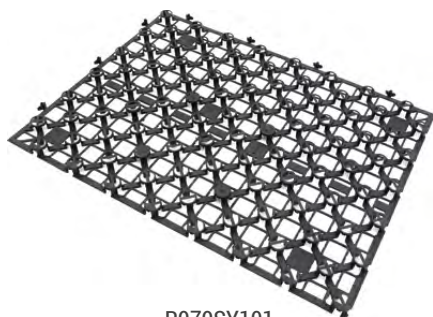
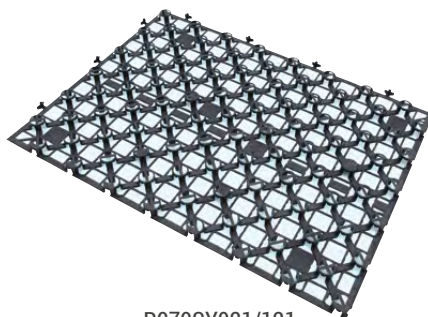


## ***Spider* and *Spider Slim* panels for low-thickness radiant floor systems and renovations**

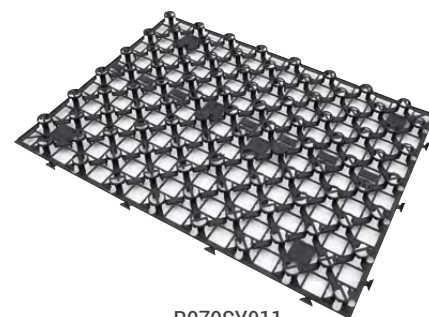
Datasheet  
0749EN  04/2022



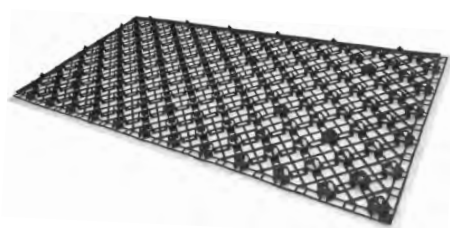
R979SY101  
*SPIDER*



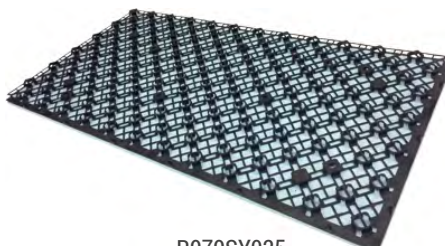
R979SY021/121  
*SPIDER*



R979SY011  
*SPIDER*



R979SY005  
*SPIDER SLIM*



R979SY025  
*SPIDER SLIM*

The R979S panel is a loaded polypropylene molded grid.

Radiant floor systems with *Spider* and *Spider Slim* panels have a reduced height which offers great benefits in renovation works. The patented geometry uses a three-dimensional grid to hold the pipe firmly in place during laying operations and embed it completely into the screed to guarantee an even temperature distribution with a low degree of thermal inertia to the system.

The innovative perforated protrusion makes this panel fit for sand and concrete based screeds as well as self-levelling screeds. Thanks to its enhanced resistance to trampling, installers can lay the pipe with no risk of crushing.

Each protrusion has four pipe-locking elements to conveniently install the pipe without using clips at direction-changing points. The side interlocks guarantee firm anchoring between the panels.



#### VIDEO

Scan the QR-Code with a smartphone or tablet to view the video-tutorial for *SPIDER* R979SY101, R979SY011, R979SY021 and R979SY121 panels



#### VIDEO

Scan the QR-Code with a smartphone or tablet to view the video-tutorial for *SPIDER SLIM* R979SY005 and R979SY025

## ➤ Versions and product codes

SERIES	PRODUCT CODE	VERSION	HEIGHT [MM]	RANGE OF APPLICATION
R979S SPIDER	R979SY101	Self-adhesive	22	Renovations and reduced thickness applications
	R979SY011	With pins	22 + 13 pins	For use with existing smooth insulation panel
	R979SY021	With high-density insulation	22 + 6 insulation	Renovations and reduced thickness applications
	R979SY121			
R979S SPIDER SLIM	R979SY005	Self-adhesive	15	Renovations and reduced thickness applications
	R979SY025	With high-density insulation	15 + 6 insulation	Renovations and reduced thickness applications

### Completion codes

- R983Y040: Ø 6x25 mm plastic anchoring screw for R979SY101, R979SY005, R979SY021, R979SY121, R979SY025 panels fitting
- R983Y041: Ø 6x60 mm plastic anchoring screw for pipe fitting

## ➤ 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.** Store the panels in a sheltered area and do not expose to direct sunlight up to screed casting, even after installation.

