



Green Assessment, Certifications and Policy

Revised on June 2023

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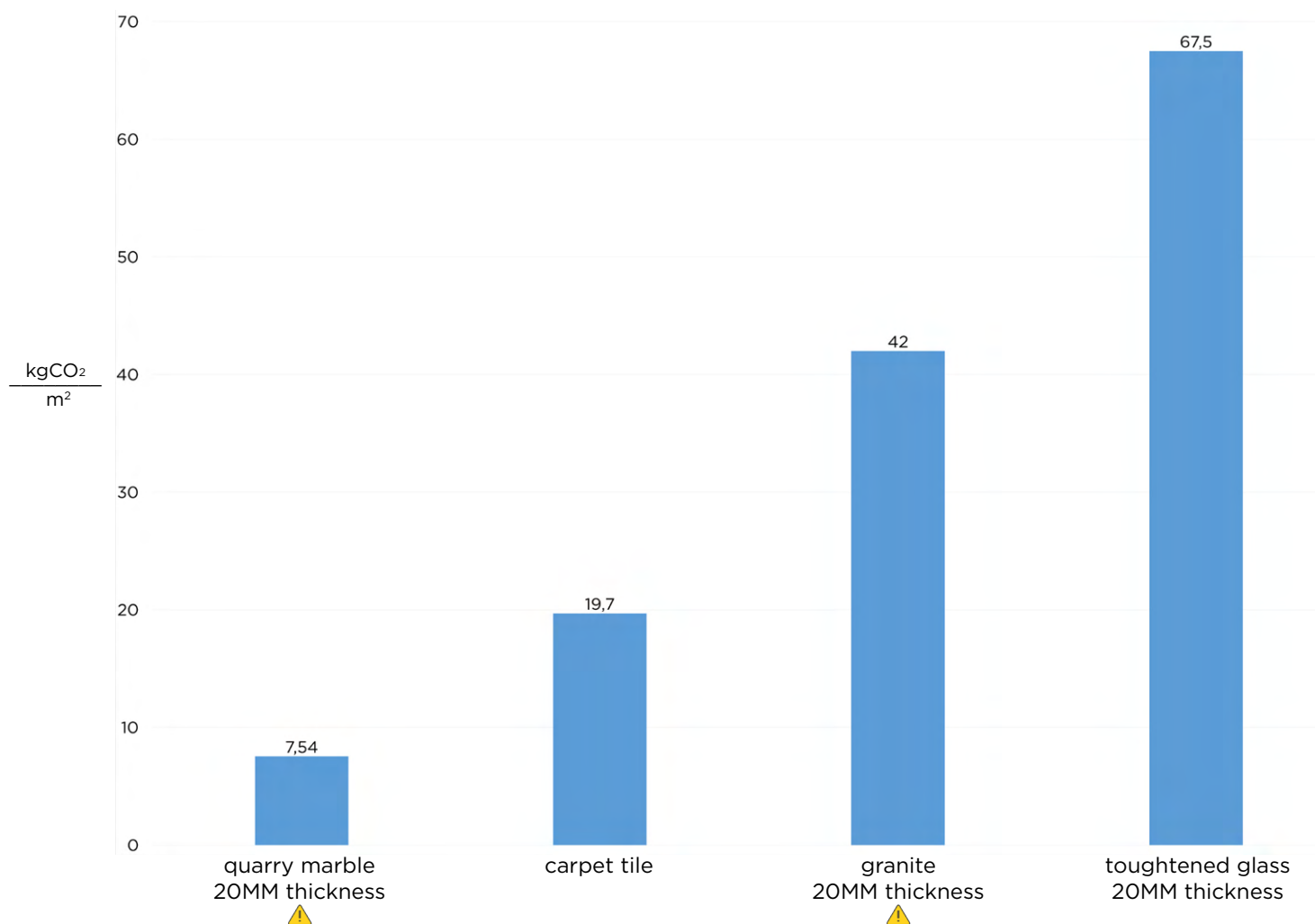
Embodied Carbon: what is it?

Embodied Carbon is a measure of sustainability.

It considers the sum of greenhouse gas emissions (CO₂) released during all the life-cycle stages of a building.



KgCO₂/sqm by Interior Materials



Source: "Embodied Carbon - The Inventory of Carbon and Energy (ICE)" by Prof. Geoffrey Hammond and Craig Jones, 2011

⚠ Quarry Marble and Granite data do not include emission related to transportations, cutting and environmental extraction impact.

