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ENERPIA

F L O O R
H E A T I N G
C A B L E

SMART HEATING SYSTEM

*Smart heating
specialist*



ENERPIA strives to create
a warm and safe world.



ENERPIA
Smart heating specialist

It's not conventional heating
where only the upper air is warm
while the lower air is cold.



Eco-friendly Enerpia is at a different level
Make all your living spaces warm

*Smart heating
specialist*

ENERPIA

HEATING SYSTEM

We will even fill your heart with the
warmth from the floor.

You can lay down any concerns
about the cold even in the bitter
winter months!

Increase the value of energy and the environment!

High-efficiency, eco-friendly advanced heating system

Non-electromagnetic field heating line **Enerpia Heating Cable**

No need to worry about electromagnetic waves

70% More than of heating costs can be reduced, compared to oil heating.

The product is made in consideration of the environment and health.

Enerpia non-electromagnetic heating cable products, which consider customers and the environment, are used for various purposes in a number of spaces, such as floor heating, snow melting equipment, freeze protection, moisture prevention of electronic products, etc. using radiant heat from electric energy.

By blocking electromagnetic waves in the heating line, it is possible to provide healthier and more comfortable heating, and the optimized construction method allows safe and convenient installation in various field environments.



Why?

Why Enerpia Heating XL Pipe?



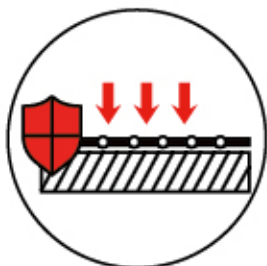
A product that implements **ondol-style heating** through an **electric floor heating system**.



All electrical energy is **converted into heat** for **100% use in actual heating**.



Heat accumulation effect guarantees **long heating with less energy usage**.



Due to the mortar construction method **it is safe against loads even when applied to a large space**



A heating system that does **not produce freeze, smoke, or gas**.



No noise and excellent space management as there is no boiler room.



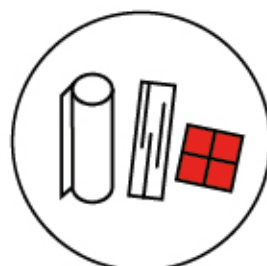
Blocking electromagnetic waves within heating cables
Healthy and comfortable heating



Safe usage **without additional maintenance**.



Reduces construction costs due to its short construction time as **equipment piping is not required**.



Any floor finishing materials can be used.

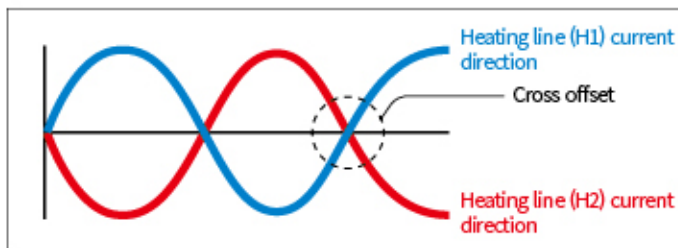


Reduces unnecessary heating costs by using partial heating.

No need to worry about electromagnetic wave thanks to **non-electromagnetic heating line** !

Enerpia Non-Electromagnetic Heating Cable

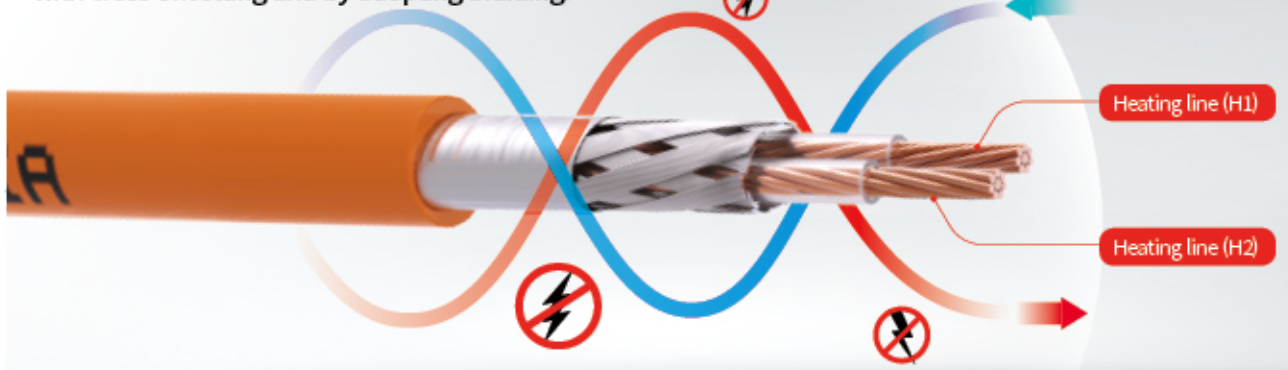
| Electromagnetic wave blocking principle of non-electromagnetic heating cable



Non-magnetic heating line that is made using the principle of magnetic field crossing in opposite directions !

The principle is that H1 and H2 heating lines with currents flowing in the opposite directions will offset the opposing magnetic fields and prevent them from flowing out.

The opposing magnetic fields of the two heating lines completely block the electromagnetic waves with cross offsetting and by adopting braiding!



Quality and A/S guaranteed when a genuine product serial number is registered

Smart factory system

Enerpia is committed to guaranteeing the quality of all delivered products.

If you register your Enerpia genuine serial number, you can safely receive services, where we provide quality assurance through agent companies in each country.

