

**MORE FTA-e**

# MORE FTA-e

LOW-THICKNESS ELECTRIC  
RADIANT FLOOR HEATING SYSTEM.

Patent pending.

# The revolutionary electric radiant underfloor heating system for non-ordinary rooms.

**MORE FTA-e**

it is the innovative, electrically powered, low-thickness, low-inertia, high-efficiency, prefabricated and modular underfloor heating system, ideal for creating fixed or temporary platforms to be placed on the existing floor.

# MORE FTA-e

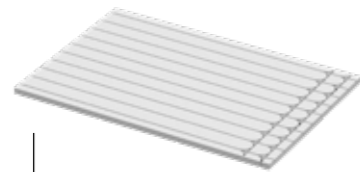


40°C SURFACE TEMPERATURE

# Why MORE FTA-e?

MORE FTA-e is a revolutionary radiant panel without screed, featuring an extremely small footprint that makes it possible for you to implement finished systems in less than 33 cm thickness, including flooring. Fast installation and immediate walkability are the special features of MORE FTA-e. The panel is also supplied already assembled, further reducing installation time. A fundamental feature of the MORE FTA-e panel is the presence of thermal insulation under the semiconductor technopolymer, which limits heat dispersion. Thanks to its shape and high mechanical resistance, the panel allows the floor to be laid directly on top of it, guaranteeing complete reversibility and total return to the original state of the site. Thanks to the IPX7 protection rating (protection against temporary immersion up to a depth of 1 metre for 30 minutes), the MORE FTA-e system is able to operate in adverse conditions without compromising its performance. This water resistance provides additional security in contexts prone to humidity or precipitation.

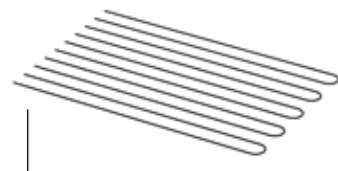
The FTA-e system is composed of a pre-heated eps 300 panel complete with housing for the heating electric cable, with integrated 1/10 aluminium heat receiver and double-conductor heating cable with total shielding and 230V AC power supply.



PRE-SHAPED  
INSULATING PANEL



ALUMINIUM HEATING  
COST ALLOCATOR



DOUBLE CONDUCTOR  
HEATING CABLE



LVT OR LAMINATE  
SURFACE FINISH

## STRATIGRAPHY



# What is MORE FTA-e?

The **MORE FTA-e** electric radiant heating system is an innovative, high-efficiency, low-thickness winter radiant heating system that can be installed on the floor and energised by modulating resistive cables. The absorbed power is self-regulating depending on the room, ensuring high efficiency and low energy consumption.

It can be dry-installed against existing flooring and can be completed with floating surface finishes.

It is particularly suitable for the temporary heating of large, non-ordinary buildings, where heating of the entire volume is not required, or for heating emergency structures or closed but uninsulated outdoor environments.

# Versatility of application

The MORE FTA-e radiant heating system was developed to deal with contexts where the rigidity of the indoor winter microclimate needs to be mitigated:

- in non-residential environments, generally very poorly insulated, in which the user temporarily stays in 'outdoor' clothing (dehors)
- in unheated rooms used on an occasional basis (places of worship)
- in poorly heated rooms where only limited areas (workstations) need to be treated

- **Temporary heating of portions of places of worship**
- **Heating of outdoor perimeters**
- **Heating of emergency facilities**
- **Heating of museum routes**
- **Heating of workstations in unheated buildings**

