

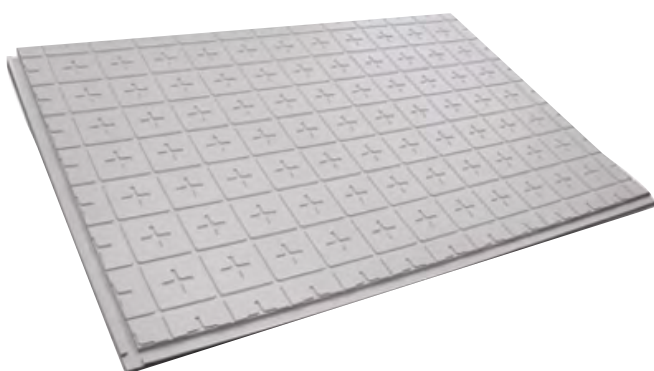
# R981B



Radiant  
Systems

## Flat insulation panel made of EPS, for radiant floor systems

Datasheet  
0815EN  05/2019



Flat insulation panel for radiant floor systems.  
Consisting of expanded polystyrene foam (EPS) with  
shockproof thermoformed polyethylene protection layer  
working also as steam barrier.  
Provided with printed grid with pitch reference: 50x50 mm  
and 100x100 mm.

### Versions and product codes

PRODUCT CODE	SIZE [mm] h=height	N. OF SHEETS	TOTAL USEFUL SURFACE [m <sup>2</sup> ]
R981BY003	h30	10	9,60
R981BY004	h40	8	7,68
R981BY005	h50	6	5,76
R981BY006	h60	5	4,80



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WATER E-MOTION



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## Technical data

### Stocking conditions

- The panels must not be exposed to direct sunlight
- Stocking must be carried out in a dry and protected area, at temperatures above 5 °C and below 50 °C
- Keep the panels away from chemical agents
- Keep the panels away from open flames and heat sources

**▲ WARNING.** Do not expose to direct sunlight, even after installation, up to screed casting.

### R981BY003

INSULATION PANEL	
Useful dimensions	1200 x 800 mm
Useful surface	0,96 m <sup>2</sup>
Total thickness	30 mm
Printed grid	50x50 mm and 100x100 mm
INSULATION SHEET	
Material	Expanded polystyrene EPS200
Thermal conductivity, $\lambda_D$	0,033 W/(m K)
Thermal resistance $R_\lambda$	0,91 m <sup>2</sup> K/W
Min. resistance to 10% crushing	200 kPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163-L(3)-W(3)-T(2)-CS(10)200-WL(T)2-Z40-100
PROTECTION LAYER	
Material	Shockproof thermo-welded polyethylene
Thickness	0,15 mm
Film color	Grey

### R981BY004

INSULATION PANEL	
Useful dimensions	1200 x 800 mm
Useful surface	0,96 m <sup>2</sup>
Total thickness	40 mm
Printed grid	50x50 mm and 100x100 mm
INSULATION SHEET	
Material	Expanded polystyrene EPS200
Thermal conductivity, $\lambda_D$	0,033 W/(m K)
Thermal resistance $R_\lambda$	1,21 m <sup>2</sup> K/W
Min. resistance to 10% crushing	200 kPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163-L(3)-W(3)-T(2)-CS(10)200-WL(T)2-Z40-100
PROTECTION LAYER	
Material	Shockproof thermo-welded polyethylene
Thickness	0,15 mm
Film color	Grey

**Rg81BY005**

INSULATION PANEL	
Useful dimensions	1200 x 800 mm
Useful surface	0,96 m <sup>2</sup>
Total thickness	50 mm
Printed grid	50x50 mm and 100x100 mm
INSULATION SHEET	
Material	Expanded polystyrene EPS200
Thermal conductivity, $\lambda_D$	0,033 W/(m K)
Thermal resistance $R_\lambda$	1,52 m <sup>2</sup> K/W
Min. resistance to 10% crushing	200 kPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163-L(3)-W(3)-T(2)-CS(10)200-WL(T)2-Z40-100
PROTECTION LAYER	
Material	Shockproof thermo-welded polyethylene
Thickness	0,15 mm
Film color	Grey

