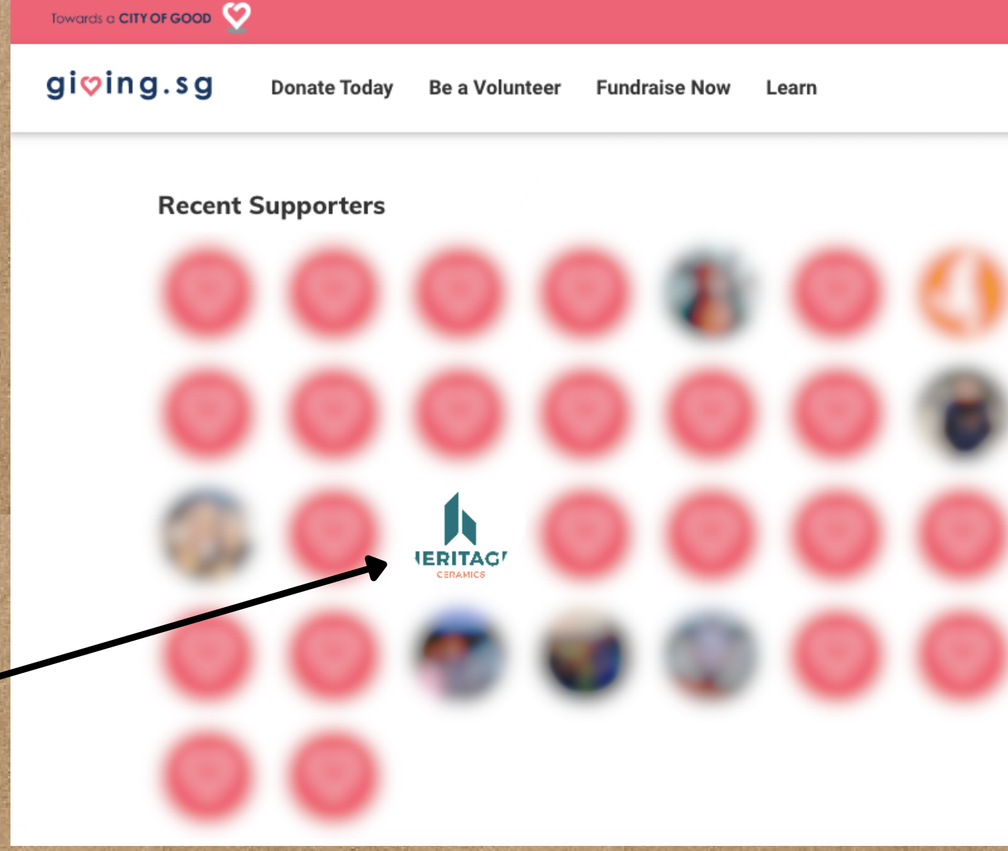
SHAPE™ CERAMICS

STUDIO™ CERAMICS

OUR PLEDGE

As the extraction of raw materials in the production of ceramic tiles will inadvertently lead to some form of deforestation, we have made a pledge to support our national OneMillionTrees Movement, where a percentage of every sale will be donated to Garden City Fund for tree planting, support outreach and education efforts.

ONE MILLION TREES MOVEMENT



COLLABORATION WITH ONEMILLIONTREE SG

WHY CHOOSE CERAMIC TILES?

REDUCES CARBON FOOTPRINT

Ceramic tile has no inherent environmental impact in its production process as it's made with clay-based material instead of stone or concrete like other building materials do.

In fact, ceramic tiles are one of the most Environmentally Friendly choices when compared with other building materials which releases carbon dioxide into our atmosphere during manufacturing processes (wood is naturally grown on trees).

CAN BE RECYCLED AT THE END OF ITS LIFE CYCLE

At the end of its life cycle, discarded or removed tiles can be recycled as hardcore for concrete.

ONLY 5-7% OF THE ENERGY NEEDED TO PRODUCE

Ceramic tiles require only 5-7% ceramic tile production produces less than one-tenth of the CO2 emissions associated with producing concrete.

WHY CHOOSE CERAMIC TILES?

LARGE NUMBER OF SUSTAINABLE FEATURES AND BENEFITS

The durability of ceramic tiles means that once installed on your bathroom walls or floors there will practically never need replacing (unless something happens like someone bumps into them).

Ceramic tiles also does not break down after being exposed to moisture in bathrooms and they don't come apart easily like other materials do (like wood).