- ✓ The manufacturing process and product tests can be checked in person.
- ✓ Quick and accurate A/S is guaranteed

※ An **individual bar code is printed** on all Enerpia products using the production system in which the ICT combined with a digital automation solution is applied.

Eco-friendly advanced heating system

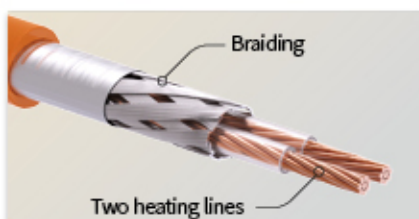
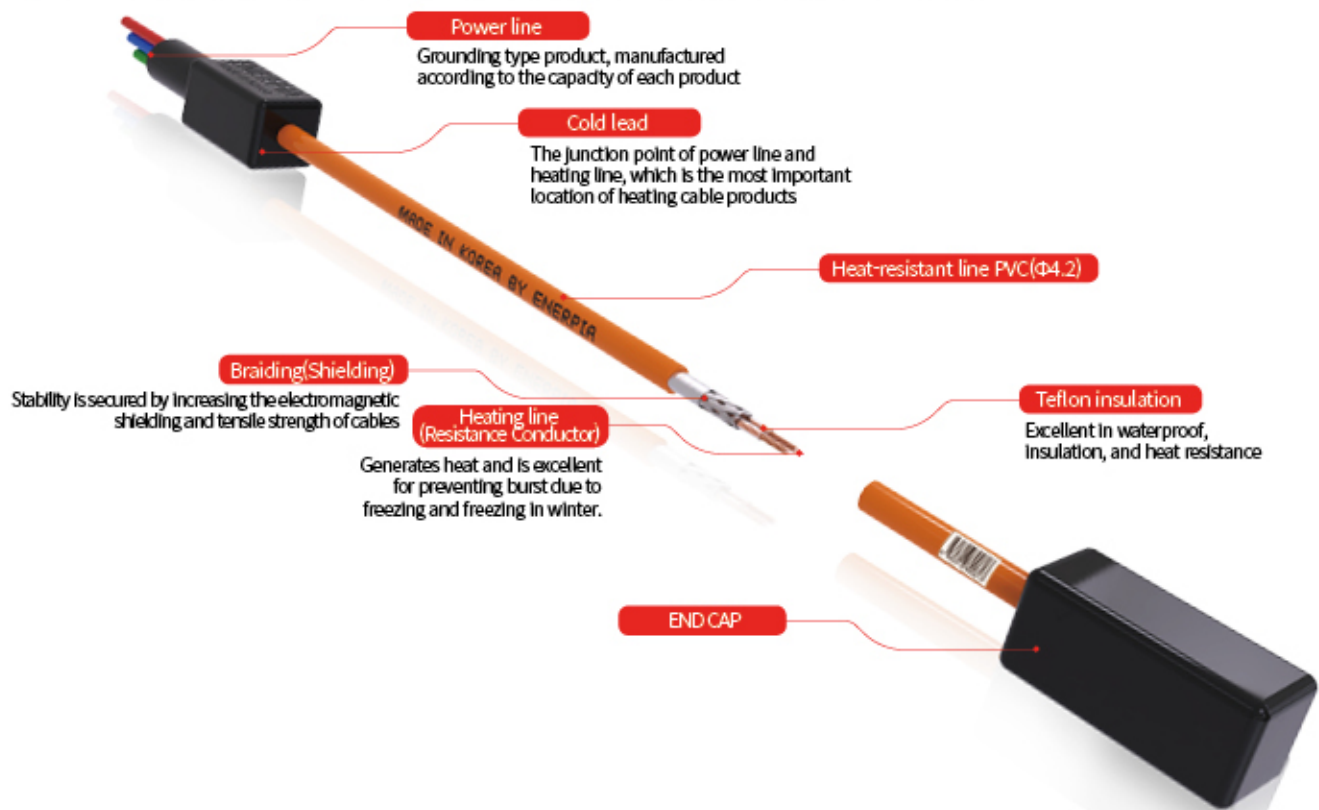
Enerpia Non-Electromagnetic Heating Cable

Non-electromagnetic heating cable has higher heat resistance by insulating the primary insulation with Teflon.

By combining two heating lines and braiding, we have secured stability by shielding electromagnetic waves and increasing the tensile strength of cables.

Eco-friendly advanced heating system that maximizes the heating efficiency by using generated heat and expansion pressure.

| Structure of non-electromagnetic heating cable (UT Type)



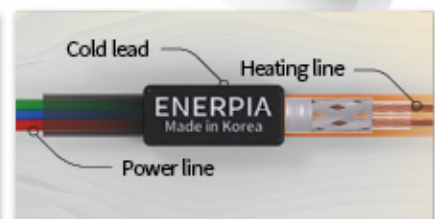
Zero electromagnetic waves

Two heating lines, which have the same amplitude and wavelength but opposite directions of current, offset the magnetic field and block the electric field by adopting braiding to completely block electromagnetic waves.



