

# how we're reducing our impact on the global environment



f t i p in v

[www.johnson-tiles.com](http://www.johnson-tiles.com)

JOHNSON • TILES 

MADE IN THE UK SINCE 1901

Today it's expected that UK manufacturers have a working, continuous, 'green policy' in place. However, we have been at the forefront of sustainable manufacturing for over 20 years - before sustainable development ever became the focus it is today.

We have an intergrated approach with pioneering green initiatives. Every aspect of our business - from water and lighting to heat and even pallets and packaging is subject to the strict Environmental Policy. Our suppliers are also included within the policy, who must demonstrate their own sound environmental practices in order to secure our business.

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our climate  
is changing...



this is how we  
are tackling it

# we actively promote the efficient use of all materials, supplies, energy and transport...



## ABOUT US

Since Johnson Tiles started back in 1901, we have grown to become the UK's leading manufacturer of ceramic tiles. Today, from our home in the Potteries, we remain the most dynamic and creative force within our industry, constantly raising the bar in terms of inspirational design, imaginative use of materials, quality of service and innovative manufacturing techniques. All of which is underpinned by our award-winning quality and environmental systems.

With well over 100 years of experience, we have a long history of market leadership. With UK based production facilities and a dedicated Design & Development team that travels the world to source products to further enhance our portfolio, we continue to deliver distinctive new products that serve both the retail and contract markets internationally.

Within the retail market we design and manufacture products for both independent and multiple retailers. Within the contract market; our experience, service and product portfolio covers all aspects of public and private specifications, from architects and designers through to house-builders, contractors and distributors.

Our products have been used on a wide range of both small and large-scale commercial and non-commercial contracts around the world; from housing projects, schools & education facilities, hotels and hospitals to industrial developments and in the leisure industry.

In 2006 we opened the award-winning Material Lab. Located at London's 10 Great Titchfield Street, Material Lab serves as a dedicated resource to the architect and design community. In 2017 we developed the space even further. As well as the trailblazing, innovative materials you've come to expect from the studio, visitors will note the introduction of live, interactive room sets and brand new client meeting zones.



## ENVIRONMENTAL POLICY

**Our Environmental Policy is an integral part of our business ethic and under the control of our Managing Director, every possible step is taken to reduce the environmental impact of our production, logistics and administration processes.**

Johnson Tiles manufacture and supply ceramic tiles to either customer, company or standard specifications. This Environmental Policy applies to all of Johnson Tiles' operations within the UK.

The Board of Directors of Johnson Tiles considers environmental management an integral and fundamental part of the Company's corporate business strategy. A board member has been appointed to represent environmental issues.

The company will take all necessary steps to comply with UK and European legislation relevant to our activities and to comply with the needs of and expectations of interested parties. Using the principle of continual improvement, the Company is committed to the prevention of pollution and aims to achieve the highest possible environmental standards.

To this end, it is the aim to operate within the constraints of an accredited environmental management system. This system will establish a framework for identifying all environmental aspects of our materials, processes and products and assessing their impact. We will ensure that, in order to demonstrate continual improvement, mechanisms are established to set and review environmental objectives and targets. These objectives will include:

- The efficient use of all materials, supplies, energy and transport. Wherever possible the principles of sustainable development will be adopted.
- Preventing, reducing or controlling, where practicable, emissions to all environmental media.
- The minimisation of waste from all parts of the company's operations. Wherever possible waste materials will be reprocessed or recycled.

In addition, we will require high environmental standards from suppliers, vendors and contractors involved with the company. We will seek to develop and maintain, where significant hazards exist, emergency plans in conjunction with the emergency services, relevant authorities and the local community.

We will ensure that all necessary resources are provided in the areas of operational control, engineering, technology and training as are necessary to enable those with specific duties to effectively discharge their responsibilities. We will ensure awareness and participation of all our employees through communication, training and participation in continuous improvement teams.

We will seek to develop the active co-operation and input of all stakeholders within the environmental management system in respect of concerns about the hazards and impacts of our operations. We will ensure that this policy is publicly available to suppliers, customers, stakeholders and the general public through distribution of copies, public registers and the use of information technology.

This policy, its underlying procedures and the effectiveness of its implementation will be monitored and reviewed by the Health, Safety & Environmental Officer and the Board of Directors. This policy document and the objectives and targets will be updated, as necessary, following annual management reviews.

**Stephen Dixon**  
Managing Director - Johnson Tiles  
Issue No. 7 - October 2016  
Date: 24<sup>th</sup> October 2016

we constantly  
set new  
environmental  
standards  
for ceramic  
manufacturing



#### ACCREDITATIONS AND AWARDS

At Johnson Tiles we have a long standing commitment to environmental management and we have had a formal Environmental Policy since 1992.

Our environmental management system is certified against the ISO 14001 standard.

In 1998 we became the first ceramics company within the white-ware sector to gain certification against this standard and have since successfully upgraded our certification to meet the latest requirements of ISO 14001:2015.