ONE OF THE MOST SUSTAINABLE BUILDING MATERIALS ON THE MARKET TODAY

Ceramic tile is one of the most sustainable building materials on the market today.

It’s made with natural materials that are abundant in our earth, such as clay and sand, which means they don’t release volatile organic compounds into your home or office space.

ABOUT OUR GREEN LABEL CERTIFICATE

ADMINISTERED BY THE SINGAPORE ENVIRONMENT COUNCIL (SEC) SINCE 1999

The Singapore Green Labelling Scheme (SGLS) is Singapore's leading environmental standard and certification mark with over 3800 unique products certified across 43 countries.

A TYPE 1 ECOLABEL

A Type 1 Ecolabel is independently verified by third party based on the life cycle considerations. It addresses the main environmental impacts of a given product and places limits for compliancy in order to reduce these impacts.

In order to certify a product under the SGLS, a product must be placed under one of the SGLS product categories and meet all the requirements for the specified product category.

The scheme's high certification standards also motivate and empower manufacturers to adhere to international environmental best practices in their manufacturing process.

SPACE - AURORA WHITE

WHAT YOU SHOULD KNOW

Reasons Why Ceramic Tiles Are A Sustainable Building Material

BY HERITAGE CERAMICS

AUGUST 2022

Ceramic tile is a great choice when it comes to building materials. They are durable, long lasting and easy to maintain. These benefits make them an excellent option for both residential and commercial spaces alike.

However, not all types of ceramic tiles are created equal when it comes to sustainability.

In this article we'll explore why ceramic tile is a better choice over other building materials in terms of sustainability!

01. REDUCING CARBON FOOTPRINT

Using sustainable materials can help **mitigate the environmental and social costs of generating, transporting and using products**. Using **green building materials** like **natural stone, cement tiles and terracotta flooring** could help **reduce your carbon footprint**.

For example, tile floors are made from natural materials that are widely available in most countries. The **greenest types of flooring are ceramic tiles and stone tiles** as these are **not manufactured from raw materials** that **require energy to obtain**, such as **fossil fuels or minerals**.

It has a significant carbon footprint because they must be quarried from natural deposits or mined.

Natural stones and tiles also require a lot of energy to be transported, installed and maintained.

Ceramic tile has no inherent environmental impact in its production process as it's made with clay-based material instead of stone or concrete like other building materials do.

In fact, ceramic tiles are one of the most Environmentally Friendly choices when compared with other building materials which releases carbon dioxide into our atmosphere during manufacturing processes (wood is naturally grown on trees).

02. CERAMIC TILES ARE SUSTAINABLE BUILDING MATERIAL AND CAN BE RECYCLED AT THE END OF ITS LIFE CYCLE.

At the **end of its life cycle, discarded or removed tiles** can be **recycled as hardcore for concrete**.

Hardcore refers to a heap of solid materials obtained from quarry waste, old building bricks, tile slabs and other crushed gravel (generally broken bits of concrete), stones and bricks which do not deteriorate or absorb water.

03. CERAMIC TILE REQUIRES ONLY FIVE TO SEVEN PERCENT OF THE ENERGY NEEDED TO PRODUCE

As a building material, ceramic tile requires only five to seven percent of the energy needed to produce other comparable materials (like marble). Marble and granite take up to 20 times more energy than ceramic tile does.

For example, if you compare the **production process of ceramic tiles** with that of **marble or granite**, ceramic tiles **require only 5-7% as much fossil fuel** as these other materials do - which means **less pollution and less greenhouse gases released** into the atmosphere from mining operations!

In fact, **ceramic tile production produces less than one-tenth of the CO2 emissions associated with producing concrete.** This is why it's such an **environmentally friendly choice** for those looking to build a new home or remodel their existing space.

04. CERAMIC TILES HAVE A LARGE NUMBER OF SUSTAINABLE FEATURES AND BENEFITS

Ceramic tiles have a large number of sustainable features, as well as benefits like low maintenance and durability.

These benefits make them a good choice for green buildings. Tiles are made from clay, which is a renewable resource that can be mined or reused over and over again.

The **durability of ceramic tiles** means that **once installed on your bathroom walls or floors there will practically never need replacing** (unless something happens like someone bumps into them).

Ceramic tiles also **does not break down** after **being exposed to moisture** in bathrooms and they **don't come apart easily like other materials do (like wood)**.

