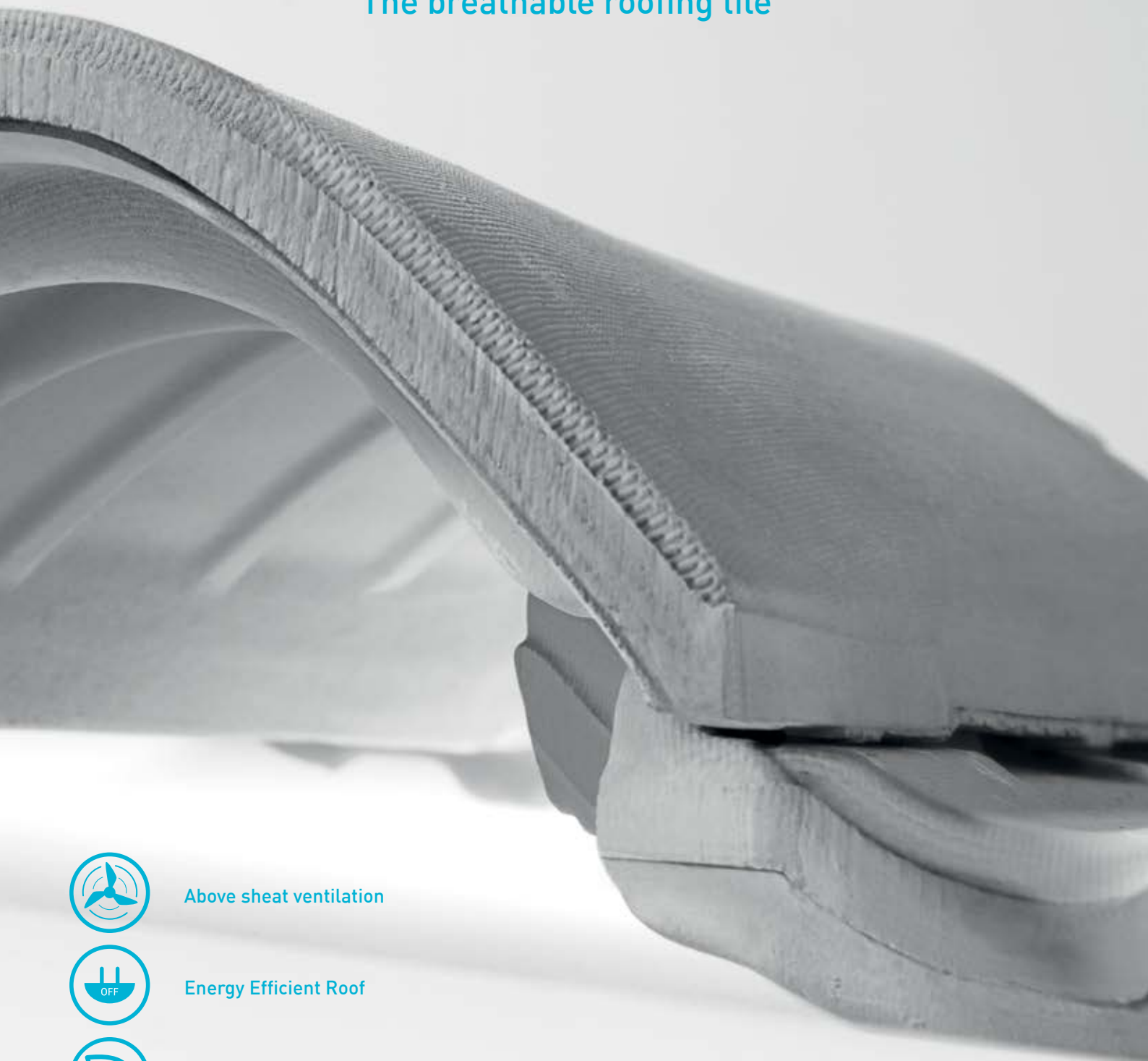




AERO[®] TILE

The breathable roofing tile



Above sheat ventilation



Energy Efficient Roof



Sustainability

AERO[®] TILE

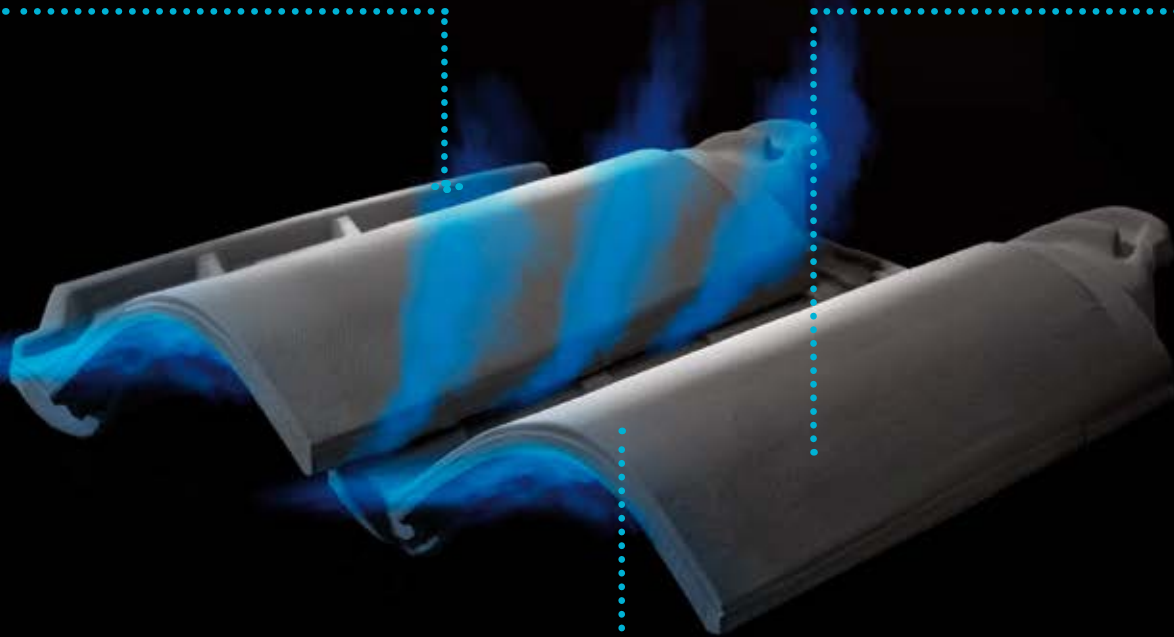
In conformity with the recent
Minimum Environmental Criteria
(MEC).

MORE PERFORMING ARCHITECTURE

The structural peculiarities make the tile more breathable and together with a greater ventilation of the covering mantle, it favors the lowering of the attic temperatures.

AIR PERMEABILITY

The breathability of the tile, if properly used, favors a greater ventilation and a consequent lowering of the temperature of the covering mantle, reducing the phenomenon of heat island.



CO₂ REDUCTION

Increased ventilation, helps reduce the use of air conditioners, promotes energy savings and reduces CO₂ emissions.



Technology and design,
a perfect sustainable combination.

AEROTILE®

THE BREATHABLE ROOFING TILE

50
YEARS WARRANTY

Data sheet

| | |
|---------------------------|-------------------|
| Lenght | 487 mm |
| Width | 268 mm |
| Weight | 4,2 kg |
| Pieces per m ² | 12,2 |
| Longitudinal pitch | 380 mm (+/- 2 mm) |
| Transversal pitch | 215 mm |



Rossa
cod. HR01



Londra
cod. HL01



The breathable roofing tile is the synthesis of wellness, energy saving and respect for the environment.
Aerotile®, thanks to its innovative shape, augments the above sheathing ventilation and the energy efficiency of the house.