Teflon insulation

Insulated with Teflon, an unsaturated resin, with excellent waterproof, insulation, and heat resistance



Cold lead

The junction point of the power line and the heating line, which is the most important location of the heating cable, has excellent durability, moisture-proof, and insulation

Eco-friendly advanced heating system

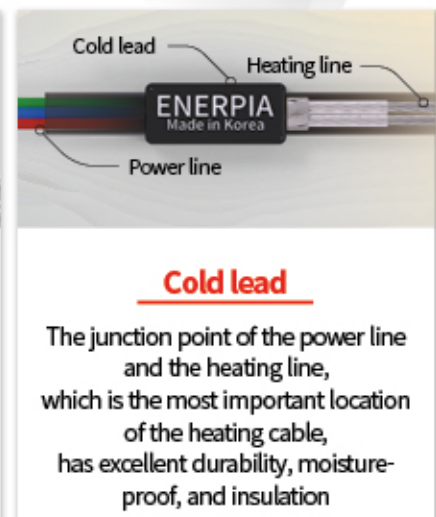
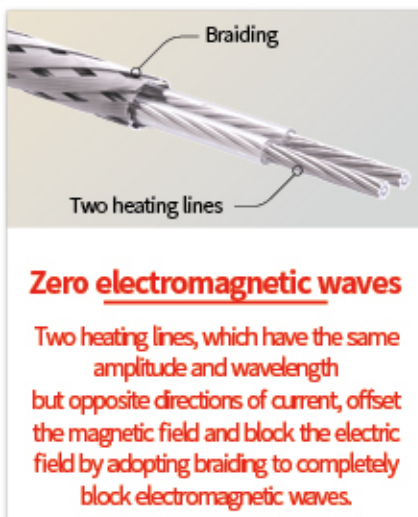
Enerpia Non-Electromagnetic Heating Cable

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Eco-friendly advanced heating system that maximizes the heating efficiency by using generated heat and expansion pressure.

| Structure of non-electromagnetic heating cable (CT Type)



Eco-friendly advanced heating system

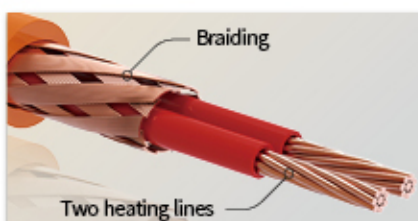
Enerpia Non-Electromagnetic Heating Cable

Non-electromagnetic heating cable has higher heat resistance by insulating the primary insulation with silicone.

By combining two heating lines and braiding, we have secured stability by shielding electromagnetic waves and increasing the tensile strength of cables.

Eco-friendly advanced heating system that maximizes the heating efficiency by using generated heat and expansion pressure.

| Structure of non-electromagnetic heating cable (L Type)



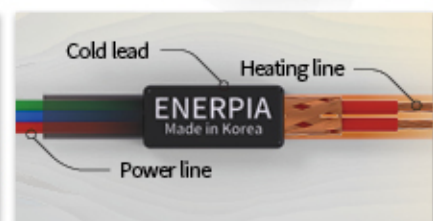
Zero electromagnetic waves

Two heating lines, which have the same amplitude and wavelength but opposite directions of current, offset the magnetic field and block the electric field by adopting braiding to completely block electromagnetic waves.



Silicone insulation

Excellent elasticity and restoring force withstands high temperatures (200°C) with excellent insulation performance



Cold lead

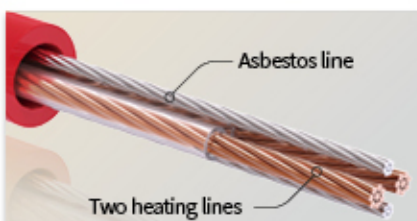
The junction point of the power line and the heating line, which is the most important location of the heating cable, has excellent durability, moisture-proof, and insulation

Eco-friendly advanced heating system Enerpia Non-Electromagnetic Heating Cable

Non-electromagnetic heating cable has higher heat resistance by insulating the primary insulation with Teflon. By combining two heating and asbestos lines, we can further reduce the electric and magnetic fields.

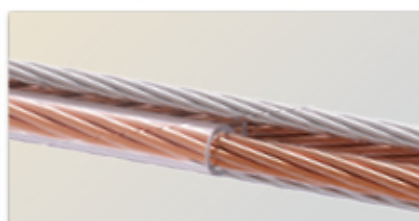
Eco-friendly advanced heating system that maximizes the heating efficiency by using generated heat and expansion pressure.

| Structure of non-electromagnetic heating cable (V Type)



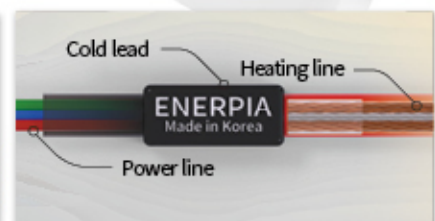
Zero electromagnetic waves

Two heating lines, which have the same amplitude and wavelength but opposite directions of current, offset the magnetic field and block the electric field by adopting braiding to completely block electromagnetic waves.



Teflon insulation

Insulated with Teflon, an unsaturated resin, with excellent waterproof, insulation, and heat resistance




Cold lead

The junction point of the power line and the heating line, which is the most important location of the heating cable, has excellent durability, moisture-proof, and insulation

Various product specifications depending on the heating area



Specifications of Heating cable

Dual core(UT type)					
Type	Core	Outer Diameter	No. of W per M	Color	Cold lead
UT Type	Dual core	Ø4.2mm	20W/m		Tube type
Model no.	Power consumption		Length	Exclusive area (Korea)	
EP20W10UT	200Wh		10M	0.5Py	
EP20W15UT	300Wh		15M	1Py	
EP20W20UT	400Wh		20M	1.5Py	
EP20W30UT	600Wh		30M	2Py	
EP20W35UT	700Wh		35M	2.5Py	
EP20W40UT	800Wh		40M	3Py	
EP20W45UT	900Wh		45M	3.5Py	
EP20W50UT	1,000Wh		50M	4Py	
EP20W60UT	1,200Wh		60M	5Py	
EP20W70UT	1,400Wh		70M	6Py	
EP20W80UT	1,600Wh		80M	7Py	
EP20W90UT	1,800Wh		90M	8Py	
EP20W100UT	2,000Wh		100M	9Py	
EP20W120UT	2,400Wh		120M	11Py	
EP20W140UT	2,800Wh		140M	13Py	

※ The space intervals of cables shall be constructed at intervals of 7 to 15cm according to the use and conditions of the site.