SHAPE - MOONSTONE GREIGE

05. CERAMIC TILE IS ONE OF THE MOST SUSTAINABLE BUILDING MATERIALS ON THE MARKET TODAY

STUDIO - LAVASTONE TAUPE

Ceramic tile is one of the most sustainable building materials on the market today.

It’s made with natural materials that are abundant in our earth, such as clay and sand, which means they don’t release volatile organic compounds into your home or office space.

Ceramic tiles also last longer than other flooring options because they're made to withstand heavy traffic over time—and if you choose to replace them after 10 years or so, they can be recycled again and again without compromising their quality.

06. CONCLUSION

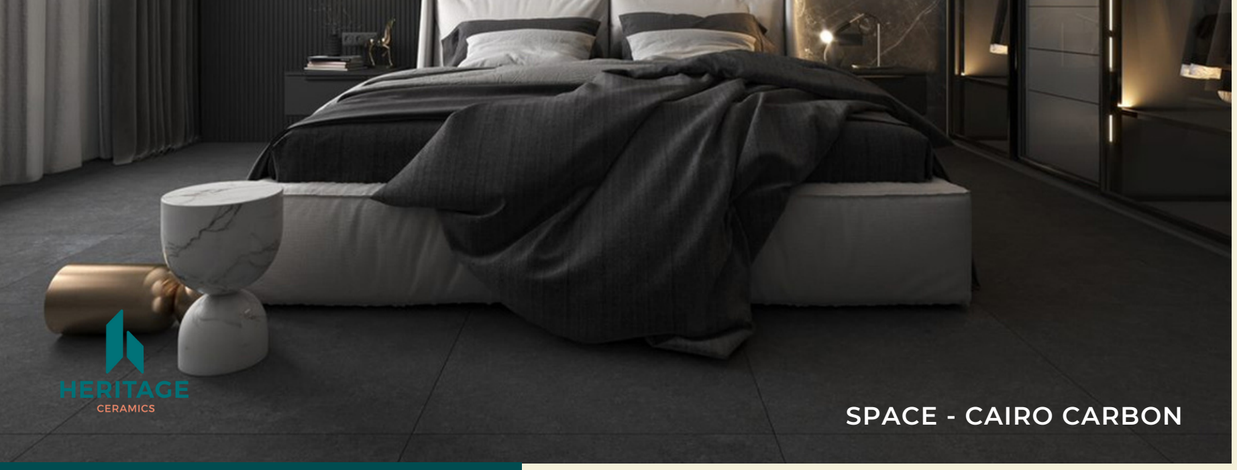
As you can see, there are many reasons to choose sustainable tiles for your home.

From the initial cost savings to the health benefits and the environmental impact, sustainable tiles are a great choice for any homeowner.

Do your research and find a reputable dealer of sustainable tiles to get the best possible product for your home. You'll be glad you made the switch to sustainable tiles!

You can visit our website www.heritageceramics.com and find out more about sustainable tiles.

SHAPE - ZEUS SMOKE



SPACE - CAIRO CARBON

PART 1-CERTIFICATIONS

Role of Ceramic Tiles in Sustainable Development

BY HERITAGE CERAMICS

AUGUST 2022

Sustainability is not just a buzzword anymore. As more and more companies are making a commitment to eco-friendly and ethical production, it is clear that sustainability will not only shape the future of our planet, but also the future of design.

However, sustainability is not just for companies to lead. A growing number of people are invested in selecting sustainable products to decorate and furnish their homes that doesn't compromise natural resources and reduce negative impacts on the environment.

Making sustainable choices when renovating or decorating your home is much easier as eco-friendly methods of production are becoming more common, and transparent.

Looking to design your space with ethically made, sustainable products?
From using upcycled materials to promoting local manufacturing, the tile industry is a clear leader when it comes to pushing the envelope to produce sustainable tiles. Look for products and companies that are making sustainability and best green practices a priority when deciding where to buy.

Let's explore methods on how sustainability is being achieved by top and leading companies including Heritage Ceramics.

In addition to directing people toward the most sustainable construction materials, there are different methods that can help meet transparency requirements and achieve green building points.

Participating in green building programs is ideal for a number of reasons, from creating greater energy and cost-efficient buildings to catching tax breaks.

Specifying ceramic tile covered these methods allows you to meet the requirements of many leading green building programs, it includes:

LEED Certification

(Leadership in Energy and Environmental Design) is the most widely used green building rating system in the world.