AERO
TILE



Firenze

cod. HF01



Berlino

cod. HB01



Atene

cod. HA01



AERO[®]
TILE





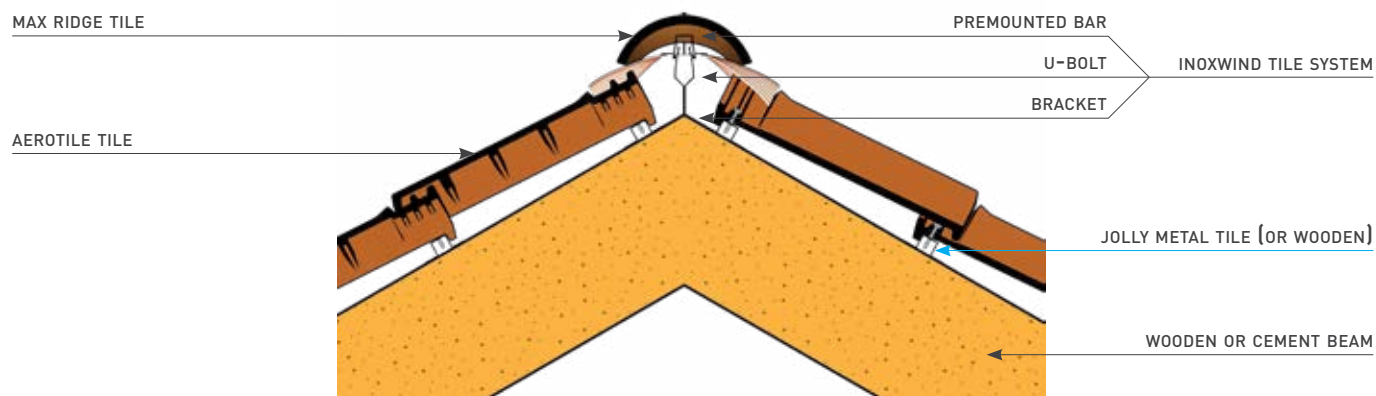
On top: Aerotile® Rossa | Below: Aerotile® Londra