※ Product specifications (voltage, power consumption, heating area) and product structure can be customized.

Various product specifications depending on the heating area



Specifications of Heating cable

Dual core(CT type)					
Type	Core	Outer Diameter	No. of W per M	Color	Cold lead
CT Type	Dual core	Ø5.5mm	20W/m	●	Tube type
Model no.	Power consumption		Length	Exclusive area (Korea)	
EP20W14CT	280Wh		14M	0.5Py	
EP20W21CT	420Wh		21M	1.5Py	
EP20W29CT	580Wh		29M	2Py	
EP20W35CT	700Wh		35M	2.5Py	
EP20W49CT	980Wh		49M	3.5Py	
EP20W56CT	1,120Wh		56M	4Py	
EP20W70CT	1,400Wh		70M	5Py	
EP20W87CT	1,740Wh		87M	2.9Py	
EP20W105CT	2,100Wh		105M	7.5Py	
EP20W122CT	2,440Wh		122M	3.5Py	
EP20W140CT	2,800Wh		140M	10Py	

※ The space intervals of cables shall be constructed at intervals of 7 to 15cm according to the use and conditions of the site.

※ Product specifications (voltage, power consumption, heating area) and product structure can be customized.

Various product specifications depending on the heating area



Specifications of Heating cable

Dual core(LT type)					
Type	Core	Outer Diameter	No. of W per M	Color	Cold lead
LT Type	Dual core	Ø4.2mm	17W/m	●	Tube type
Model no.	Power consumption		Length	Exclusive area (Korea)	
EP17W10LT	170Wh		10M	0.5Py	
EP17W15LT	255Wh		15M	0.6Py	
EP17W20LT	340Wh		20M	1.5Py	
EP17W25LT	425Wh		25M	2Py	
EP17W30LT	510Wh		30M	2.5Py	
EP17W40LT	680Wh		40M	3Py	
EP17W50LT	850Wh		50M	3.5Py	
EP17W60LT	1,020Wh		60M	4Py	
EP17W70LT	1,190Wh		70M	5Py	
EP17W80LT	1,360Wh		80M	6Py	
EP17W90LT	1,530Wh		90M	7Py	
EP17W100LT	1,700Wh		100M	7.5Py	
EP17W120LT	2,040Wh		120M	9Py	
EP17W140LT	2,380Wh		140M	11Py	
EP17W160LT	2,720Wh		160M	12Py	


※ The space intervals of cables shall be constructed at intervals of 7 to 15cm according to the use and conditions of the site.

※ Product specifications (voltage, power consumption, heating area) and product structure can be customized.

Various product specifications depending on the heating area



Specifications of Heating cable

Dual core(L type)					
Type	Core	Outer Diameter	No. of W per M	Color	Cold lead
L Type	Dual core	Ø7.5mm	25W/m		Injection type
Model no.	Power consumption		Length	Exclusive area (Korea)	
EP25W11L	275Wh		11M	0.5Py	
EP25W22L	550Wh		22M	1Py	
EP25W33L	825Wh		33M	1.5Py	
EP25W44L	1,100Wh		44M	2Py	
EP25W55L	1,375Wh		55M	2.5Py	
EP25W66L	1,650Wh		66M	3Py	
EP25W77L	1,925Wh		77M	3.5Py	
EP25W88L	2,200Wh		88M	4Py	
EP25W110L	2,750Wh		110M	5Py	


※ The space intervals of cables shall be constructed at intervals of 7 to 15cm according to the use and conditions of the site.

※ Product specifications (voltage, power consumption, heating area) and product structure can be customized.

Various product specifications depending on the heating area



Specifications of Heating cable

Dual core(V type)					
Type	Core	Outer Diameter	No. of W per M	Color	Cold lead
V Type	Dual core	Ø6.8mm	20W/m		Injection type
Model no.	Power consumption		Length	Exclusive area (Korea)	
EP20W24V	480Wh		24M	2Py	
EP20W36V	720Wh		36M	3Py	
EP20W48V	960Wh		48M	4Py	
EP20W60V	1,200Wh		60M	5Py	
EP20W72V	1,440Wh		72M	7Py	
EP20W84V	1,680Wh		84M	7.5Py	
EP20W96V	1,920Wh		96M	8Py	
EP20W120V	2,400Wh		120M	10Py	
EP20W145V	2,900Wh		145M	13Py	