Available for virtually all building types, LEED provides a framework for healthy, highly efficient, and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement and leadership. This certification is awarded by the US Green Building Council or USGBC.

Introduced in the USA in 2000, the LEED certification has made rapid advancements and has now become an international standard with an excellent reputation worldwide. It is probably the most widely adopted system and has been used for the certification of buildings in over 30 countries.

Its grading system focuses on respect for the principles of saving energy and ecological building and it is used to classify 'Sustainable Buildings'.

To do this, a building undergoes an environmental impact assessment throughout its entire useful life. The USGBC has established a list of specifications and a series of points is assigned to each of them as an aid to architects during the planning phase.

The evaluation system depends on the intended use and complexity of a building, but in general the certification grade reflects the number of points which are scored: a LEED (bronze), silver, gold or platinum (maximum) certificate. It was first utilized in USA and Canada.

BREEAM Certification

Building Research Establishment Environmental Assessment Method) BREEAM measures energy, health, wellbeing, transport, water use, ecology & biodiversity, materials, waste and pollution with a heavy emphasis on life cycle value. While BREEAM assessments are popular, they are still voluntary (unless stipulated on a government framework).

The BREEAM certificate emerged in 1990 as one of the main sustainability certificates in the United Kingdom and nowadays it continues to be the most widely used and recognized British certification method, although it has gradually been adopted all over the world.

The methodology it proposes evaluates ten impact categories: management, health and well-being, energy, transport, water, materials, waste, ecological use of land, pollution and innovation.

The points obtained in each category are environmentally weighted to take into account the relative importance of each area of impact.

The results for each category are added together to yield a single global score for the building, which is used to rank it on a five-grade scale, indicating the level of BREEAM compliance. It was first utilized in UK, Germany and Netherlands.

Green Mark Certification

The **most common and popular in Asia especially in Singapore**. It is a **green building rating system designed to evaluate a building's environmental impact and performance.**

It provides **a comprehensive framework for assessing the overall environmental performance of new and existing buildings to promote sustainable design, and best practices in construction and operations in buildings**. As part of the public sector's commitment to take the lead in environmental sustainability, **new public sector buildings have been required to attain Green Mark certification.**

Upon achieving Green Mark certification, your brand will be held in high regard. People seek brands that care about the environment, and obtaining certification will tell the world that your business values align with the concerns of the public.

Green Mark Certification can be achieved in either one of these methods. These two methods are private authorized bodies:

1. SGBC

(Singapore Green Building Council) The Singapore Green Building Council forges public-private partnerships to foster innovative industry solutions across the entire building and construction value chain. Through its green building product and green building services labelling programmers, SGBC sets high standards and benchmarks for green building solutions both locally and regionally to help build more sustainable cities for better living.

As Singapore's representative on the World Green Building Council, SGBC actively contributes to the global green building movement by sharing expertise and knowledge during international conferences and events.

CERTIFICATION BENEFITS

- **Greater Awareness of Your Green Business Products and Services**

SGBC certification helps to raise awareness of your green products and services. Certified products and services will be listed on SGBC's online certified products and services directory. This will enable those who are seeking green-differentiated products and services to access relevant information readily. Your products and services will reach your targeted audience and markets more strategically.

- **Industry-Recognized Credibility**

SGBC certification is developed by a broad group of industry experts and is widely recognized for its comprehensive coverage of sustainability criteria that has been developed by the building industry, for the building industry.

SGBC certification is also well-recognized by the Building and Construction Authority (BCA), Housing and Development Board (HDB) and other Public Agencies, and can be accorded additional scores under the BCA Green Mark scheme.

- **Enhanced Access to Global Markets**

With SGBC certification, businesses can gain wider access to global markets where environmental standards are becoming more stringent. Businesses can also tap on SGBC's regional and international network to take their products and services beyond Singapore.

2. SGLS

(Singapore Green Labeling Scheme)

Administered by the Singapore Environment Council (SEC) since 1999, the Singapore Green Labelling Scheme (SGLS) is Singapore's leading environmental standard and certification mark with over 3800 unique products certified across 43 countries.

The scheme aims to help the public identify environmentally preferred products that meet certain eco-standards.

The Singapore Green Label is a **Type 1 Ecolabel**. A **Type 1 Ecolabel is independently verified by third party based on the life cycle considerations**. It **addresses the main environmental impacts of a given product and places limits for compliancy in order to reduce these impacts.**

In order to certify a product under the SGLS, a product must be placed under one of the SGLS product categories and meet all the requirements for the specified product category.

