

Sustainability Statement

WasteBasedBricks

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1. Introduction to WasteBasedBricks

What makes the [WasteBasedBrick](#) a more sustainable alternative to traditional bricks?

- Made from at least 60% waste materials.
- Upcycling approx. 91 kg of waste per m² brick surface.
- The unique recipe enables the bricks to dry faster during production.
- Allows for a firing temperature 200 degrees Celsius lower than average, which saves 30-40% of energy use during production.
- Reduced water use.
- Lively colours without adding pigments.

With this product, we enable clients to:

- reduce the carbon footprint of construction projects;
- upcycle waste that would otherwise end up in landfills;
- reduce reliance on scarce raw materials;
- create beautiful, high-quality facades that last.



2. Environmental Product Declaration / MKI

The EPD for WasteBasedBricks was published in 2023 and reports a Global Warming Potential (GWP-total A1–A3) of 0.517 kg CO₂-eq per brick (based on a 1.9 kg brick).

Since April 2025, WasteBasedBrick production has moved to a larger, more advanced [production facility](#). This new setup significantly improves manufacturing efficiency, particularly in the kiln process, while maintaining quality and sustainability standards.

Updated LCA data is currently being gathered and is expected to show a meaningful reduction in environmental impact, reinforcing our mission to scale sustainable solutions without compromise.

The EPD is expected towards the end of 2025. It will include the updated MKI score and will be submitted to the Nationale Milieu Database in the Netherlands, where the WasteBasedBricks are produced.

3. Application and Technical Specs

For all technical documents, DoP's and installation guides of the WasteBasedBricks, please refer to our [download centre](#).

4. Other Sustainability Specifications

4.1. Circular Principles

Which circular design principles does the product follow?

Reduce – by replacing at least 60% of virgin raw materials with industrial waste, WasteBasedBricks significantly reduces the demand for scarce resources and lowers carbon emissions during production.

Reuse – WasteBasedBricks are designed for end-of-life reuse, allowing materials to be dismantled and reintroduced into new construction projects rather than discarded. Either the brick is taken out from a project, crushed and used as input for new WasteBasedBricks, or when WasteBasedBricks are combined with dry-stacking systems, the full brick can be reused.

Recycle – the production process upcycles industrial waste that would otherwise end up in landfill, contributing to closing material loops in the construction sector.

4.2. Source Materials

Waste sources of the WasteBasedBricks are, amongst others, the local (the Netherlands) ceramic industry, water treatment plants, and the glass industry. Many residual waste streams in the Netherlands are currently not being utilised. Our [production partner](#) currently researches and upcycles these streams, giving them a second life in our bricks.

Thanks to the diversity of input materials, from ceramics and glass to mineral sludges, the WasteBasedBricks develop rich, earthy tones during firing without the need for artificial colouring agents. This not only eliminates the use of synthetic pigments but also gives each project a unique and natural aesthetic.

4.3. Energy Use

The carefully selected waste materials create a naturally porous structure in the WasteBasedBricks. This allows moisture to evaporate more quickly during the drying process, which shortens production time and reduces the energy needed to prepare bricks for firing.

Conventional bricks are typically fired at around 1,100–1,200°C. WasteBasedBricks can be fired at temperatures approximately 200°C lower due to the specific mineral composition of the waste inputs. Despite the lower temperature, the bricks still meet high standards for strength and durability, meaning no compromise on quality.

Because of the smart material mix and the improved drying performance, 30–40% less energy is needed throughout the production process. The combination of lower moisture content, reduced drying time, and lower firing temperatures contributes to significant overall energy reductions compared to traditional brick production.

The manufacturer of the WasteBasedBricks is currently looking into the possibilities with alternative energy sources (CO₂-neutral production), green electricity and circular packaging and logistics (such as hydrogen/electric transport).

4.4. Water Use

By optimising the composition of the WasteBasedBricks, significantly less* water is used during production. The material mix requires less moisture to achieve workability, and its performance reduces shrinkage and the risk of cracking during drying and firing, leading to more efficient water use overall.

* Exact number not currently available.

4.5. Demountability

WasteBasedBricks behave like standard ceramic brick and are suitable for dry-stacking systems available in the market that allow for the use of these materials.

With the use of these systems, the bricks can be disassembled and reused in new constructions, supporting modular and adaptive building strategies.

4.6. Recycle Policy: End-of-Life

While WasteBasedBricks are assessed using a reference service life (RSL) of 75 years for standardised LCA calculations, they are designed for a functional lifespan of over 500 years, supporting long-term, low-maintenance architecture.

We believe that sustainability also means a long lifespan of buildings and social responsibility when it comes to producing building materials that can stand the test of time.

WasteBasedBricks are durable and suitable for direct reuse if carefully dismantled. Their strength and aesthetic longevity make them ideal for reuse in new facades or interior applications.

