ΣΥΣΤΗΜΑ ΕΞΩΤΕΡΙΚΗΣ ΘΕΡΜΟΜΟΝΩΣΗΣ

KELYFOS ROOFTILE™

An innovative composite thermal insulating tile

Ravago
BUILDING SOLUTIONS

ΣΥΣΤΗΜΑ ΕΞΩΤΕΡΙΚΗΣ ΘΕΡΜΟΜΟΝΩΣΗΣ
KELYFOS
ROOFTILE™

KELYFOS ROOFTILE™ is an innovative composite thermal insulating tile (dimensions 30x60cm) **that combines the thermal efficiency of RAVATHERM XPS X** (thickness 50mm up to 80mm) **with the massive effectiveness of the surface concrete** (thickness 20mm) **that mitigates thermal waves and protects waterproofing.**

Easy to install, lightweight, functional and high-performing **KELYFOS ROOFTILE™** is a "multitasking" solution with exceptional performance, perfect for the insulation of terraces and flat roofs with the method of inverted insulation.

KELYFOS ROOFTILE™ fire classification

Ideal for roofs that require lightweight insulating coverage and occasional walkability, ROOFTILE™ further confirms its performance by obtaining the B_{ROOF} (t2) fire classification according UNI CEN/TS 1187:2012, essential to ensure maximum safety in terms of fire behavior of roofs exposed to external fire. The B_{ROOF} (t2) classification certifies the highest level of performance achieved for fire safety: ROOFTILE™ has passed the tests with the maximum extension of the product's application field on various laying surfaces. Not only fire certification, but the thermal insulation tile by Ravago Building Solutions is a perfect example of the company's ongoing product innovation.


ISTITUTO GIORDANO
BEYOND CERTIFICATION

RAPPORTO DI CLASSIFICAZIONE N. 417382
CLASSIFICATION REPORT No. 417382

RAVAGO HELLAS M.A.B.E.E.

piastrella termoisolante modulare composita denominata "ROOFTILE"
modular composite thermal insulating tile named "ROOFTILE"

classificazione al fuoco dei prodotti e degli elementi da costruzione - parte 5: classificazione in base ai risultati delle prove di esposizione del tetti a un fuoco esterno secondo la norma UNI EN 13501-5:2016
fire classification of construction products and building elements: Part 1: Classification using data from external fire exposure to roofs tests in accordance with standard UNI EN 13501-5:2016

Classificazione
Classification
B_{ROOF} (t2)

KELYFOS ROOFTILE™ solar reflectivity

KELYFOS ROOFTILE™ is the only composite thermal insulating tile that has obtained a Solar Reflectance Index (SRI) of 84, calculated according to ASTM E1980 - 11(2019). This high value is ideal for reducing energy needs for summer air conditioning and containing the internal temperature of spaces, as well as limiting urban overheating. In short, a roof that reflects as much solar energy as possible and dissipates as little heat as possible is a very high-performing roof, and KELYFOS ROOFTILE™ is a perfect ally to achieve those results.


ISTITUTO GIORDANO
BEYOND CERTIFICATION

RAPPORTO DI PROVA N. 416955
TEST REPORT No. 416955

RAVAGO HELLAS M.A.B.E.E.

rivestimento per pannello in XPS denominato "KELYFOS RT 80 + 20"
coating for XPS panel named "KELYFOS RT 80 + 20"

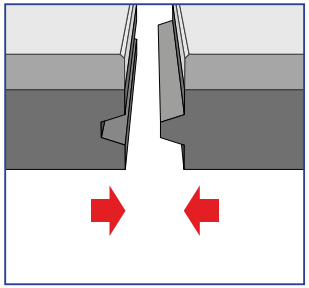
determinazione dell'indice di riflessione solare secondo la norma ASTM E1980 - 11(2019)
determination of the solar reflection index in accordance with the standard ASTM E1980 - 11(2019)

Indice di riflessione solare "SRI"
Solar Reflectance Index "SRI"

h_c = 5 W/(m² · K)	h_c = 12 W/(m² · K)	h_c = 30 W/(m² · K)
84	84	84

ADVANTAGES

- Roof protection from **weather stress**.
- Protection, of the existing roof waterproofing, against **aging and thermal stress**.
- **Easy and fast installation** just by placing the ROOFTILE™.
- **Light weight** (46kg/m²) suitable for roofs with minimum paving loads but also avoiding the risk of being swept away by the wind.
- **Elimination** of thermal bridges due to special planning on the sides.
- Usage of the most reliable thermal insulating material of the market, **Ravatherm X of RAVAGO**.
- Possibility of reuse in any addition or extension on the building.
- **Very attractive** final surface.



