

PRODUCTION RANGE

Code	Real Panel Sizes [mm]	Insulating thickness [mm]	Number of panels per package	Useful surface covered by a pack of panels
1188.20.02	1350 x 850	-	24	24.96 m ²

DESCRIPTION

Preformed sheet of impact-resistant moulded polystyrene foil called **RBM Kilma-Strong**.

It consists of a thin, 1 mm thick, black, impact-resistant expanded polystyrene foil.

(Highly resistant to pressure and foot traffic).

This surface is also characterised by a shaped grid of points for fixing the pipe, with a geometry with square base.

The panel can be used in conjunction with *RBM Kilma-Flex* 17 mm diameter pipes (see code): 464.17.X2 (PE-Xc), 2009.17.X2 (PE-Xa), or 1484.17.X2 (PE-RT); or with the RBM Tita-fix 16 mm multilayer pipes, code: 1545.16.X0 (PE-RT) or 1542.16.00 (PE-Xc). For complete order codes refer to the dedicated technical data sheets.

These panels can be assembled by interlocking. The coupling is made by overlapping the same sheet, inserting the preformed bosses one into the other.

USE

The RBM *Kilma-Strong* panel has a high resistance to foot traffic.

The *RBM Kilma-Strong* panel is used in underfloor radiant heating systems (with mainly spiral pipes).

The *RBM Kilma-Strong* panel is also particularly suitable *for use in civil installations*, where a simple, quickly installed system is required and where a particularly stable anchoring of the pipe is a priority.

FIXING THE PANEL

For fixing to flat surfaces, including polystyrene, use two-component glue or adhesives that are not aggressive towards polystyrene. Do not use solvent-based adhesives. Alternatively, use mechanical fixings commonly used in construction.

DIMENSIONAL FEATURES

Nominal pitch of the shaped grooves for pipe positioning	50 mm and multiples.
Coupling with other panels of the same type	By overlapping the same
Overall surface	1350 x 850 mm
Useful surface	1300 x 800 mm
Useful surface covered by a Kilma- Strong panel	1.04 m ²
Shockproof polystyrene foil thickness	1 mm
Pipe diameter applicable to the panel	14 ÷ 17 mm