**Rg81BY006**

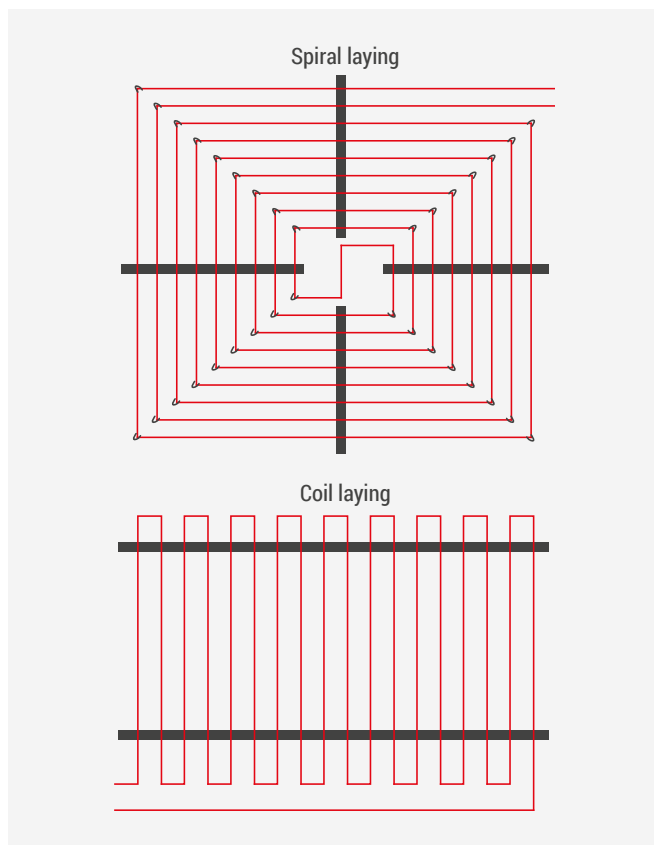
INSULATION PANEL	
Useful dimensions	1200 x 800 mm
Useful surface	0,96 m <sup>2</sup>
Total thickness	60 mm
Printed grid	50x50 mm and 100x100 mm
INSULATION SHEET	
Material	Expanded polystyrene EPS200
Thermal conductivity, $\lambda_D$	0,033 W/(m K)
Thermal resistance $R_\lambda$	1,82 m <sup>2</sup> K/W
Min. resistance to 10% crushing	200 kPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163-L(3)-W(3)-T(2)-CS(10)200-WL(T)2-Z40-100
PROTECTION LAYER	
Material	Shockproof thermo-welded polyethylene
Thickness	0,15 mm
Film color	Grey

## ► Laying



The panels must be installed side by side using the side rails to connect them.

The pipes are fitted to the insulation panel to create the radiant floor circuits using pipe installation tracks K389 or K389W, or pipe installation clips R983Y001, R983Y500 with clip tacker R983.



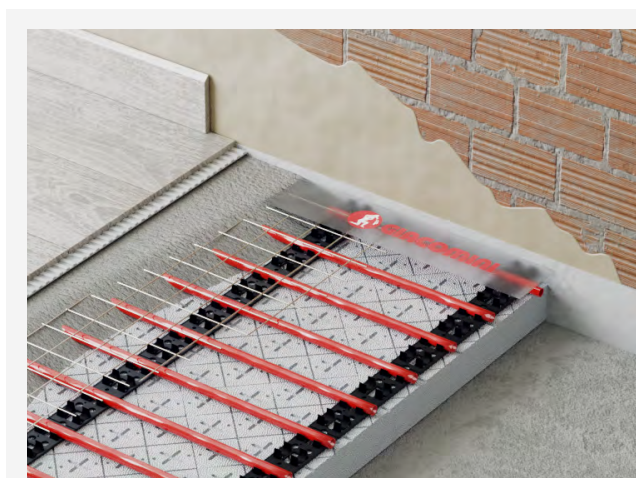
The pipes can be installed with different patterns by forming spiral loops as required.

When laying is completed, and before casting the screed, we recommend installing electro-welded sheet K393 with large meshes over the panel.

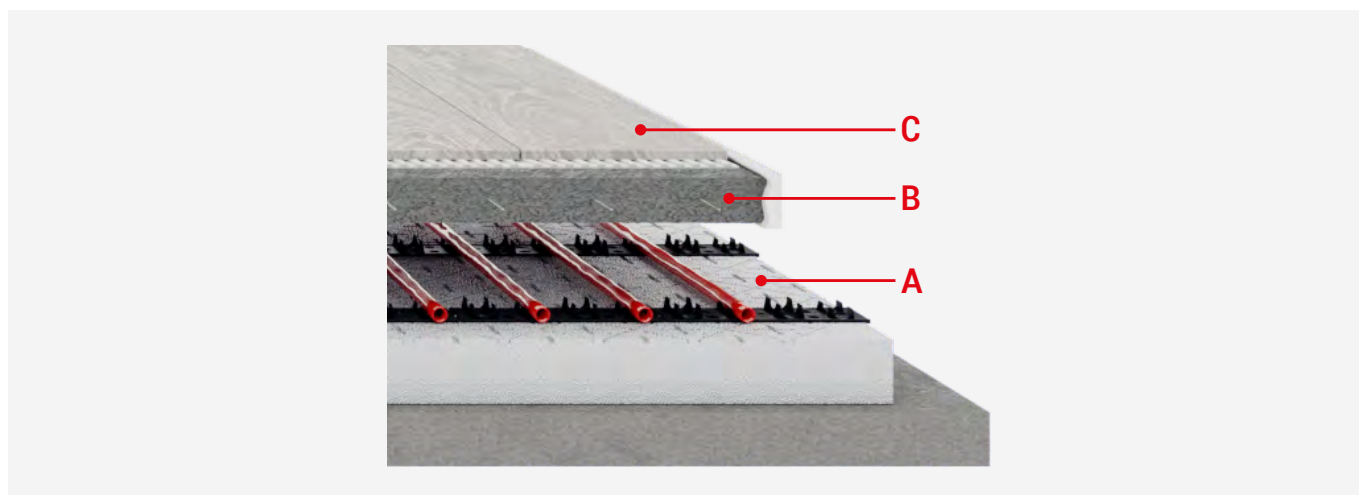
The dimensions required for a residential radiant panel system are represented by the height of the preformed insulation panel (30-60 mm) added to the screed thickness (at least 30 mm, according to UNI EN 1264-4) and the thickness of the tile or glued pit surface finish.