WasteBasedBricks can also be used in easy-to-dismantle dry-stack solutions. FRONT is currently not offering a take-back scheme. At the end of life, WasteBasedBricks can be crushed and reprocessed into new bricks, serving as raw material for future production. This supports a fully circular material loop and avoids landfill disposal.

4.7. BREEAM

WasteBasedBricks can contribute to [BREEAM](#) credits in the following categories:

- MAT 01 (Life Cycle Impacts)
- MAT 05 (Design for Durability and Resilience)
- WST 01 (Construction Waste Management)
- WST 02 (Recycled Aggregates)
- INN 01 (Innovation)

Various projects using WasteBasedBricks in their design have been awarded a BREEAM certification:

- [CROSSOVER](#), Amsterdam, the Netherlands (BREEAM NL Outstanding)
- [LC Packaging HQ](#), Waddinxveen, the Netherlands (BREEAM NL Outstanding)
- [Technique](#), London, United Kingdom (BREEAM Excellent)
- [Chancery House](#), London, United Kingdom (BREEAM Excellent)

One project, currently under construction, is targeting BREEAM Outstanding:

- [TBC.London](#), London, United Kingdom

4.8. LEED

WasteBasedBricks can contribute to [LEED](#) credits in the following categories:

- Materials & Resources:
 - MRc3 - Building Disclosure and Optimization - Sourcing of Raw Materials
 - MRc4 - Building Disclosure and Optimization - Material Ingredients
 - MRc4 - Building Disclosure and Optimization - MR Regional
- Materials Innovation – Innovation

4.9. WELL

WasteBasedBricks can contribute to WELL credits in the following categories:

- Materials – Waste Reduction
- Materials – Responsible Sourcing

Thus far, one project using WasteBasedBricks in its design has been awarded a WELL Platinum status:

- [Chancery House](#), London, United Kingdom

Another project in London, currently under construction, is also targeting WELL Platinum status:

- [TBC.London](#), London, United Kingdom

4.10. Sustainable Development Goals

WasteBasedBricks supports the following [Sustainable Development Goals](#):

SDG 9 – Industry, Innovation, and Infrastructure

“Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.” - WasteBasedBricks are the result of a highly innovative manufacturing process that transforms construction and industrial waste into high-quality building materials. By collaborating with a large-scale, local brick factory and introducing circular thinking into an otherwise resource-heavy industry, this product supports a more sustainable industrial model and infrastructure development.

SDG 11 – Sustainable Cities and Communities

“Make cities and human settlements inclusive, safe, resilient and sustainable.” - WasteBasedBricks are specifically designed for use in urban architecture and infrastructure, offering a more sustainable alternative to traditional bricks. By reducing the environmental impact of construction and supporting adaptive reuse through modularity, WasteBasedBricks contribute directly to the creation of more sustainable and future-proof cities.

SDG 12 – Responsible Consumption and Production

“Ensure sustainable consumption and production patterns.” - WasteBasedBricks are made from at least 60% upcycled waste, sourced locally from post-industrial and post-consumer streams. This prevents waste from ending up in landfills and also reduces the need for virgin raw materials. The closed-loop potential, where end-of-life bricks can become raw material again, further supports responsible production and consumption.

SDG 13 – Climate Action

“Take urgent action to combat climate change and its impacts.” - The production process of WasteBasedBricks contributes to the global effort to reduce waste, save natural resources and reduce greenhouse gas emissions. Their use in construction projects directly supports the transition to a more sustainable built environment.

5. Country-Specific Recommendations

The Netherlands

BREEAM NL

Two projects in the Netherlands using WasteBasedBricks in their design have been awarded BREEAM NL Outstanding certification ([CROSSOVER](#), Amsterdam, and [LC Packaging HQ](#), Waddinxveen)

BCI-SCORE

The BCI is a metric used to assess the level of circularity and sustainability of a building or construction project. It quantifies the extent to which materials, resources, and components within the building's lifecycle are reused, recycled, or repurposed, thereby minimising waste and environmental impact.

WasteBasedBricks does not currently have an available Building Circularity Index (BCI) score.

Belgium

TOTEM

TOTEM (Tool to Optimise the Total Environmental Impact of Materials) is Belgium's national tool for assessing the environmental impact of building materials throughout their lifecycle.

WasteBasedBricks does not currently have a specific score listed in the Belgian TOTEM database.

United Kingdom

BREEAM UK

WasteBasedBricks can contribute to credits under BREEAM UK, particularly:

- MAT 01 (Environmental Impact of Materials)
- WST 01 (Construction Waste Management)
- MAT 03 (Responsible Sourcing)

Two projects in the United Kingdom using WasteBasedBricks in their design have been awarded BREEAM Excellent certification ([Technique](#), London, and [Chancery House](#), London). This last project has also been awarded a WELL Platinum status.

One project currently under construction is targeting BREEAM Outstanding ([TBC.London](#)), as well as WELL Platinum.