### R979SY101 - Self-adhesive Spider

THREE-DIMENSIONAL GRID	
Dimensions	1200 x 800 mm
Surface	0,96 m <sup>2</sup>
Total thickness	22 mm
Pipe diameter	16 x 17 mm
Allowed pitches	Multiples of 50 mm
Fluidity index	8 g/10'
Density at 23 °C	1,1 g/cm <sup>3</sup>
Izod impact resistance at 23 °C	6 kJ/m <sup>2</sup>
Vicat softening temperature	> 50 °C

### R979SY011 - Spider with pins

THREE-DIMENSIONAL GRID	
Dimensions	800 x 600 mm
Surface	0,48 m <sup>2</sup>
Total thickness	22 mm + 13 mm for pins
Pipe diameter	16 x 17 mm
Allowed pitches	Multiples of 50 mm
Fluidity index	8 g/10'
Density at 23 °C	1,1 g/cm <sup>3</sup>
Izod impact resistance at 23 °C	6 kJ/m <sup>2</sup>
Vicat softening temperature	> 50 °C

**R979SY021 - Spider with high-density insulation**

THREE-DIMENSIONAL GRID	
Dimensions	800 x 600 mm
Surface	0,48 m <sup>2</sup>
Total thickness	22 mm + 6 mm insulation
Pipe diameter	16 x 17 mm
Allowed pitches	Multiples of 50 mm
Fluidity index	8 g/10'
Density at 23 °C	1,1 g/cm <sup>3</sup>
Izod impact resistance at 23 °C	6 kJ/m <sup>2</sup>
Vicat softening temperature	> 50 °C
INSULATION SHEET	
Material	Light blue sintered expanded polystyrene EPS 250 with graphite
Thermal conductivity, $\lambda_D$	0,032 W/(m K)
Thermal resistance, $R_\lambda$ According to EN1264-3 ( $R_{INS} = s_{INS}/\lambda_{INS}$ )	0,19 m <sup>2</sup> K/W
Flexibility level	1200 MPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163 -L(3)-W(3) -T(2)-CS(10)250-WL(T)3-Z 40-100

**R979SY121 - Spider with high-density insulation**

THREE-DIMENSIONAL GRID	
Dimensions	1200 x 800 mm
Surface	0,96 m <sup>2</sup>
Total thickness	22 mm + 6 mm insulation
Pipe diameter	16 x 17 mm
Allowed pitches	Multiples of 50 mm
Fluidity index	8 g/10'
Density at 23 °C	1,1 g/cm <sup>3</sup>
Izod impact resistance at 23 °C	6 kJ/m <sup>2</sup>
Vicat softening temperature	> 50 °C
INSULATION SHEET	
Material	Light blue sintered expanded polystyrene EPS 250 with graphite
Thermal conductivity, $\lambda_D$	0,032 W/(m K)
Thermal resistance, $R_\lambda$ According to EN1264-3 ( $R_{INS} = s_{INS}/\lambda_{INS}$ )	0,19 m <sup>2</sup> K/W
Flexibility level	1200 MPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163 -L(3)-W(3) -T(2)-CS(10)250-WL(T)3-Z 40-100

### R979SY005 - Self-adhesive Spider Slim

THREE-DIMENSIONAL GRID	
Dimensions	1200 x 600 mm
Surface	0,72 m <sup>2</sup>
Total thickness	15 mm
Pipe diameter	12 mm
Allowed pitches	Multiples of 50 mm
Fluidity index	8 g/10'
Density at 23 °C	1,1 g/cm <sup>3</sup>
Izod impact resistance at 23 °C	6 kJ/m <sup>2</sup>
Vicat softening temperature	> 50 °C