INSTALLATION INSTRUCTIONS

Placing composite thermal insulating tile (ROOFTILE™) over the waterproofing layer is the method of Inverted Insulation.

Inverted insulation is the method in which the layer of waterproofing is placed under the layer of thermal insulation. The main advantage of the method is the protection provided to the waterproofing by protecting it from temperature changes and from mechanical stresses, as well as avoiding the phenomenon of water vapor concentration.

Step 1

Creating a drainage layer on the roof slab and installing gutters (if there are none).

Step 2

Roof waterproofing (if not present or damaged). The layer of leaks and waterproofing (especially if done with bitumen) must be very well smoothed to reduce the stresses of Kelyfos ROOFTILE™.

- Surface cleaning
- Selection of waterproofing system
- Details sealing

Step 3

The tiles are placed starting from the perimeter, in an arrangement of interrupted joints by matching the special shiplaps, in order to improve the stability and passability of the roof. In roofs with increased passability, it is necessary to improve the quality of the substrate. If deemed necessary, a geotextile layer is applied first.

- Laying geotextile
- Installation of Kelyfos ROOFTILE™

Step 4

In order to cover the perimeter gap that is created, it is recommended to use gravel or pebble.

The joints between the tiles must not be sealed under any circumstances and in addition the horizontal movement of Kelyfos ROOFTILE™ must also be avoided (this is ensured if the screed ends at the perimeter of the roof elevations such as walls or parapets).

In buildings exposed to strong winds, it is possible to require vertical immobilization of the slabs by fixing the first perimeter zone using a metal corner or another mechanical way of fixing.

Properties	Unit	KELYFOS ROOFTILE™				Standard
ROOFTILE™ dimensions	mm	300x600	300x600	300x600	300x600	
Ravatherm X BF 300 SB thickness	mm	50	60	70	80	
Mortar thickness	mm	20	20	20	20	
Ravatherm X BF 300 SB thermal conductivity λ_D	W/mK	**0.030**	**0.030**	**0.030**	**0.030**	EN 13164
Ravatherm X BF 300 SB thermal resistance R_d	m²K/W	**1.65**	**2.00**	**2.35**	**2.65**	EN 13164
Mortar thermal conductivity λ	W/mK	1.395	1.395	1.395	1.395	EN 12667
	Kcal/mh°C	1.20	1.20	1.20	1.20	
Fire classification		**B_{ROOF} (t2)**	**B_{ROOF} (t2)**	**B_{ROOF} (t2)**	**B_{ROOF} (t2)**	EN 13501-5
Solar reflection index (SRI)		**84**	**84**	**84**	**84**	ASTM E1980-11
Ravatherm X compressive strength (10% deformation)	kPa	300	300	300	300	EN 826
Dimensional stability, DS(TH) under specific conditions, temperature T=23°C and humidity Ur=90%	%	<2	<2	<2	<2	EN 1604
Mortar resistance to detachment	N/mm²	0.25	0.25	0.25	0.25	
Minimum compressive strength of mortar (28 days)	N/mm²	20	20	20	20	
Mortar abrasion	mm	3	3	3	3	
Packaging						
Weight per m²	kgr	≈46	≈46	≈46	≈46	
m² per Pallet	m²	20.16	17.28	15.84	14.40	

HEAD OFFICE
115, Neratziotissis str., Maroussi 15124, Athens, Greece T. +30 214 4008400
Customer Support Center T. +30 214 400 8888

ROOFTILE PLANT
Profitis Ilias 34600, N. Artaki - Evia, Greece T. +30 22210 43985

www.ravagohellas.gr • info.gr.rbs@ravago.com