



The World Best

ENERPIA Co.,Ltd.

Installation instructions

Underfloor Heating Cable

Before installation, carefully read this manual and prepare the required products.

Head office #349-13, Samunjin-ro, Hwawon-eup,
Dalseong-gun, Daegu, Korea
TEL. +82-53-474-8050
FAX. +82-53-473-8050
E-mail. info@enerpia.co.kr
WEB. www.enerpia.com

China Corporation In Seogwakjang Industrial Complex,
Cheongyang-gu, Cheongdo-si,
Sandong-seong, China
WEB. www.enerpia.com

 The World Best
ENERPIA Co.,Ltd.

Underfloor Heating cable Installation instructions

1 General instructions

- 1) **Application scope** This specification is about the heating cable installation, and it is applied to the installation construction.
- 2) **Applied rules** Underfloor Heating cable's power connection work: electric work
- 3) **Related specifications** The details other than those mentioned in this specification, which are related to the construction, follow the housing construction special specifications.

2 Materials



■ Underfloor Heating cable



■ Insulation



■ Wire mesh



■ Temperature sensor



■ Thermostat

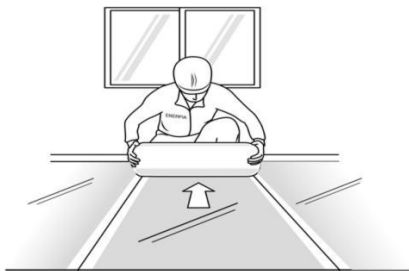
- 1) Heating cable: uses non-electronic, non-magnetic type products that are harmless to human body.
- 2) The lifespan of the heat generation cable depends on the lifespan of the heating cable, so make sure to check the lifespan and durability of the heating wire (conductor).
- 3) There are a lot of customer service request due to the disconnection of heating cable and power cable, so use a product with good durability of cold lead.
- 4) Grounding cable reduce electric field and is directly related to the safety such as fire, etc., so use a product with the grounding cable.

3 Construction

Precheck

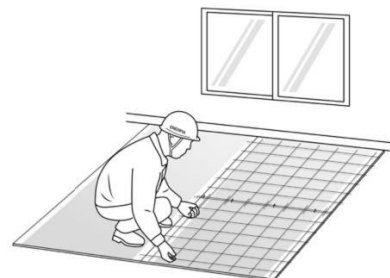
Over 50mm of Compressed styrofoam should be laid over 50mm of bubble concrete or in case of general plaster.

1) Insulation installation



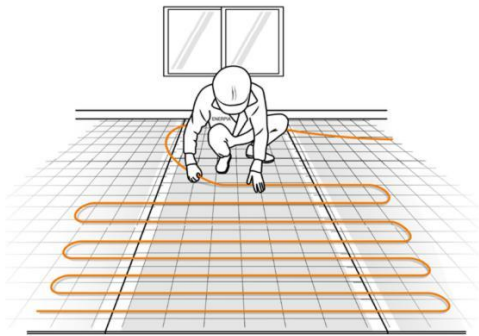
- ① Have the silver foil (Artiron) face the floor side and place 3~5mm foam insulation material.
- ② At this time, make contact with the floor during the mortar work by having gap of 5~10cm with the wall.

2) Wire mesh installation



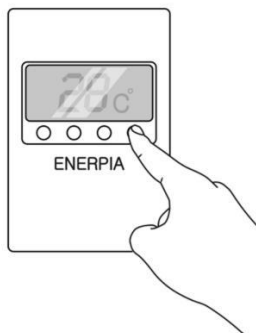
- ① On top of the insulation material, place wire mesh on the entire floor and firmly fix the connection part with tie or wire.

3) Install Underfloor Heating cable



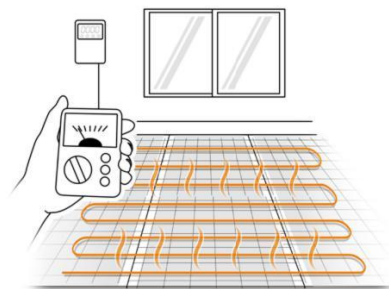
- ① Construct heating cable at regular interval by fixing with cable tie or OPP tape (do not use wire).
- ② Pitch (interval): Min. 7cm, Max. 15cm (different according to the mortar thickness and usage)
- ③ Work the heating cable start part (power cable) and finish part (cold lead) to return to the same location if possible.
- ④ Never cut the heating cable and dismantle or change the connection part.
- ⑤ For connecting the products, connect with the same colors in parallel, and install by considering the entering cable and controller's capacity.