AEROTILE® Horizontal laying

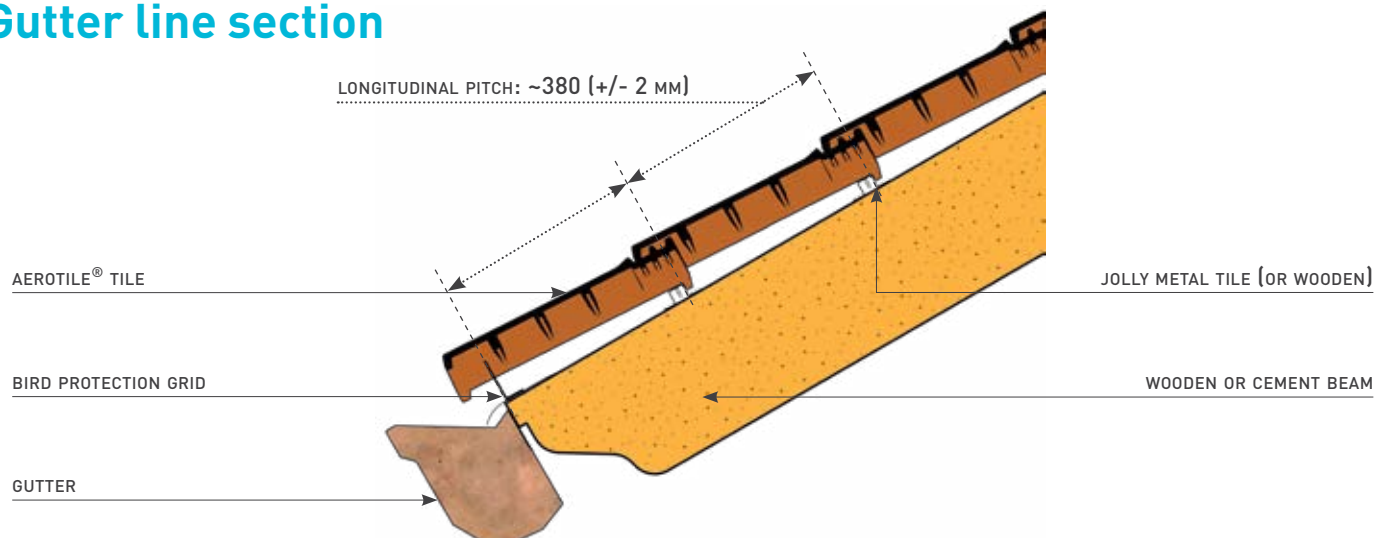
AEROTILE® Vertical laying



Rooftop section

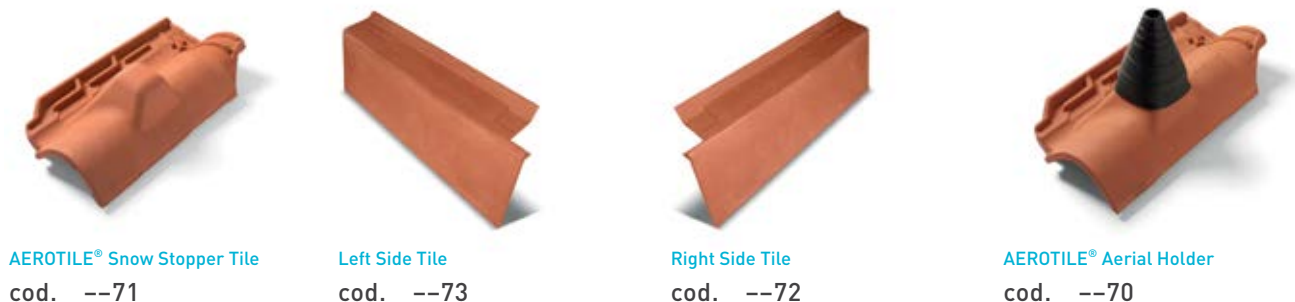


Gutter line section



AEROTILE® Special pieces

MAX RIDGE TILE LINE

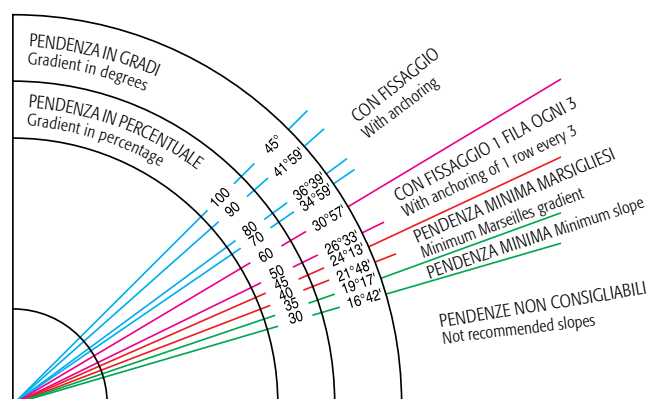


* Not to be employed with hot fumes.

Specification sheet AEROTILE® Line

Supply of discontinuous roofing systems in clay, fully ventilated and compliant with Minimal Environmental Criteria (MEC). Tiles forming the roof are moulded with spoilers and labyrinth pattern in the rear section, marked side edges. Manufactured in terracotta, length ca. 490mm weight ca. 4,2Kg, ca. 12,2 pieces per sq/m at the end of installation, including related special pieces such as ridge tiles, end tiles, chimney basis, minitec etc. Tiles must be supplied with a regular warranty period, they must meet the requirements of UNI EN 1304 on "Clay roofing tiles and fittings" and, in general, they must comply with the in-force regulations and subsequent amendments. Tile name Aerotile® by Industrie Cotto Possagno S.p.A.

Chart of slopes for clay roofing tiles



Slopes to be used and overlays are indicated in the table above. Concerning the strength of the wind, refer to the Ministry of Public Works circular that divides the national territory into climatic zones [Circular n. 22631 dated 24.05.82].

NEWS2019 THE PROJECT + RESULTS ACHIEVED

The product

The **AEROTILE®** roof tile was created thanks to the financial contribution of the European research programme **LIFE** (LIFE14CCA/IT/000939) and to the experience broadened by Industrie Cotto Possagno in the field of ventilated roofs.

The Ventilated Roof system can be appointed as the best solution enhancing the passive thermal insulation in hot climate areas.

The project

The LIFE HEROTILE project, which saw the participation of international partners from a number of countries worldwide, was primarily aimed at **improving the energy performance of buildings** sited in South European countries, by means of an increased under-tile ventilation.

The extensive research work, coordinated by Industrie Cotto Possagno, led to the definition of an innovative concept of ventilated roof tile model (named AEROTILE®), ensuring higher performances in comparison to other roofing systems.