Fiandre Group Embodied Carbon Assessment



**AVERAGE
WORLDWIDE
VALUE**

7,42 kg



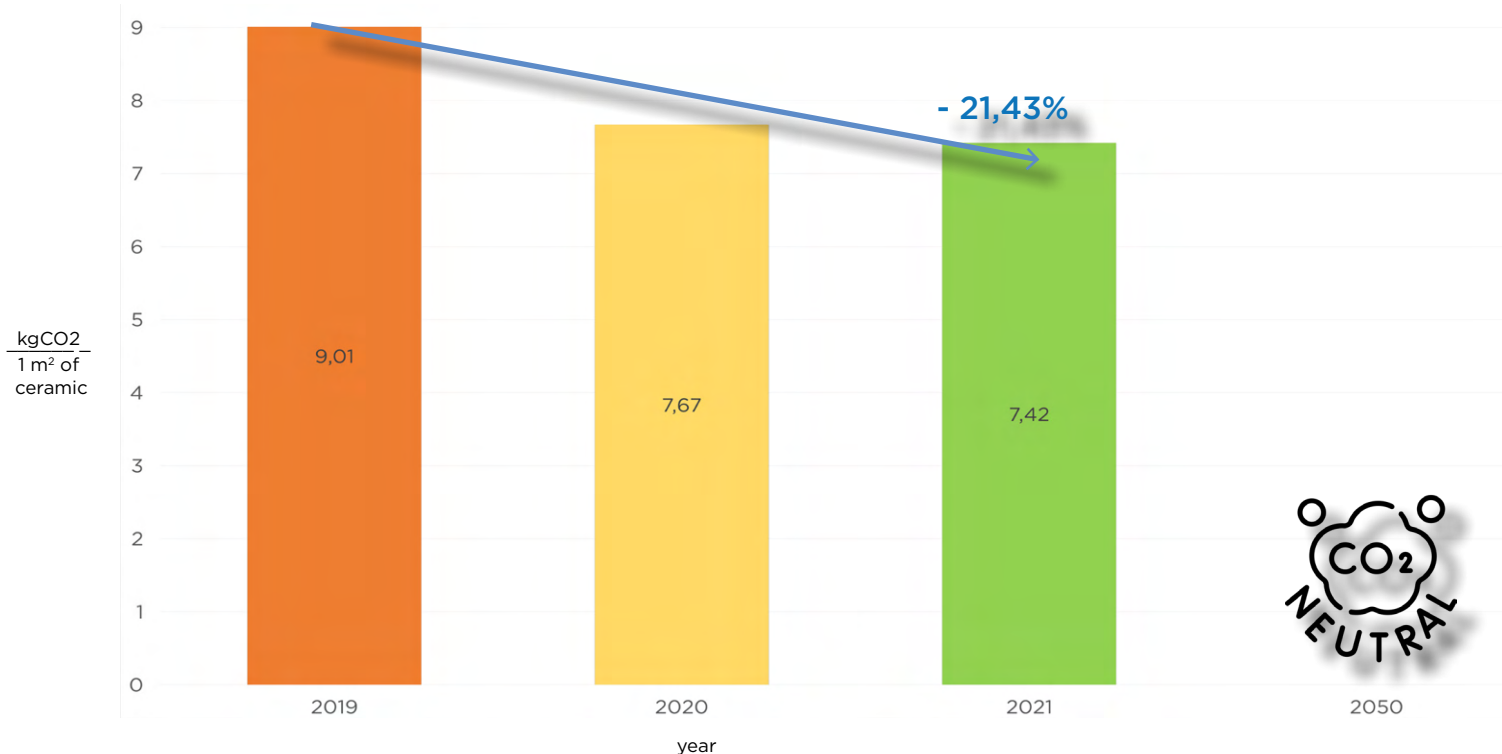
18,50 kg

1 M² CERAMIC = 7,42 KgCO₂

1 M² CERAMIC = 18,50 KgCO₂

Source: "Embodied Carbon - The Inventory of Carbon and Energy (ICE)" by Prof. Geoffrey Hammond and Craig Jones, 2011

Fiandre Group Embodied Carbon Trend



Source: Data obtained using the GRI (Global Reporting Initiative) international standard

Case-Study: Tour Louise, Bruxelles, Belgium



Tour Louise, Bruxelles, Belgium. Commercial Building

Hassel Studio Architects' goal was to realize a
“zero-impact building”.

Only material with lowest embodied carbon values were
selected to comply with a specific CO₂ “budget”:

30.000 tons CO₂

The sum of CO₂ emissions of all building materials
must not exceed this limit.