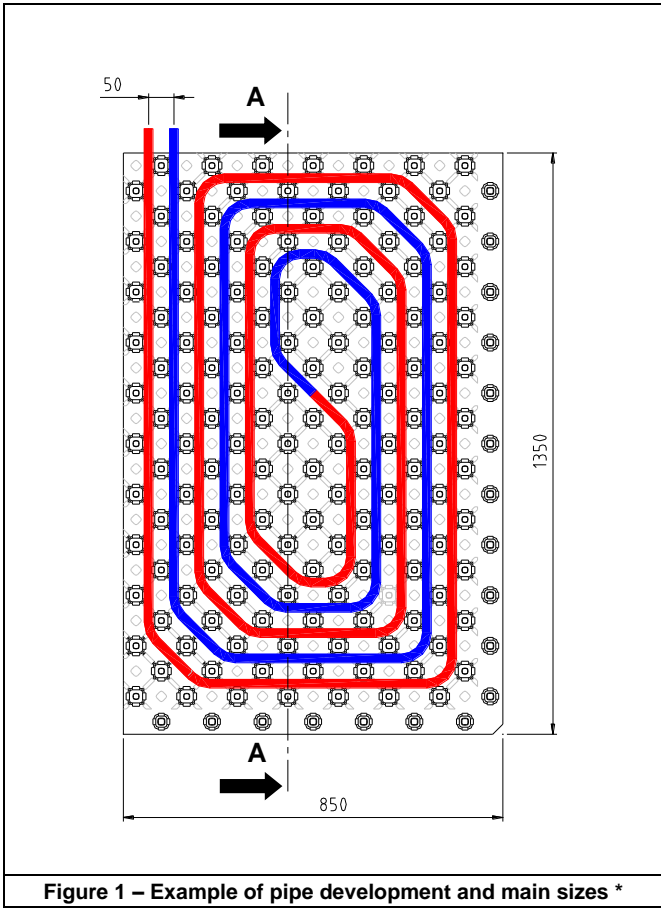


Figure 1 – Example of pipe development and main sizes *

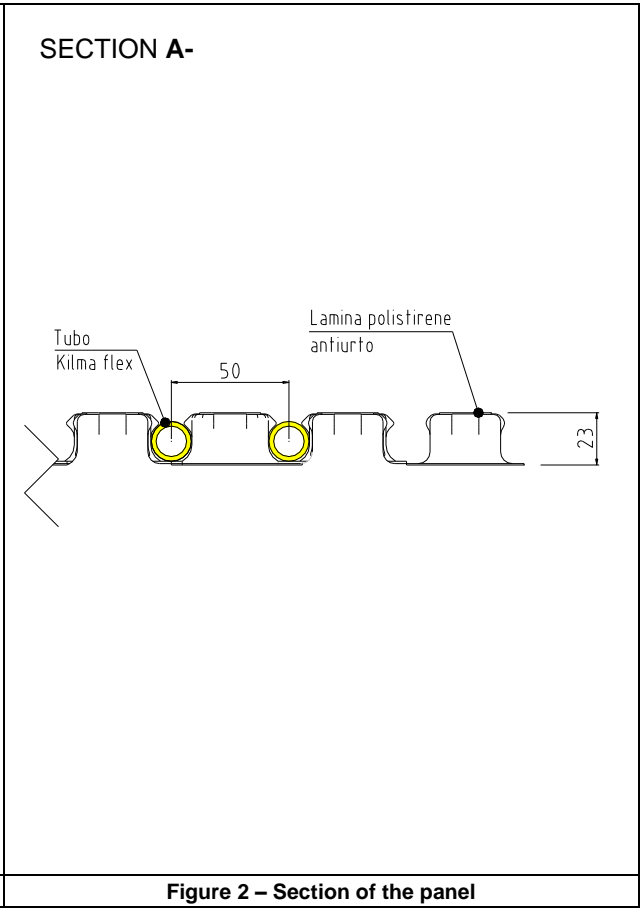


Figure 2 – Section of the panel

CONSTRUCTION FEATURES

Pre-formed foil	Pre-formed foil sheet in 1 mm thick printed shockproof polystyrene.
-----------------	---

TECHNICAL FEATURES

Reaction to fire	Euroclass "E"
------------------	---------------






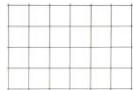




* The image of the coupling between the Kilma-Strong panel and the pipe is representative only and it is not binding for the laying of the pipe on the panel.

REGULATORY REFERENCES

EU REGULATION NO. 305 / 2011 (CPR)

UNI-EN 11925-2:2010	Reaction to fire tests for building products.
UNI-EN 13501:2009	Classification to fire of building products and elements - Classification according to the results of the reaction tests and resistance to fire, excluding ventilation systems.
UNI-CEI-EN-ISO 13943:2010	Safety in case of fire - Vocabulary.
UNI-EN 13238:2010	Reaction to fire tests for building products - Conditioning procedures and general rules for selection of substrates.