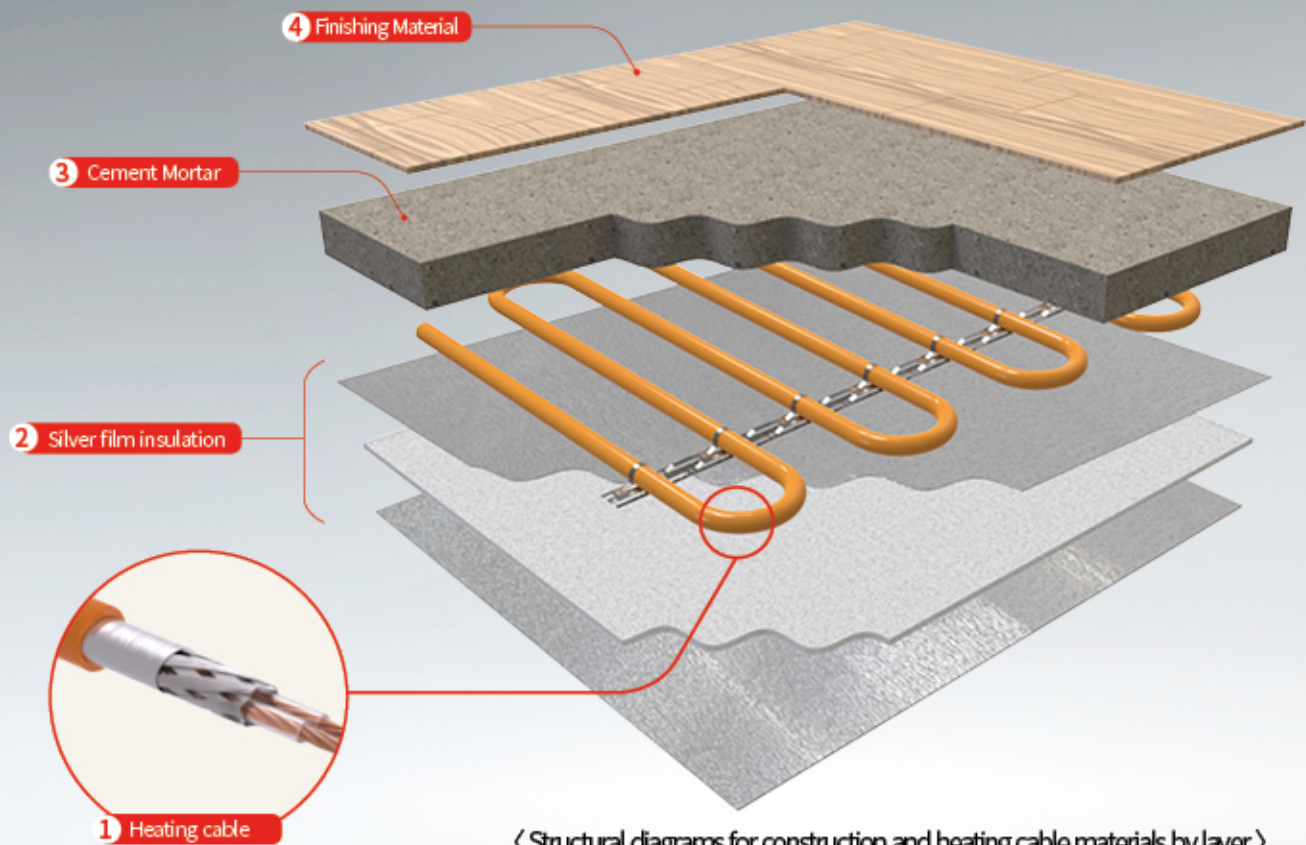
※ The space intervals of cables shall be constructed at intervals of 7 to 15cm according to the use and conditions of the site.

※ Product specifications (voltage, power consumption, heating area) and product structure can be customized.

No problem in any environment! Can be installed anywhere you want

Smart heating specialist

The amount of heat can be adjusted according to the environment, making it easy to use in various places. Central control and partial heating are also available.



1

Heating cable

The cable is buried under the covering surface and is able to sense the temperature and humidity automatically during installation. This allows the cable to be used for various purposes in a variety of spaces such as floor heating in winter, snow melting equipment, freeze protection, and moisture prevention of electronic products.

2

Silver film insulation

It ensures a high level of heat quantity and keeps the temperature warm and long.

3

Cement mortar

The thickness of the mortar layer may vary depending on the finishing material.

4

Finishing material

Finishing and decorative material on the external surface.

Heating cable that can be installed in various fields!





Product comparison and testing

This is an innovative work that replaces the existing high-cost, low-efficiency heating system with non-electromagnetic heating cable heating in a buried form with excellent thermal efficiency using radiant heat from electric energy. It is a convenient eco-friendly ondol(floor heating) heating system that makes a pleasant and comfortable indoor environment. As it is not affected by limited spaces or poor flooring conditions, the heating cable can be applied not only to indoor use, but also to various outdoor applications, such as melting snow on the road, roof heating, and protecting pipes from bursting caused by freezing.

Comparison : Non-electromagnetic heating cable vs. ordinary boiler

Item	Ordinary boiler	Heating cable	Remarks
Construction method	Wet type	Wet type , Dry type	Single construction/ available (dry type)
Construction	Boiler room	Space required	Space not required
	Heating pipe	External exposure	No
	Construction period	4~5 days	1~2 days
	Load per pyung	Approx. 240kg	4~240kg
Operation	Maintenance	Continuous need	Unnecessary
	A/S	Continuous maintenance	Little or no need
	Durability	5~6 years	Semi-permanent life span
	Energy efficiency	Poor	Excellent
	Prone to burst by freezing	Possible	No
	Floor repair	Large scale repair (need to dismantle)	Moderate repair
	Maintenance cost	High	Low
	Re-modeling	Many constraints	Easy

Comparison : Non-electromagnetic heating cable vs. PE product

Item	Heating cable	PE product
Photo	 	 
Comparison	Has more superior strength and physical properties than general organic rubbers, does not burn easily, and does not contain halogen elements, meaning no toxic gas is generated during combustion.	Weak performance at high temperature and high pressure, and burns easily.