4) Thermostat installation



- ① Construct the plug with the direction of IN → socket.
- ② Be careful of the insulation and moisture-proof with the direction of OUT → cable.
- ③ Use exclusive wet type for temperature sensor and fix it to the heating cable.

5) Heat generation test and trial operation



- ① Measure the load current on the load side using current meter after connecting temperature controller, and carry out heat generation test. (Check if current (A) * voltage (V) match the power consumption (W) of the product.)
- ② If existing socket is used, the power cable connection shall be used within Max. of 15A. (General socket capacity is 15A)
- ③ After completing the construction, arrange the cable tie protrusion parts and clean the surrounding.
- ④ Deliver after explaining the heat generation status and how to use the controller to the consumer and the mortar construction company.

6) Cement mortar



- ① Mortar (plastering) thickness depends on the finishing material.
- ② After mortar is completely dried, apply the power and use the product.

| Finishing material type | Mortar thickness |
|------------------------------|------------------|
| Linoleum | 30mm |
| Tile, wood tile, ondol floor | 25mm |

※ Note

1. Make sure to avoid the works such as driving nail or anchor bolt on wood floor, floor, or mortar
2. During the electricity work, use only the rated 220V voltage
3. Never cut, extend, disassemble, or process the heating cable
4. Make sure to avoid the work that may cause overload to the product
5. Do not have heating cables overlap or cross each other at any point

4 Underfloor Heating cable specification

- Heating cable (Dual), non magnetic system, non electricity system, Ø7.5mm, 220V, 25W/m grounding type

| Classification | Specification | Power consumption |
|----------------|---------------------|-------------------|
| EP25W11L | 11M * 25W * Ø7.5mm | 275W |
| EP25W22L | 22M * 25W * Ø7.5mm | 550W |
| EP25W33L | 33M * 25W * Ø7.5mm | 825W |
| EP25W44L | 44M * 25W * Ø7.5mm | 1100W |
| EP25W55L | 55M * 25W * Ø7.5mm | 1375W |
| EP25W66L | 66M * 25W * Ø7.5mm | 1650W |
| EP25W77L | 77M * 25W * Ø7.5mm | 1925W |
| EP25W88L | 88M * 25W * Ø7.5mm | 2200W |
| EP25W110L | 110M * 25W * Ø7.5mm | 2750W |

- Heating cable(Single), non magnetic system, non electricity system, Ø5.5mm, 220V, 25W/m

| Classification | Specification | Power consumption |
|----------------|---------------------|-------------------|
| EP20W14C | 14M * 20W * Ø5.5mm | 280W |
| EP20W21C | 21M * 20W * Ø5.5mm | 420W |
| EP20W29C | 29M * 20W * Ø5.5mm | 580W |
| EP20W35C | 35M * 20W * Ø5.5mm | 700W |
| EP20W49C | 49M * 20W * Ø5.5mm | 980W |
| EP20W56C | 56M * 20W * Ø5.5mm | 1120W |
| EP20W70C | 70M * 20W * Ø5.5mm | 1400W |
| EP20W105C | 105M * 20W * Ø5.5mm | 2100W |
| EP20W140C | 140M * 20W * Ø5.5mm | 2800W |

5 Application standard of Underfloor Heating cable for each facility (usage)

| Facility (usage) | Construction is recommended | Heat generation rate |
|--|-----------------------------|----------------------|
| House, lodging facility | 550W/py | 480kcal |
| Restroom, corridor | 450W/py | 390kcal |
| Business facility (restaurant, office) | 600W/py | 520kcal |
| Nursing home, daycare center | 600W/py | 520kcal |

* The above table may be different according to insulation condition or usage condition.

Underfloor Heating cable construction cross-sectional diagram