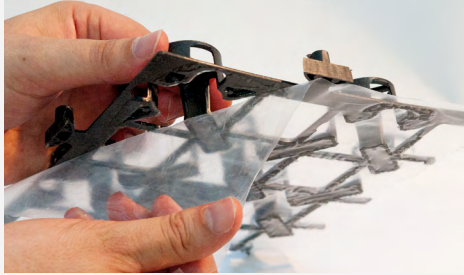
### R979SY025 - Spider Slim with high-density insulation

THREE-DIMENSIONAL GRID	
Dimensions	1200 x 600 mm
Surface	0,72 m <sup>2</sup>
Total thickness	15 mm + 6 mm insulation
Pipe diameter	12 mm
Allowed pitches	Multiples of 50 mm
Fluidity index	8 g/10'
Density at 23 °C	1,1 g/cm <sup>3</sup>
Izod impact resistance at 23 °C	6 kJ/m <sup>2</sup>
Vicat softening temperature	> 50 °C
INSULATION SHEET	
Material	Light blue sintered expanded polystyrene EPS 250 with graphite
Thermal conductivity, $\lambda_D$	0,032 W/(m K)
Thermal resistance, $R_\lambda$ According to EN1264-3 ( $R_{INS} = s_{INS} / \lambda_{INS}$ )	0,19 m <sup>2</sup> K/W
Flexibility level	1200 MPa
Reaction to fire	Class E
Classification according to EN13163	EPS-EN13163 -L(3)-W(3) -T(2)- CS(10)250-WL(T)3-Z 40-100

## Installation

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

- 1) Remove any dirt or liquid residues from the foundation.
- 2) Lay the wall edge strip.
- 3) Lay the R979S panel:
  - a. for **R979SY101** and **R979SY005** product codes, remove the back film from the bottom plate, glue the panel to the foundation or existing floor by overlapping the side hooks to connect the panels (use R983Y040 anchor screws for proper adherence to the existing floor when the surface is not perfectly smooth or clean).



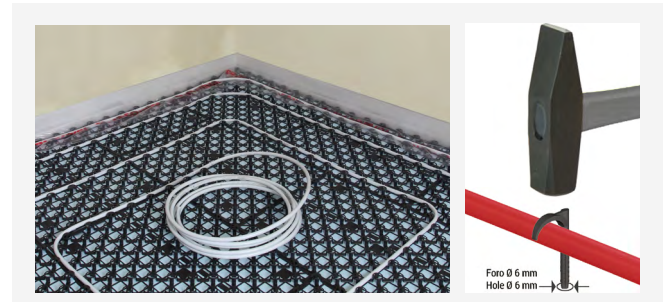
- b. for **R979SY011** product code, fit the panel to the smooth insulation previously laid by overlapping the panels for proper connection (use clips to fit the insulation panel if necessary).



- c. for **R979SY021**, **R979SY121** and **R979SY025** product codes, lay the panels on the foundation or existing floor by overlapping the side hooks to connect the panels (use R983Y040 anchor screws for proper adherence to the existing floor if necessary).



- 4) Lay the pipes (use R983Y041 anchor screws to anchor the pipes).

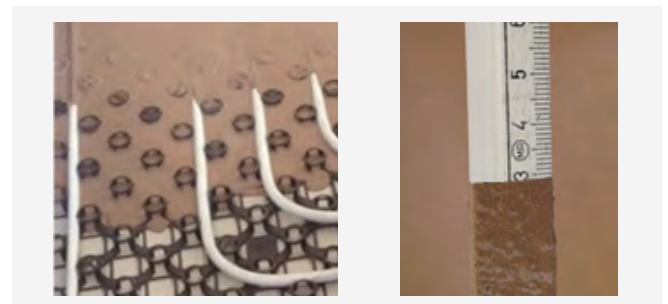


- 5) Carry out a pressure test.
- 6) Cast the self-leveling screed or sand and concrete based screed with the system pressurized\*.