# Advantages

## ADVANTAGES

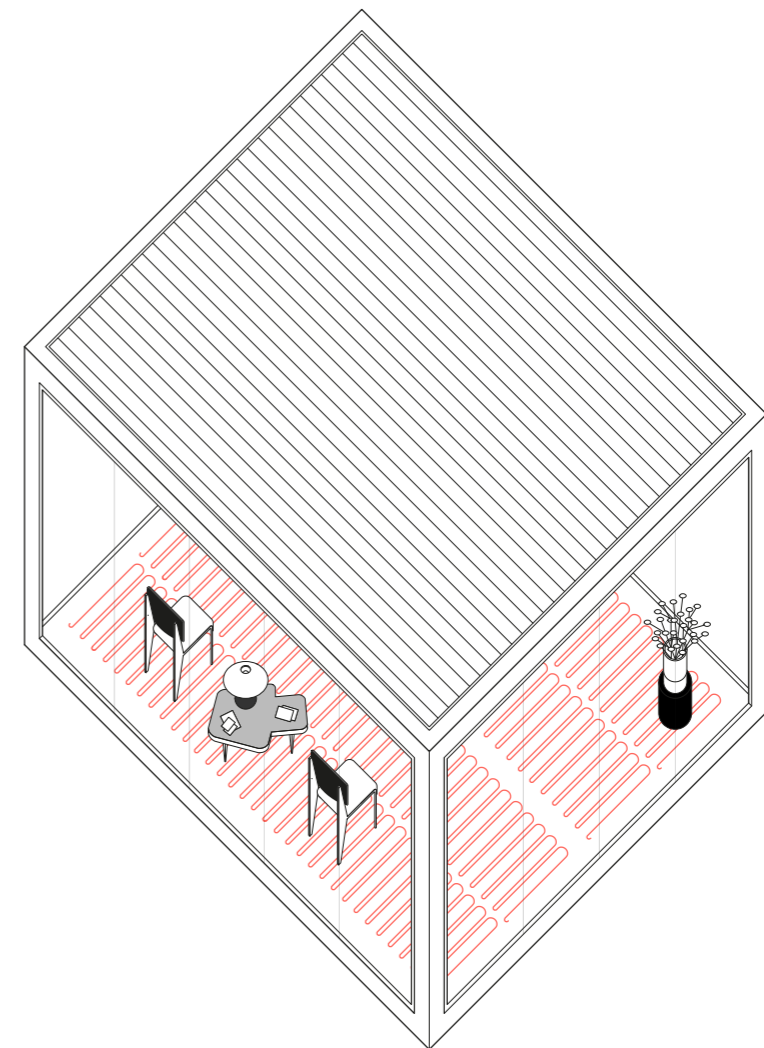
<b>Energy savings</b>	Reduced energy and operating costs compared to other systems operating under the same environmental conditions, thanks to the continuous modulation of the heat load supplied to the floor
<b>Architectural integration</b>	No environmental impact, aesthetic compatibility and complete reversibility with dismantling and restoration to the state of the site
<b>Regulation speed</b>	Very fast regulation times due to the absence of thermal inertia and high heat output capacity
<b>Comfort</b>	40°C surface temperature
<b>Ease of installation</b>	Reduced installation time, no invasiveness and continuity in the use of the environments
<b>Efficiency</b>	Higher heating capacity than comparable underfloor heating systems
<b>Safety</b>	Electric heating system with IPX7 "temporary immersion" protection rating
<b>No maintenance</b>	No maintenance activity
<b>Preservation</b>	Absence of hot air stratification phenomena responsible for energy losses and the deposit of soot and dust on walls, paintings and works of art
<b>Noise-free</b>	No noise emission
<b>Healthy air</b>	Reduced energy and operating costs compared to other systems operating under the same environmental conditions, with the possibility of even partial operation of the heated surface
<b>Electromagnetic compatibility</b>	Multi-thermal zone thermoregulation system with limit control of room temperature and radiant surface as well as start-up cascade management for load limitation at the meter

## CONTROL SYSTEMS

<b>Integrated adjustment</b>	Temperature control system with chrono-thermostatic control of room and radiant surface temperature with independent safety temperature limitation
<b>Remote control</b>	Remote management of functions from smartphones and tablets via internet connection