Germany

ÖKOBAUDAT

ÖKOBAUDAT is the national repository for environmental product declarations (EPDs) used in sustainable building assessments like BNB and DGNB.

WasteBasedBricks are currently not listed in Germany's official ÖKOBAUDAT database.

France

RE2020

The French RE2020 regulation, effective from January 2022, sets stringent requirements for new buildings, focusing on reducing both operational and embodied carbon emissions. A key metric under RE2020 is the *Ic* (low carbon) construction, which measures the global warming potential (GWP) of construction materials over a 50-year lifecycle, expressed in kg CO₂-equivalent per square meter.

While specific values for WasteBasedBricks are not publicly available, their sustainable composition suggests they could contribute positively towards meeting RE2020 targets.

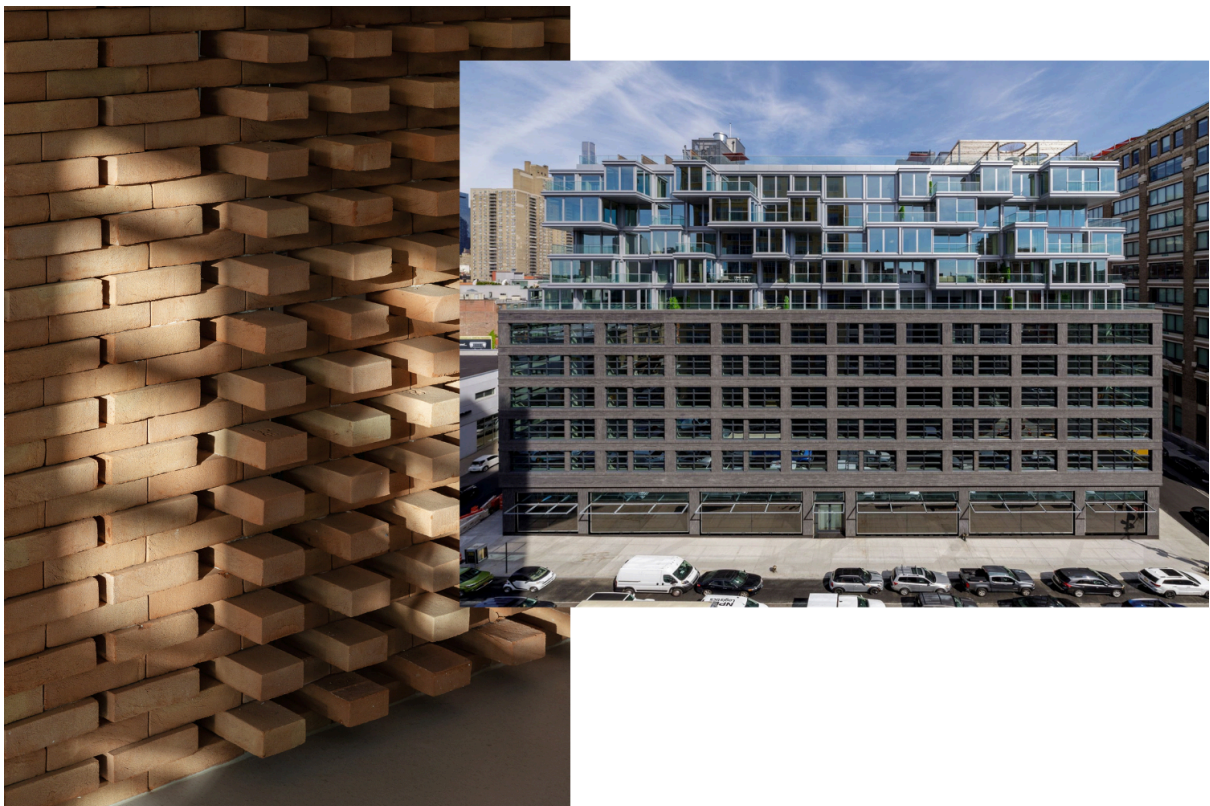
FDES

FDES translates to 'Environmental and Health Declaration Sheet' and is a French standardised document that provides verified data about the environmental and health impacts of a construction product throughout its entire life cycle (from raw material extraction to end-of-life).

WasteBasedBricks do not currently have a registered FDES (Fiche de Déclaration Environnementale et Sanitaire) in France's official INIES database.

6. Case Studies

- WasteBasedBricks facade and interior walls at The West residences in [New York City](#), USA [261,886 kg upcycled waste]
- WasteBasedBricks interior walls at (award-winning) APPM HQ in [Hoofddorp](#), the Netherlands [5,460 kg upcycled waste]
- WasteBasedBricks furniture at Ace & Tate Store [Barcelona](#), Spain [900 kg upcycled waste]
- WasteBasedBricks furniture and flooring at Adyen HQ in [Amsterdam](#), the Netherlands [77,250 kg upcycled waste].



7. Contact

We invite everyone to discover the possibilities of our product collection and to make sustainable building the standard together.

For questions and suggestions, please reach out to:

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