Smart heating
specialist

ENERPIA HEATING SYSTEM



Enerpia Heating Cable, A Patented Technology

Patents And Utility Models of
Enerpia Heating cable



Certificates of
Enerpia Heating cable



Certificate Of Patent
(No. 10-1292327)



Utility Model
(No. 20-0412561)



Russia GOST Standard



CE

A company you can trust! Enerpia

Certificates of Enerpia



Certificate Of Patent
(No. 10-1746775)



Letter of Q-Mark
designation



Russia GOST Standard



CU (Russia compulsory
certification)



CE



G-PASS certificate



Quality management
system certificate



Environmental management
system certificate



Certificate of the
company-affiliated
research institute



Letter of designating as
a promising export SME



Letter of pre-star
company designation



Membership card of
the Korea International
Trade Association



Design registration
certificate



Design Registration/
Inno-Biz



Certificate of the
company specialized in
material parts

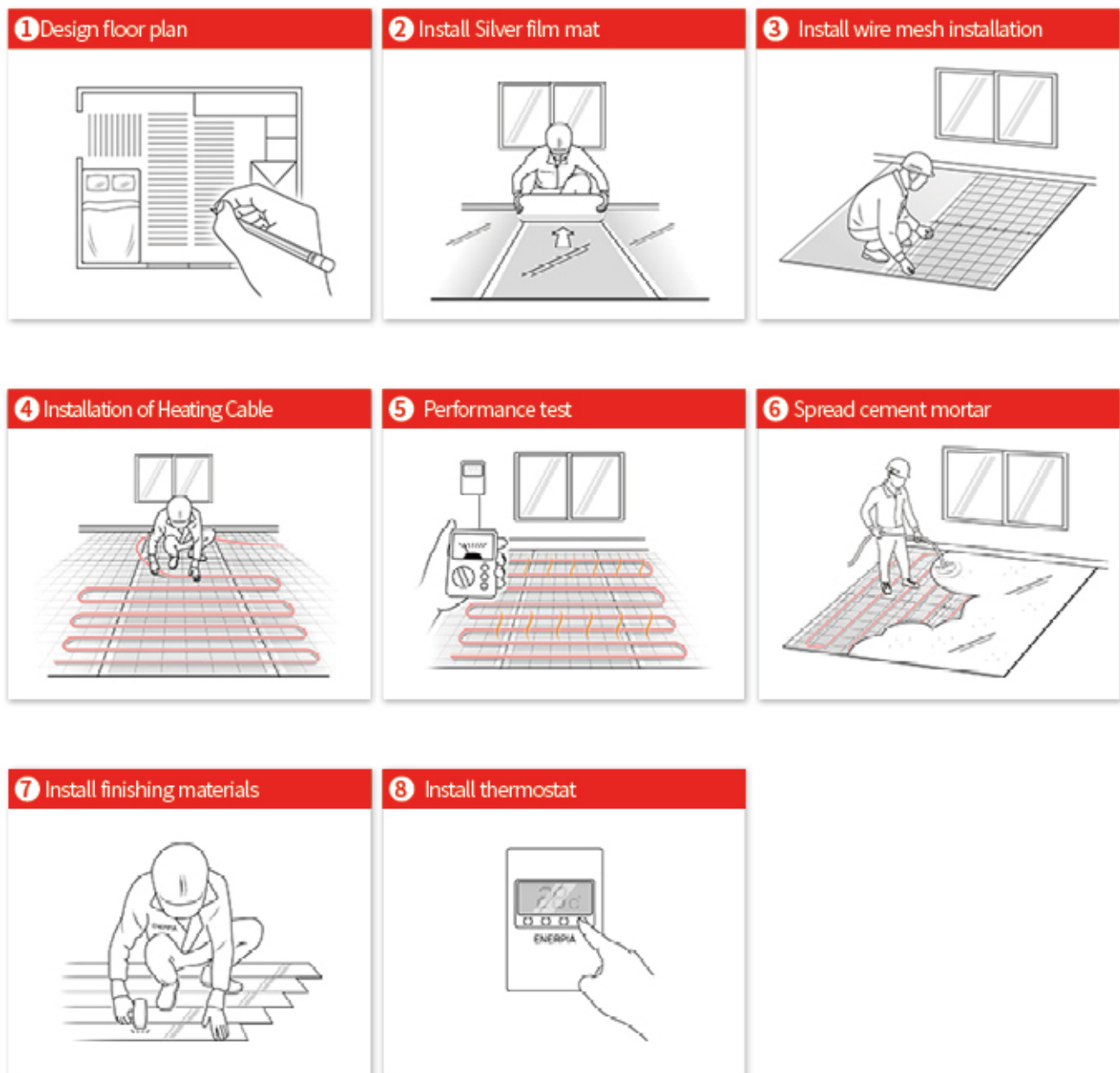


Venture company
certificate

The only Company in the Field That carries out the whole process of Manufacturing to Construction

