



LEA CERAMICHE CARES FOR THE ENVIRONMENT

LEA CERAMICHE's incessant strive for excellence has led us to respect the following principles when dealing with the environment.

LEA CERAMICHE AND THE ENVIRONMENT

Lea Ceramiche has always considered environmental care a matter of great importance

- investing in the best technologies on the market to minimize the environmental impact of its activities
- giving all employees an excellent working environment
- obtaining prestigious environmental certifications

SLIMTECH is produced in a production site that is certified with **Environmental Management Systems**:

- **ISO 14001: 2004** (internationally recognized standard)
- **EMAS** (European Regulation - EC Reg 1221/09)



DOCUMENTATION

The **EMAS Environmental Statement** of the production site, document describing the performance of production site and all the objectives LEA Ceramiche strives to achieve in terms of environmental safeguard, is available on the website www.ceramichelea.it.

PRODUCTION PROCESS



PROTECTION OF NATURAL RESOURCES

- 70% reduction of raw material consumption.
- 70% reduction of water consumption.
- 100% recycling of raw wastes (in production cycle) and fired wastes (used in road bases and buildings).
- 100% recycling of water used in production process.



REDUCTION OF EMISSIONS

- Reduction of CO2 emissions thanks to the use of updated technologies and the most innovative production guidelines.
- Reduced production of air pollutants (powders, F, Pb and SOV).



OPTIMIZATION OF WASTE MANAGEMENT

- 50% Reduction in raw and fired waste in production cycle.
- Reduction of water use in the production of slabs.



TRANSPORTATION AND PACKAGING

- Reduction of transport derived pollutants by moving larger quantities per trip.
- Use of 100% recyclable packaging material.
- Guaranteed protection of forests through use of FAO pallets, without cortex (DB) and following the IPPC/FAO ISPF 15 standard when exporting.



OPTIMIZATION OF ENERGY PERFORMANCE

- 50% reduction of natural gas consumption.
- Continual implementation of up-to-date technology and innovative production processes.



ENVIRONMENTAL CERTIFICATIONS

- The plant where Slimtech is produced has an environmental management system ISO 14001:2004 and EMAS (CE 1221/09 Reg.) certified.

IDEAL FOR THE CONSTRUCTION OF LOW-ENERGY BUILDINGS



FLOOR AND WALL COVERINGS

Slimtech is manufactured with raw materials that do not contain any synthetic substances and therefore offers the security of fire resistance, durability and easy cleaning superior to that of wood and carpet.



SUPERFICIAL SURFACES OF THERMAL INSULATION SYSTEM AND VENTILATED FACADES

Slimtech is recommended for its lightness, large size and easy installation. Moreover, when compared to stone, metallic or plaster materials Slimtech offers a noticeably higher resistance to atmospheric agents, pollution and chemical agents along with excellent durability (resistance to aging and the effects of light and frost).



FLOOR HEATING SYSTEMS

Slimtech assists with the optimization of the complete system by requiring lower water temperatures and consequently saving energy. This is due to its thinness and thermal conductivity which render it superior to moquette and wood.



FINISH OF EXTERNAL WALLS PLUGS FOR STRUCTURES AND PREFABRICATE BUILDINGS

Slimtech is the perfect solution thanks to its technical characteristics, lightness and large sizes.

LEED CREDIT SYSTEM

Lea Ceramiche is a member of the **U.S. Green Building Council**: this is an organization that promotes buildings that are environmentally friendly, profitable and healthy places to live and work in.



SS Credit 7.1 - Heat Island Effect / Non roof (NC, CI, CS, SCHOOLS LEED Rating Systems): 1 LEED point is granted for the use of hardscape materials with SRI ≥ 29 *

The great majority of Slimtech products do not contribute to change the energy balance of the environments where they are installed. They do not produce any Urban Heat Island Effect, thanks to their very good physical properties, i.e. Solar Reflectance Index SRI ≥ 29 .

EA Credit 1 - Optimize Energy Performance (NC, CI, CS, SCHOOLS LEED Rating Systems)

The Thermal conductivity λ of Slimtech porcelain tiles is 0.75 Btu/ft h °F (1.3 Watt/m²K or 1.1 Kcal/m h °C). For this reason, thanks to its thickness of only 3,5mm, it is ideal for heating floors systems.

MR Credit 2 - Construction Waste Management (NC, CI, CS, SCHOOLS LEED Rating Systems): 2 LEED points are granted if at least 75% of the weight of Raw materials - tiles and packing - will be recycled.

Slimtech and its packing material (carton boxes, plastic packaging materials, wooden pallets, straps, etc..) are 100% recyclable. Furthermore, the on site management is very easy because the weight of waste materials for recycling is minimal:

-Slimtech weight: 7,5 kg/m² (178 lb/sqf)

-Weight of packaging: only 2-3% of the total weight of the material

MR Credit 5 - Regional Materials (NC, CI, CS, SCHOOLS LEED Rating Systems): 2 LEED points are granted if the use of local raw materials is equal to 20% of the total materials value, based on cost.