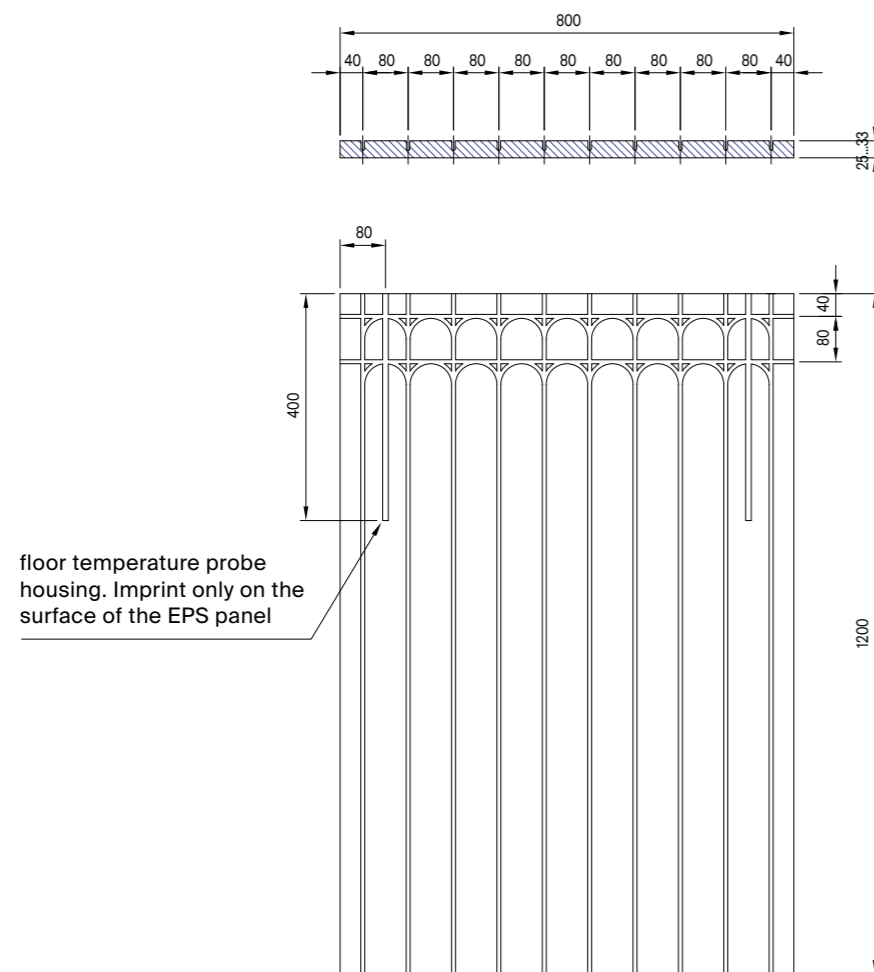
# How does it work?

**MORE FTA-e** is a radiant-type electric floor heating system, consisting of a modular insulation and heat exchange system, integrated with a low-voltage, resistive-type electric heating system with high specific power. The MORE FTA-e system is complete with a specific thermoregulation device that allows modulation of the heat load according to floor and room temperature.



# Features techniques

**MORE FTA-e** is an indoor and outdoor electric radiant heating system for non-ordinary rooms.



Modular insulating panel for dry installation of the FTA-e electric radiant system with aluminium heat distribution layer and tracks for heating element housing.

- 25 mm thickness recommended for interior installations (e.g. footboards in houses of worship)
- 33 mm thickness recommended for outdoor installations (Dehors)

## FTA-e SYSTEM

Minimum platform size	1,5 x 1,2	m
Max deliverable power	375	W/m <sup>2</sup>
Electrical circuit power supply	230	V AC
Electrical protection	IP X7	
Max. thermal resistance cladding	0,055	m <sup>2</sup> K/W
Max. cladding thickness	8	mm

## EPS INSULATING PANEL

Insulating material (according to UNI-EN 13163)	EPS 300	
Compressive strength (at 10% crushing)	$\sigma_{10} \leq 300$ CS (10)	kPa
Thermal conductivity A	0,033	W/mK
Reaction to fire EN 13501-1;2019	class E	Kg/m <sup>2</sup>
Panel size	1200 x 800	mm
Insulating thickness	25 / 33	mm
Heating cable laying spacing	80	mm
Heat-conducting material	aluminium	mm
Aluminium thickness	0,10	mm

## HEATING CABLE

Electrical power supply	230	V AC
Power absorbed	30	W/m
Cold cable	3 x 1,5	mm <sup>2</sup>
Hot cable (double conductor)	Ni-Cr / Cu	m
Earth braid	tin-plated copper	
Shielding	aluminium	
Conductor insulation	FEP	
Outer sheath insulation	PVC anti UV	
Hot cable outer diameter	7	mm
Cold cable outer diameter	8,5	mm
Curvature diameter	min 50	mm
Live operating temperature	max 60	°C
Permissible temperature without power supply	max 90	°C
Minimum installation temperature	-5	°C
Tensile strength	450	N
Resistance to deformation	1500	N
Electrical protection class	IP X7	

Hot cable length [m]	Rated power [W]	Resistance [Ohm]
27	830	63,7
34	1020	51,9
40	1250	42,3
45	1350	39,2
50	1440	36,7
55	1700	31,1
63	1860	28,4
70	2060	25,7
78	2340	22,3
85	2420	21,9
95	2930	18,1