Studies and tests run by the University of Ferrara were carried out with the main scope of **maximizing ventilation and air permeability of roof tiles**, while at the same time comparing them with results obtained with other roofing solutions.

Test and analysis stages have led to the development of the first prototypes of Herotile roof tiles and to the construction of demonstrative roofs (photo on the right/left) to be compared with other roofing systems available in the market, in order to come eventually to the verification of collected data on two real buildings, one in Zaragoza (Spain) and the other in Ca' del Bosco (Italy).

Project results

The initially pre-set objectives were by far exceeded, achieving a **reduction of more than 50% of the heat entering the roof** and consequently of the energy consumptions needed to maintain a wellness temperature in the building.

Aerotile®
+300%
MORE VENTILATED
than a classic portuguese
roofing tile

-57%

~57% reduction of specific cooling power

- Urban heat island
- + Energy saving

REAL-SCALE TEST BUILDING

Ferrara

Energy consumption for cooling
(to maintain a intern temp. of 25°/26°C)

15/04/2017-14/10/2017

PORTUGUESE TILES
252 kWh
+27%

FLAT ROOF
647 kWh
+227%

MARSEILLAISE TILES
250 kWh
+26%

METAL
300 kWh
+52%



Sensapiro

Thanks to the extensive research work and to the collected data, it was possible to develop a freeware software (SENSAPIRO) capable of **evaluating the global energy performance ensured by different types of roofing**. Sensapiro also allows to calculate the Watt rate entering a building in accordance with the following factors:

- Roof pitch
- Presence or absence of ventilation
- Covering material
- Building location
- Roof average high
- Attic/crawlspace structure
- Type and thickness of insulation
- Roof azimuth

Aerotile® performances

to maintain the internal temperature of ~25°C during summer

-50%

50% reduction of the carbon footprint

-50%

50% reduction of inlet watts to be cooled in comparison with a non-ventilated roof

-25%

25% reduction of maximum temperature peak of the under-tile airflow

-10%

10% reduction of greenhouse gases emissions

-5%

5% reduction of atmospheric pollution

SIMULATION MADE WITH SENSAPIRO OF A 5 LAYERS ROOF AND 20° ROOF PITCH:

| | |
|---------------------------------|-------|
| L1 Plaster | 20 mm |
| L2 Hollow flooring block 200 mm | |
| L3 Low reinforced concrete | 40 mm |
| L4 Linoleum (water proof film) | 1 mm |
| L5 XPS | 60 mm |

SETPOINT INTERNAL TEMPERATURE: 25°C
PERIOD: MAY-SEPTEMBER

FRANKFURT

| | |
|-----------------|--------------------|
| Aerotile | 3.9 KWht/m² |
| Port. Tile | + 45.0% |
| Metal | + 64.6% |
| Flat | + 77.5% |

PARIS

| | |
|-----------------|--------------------|
| Aerotile | 6.9 KWht/m² |
| Port. Tile | + 46.6% |
| Metal | + 66.5% |
| Flat | + 78.3% |

MADRID

| | |
|-----------------|--------------------|
| Aerotile | 8.8 KWht/m² |
| Port. Tile | + 35.4% |
| Metal | + 64.0% |
| Flat | + 73.1% |

ROMA

| | |
|-----------------|--------------------|
| Aerotile | 6.6 KWht/m² |
| Port. Tile | + 38.5% |
| Metal | + 58.0% |
| Flat | + 73.6% |

ATHENS

| | |
|-----------------|---------------------|
| Aerotile | 10.2 KWht/m² |
| Port. Tile | + 28.5% |
| Metal | + 52.6% |
| Flat | + 70.8% |

MUNICH

| | |
|-----------------|--------------------|
| Aerotile | 4.5 KWht/m² |
| Port. Tile | + 29% |
| Metal | + 61% |
| Flat | + 75.1% |

BUCHAREST

| | |
|-----------------|--------------------|
| Aerotile | 8.1 KWht/m² |
| Port. Tile | + 27.5% |
| Metal | + 51.3% |
| Flat | + 69.2% |



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