The scheme's **high certification standards also motivate and empower manufacturers to adhere to international environmental best practices in their manufacturing process, and provide them with opportunities for regional expansion through a global network of ecolabels**. The SEC is the only eco-labelling body in Singapore that is a member of the Global Eco-Labelling Network (GEN).

As an **independently managed, non-profit, non-governmental organization** (NGO), SEC **values strong partnerships with organizations and government authorities to foster lasting environmental and societal values that encourage and achieve environmental sustainability.**

CERTIFICATION BENEFITS

- **Recognition**

The Singapore Green Label is widely recognized by ministries, governmental agencies, procurement and industry professionals within the region.

In addition, Singapore Green Label certified products are eligible for points under major building rating system such as BCA Green Mark Scheme, Malaysia Green Building Index, Hong Kong Beam Plus and Vietnam LOTUS.

- **Credibility**

The Singapore Green Label is a Type 1 Ecolabel. A Type 1 Ecolabel is an ecolabel that is life cycle-based and verified by a third party. It addresses the main environmental impacts of a given product and places limits for compliancy in order to reduce these impacts.

This means that Singapore Green Label certified products do not just take into account the impact on the consumer's end, but it also takes into account the use of raw materials, transportation, manufacturing and packaging of the product. Thus, Singapore Green Label certified products will not be susceptible to 'green-washing' due to its robust criteria, which assures consumers and aids them in making more well-informed purchasing decisions.

- **New Market Opportunities**

Singapore Green Label certified products would find it easier to get certified in other member countries, and market their products overseas. We are currently working with other members to make Singapore Green Label certified products more recognizable by other members.

- **Gain a competitive advantage**

Over the years, consumers have become more aware of the environmental issues and the impact their purchases would have on the environment. This greater awareness has led to increasing consumer and industrial demands for green products & services.

Getting your products certified would allow you to better market your products in a society who is demanding that businesses adopt more sustainable practice. Having Singapore Green Label certified products aids in improving your corporate image and differentiating yourself from your counterparts.

- **Reduce Environmental Impact**

Choosing Singapore Green Label certified products will contribute to mitigating the impact of your business on the environment. The SGLS certification process follows the life cycle assessment approach, not just taking into consideration the impact of the end-user but also the product's manufacturing process, labelling and use of raw materials.

- **Cost Savings**

Increase efficiency of manufacturing practices by removing redundant processes, thus leading to cost savings in energy and water usage in the sustainably-manufactured product.

There is a lot of hype about the battle between these sustainability requirements in each country but this seems to be unfounded. All seem happy to co-exist and each has their niche areas or countries. They are even borrowing each other's ideas as they grow.

We hope that this article has helped you to understand the importance of sustainability and the methods in achieving it in your tile project. In the next article, we will have a further discussion about these methods and how is it applicable to building materials especially tiles.

SPACE - CAIRO GRIGIO

PART 2-MANUFACTURING AND DISTRIBUTION

Role of Ceramic Tiles in Sustainable Development

BY HERITAGE CERAMICS

AUGUST 2022

The concept of environmental sustainability and its applications in the ceramic industry has been raised due to the environmental issues related to the construction sector that is why Sustainability certificates are being obtained and it is a practical way to minimize environmental damage as well as social and economic.

They include selection criteria for the building's land, building materials, construction, use, and demolition stage. In continuation to our previous blog, we will be talking about how SGLS Certification can be processed and how does tile manufacturers contributes to Singapore's recently launched Green Project.

THE GREEN PROJECT

Cities are needing more buildings than ever. But buildings produce a third of global carbon emissions and the climate emergency demands a swift transition to green buildings.

Building Sustainable Cities is a series sharing insights on how individuals and businesses can take action to forge a cleaner, greener tomorrow.

Green Building Council launches the Singapore Green Building Masterplan and Singapore Green Plan 2030 cements the island-state's convictions on sustainability, with a whole-of-nation effort designed to inculcate sustainability in every aspect of the industry and the community.

More recently, Singapore has raised its climate ambitions to reach net zero emissions by 2050, a major step up from the previous long-term goal to achieve net zero in the second half of the century.

As the built environment is responsible for more than 20% of the country's carbon emissions, there is immense opportunity and potential for green building to make a positive difference.

This is a nationwide movement to advance Singapore's national agenda on sustainable development and features five key pillars: City in Nature, Sustainable Living, Energy Reset, Green Economy and Resilient Future.