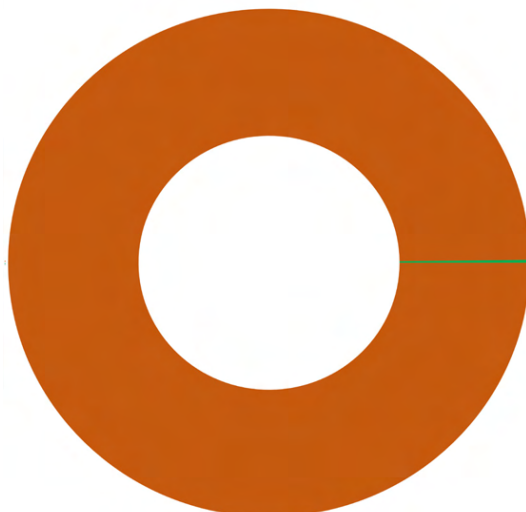
8.600 m²

Ceramics provided for
Tour Louise



55.728 kgCO₂

Total Embodied Carbon value
generated by ceramics



0,18%

CO₂ “budget”
occupied by
ceramics

Active Surfaces, 2009



2

International patents

Source: Active Surfaces Website

[click here](#)



40%

Minimum content of recycled material

Source: Active Surfaces Website

[click here](#)



2 years

To compensate NOx and VOCs generated to produce the material

Source: Active Surfaces Website

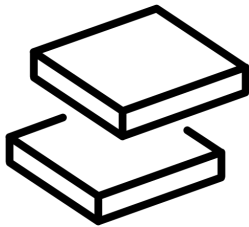
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Case-Study: De Castillia 23, Milan, Italy



De Castillia 23, Milan, Italy. Commercial Building

Progetto CMR's Massimo Roj Architect aimed to to inspire a new life, connected with nature, to an isolated area of Milan, providing to the whole neighborhood with advanced well-being.



16.088 m²

**ACTIVE SURFACES
INSTALLED**



200.000 m²

**GREEN AREA
AIR CLEANING EFFICIENCY**

Source: Computation done by University of Milan, Chemistry Department.
[click here](#)



“Smog-Eating Building”, Milan, Italy. Commercial Building

The external facade of the “Smog-Eating Building” cladded with ACTIVE SURFACES eliminates 59Kg of NO_x yearly.
Equivalent amount of NO_x is emitted in one day by 15.000 cars driving in the “GRA” highway surrounding Rome.



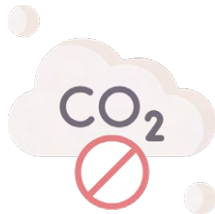
-59Kg NO_x = 15.000 cars

AIR PURIFIED
BY ACTIVE SURFACES
YEARLY

EQUIVALENT POLLUTION
PRODUCED BY CARS

Source: Data refers to “Euro 6” petrol-fuelled vehicles’ average emission, based on an average distance of 70km around “GRA” highway road in Rome

Maximum Factory Sustainable Implementations, 2015



-1600 tons

CO2 emissions saved every year thanks to the New Generation Continuous Press and highly efficient Mills

Source: Fiandre Website

[click here](#)



-70%

Electricity saving thanks to the New Generation Continuous Roller Press

Source: Fiandre Website

[click here](#)

Zero Emission, 2018

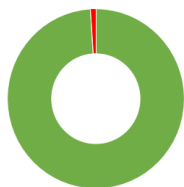


+3

Combustor with regenerative heat recovery

Source: Fiandre Website

[click here](#)



-99%

Odorous compounds

Source: Fiandre Website

[click here](#)

Green Hydrogen-Based Plant, 2022



1st

ceramic factory in the world powered by green hydrogen

Source: Fiandre Website

[click here](#)



2,5 MW

power output photovoltaic plant for Hydrogen production

Source: Fiandre Website

[click here](#)



-900 tons/year

CO₂ emissions saved every year producing with a 50% blend of Gas and self-produced Hydrogen.

Source: Fiandre Website

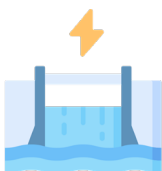
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Green And Renewable Energy, 2022



100%

Certified Green electricity used by Castellarano's slabs factory and offices



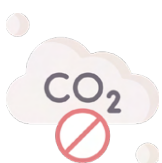
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Hydroelectric plants to generate certified renewable source in Italy.



10MW

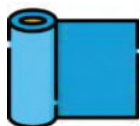
Output photovoltaic system operational in the German factory.



-44.773 tons

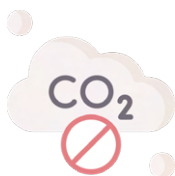
CO2 Emission saved by the Group thanks to electricity purchase from virtuous producers

Responsible Waste And Packaging, 2022



-101.410 tons

Plastic waste saved and recycled to become regenerated polymer.



-160,41 tons

CO2 emission saving thanks to plastic regeneration adoption.



-10,40%

Paper and paperboard use for packing purposes.



-851.460 tons

Wood saved thanks to packaging recycling and sustainable management.

Sustainable Development Goals Of UN's 2030 Agenda (ESG), 2022



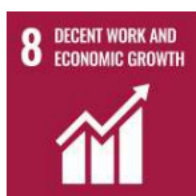
The 17 Sustainable Development Goals of the UN's 2030 Agenda are the fundamental, concrete and measurable references needed to develop the necessary actions for sustainable environmental as well as ethical, social and economic development.