- These Credits are applicable for buildings constructed within 500 miles (804,5 Km) from Slimtech production sites (Fiorano Modenese - Modena, Italy).

- The % contribution based on the cost of Slimtech tiles to a single LEED project is calculated based on the geographical position of the construction site.

MR Credit 5 - Regional Materials (CI Rating Systems Only):

- **1 LEED Point:** use a minimum of 20% of the total value of materials and products that are manufactured regionally within a radius of 500 miles (804,5 Km) from Slimtech production sites (Fiorano Modenese - Modena, Italy).

- **2 LEED Points:** meet the previous criterion requirement and use a minimum of 10% of the total value of raw materials and products extracted, harvested or recovered, as well as manufactured, within 500 miles (804,5 Km) from LEED building.

IEQ Credit 4.1 - Low Emitting Materials, Adhesives and Sealants (NC, CI, CS, SCHOOLS LEED Rating Systems): 1 LEED point

is granted if all adhesives and sealants used on the interior of the building comply with SCAQMD Rule #1168 (VOC limit of ceramic adhesives not more than 65 g/l less water).

IEQ Credit 4.3 - Low Emitting Materials, Flooring Systems (NC, CI, CS, SCHOOLS LEED Rating Systems): 1 LEED point is granted if all flooring complies with the requirements indicated in IEQ Credit 4.3 Section.

Slimtech obtains 1 LEED point because it does not contain any Volatile Organic Compounds VOC (see LEED 2009 NC, CI, CS, SCHOOLS Rating Systems).

IEQ Credit 4.6 - Low Emitting Materials, Ceiling and Wall Systems (SCHOOLS LEED Rating System only): 1 LEED point.

Slimtech obtains 1 LEED point because it does not contain any Volatile Organic Compounds VOC (see Addenda of LEED Reference Guide for Green Building Design and Construction, 2009 Edition).

ID Credit 1 - Innovation in Design: 1-5 LEED points for NC, CI and CS, 1-4 LEED points for SCHOOLS

- "Exemplary performances" **MR Credit 2 - CONSTRUCTION WASTE MANAGEMENT: 1 LEED point** may be earned if at least 95% by weight of the Raw Materials - material and packing - will be recycled. Slimtech and its packing material (carton boxes, plastic packaging materials, wooden pallets, straps, etc..) are 100% recyclable.

- "Exemplary performances" **IEQ Credit 4.6 - LOW EMITTING MATERIALS, CEILING and WALL SYSTEMS: 1 LEED point** may be earned for NC, CI, CS LEED Buildings: no traces of VOC (Volatile Organic Compounds) are present in Slimtech tiles (see Addenda of LEED Reference Guide for Green Building Design and Construction, 2009 Edition).

RP Credit 1 - Regional Priority (NC, CI, CS, SCHOOLS LEED Rating Systems): 1-4 LEED points.

Between 1 and 4 credits can be obtained, of the 6 Regional Priority credits identified by the USGBC regional councils and chapters, if the project has an environmental importance for the region, where it is being constructed. A database of Regional Priority credits and their geographic applicability is available on the USGBC website www.usgbc.org.

LEED Rating System of Existing Buildings Operations and Maintenance (EBOM)

The cleaning and maintenance procedures on Lea Ceramiche's general catalogue and on Slimtech technical manual can help obtain the following LEED credits.

- **SS Credit 7.1 - HEAT ISLAND REDUCTION (Non roof): 1 LEED point** is granted if a maintenance program is organized, that ensures the surfaces are cleaned at least every 2 years to maintain a good reflectance.
- **IEQ 3.1 - GREEN CLEANING, HIGH PERFORMANCE CLEANING PROGRAM: 1 LEED point.**
- **IEQ 3.3 - GREEN CLEANING, PURCHASE OF SUSTAINABLE CLEANING PRODUCTS AND MATERIALS: 1 LEED point.**

NC = LEED 2009 for New Construction, CI = LEED 2009 for Commercial Interior, CS = LEED 2009 for Core and Shell Development, SCHOOLS = LEED 2009 for Schools, EBOM = LEED 2009 for Existing Buildings Operations and Maintenance.

Lea Ceramiche is a member of the **Green Building Council ITALIA**, this is an organization that promotes in Italy buildings that are environmentally friendly, profitable and healthy places to live and work in.



The LEED credits that can be obtained with Slimtech tiles for NC 2009 Italia (New construction) are the same as the ones that can be obtained with USGBC LEED NC 2009 Rating System (please see table). The only differences are regarding credit MR 5 - REGIONAL MATERIALS (different method of calculating the distance from the production site and raw materials from the construction site) and IEQ 4.1 - LOW EMITTING MATERIALS, ADHESIVE AND SEALANTS (max emissions VOC = 200 mg/m3, v. GEV Emission EC1 ed. 03.03.2009).

* Not applicable for: BSP Slimtech: stuccata, lappata. Arenaria Slimtech: brown. Gouache.10: black stone, deep sea. Shade: black coffee. RE-evolution: SRC030