Systems employing preformed insulation panels R981B and edge strip K369 feature high outputs and reduced start up times for their limited thermal inertia.

**⚠ WARNING.** Do not lay the product when room temperature is below 5 °C.



## ➤ Components and dimensions



PRODUCT CODE	PANEL "A" TOTAL HEIGHT [mm]	SCREED "B" MINIMUM HEIGHT [mm]	"A+B" MINIMUM HEIGHT COATING "C" EXCLUDED" [mm]
R981BY003	30	30*	60**
R981BY004	40	30*	70**
R981BY005	50	30*	80**
R981BY006	60	30*	90**

\* Starting from the pipe top

\*\* + pipe diameter

## ➤ Reference standards

- EN 1264: Floor heating – Systems and components.
- EN 13163: Thermal insulation products for buildings – Factory made products of expanded polystyrene (EPS).
- EN 12354-2: Construction soundproofing – Evaluation of building soundproofing performance starting from performance of employed products – Trampling soundproofing between rooms.

## ➤ Product specifications

### **R981BY003**

Flat insulation panel for radiant floor systems. Consisting of expanded polystyrene foam (EPS200) with shockproof thermoformed polyethylene protection layer working also as steam barrier. Provided with printed grid with pitch reference: 50x50 mm and 100x100 mm. Dimensions: 1200x800 mm. Useful surface: 0,96 m<sup>2</sup>. Panel height: 30 mm. Thermal conductivity: 0,033 W/(m K). Thermal resistance: 0,91 m<sup>2</sup> K/W. Min. resistance to 10 % crushing: 200 kPa.

### **R981BY004**

Flat insulation panel for radiant floor systems. Consisting of expanded polystyrene foam (EPS200) with shockproof thermoformed polyethylene protection layer working also as steam barrier. Provided with printed grid with pitch reference: 50x50 mm and 100x100 mm. Dimensions: 1200x800 mm. Useful surface: 0,96 m<sup>2</sup>. Panel height: 40 mm. Thermal conductivity: 0,033 W/(m K). Thermal resistance: 1,21 m<sup>2</sup> K/W. Min. resistance to 10 % crushing: 200 kPa.

### **R981BY005**

Flat insulation panel for radiant floor systems. Consisting of expanded polystyrene foam (EPS200) with shockproof thermoformed polyethylene protection layer working also as steam barrier. Provided with printed grid with pitch reference: 50x50 mm and 100x100 mm. Dimensions: 1200x800 mm. Useful surface: 0,96 m<sup>2</sup>. Panel height: 50 mm. Thermal conductivity: 0,033 W/(m K). Thermal resistance: 1,52 m<sup>2</sup> K/W. Min. resistance to 10 % crushing: 200 kPa.

### **R981BY006**

Flat insulation panel for radiant floor systems. Consisting of expanded polystyrene foam (EPS200) with shockproof thermoformed polyethylene protection layer working also as steam barrier. Provided with printed grid with pitch reference: 50x50 mm and 100x100 mm. Dimensions: 1200x800 mm. Useful surface: 0,96 m<sup>2</sup>. Panel height: 60 mm. Thermal conductivity: 0,033 W/(m K). Thermal resistance: 1,82 m<sup>2</sup> K/W. Min. resistance to 10 % crushing: 200 kPa.

**⚠ Safety Warning.** Installation, commissioning and periodical maintenance of the product must be carried out by qualified operators in compliance with national regulations and/or local standards. A qualified installer must take all required measures, including use of Individual Protection Devices, for his and others' safety. An improper installation may damage people, animals or objects towards which Giacomini S.p.A. may not be held liable.

**♻ Package Disposal.** Carton boxes: paper recycling. Plastic bags and bubble wrap: plastic recycling.

**ℹ Additional information.** For more information, go to [giacomini.com](http://giacomini.com) or contact our technical assistance service. This document provides only general indications. Giacomini S.p.A. may change at any time, without notice and for technical or commercial reasons, the items included herewith. The information included in this technical sheet do not exempt the user from strictly complying with the rules and good practice standards in force.

**♻ Product Disposal.** Do not dispose of product as municipal waste at the end of its life cycle. Dispose of product at a special recycling platform managed by local authorities or at retailers providing this type of service.