MAIN COMPONENTS THAT CAN BE USED WITH THE KILMA-STRONG PANEL

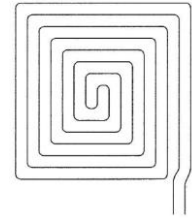
Code		Description	System
603.18.12		<u>Bend former</u> for curves at 90°, made of polyamide with fibreglass. Its function is bend former and pipe protection near their connection to the manifold.	Kilma-Isi
464.17.X2 2009.17.X2 1484.17.X2		<u>KILMA-FLEX pipe</u> , in high density crosslinked polyethylene pipe with anti-oxygen barrier in EVOH. Used in size (external Φ x pipe thickness): 17x2 mm. Available in PE-Xc versions (code 0464.XX.X2), PE-Xa (code 2009.XX.X2) and PE-RT (code 1484.XX.X2). For order codes, refer to the Kilma price list.	Kilma-Isi
217.17.00		<u>Fitting for 17x2 mm polyethylene pipe</u> with EUROCONUS G3/4II UNI-EN-ISO 228 connection.	Kilma-Isi
1545.16.X0 1542.16.X0		<u>Tita-fix multilayer pipe</u> made of three layers: internal layer in polyethylene, intermediate layer in welded aluminium and external layer in polyethylene. Available in PE-Xc versions (code 1542.XX.00), or PE-Xb (code 1545.XX.X0). For order codes, refer to the Tita-fix price list.	Kilma-Isi
224.16.00		<u>Compression fitting</u> for multilayer pipe. Used in sizes 16x2 mm with EUROCONUS G3/4II UNI-EN-ISO 228 connection.	Kilma-Isi
476.40.02		<u>Electro-welded</u> and galvanised binding mesh with the function of drastic reducer of the formation of cracks in concrete screed and supplied in <i>bundles of 20 panels: overlapping of 75 mm; link 75x75 mm; dimensions 991x2060 mm; wire diameter 2 mm; area covered by 20 panels: 40.8 m².</i>	Kilma-Isi
472.15.12		<u>Base edging joint</u> : expansion joint in expanded polyethylene, coupled with LPDE mortar containment sheet, adhesive on full height (150 mm), with a thickness of 8 mm and supplied in rolls of 60 m.	Kilma-Isi
483.25.02 483.32.02		<u>Corrugated conduit</u> : 25-32 mm diameter, used to protect the pipe. It becomes an indispensable protection when the pipes cross the expansion joints. Supplied in 50 ml rolls.	Kilma-Isi
475.10.02 475.25.02		<u>Additive "KILMA-THERM"</u> : liquid super-plasticising additive, used for concrete screeds to improve workability or performance characteristics. Supplied in cans of 10 or 25 Kg (approximately 9.80÷24.50 l), used with an amount equal to 0.9÷1.1 l every 100 kg of cement.	Kilma-Isi
475.10.12		<u>Polypropylene fibre additive</u> used to eliminate the risk of cracks as a result of plastic shrinkage in floors not properly dried out and humid, improves the performance of the screed, decreases the workability of the concrete (that is, however, easily restored by introducing the additive "KILMA-THERM" - 0.5 ÷ 0.7 l every 100 kg of cement). Supplied in 1 kg packs, it is a non-flammable product and requires a dosage (for mixtures with a medium cement content) of 0.9 kg per ^{m3} of screed.	Kilma-Isi

TO KNOW MORE

In order to independently adjust the ambient temperature, each room must be heated with one or more specifically dedicated circuits.

The pipes can be installed on the panels with a development in a **spiral**. This method is used in most applications because it allows for a more homogeneous surface temperature (the supply and return pipes will develop alternately between them), and allows an easier installation (only two curves required at 180°: those in which the development of the spiral is reversed).

The spiral can have **constant** or **variable centre distance**: the choice is arbitrary, but it is a good rule to use a variable centre distance when, in line with the glass panels or very dispersant walls, there is the need to bring the pipes closer. Moreover, it is recommended to maintain a higher pitch in the centre of the spiral and a lower pitch at the limits to compensate for the heat loss and consequent asymmetries.



OPERATIONS FOR COUPLING SEVERAL KILMA-STRONG PANELS



1 Place the panels in adjacent positions.



2 Centre the pre-formed grooves of the panels and place them one inside the other.



3 Press the pre-formed grooves so that they are securely fixed.



4 With an even pressure, adjust the positioned panels.

PLEASE NOTE: The pictures, which refer to the super-strong panel with EPS insulation layer, are for illustrative purposes only. Refer to them exclusively for the system of coupling the foils together.



RBM spa reserves the right to improve and change the described products and relative technical data at any moment and without prior notice: always refer to the instructions attached with the supplied components; this sheet is an aid, should the instructions be extremely schematic. Our technical department is always available for any doubts, problems or clarifications.

RBM
 RBM Spa
 Via S. Giuseppe, 1
 25075 Nave (Brescia) Italy
 Tel. 030-2537211 Fax 030-2531798
 E-mail: info@rbm.eu - www.rbm.eu