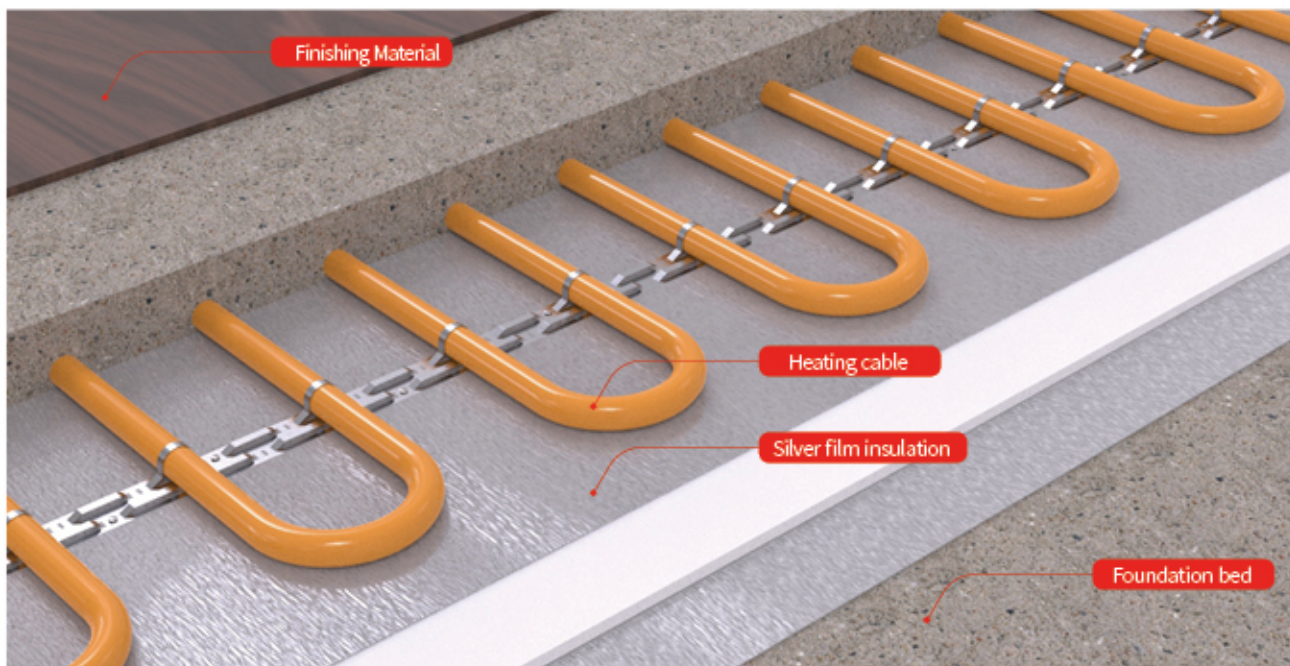
| Construction method

Enerpia provides convenience to our customers with our total solution - from design to repairs after construction completion.

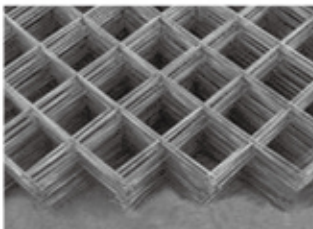


Structural plan of the Enerpia Non-Electromagnetic Heating Cable

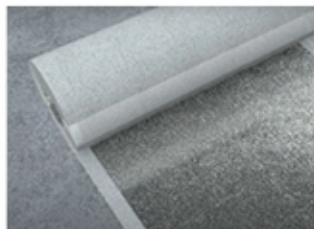
| Wet type (cement mortar) structural diagram



| Important sub-components of Heating cable



Wire mesh



Silver film insulation



temperature sensor



Climate controller



FLOOR HEATING CABLE



Choose Enerpia for your EP board.

Enerpia thermostat

It is a controller that can adjust temperature and time for the electric floor heating, and can also be changed into an individual type or communication type according to the capacity, facility, and site.

Recommended thermostat

UTH-170	
Type	Digital Type
Temperature range	-20°C ~ 80°C (Temperature range can be changed.)
Input power	AC 85V ~ AC 265V (SMPS method)
Number of circuits	Individual 1 circuit
Allowable current	1 heating * 18A
Load capacity	4KW
Construction type	Exposed type
Size	70(W) X 120(H) X 27(D)
Display Type	High luminance yellow FND (present temperature, set temperature display), LED (status display)
Processor Type	Sensor type (NTC 5K Ω) /Timer setting available/ Intensity type setting available/Control using a wireless remote control
Option	#1: Excess sensor (optional) #2: Error message alert function (Temperature range settings can be changed.), Output blocking #3: Excess sensor (An output blocking error message is displayed if excess occurs.)



UTH-200	
Type	Digital Type
Temperature range	0°C ~ 80 °C (Temperature range can be changed.)
Input power	AC 85V ~ AC 265V (SMPS method)
Number of circuits	Individual 1 circuit
Allowable current	1 heating * 18A
Load capacity	4KW
Construction type	Exposed type
Size	70(W) X 120(H) X 27(D)
Display Type	High luminance yellow FND (present temperature, set temperature display), LED (status display)
Processor Type	Sensor type (NTC 5K Ω) /Timer setting available/ Intensity type setting available/Control using a wireless remote control
Option	#1: Excess sensor (optional) #2: Error message alert function (Temperature range settings can be changed.), Output blocking #3: Excess sensor (An output blocking error message is displayed if excess occurs.)



Choose Enerpia for your EP board.