### **\* NOTE.**

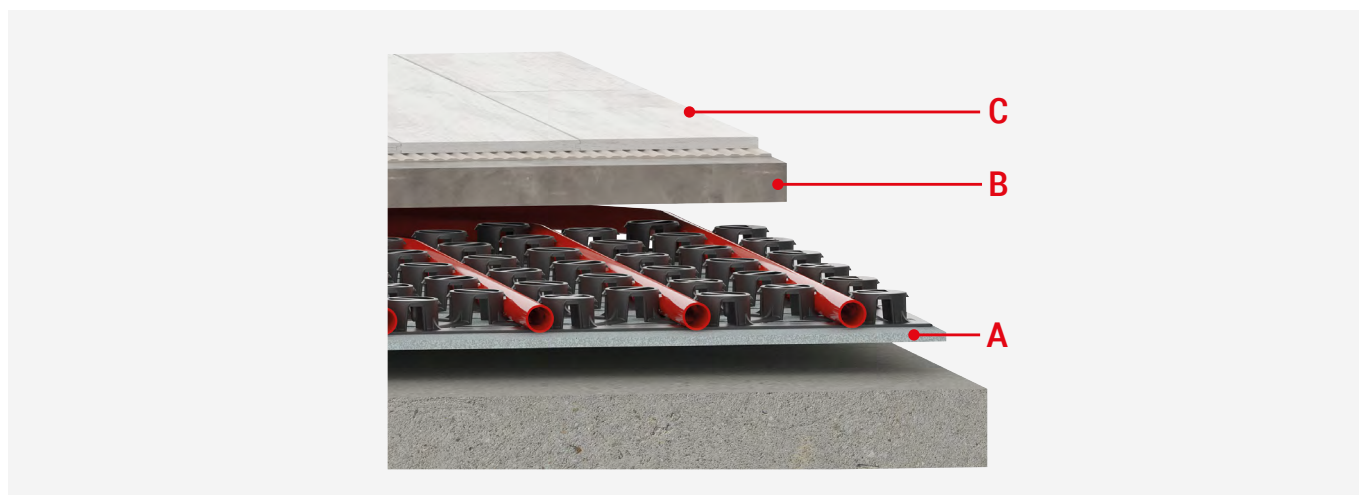
Follow the supplier's instructions for self-leveling screeds.

When the insulation panel is used on sand and concrete screeds, the distributed load must be  $\leq 2 \text{ kN/m}^2$  and the max compressibility of the insulation layers must be  $c \leq 5 \text{ mm}$  (DIN 18560/2).



- 7) Complete the installation with the surface finish.

## ➤ Components and dimensions



PRODUCT CODE	PANEL TOTAL HEIGHT [mm]	INSULATION/PROTRUSION HEIGHT "A" [mm]	SCREED MIN. HEIGHT "B" [mm]	MIN. HEIGHT "A+B" COATING "C" EXCLUDED [mm]
R979SY101	22	0/22	25 (with self-leveling screed) 35 (with anhydrite-based screed) 40 (with sand+concrete screed)	25 (with self-leveling screed) 35 (with anhydrite-based screed) 40 (with sand+concrete screed)
R979SY011	22 + pins	$S_i^*/22$	35 (with anhydrite-based screed) 40 (with sand+concrete screed)	35 + $S_i$ (with anhydrite-based screed) 40 + $S_i$ (with sand+concrete screed)
R979SY021	28	6/22	30 (with self-leveling screed) 35 (with anhydrite-based screed) 40 (with sand+concrete screed)	36 (with self-leveling screed) 41 (with anhydrite-based screed) 46 (with sand+concrete screed)
R979SY121	28	6/22	30 (with self-leveling screed) 35 (with anhydrite-based screed) 40 (with sand+concrete screed)	36 (with self-leveling screed) 41 (with anhydrite-based screed) 46 (with sand+concrete screed)
R979SY005	15	0/15	20 (with self-leveling screed) 35 (with anhydrite-based screed) 40 (with sand+concrete screed)	20 (with self-leveling screed) 35 (with anhydrite-based screed) 40 (with sand+concrete screed)
R979SY025	21	6/15	22 (with self-leveling screed) 35 (with anhydrite-based screed) 40 (with sand+concrete screed)	28 (with self-leveling screed) 41 (with anhydrite-based screed) 46 (with sand+concrete screed)

\*  $S_i$  = thickness of insulation not included with R979S

## ➤ Reference standards

- UNI EN 1264 Floor heating systems
- Law decree 192/2005 and 311/2006 Energy saving
- ISO 1183, ISO 178, ISO 180, ISO 306 Plastic materials



## Product specifications

### **R979SY101 - Spider**

Three-dimensional loaded polypropylene molded grid for pipe fitting in radiant floor heating systems. The self-adhesive bottom surface enables to glue the panel to the foundation or existing floor. Reduced height (22 mm) fit for renovation works or low-thickness applications. The patented geometry holds the pipe firmly in place during laying operations and embeds it completely into the screed to guarantee an even temperature distribution with a low degree of thermal inertia to the system. The perforated protrusion enables to use the panel with sand and concrete based screeds as well as self-levelling screeds. High resistance to trampling. Dimensions 1200x800x22 mm. For Ø 16÷17 mm pipes. Panel pitch: multiples of 50 mm.

