

BioBasedTiles (Biolith)

Sustainability Statement



BioBasedTiles Sustainability Statement

OUR COMMITMENT

Climate change is the largest environmental problem that we must solve as a global community. The production of Portland cement is responsible for more than 8% of global carbon dioxide (CO₂) emissions—four times more than the entire aviation industry. Biomason® is leading the transition to planet-friendly construction. Biomason’s Biocement BioBasedTiles demonstrate our commitment to developing a low-carbon cement alternative.

ENVIRONMENTAL IMPACT

Biomason aims to reduce carbon emissions in three key areas of our production process: input raw materials, the manufacturing facility, and the BioBasedTile manufacturing process.

Raw Materials

BioBasedTile are made with aggregates and raw materials from local suppliers, lessening raw material transportation. They are also Declare® Red List Free, meaning 100% of raw materials are disclosed and contain no red listed chemicals.

Manufacturing Facility

BioBasedTile will be produced in a sustainable facility equipped with south-facing solar panels to allow for maximum sunlight exposure, saving over 250,000 kWh annually.

BioBasedTile Manufacturing Process

Biomason’s Biocement uses calcium and carbon as building blocks for concrete products, without the need for kilns used to burn limestone in the production of ordinary portland cement.. Biocement forms through multiple patented, biological processes. Our current products do have cradle-to-gate carbon emissions, largely associated with our raw material supply chains. However, Biomason is building pathways to producing carbon neutral construction materials as we continue to drive down production impacts and looking for ways to reduce our current A1-A3 emissions and aiming towards carbon negative systems as we work with emerging low-carbon supply chains.

Global Warming Potential/Carbon Emissions

A life cycle assessment (LCA) and corresponding environmental product declaration (EPD) will be developed for both Biomason’s Biocement and the BioBasedTile manufactured by IBF. The BioBasedTile LCA will be produced once the IBF facility has been running for several months. This is required to ensure that the material quantities and utility demands accurately represent typical production of the BioBasedTile. Biomason BioBasedTile cradle-to-gate scope will deliver a world-class product with an estimated global warming potential (GWP) of less than 6.3 kg CO₂ eq /m².

Certifications

BioBasedTile hold Declare Red List Free labels as well as have a Sundahus A rating. They are listed in the following databases for sustainable materials: Transparency Register, Transparency Catalog, Mindful Materials, and Ecomedes.

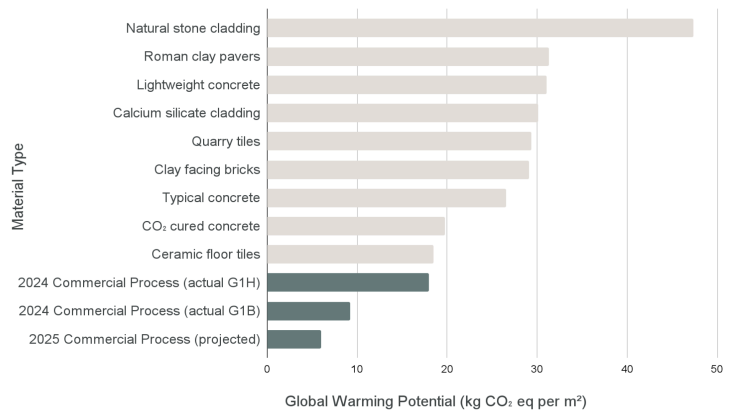
Contribution to Green Building Initiatives

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Precast Biocement Materials Compared to Other Common Products (A1-A3)



OVERVIEW

Biomason's BioBasedTile can contribute to earning points towards various building certification systems. Below is an overview of contributions to common standards (LEED, WELL, BREEAM, and DGNB). Additional information for other systems can be provided upon request. All contributions below assume inclusion on new construction of owner-occupied commercial buildings.

LEED v4.1 for BD+C: New Construction

LEED (Leadership in Energy and Environmental Design) focuses on building sustainability and impacts on the environment. Credits, the necessary objectives to gain points, are split into multiple Credit Categories, including process, location, water efficiency, energy use, materials and resources, indoor air quality, innovation, and regional priority. There are 110 total points available under LEED v4.1 BD+C. **BioBasedTile can contribute up to 6 points** in the following categories:

- Building Product Disclosure and Optimization (2 points)
- Material Ingredient Reporting (1 point)
- Low-Emitting materials (1-3 points)

WELL v2, Owner Occupied

WELL focuses on the health and safety of the built environment and how that impacts people or occupants. The "credits" of WELL are known as features and are classified as required preconditions or optimizations, the latter contributing to a higher certification level. Preconditions must be met for WELL certification, and **BioBasedTile can contribute to one precondition**. There are 100 total points available for higher levels of certification under WELL v2. **BioBasedTile can contribute up to 8 points** in the following categories:

- Enhanced Material Restrictions (1 point)
- VOC Restrictions (1-4 points)
- Materials Transparency (1-2 points)
- Materials Optimization (1 point)
- Nature and Place (precondition required)

BREEAM, International New Construction Version 6.0

BREEAM (Building Research Establishment's Environmental Assessment Method) is a system developed to benchmark a building's sustainability and environmental impact, similar to LEED. Maximum BREEAM rating is 100%, meaning all possible credits have been achieved. Total credit number is dependent on building type, but **BioBasedTile can contribute to 2 credits** in the following categories:

- Designing for durability and resilience (1 credit)
- Material efficiency (1 credit)

DGNB System, New Construction, Version 2020 International, Office Buildings

The DGNB (German Sustainable Building Council) System sets a standard for quality of sustainable buildings, focusing on circular economy and impact on human occupants. Certification levels for the DGNB System are based on percentages of a total, with criteria having a different weight based on project type (schemes). **BioBasedTile can contribute to a maximum of 10 criteria**. The following criteria and points are listed based on the office building scheme for consistent analysis.

- Building life cycle assessment
- Local environmental impact
- Life cycle cost
- Indoor air quality
- Quality of the building envelope
- Ease of cleaning building components
- Ease of recovery and recycling
- Sustainability aspects in tender phase
- Documentation for sustainable management
- Construction site/construction process

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