Enerpia thermostat

It is a controller that can adjust temperature and time for the electric floor heating, and can also be changed into an individual type or communication type according to the capacity, facility, and site.



| Recommended thermostat

UTH-300	
Type	Digital Type
Temperature range	-20°C ~80°C (Temperature range can be changed.)
Input power	AC 85V ~ AC 265V (SMPS method)
Number of circuits	Individual 2 circuit
Allowable current	2heating * 16A(total 32A)
Load capacity	6KW
Construction type	Exposed type
Size	120(W) X 120(H) X 34(D)
Display Type	High luminance yellow FND (present temperature, set temperature display), LED (status display)
Processor Type	Sensor type (NTC 5K Ω) / Timer setting available
Option	#1: When an error occurs A warning buzzer sound is generated. #2: Excess sensor (optional) #3: Error message generation function (Temperature range setting can be changed.), output blocking #4: Excess prevention sensor is attached inside the regulator (overheating prevention)





Enerpia continues to
make warm spaces.

*Smart heating
specialist*

Keep your floor and space warm while reducing costs with Enerpia electric floor heating. The non-electromagnetic heating cable has a heat storage effect, and the longer it is used, the more economical it becomes.

| Installation recommended in various places.



Religious facilities



Accommodations



Educational facilities



Lecture rooms



Apartments/houses



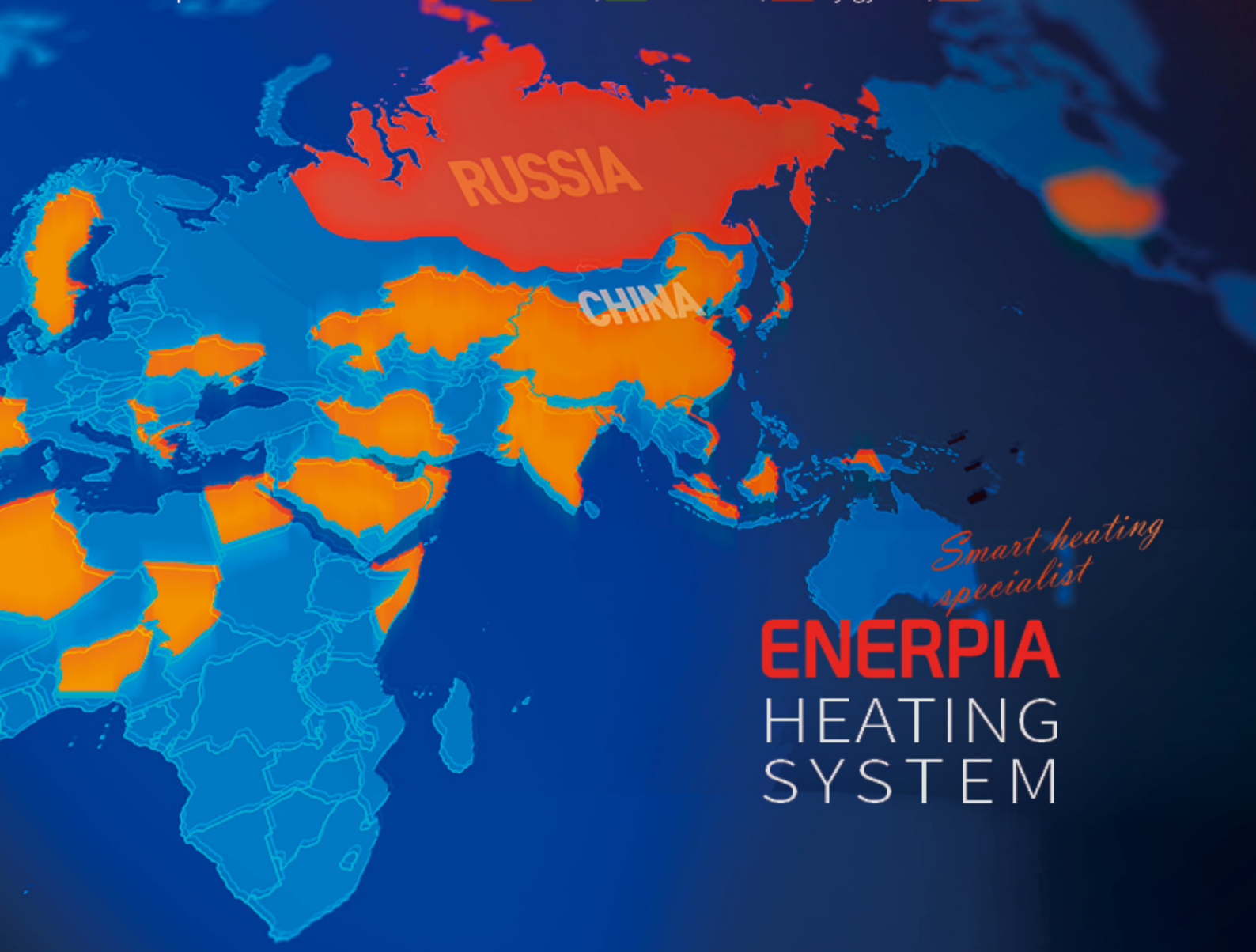
Restaurants

The center of global connection!
It all starts here, in **Korea.**

Enerpia is a global company
that has **successfully entered
markets in 28 countries.**

Enerpia is a **global company** that has successfully entered markets in
28 countries including Russia and Europe.

Enerpia established local factories in  China,  Uzbekistan,  Kyrgyzstan,  Russia.



*Smart heating
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ENERPIA HEATING SYSTEM

The only company in the industry that both
manufactures and constructs the product

Enerpia provides convenience to our
customers with our total solution - from design
to repairs after construction completion.



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