

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

Datasheet  
0498EN 04/2021



R982Q preformed panels are used in radiant floor systems to improve pipe insulation.

Their use is essential to create modern and functional radiant systems as they heat rooms in a very short time with limited powers, therefore also limiting the mass of the radiant structures and reducing heat dispersions downwards.

Plus, the preformed insulation panels enable to maintain comfortable room temperatures while setting the surface temperature within the limits provided for by the EN 1264 standard (max. 29 °C for living areas) and with no physical discomfort or structural issues typical of outdated installation techniques.

The use of insulation panels reduces the quantity of pipes required and as a consequence the number of radiant circuits, the water flow rates, the diameters of supply pipes, the hydraulic heads of the circulators and the powers involved, leading to immediate energy saving in the name of environment protection.

### ➤ Versions and product codes

PRODUCT CODE	SIZE [mm] T=pitch - h=height	N. OF SHEETS	TOTAL USEFUL SURFACE [m²]
R982QY043	T50 - h37	18	20,16
R982QY115	T50 - h50	12	13,44

## Technical data

### Storage conditions

- Do not expose the panels to direct sunlight
- Store the panels in a dry and sheltered area at temperatures between 5 °C and 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.

### R982QY043

INSULATION PANEL	
Useful dimensions	1400 x 800 mm
Useful surface	1,12 m <sup>2</sup>
Panel dimensions	1450 x 850 mm
Panel surface	1,23 m <sup>2</sup>
Total thickness	37 mm sheet: 15 mm + protrusion: 22 mm
Pipe diameter	15÷18 mm
Allowed pitches	Multiples of 50 mm
INSULATION SHEET	
Material	Sintered expanded polystyrene EPS150
Thermal conductivity, $\lambda_D$	0,034 W/(m K)
Thermal resistance, $R_\lambda$ According to EN1264-3:2009 (par.4.1.2.2)	0,88 m <sup>2</sup> K/W
Thermal resistance, $R_\lambda$ According to EN1264-3 ( $R_{iso} = s_{so}/\lambda_{iso}$ )	0,44 m <sup>2</sup> K/W
Min. resistance to 10% crushing	150 kPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163-T1-L1-W1-S1-P3- DS(N)5-DLT(1)5-BS250-CS(10)150
PROTECTION LAYER	
Material	Polystyrene
Thickness	0,2 mm
Film color	Black

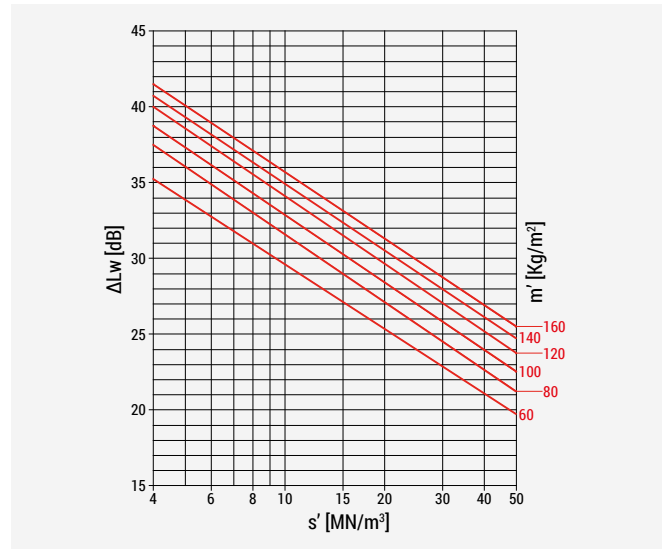
### R982QY115

INSULATION PANEL	
Useful dimensions	1400 x 800 mm
Useful surface	1,12 m <sup>2</sup>
Panel dimensions	1450 x 850 mm
Panel surface	1,23 m <sup>2</sup>
Total thickness	50 mm sheet: 28 mm + protrusion: 22 mm
Pipe diameter	15÷18 mm
Allowed pitches	Multiples of 50 mm
INSULATION SHEET	
Material	Sintered expanded polystyrene EPS120
Thermal conductivity, $\lambda_D$	0,035 W/(m K)
Thermal resistance, $R_\lambda$ According to EN1264-3:2009 (par.4.1.2.2)	1,27 m <sup>2</sup> K/W
Thermal resistance, $R_\lambda$ According to EN1264-3 ( $R_{iso} = s_{so}/\lambda_{iso}$ )	0,80 m <sup>2</sup> K/W
Min. resistance to 10% crushing	120 kPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163-T4-L1-W1-S1-P3- S(N)5-BS100-SD30-CP2
PROTECTION LAYER	
Material	Polystyrene
Thickness	0,4 mm
Film color	Black

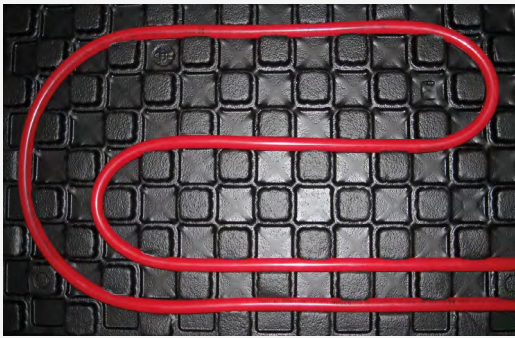
## Soundproofing

In compliance with EN 13163, R982QY115 panels are included in class SD30 which corresponds to a  $s' \leq 30 \text{ MN/m}^3$  dynamic rigidity, according to EN 13172.