To date, we are the only UK wall tile manufacturer to have ISO 14001 accreditation.

We have never been subject to any prosecutions or formal environmental regulatory action for any breaches of environmental legislation.

In 1997 we were awarded 'The Queen's Award for Environmental Achievement' for our ceramics waste recycling scheme. To our knowledge, we are still the only manufacturer in the world to operate such a system.

Our recycling scheme recycles our own fired and un-fired ceramic waste. This scheme, which has been in continuous use since 1997 also enabled us to win the 'Manufacturing Industry Achievement Award for Environmentalist of the Year'.

Our continuous commitment brought more environmental achievements, for the fourth successive year - from 2008 to 2011, we secured a top position in the 'Sunday Times Best Green Companies Awards. Ranked 27th in 2008, 26th in 2009, 33rd in 2010 and 25th in 2011.

We were also awarded 'The Environmental Efficiency Award' in 2011 by the Engineering Employers' Federation.



12,000 tonnes of ceramic material  
is enough to produce:

**32 million  
dinner plates  
or 72 million  
tea cups**

and is the equivalent to the annual total  
household waste of 23,500 people\*

*- greater than the total population of Buxton, Derbyshire\*\**

#### WASTE CERAMIC RECYCLING

Each year we recycle 12,000 tonnes of ceramic waste from own production processes. The ceramic waste is ground to a suitable size and added to the standard ceramic materials to create our tile body. These recycled materials comprise on average 10-15% plus approx. 5% of clay scraps. Recycling the 12,000 tonnes of ceramic waste annually saves 14,400 cubic metres of landfill.

It is estimated that 201,400 miles of HGV journeys per year using 114,600 litres of diesel (310 tonnes of CO<sub>2</sub>) are saved on the transportation of raw materials with this recycling system.

\* Source - Average UK waste = 510kgs per person (official government figures).

\*\* Source - 2011 Government Statistics set Buxton population at 22,115.

**the raw materials...**  
back to basics



ancillary materials...  
waste not, want not!

we save  
approximately  
12,000 trees\*  
per year

## RECYCLING INITIATIVES

Recycling takes place wherever possible throughout the factory and we not only use products which incorporate high percentages of recycled materials but we recycle non-ceramic waste in a multitude of ways.

### Pallets

Used pallets are utilised within the factory and for deliveries. We purchase second-hand pallets and also repair damaged pallets wherever possible - annually this saves 1,500 tonnes of virgin timber - approx. 12,000 trees\*. Any pallets beyond repair are segregated and sent for chipping so that the material can be recycled into products such as chipboard.

### Lighting

All lighting is energy efficient and LED with movement lux sensors installed wherever possible.

### Packaging

We have now removed all plastic shrink-wrap found on our product boxes. All boxes now consist of recyclable corrugated card only. We have also replaced all of the PP strapping used with a corrugated card version, as well as substituting all LDPE plastics used for pallet stabilisation with a new product derived from sugar-cane.

### Our achievements:

Reduction in plastics use from 70 tonnes to zero and a reduction in CO<sub>2</sub> of 260.2 tonnes, made up of the following:

Shrink-wrap removal = 111 tonnes.

Pallet-wrap products change = 50 tonnes.

Top-cover product change = 11 tonnes

Strapping = 11 tonnes (assumed).

Corrugated card products are made from a minimum of 75% recycled material and are 100% recyclable.

Sugar-cane derived pallet stabilisation materials are 100% recyclable.



\* Source - Specific gravity of pine 350kg / m<sup>3</sup>, 10m high tree with an average 200mm diameter trunk.

every year we re-use  
enough water to:

**fill 280,000  
bath tubs\***

or flush and single toilet  
approximately 3.5 million times\*\*

**water...**  
recycle and re-use

#### WATER MANAGEMENT SYSTEMS

In our body preparation areas, we re-use 22,000m<sup>3</sup> of water per year (30% of the total factory water usage). We have also removed water from another part of our production process which saves an additional 2,100m<sup>3</sup> of water usage.

22,000m<sup>3</sup> (22 million litres) is the equivalent of:

Filling of 280,000 bath tubs\*

3.5 million toilet flushes or the daily usage of over 1 million people\*\*

1 year of water consumption for over 400 households \*\*\*

215,000 washing machine cycles\*\*\*\*

22,000m<sup>3</sup> (32 million litres) per year is enough to fill over 55 standard 25m swimming pools.

\* Source - Environment Agency average figures of 80 litres per bath.

\*\* Source - Environment Agency average figures of 6 litres per flush.

\*\*\* Source - Government Sustainable Development figures for the average consumption of 135 litres per day, per household.

\*\*\*\* Source - Average of 100 litres usage per cycle.

## ENERGY SAVING INITIATIVES

By speeding up our kilns, using automatic light sensors and re-using kiln exit heat we have dramatically cut our energy consumption.