There are 11 Sustainable Development Goals to which we believe we can contribute, turning them into concrete action we can take internally to achieve them:

SOCIAL



GOVERNANCE



ENVIRONMENTAL



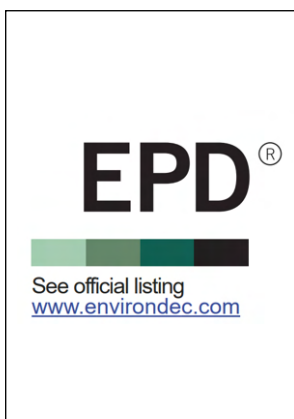


Open the certificate



Leed-Breeam Conformity Certification

Certifies the minimum presence of 40% recycled material according to ISO 14021:2021 requirements.



Open the certificate



EPD - Environmental Product Declaration

Describes environmental impacts relating to the production of products in the various phases, from extraction of the raw materials to freight and production.



Open the certificate



Green Guard Gold Level

Ensures that products intended for indoor use are characterized by practically non-existent emissions of volatile substances, contributing to the creation of healthier environments. Greenguard Gold Certification ensures that a product is acceptable for use in environments such as schools and health care facilities.




Open the certificate



Cradle to Cradle Silver

Assesses the safety, circularity and responsibility of materials and products, concerning not only the life cycle of their materials (the type of raw material used, energy consumption and water management), but also respect for human rights by the company and generally by the whole supply chain.

 Cradle-to-Cradle is recognized as a preferred product certification by:





Open the certificate



ISO 9001 Company Quality System.

Extends to management of the entire company Organization, from research and development to production, distribution and customer support.



Open the certificate



ISO 50001 Energy Management System

Outlines an international standard that through the implementation of an energy management system allows for ongoing improvement of energy performance, thereby permitting a reduction of greenhouse gas emissions and the related energy costs.



Open the certificate



ISO 14001 Environmental Management System

Certifies the validity of the measures adopted by the company to safeguard the internal and external environment.



Open the certificate



ISO 45001

Regards the assessment and prevention of risks through a worker safety and health management system.

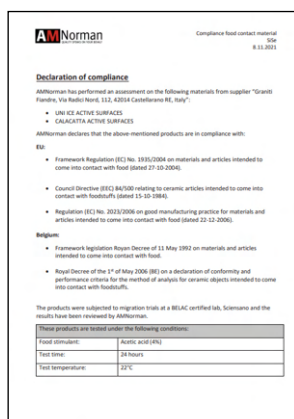


Open the
certificate



NSF Certification Food contact compliance

Ensures products compliance with U.S., European and other global regulations for food contact materials.



Open the
certificate



BELAC-accredited Laboratory Food contact compliance

Certifies suitability for direct food-contact.



Open the
certificate



Eco-Management and Audit Scheme (EMAS)

Highlights constant improvement of the environmental performance.



Go to the
certificate



GOLD STANDARD

Gold Standard for the Global Goals is a comprehensive standard to accelerate global progress toward climate security and sustainable development. Certification provides the confidence that results are not only measured and verified—but translate to real impact in social value.



Go to the
certificate



LEED CERTIFICATION

LEED provides a framework for healthy, efficient, carbon and cost-saving green buildings. LEED certified buildings save money, improve efficiency, lower carbon emissions and create healthier places for people.



Extra-credit provided with *Cradle-to-Cradle* certificate

[HOW? Click here to Learn How](#)



Go to the
certificate



BREEAM CERTIFICATION

BREEAM provides consistent and comparable sustainability assessment and verification across all asset types.



Go to the
certificate



WELL BUILDING STANDARD

The WELL Building Standard™ is a vehicle for buildings and organizations to deliver more thoughtful and intentional spaces that enhance human health and well-being. WELL includes a set of strategies—backed by the latest scientific research—that aim to advance human health through design interventions and operational protocols and policies and foster a culture of health and well-being.



Extra-credit provided with *Cradle-to-Cradle* certificate

[HOW? Click here to Learn How](#)



Financial Times, November 2021
"Smooth Operator"

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article



Financial Times, September 2021
"The technology that brings ceramic surface to life"

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article



Financial Times, July 2021
"Green hydrogen to power ceramics revolution"

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Forbes, July 2022
"I believe in this material, a butterfly with a titanium core"

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article





Time, April 2022

"Striving For Excellence"

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Handelsblatt, March 2022

"Green hydrogen for luxury ceramics"

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Newsweek, December 2021

"Sustainable high-tech advances changing the face of the ceramics industry".

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MIT - Massachusetts Institute of Technology

"The Green Future Index"

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