### **R979SY011 - Spider**

Three-dimensional loaded polypropylene molded grid for pipe fitting in radiant floor heating systems. With 13 mm pins on the bottom surface to anchor the panel to the insulation layer. Reduced height (22 mm) fit for renovation works or low-thickness applications. The patented geometry holds the pipe firmly in place during laying operations and embeds it completely into the screed to guarantee an even temperature distribution with a low degree of thermal inertia to the system. The perforated protrusion enables to use the panel with sand and concrete based screeds as well as self-levelling screeds. High resistance to trampling. Dimensions 800x600x(22+13) mm. For Ø 16÷17 mm pipes. Panel pitch: multiples of 50 mm.

### **R979SY021 - Spider**

Three-dimensional loaded polypropylene molded grid for pipe fitting in radiant floor heating systems. Combined to a 6 mm high-density insulation panel. Reduced height (22 + 6 mm) fit for renovation works or low-thickness applications. The patented geometry holds the pipe firmly in place during laying operations and embeds it completely into the screed to guarantee an even temperature distribution with a low degree of thermal inertia to the system. The perforated protrusion enables to use the panel with sand and concrete based screeds as well as self-levelling screeds. High resistance to trampling. Dimensions 800x600x(22+6) mm. For Ø 16÷17 mm pipes. Panel pitch: multiples of 50 mm. Thermal conductivity: 0,032 W/(m K). Thermal resistance ( $R = s/\lambda$ ) 0,19 m<sup>2</sup>K/W.

### **R979SY121 - Spider**


Three-dimensional loaded polypropylene molded grid for pipe fitting in radiant floor heating systems. Combined to a 6 mm high-density insulation panel. Reduced height (22 + 6 mm) fit for renovation works or low-thickness applications. The patented geometry holds the pipe firmly in place during laying operations and embeds it completely into the screed to guarantee an even temperature distribution with a low degree of thermal inertia to the system. The perforated protrusion enables to use the panel with sand and concrete based screeds as well as self-levelling screeds. High resistance to trampling. Dimensions 1200x800x(22+6) mm. For Ø 16÷17 mm pipes. Panel pitch: multiples of 50 mm. Thermal conductivity: 0,032 W/(m K). Thermal resistance ( $R = s/\lambda$ ) 0,19 m<sup>2</sup>K/W.


### **R979SY005 - Spider Slim**


Three-dimensional loaded polypropylene molded grid for pipe fitting in radiant floor heating systems. The self-adhesive bottom surface enables to glue the panel to the foundation or existing floor. Reduced height (15 mm) fit for renovation works or low-thickness applications. The patented geometry holds the pipe firmly in place during laying operations and embeds it completely into the screed to guarantee an even temperature distribution with a low degree of thermal inertia to the system. The perforated protrusion enables to use the panel with sand and concrete based screeds as well as self-levelling screeds. High resistance to trampling. Dimensions 1200x600x15 mm. For Ø 12 mm pipes. Panel pitch: multiples of 50 mm.


### **R979SY025 - Spider Slim**

Three-dimensional loaded polypropylene molded grid for pipe fitting in radiant floor heating systems. Combined to a 6 mm high-density insulation panel. Reduced height (15 + 6 mm) fit for renovation works or low-thickness applications. The patented geometry holds the pipe firmly in place during laying operations and embeds it completely into the screed to guarantee an even temperature distribution with a low degree of thermal inertia to the system. The perforated protrusion enables to use the panel with sand and concrete based screeds as well as self-levelling screeds. High resistance to trampling. Dimensions 1200x600x(15+6) mm. For Ø 12 mm pipes. Panel pitch: multiples of 50 mm. Thermal conductivity: 0,032 W/(m K). Thermal resistance ( $R = s/\lambda$ ) 0,19 m<sup>2</sup>K/W.

 **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.

 **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.