Since the re-siting to our new single-fired production plant in 2001, our annual energy consumption has dropped from 195 million kWh of energy to 130 million kWh of energy whilst our production has risen from 53,000 tonnes of ceramic tiles in 2001 to 56,000 tonnes of ceramic tiles in 2019. This is an energy-saving of 35% per tonne of ceramic tile and equates to 50 million kWh per year. In addition, we use the exit heat from our kilns for various processes throughout the factory.

Waste Heat Recovery from kilns for space heating. The recirculation of heat in our kilns saves around 9% of our gas consumption.

We are the only UK tile manufacturer to use the most energy-efficient production process of a single fire.

50 million kWh saving is equivalent to:

**24 million electric kettle boils\***

**The lighting of 53,500 homes\*\***

**Power to an average television for 17,000 years\*\*\***

**Supplying electricity to power the average home toaster to 536,500 homes\*\*\*\***

\* Source - 3,000 watt kettle used 8 hours per month.

\*\* Source - 4x 100 watt light bulbs used for 4 hours per day.

\*\*\* Source - 200 watt television used for 3 hours per day.

\*\*\*\* Source - 1200 watt toaster used for 8 minutes per day.



annually we save enough energy to:

# boil water in over 24 million kettles\*

or provide power to  
the average television  
set for 17,000 years\*\*\*



each year we save enough CO<sub>2</sub> to:

**fly a Boeing  
747 from  
London to  
Glasgow 70  
times\***

or travel 6.5 million miles  
in a petrol powered car\*\*

## CO<sub>2</sub> EMISSIONS

We have incorporated numerous changes to our operation which have seen a saving of 1,700 tonnes of CO<sub>2</sub> emissions per year since 2001.

Changes include:

**Change from twice-fired technology to single-fired technology (monoporosa).**

**The use of automatic light sensors to low usage areas of our offices (e.g. canteen, corridors, toilets, etc.)**

**Automatic lighting control has been introduced and installed in our factory and warehouses.**

**Installation of a waste heat recovery system on our largest kilns.**

\* Source - British Airways Climate Emissions calculator.

\*\* Source - 1.8 litre saloon travelling 12,000 miles per year.

\*\*\* Source - 775kg of carbon stored in a mature tree.

1,700 tonnes of CO<sub>2</sub> is equivalent to:

**1 person flying around the world  
410 times\***

**40,000 passengers or 70 flights of a  
Boeing 747 from London to Glasgow\***

**6.5 million miles in a petrol-powered car\*\***

**The average mileage of 550 cars\*\***

**1,700 tonnes of CO<sub>2</sub> emissions per year  
would be offset by the planting of 2,200  
trees per year an area of approx.  
13 acres - 4.5 football pitches\*\*\***

DEFRA (Department for Environment, Food and Rural Affairs) has set carbon limits for manufacturers. We have stayed within the DEFRA limit every year since moving to our new factory in Stoke on Trent in 2001 and have been and currently are in credit with our carbon allowances.



specified correctly...  
lasting a lifetime

# tiles for life... are they an environmental solution?



## ENVIRONMENTAL BENEFITS OF CERAMIC TILES

Ceramic and porcelain tiles have significant benefits to indoor air quality when compared with other finishing materials such as vinyl, laminates or engineered wood products.

This is because ceramic products have been fired at very high temperatures, usually in excess of 1,100°C, during manufacture. At such high temperatures, any organic compounds that might be present in clays, decorations or binders are completely burned off during production.

As a result, the final product is totally inert and will have no volatile organic compounds (VOC's) that can be emitted into the built environment during their use. Due to their inert nature, ceramic and porcelain tile products are exempt from all testing criteria specified by LEED and other such standards.

A four-year study entitled 'Carbon Vision Industry' is underway with the Carbon Trust, investigating the life cycle carbon inventory of different building materials. This will involve environmental and economic aspects of carbon footprints and will be run in partnership with numerous Universities. The study is aimed at providing a low carbon answer for building materials and to allow a 50% reduction in carbon emissions associated with UK buildings by 2030.

*" It is intended that the building product types in the study would include quarry products, cement and concrete products, steel components, gloss, asphalt-based materials and woods. Perhaps the most challenging feature of compiling carbon inventories for building products is the potential for 'open loop' recycling (otherwise known as 'cascade' recycling), where wastes and by-products are incorporated into new products, both within the construction industry and other business sectors. For this reason, this is a sector which would particularly benefit from the application of a whole system approach to modelling, to enable consistency in reporting on carbon emissions for building products within the UK. " - Carbon Trust*

Correctly specified and installed ceramic tiles should be expected to have a lifetime the same as that of the service of the building in which they are used - BS EN 14411 annex ZA.

No expensive or environmentally damaging maintenance or remedial work is required for correctly specified ceramic tiles.

Ceramic tiles are inert and do not present any hazards if they are landfilled. However, ceramic tiles can be recycled after they are removed (e.g. crushing for use as inert fillers/hardcore).

## WHERE TO FIND US

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Every effort has been made to ensure the accuracy of the information given in this publication. In the interest of progress, Johnson Tiles reserve the right to change this information without prior notice.

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