The picture on the right, part of standard UNI EN 12354-2, shows how a reduced value of dynamic rigidity ( $s'$ ) provides enhanced soundproofing to the highest trampling ( $\Delta L_w$ ) with the same value of mass per screed surface unit ( $m'$ ).



## ➤ Main features



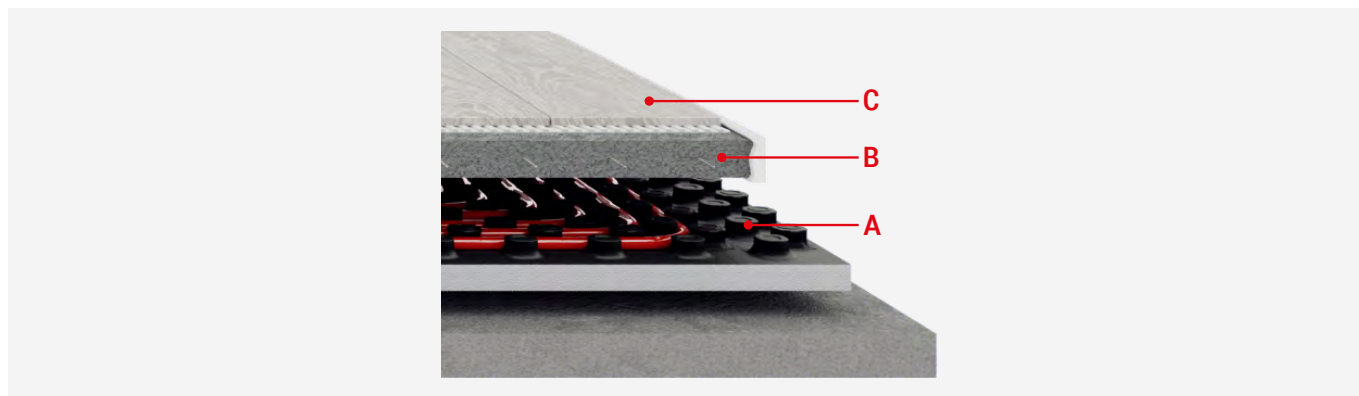
The "protrusion" layout and geometry makes the side surface pliable when installing the pipes so as to create a sturdy and made-to-measure housing for the radiant circuits, with no pipe clips required.

R982Q insulation panels, made of sintered expanded polystyrene (EPS) and complying with standard EN 13163, are coupled through a special polystyrene protection layer (PS). The coating enhanced thickness gives the protrusions an excellent mechanic resistance and therefore a panel density more suitable for the thermal and acoustic insulation characteristics required.

The profiles chosen for this product offer an ideal and accurate coupling between panels, a radiant circuit layout free of pipe clips in most installations, and satisfactory results when casting the additive-based screed with no air bubbles that would inevitably affect the efficiency of the radiant floor. R982Q panels cut down manpower for pipe laying and enable to create circuit pitches with multiples of 50 mm in an orderly fashion even in complicated installation conditions. 50 mm-thick panels not only provides thermal insulation and support to the radiant circuit, they also improve soundproofing to trampling up to 26 dB thanks to their SD30 dynamic stiffness.

37 mm-thick panels enable instead to create a radiant floor system even in very limited spaces such as in renovation works.

## ➤ Components and dimensions



PRODUCT CODE	PANEL TOTAL HEIGHT "A" [mm]	INSULATION/PROTRUSION HEIGHT [mm]	SCREED MIN. HEIGHT "B" [mm]	MIN. HEIGHT "A+B" COATING "C" EXCLUDED [mm]
R982QY043	37	15/22	30	67
R982QY115	50	28/22	30	80

## ➤ Reference standards

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

## ➤ Product specifications

### R982QY043

Preformed insulation panel for radiant floor systems. Color black. Height 37 mm (insulation sheet 15 mm, protrusions 22 mm). Consisting of an insulation sheet made of sintered expanded polystyrene (EPS) and a 0,2 mm polystyrene (PS) protection layer. For Ø 15+18 mm pipes. Center distance 50 mm. Dimensions: 1450x850 mm (useful dimensions: 1400X800 mm). Panel useful surface 1,12 m². Thermal conductivity 0,034 W/(m K). Thermal resistance 0,44 m²K/W. Min. resistance to 10 % crushing, 150 kPa. Reaction to fire: class E.

### R982QY115

Preformed insulation panel for radiant floor systems. Color black. Height 50 mm (insulation sheet 28 mm, protrusions 22 mm). Consisting of an insulation sheet made of sintered expanded polystyrene (EPS) and a 0,4 mm polystyrene (PS) protection layer. For Ø 15+18 mm pipes. Center distance 50 mm. Dimensions: 1450x850 mm (useful dimensions: 1400X800 mm). Panel useful surface 1,12 m². Thermal conductivity 0,035 W/(m K). Thermal resistance 0,80 m²K/W. Dynamic stiffness 30 MN/m³. Min. resistance to 10 % crushing, 120 kPa. Reaction to fire: class E.

**⚠ 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.