# Features techniques

## CTR-e CHRONO THERMOSTAT

Electrical power supply	230	V AC
Absorption	0,3	W
Double-pole live contact	16	A
Dimensions (WxDxH)	86 x 86 x 17	mm
Remote connection	Wi-Fi	
Ambient temperature range	5...35	°C
Floor temperature range from remote probe	5...99	°C
Adjustable reset differential	da 1 a 9	°C
Precision	± 0,5	°C
Weekly settable time programmes	6 events/day	
Internal and external sensor	NTC 10k at 25°C	
External sensor cable length	3	m
Electrical protection class	IP 20	

## TR-e THERMOSTAT

Electrical power supply	24...240	V AC
Absorption	1,5	W
Regulation contact	NO 16	A
Alarm contact	NO 2	A
Dimension	2 DIN modules	
Temperature range	-25...130	°C
Temperature readout correction	-9...9	°C
Adjustable reset differential	1 to 30	°C
Internal and external sensor	NTC 10k a 25°C	
External sensor cable length	2,5	m
Electrical protection class	IP 20	

## REG-e TEMPERATURE CONTROLLER

Electrical power supply	240	V AC
absorption	2	VA
Temperature range	0...500	°C
precision	± 0,3	°C
n.1 Probe input	10 mV/°C	
n.1 SSR output	12 VDC 15 mA	
n.1 output for SPDT alarm	48V 2A	
Double-pole live contact	16	A
Size (WxDxH) 3 DIN modules	95 x 53 x 60	mm
Assembly	DIN rail	
Operating temperature range	-10...50	°C
Electrical protection class	IP 20	
Matched sensor	4/30VDC 5mA	
Probe reading range	0...150	°C
Sensor accuracy	1	%
Sensor cable length	1,5	m
External sensor size	Ø6 x 45	mm

# Technical features

## SSR1 STATIC RELAY

Electrical power supply	240	V AC
Absorption	3	VA
Switchable load - n.1 output contact	240V / 22A	
	0..10	V DC
Input signal with automatic acquisition	TRIAC	V DC
	3 mA	
TRIAC	40A 800V	
High temperature protection	Intervention 80	°C
Cooling fan	Fan 5V 0,15A	
Dissipation by switched load	1,3 W/A	
Size (WxDxH) 6 DIN modules	105 x 60 x 90	mm
Assembly	DIN rail	
Electrical protection class	IP 20	
Switchable load - 1 output contact		
Input signal with automatic acquisition	48÷440	V DC
	High temperature protection	A
Cooling fan	SSR 3÷24	V DC
	Dissipation by switched load	
Dimensions (WxDxH)	2 x 40A 800V	
Assembly	Intervention80	°C
Electrical protection class	NO	
Dissipazione per carico commutato	1,3 W/A	
Dimensione (LxPxH)	80 x 125 x 200	mm
Montaggio	Back panel	
Classe di protezione elettrica	IP 20	

## TRH-e MICRO THERMOSTAT

Contact	250V / 7A NC	
Dimensions (WxDxH)	18,5 x 7 x 3,5	mm
Tripping temperature	65	°C
Reset differential	-30±15	°C
Maximum temperature	150	°C
Wiring cable	2 x 0,5	mm <sup>2</sup>
	length 70	mm
Electrical protection class	IP 45	

Further technical information, specific installation and operating instructions, as well as information on programming the control equipment, can be found in the data sheets of the individual components making up the **FTA-e** system.

# Technical data sheet



Enter the qrcode  
to consult the  
data sheet

# Installation

The system requires no masonry work and, for this reason, can be used to cover valuable or historically valuable floors without damaging them.

MORE FTA-e is designed to provide thermal comfort in a flexible and practical way in various contexts, from residences to commercial spaces or temporary events.



Scan the qrcode  
to consult the  
installation manual

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**MORE**  
the wellbeing

**RBM MORE**

**Milan**

Via Solferino, 15  
20121 Milan (MI) Italy  
T. +39 0249631136

**Brescia**

Via Industriale, 12/14  
25075 Nave (BS) Italy  
T. + 39 0300984315

info@rbmmore.com

**rbmmore.com**

**RBM S.p.A.** Registered office: Via Industriale, 23 - 25060 S. Giovanni di Polaveno (BS) Italy - info@rbm.eu - www.rbm.eu  
Administrative headquarters: Via S. Giuseppe, 1 - 25075 Nave (BS) Italy - T. +39 0302537211 - Fax +39 0302531799  
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