In order to achieve these pillars, the Singapore government will be introducing an array of new initiatives and targets in the areas of green finance, sustainability, solar, electric vehicles (EVs) and innovation.

It is likely that incentives may be provided to promote the development and deployment of technologies in solar power, EVs and certain aspects of green finance.

Incentives provided by the Singapore government could provide the impetus needed for Singaporean companies to enter into joint ventures with established global players or emerge as market leaders in the years to come.


STUDIO - IBIZA ICE

SINGAPORE'S 2030 GREEN BUILDING GOALS

1. **To Green 80% of Buildings**
2. **80% of new buildings to be Super Low Energy ones**
3. **80% improvement in energy efficiency (from 2005 levels) for best-in-class green buildings**

WHAT IS SINGAPORE DOING?

Here, buildings make up over 20 percent of carbon emissions. The government aims to green 80 percent of Singapore's buildings (by gross floor area) by 2030.

As at end-2020, 43 percent were deemed green. Greenness is set out under the Building and Construction Authority's (BCA) Green Mark ratings scheme which stresses energy efficiency, but also considers how a building uses greenery, manages waste and water and maintains indoor air quality.

Currently, the Green Mark standards certify that buildings are 30-60 percent more energy-efficient than 2005 levels. But the government says new buildings must now meet a stricter requirement of being 50 percent more energy-efficient. In fact, BCA aims for 80 percent of new builds to be Super Low Energy ones that boast best-in-class energy efficiency, run on renewable energy and deploy intelligent energy management systems.

WHAT ROLE DO TILE MANUFACTURER PLAY?

1. MANUFACTURING

- **Waste Management**

Once a building has been demolished, it is assumed that **83% of the tiles are dumped at landfills and the remaining 17% are assigned to other uses.**

- **Input and Output of Materials**

The consumption of raw materials, fuel and water, as well as the generation of emissions and waste products and their treatment, has been analyzed in relevance to sustainability.

In general, **data on the consumption and production (including cogeneration) of electrical and thermal energy have been included in the inventory and assessment for the green mark certification.**

For material and energy inputs all the impacts generated upstream (extraction, production and transport) were analyzed and for outputs all the impacts generated downstream were considered.

- **Water Consumption**

The **total amount of fresh water consumed by the system. It is calculated by adding up the total amount of water consumed throughout the life cycle of the product.**

- **Tile Weight**

Variation in **tile weight affects the amount of raw material used for their manufacture**, influencing the **primary energy which is required, atmospheric emissions, the amount of material that needs to be transported,** etc.

To investigate the effect of this variable, an analysis was performed which indicates that to **obtain a significant variation (higher than 10%) in the abiotic resource depletion and global warming potential categories a weight reduction of about 50% is required.**

2. DISTRIBUTION

- **Transport or Distribution of the Product**

Fuel consumption as a result of transport and the emissions associated with it have been taken into account.

- **Management of Packaging Waste**

The **management of packaging waste** has been regarded as **different, depending on the geographical area in each case taking the average data for different types of management** (incineration, recycling or the dumping of waste at rubbish tips).

- **Installation of the Product**

The use of **mortar adhesive during the installation** of all types of ceramic tiles has been analyzed and considered.

- **Consumption of Materials**

Water and detergent consumption over a period of 50 years has been calculated, depending on their use (domestic, commercial or health care).

- **Impact**

During its **use phase** the product is regarded as **being inert, consuming no energy and producing no significant impact on the environment** (it emits no volatile compounds and does not make compounds soluble in water, etc.).

On average, **energy consumption of ceramic tiles account for less than 1% of the total weight of buildings,** we can regard the energy consumption associated with dismantling them as insignificant.

- **Primary Energy Consumption**

The total gross amount of calorific energy, derived from renewable and non-renewable sources, which is consumed by the system, **taking into account both the direct consumption required to manufacture the product and indirect consumption derived from activities performed to obtain direct energy.**

The porcelain and ceramic tile industry understand that ecology is not just good intentions but a practical issue of our industry and our global community. At Heritage Ceramics we are committed to the environment and recognize that sustainability is an important and ongoing mission.

We, as manufacturers ensure that all the material, we supply meets our sustainability standards.
Ceramic and porcelain tile are made using 100% plentiful, natural materials.

We are producing our material on merge technological expertise, innovative design and a commitment to environmental sustainability to produce trendsetting tiles in a zero-waste manufacturing process.