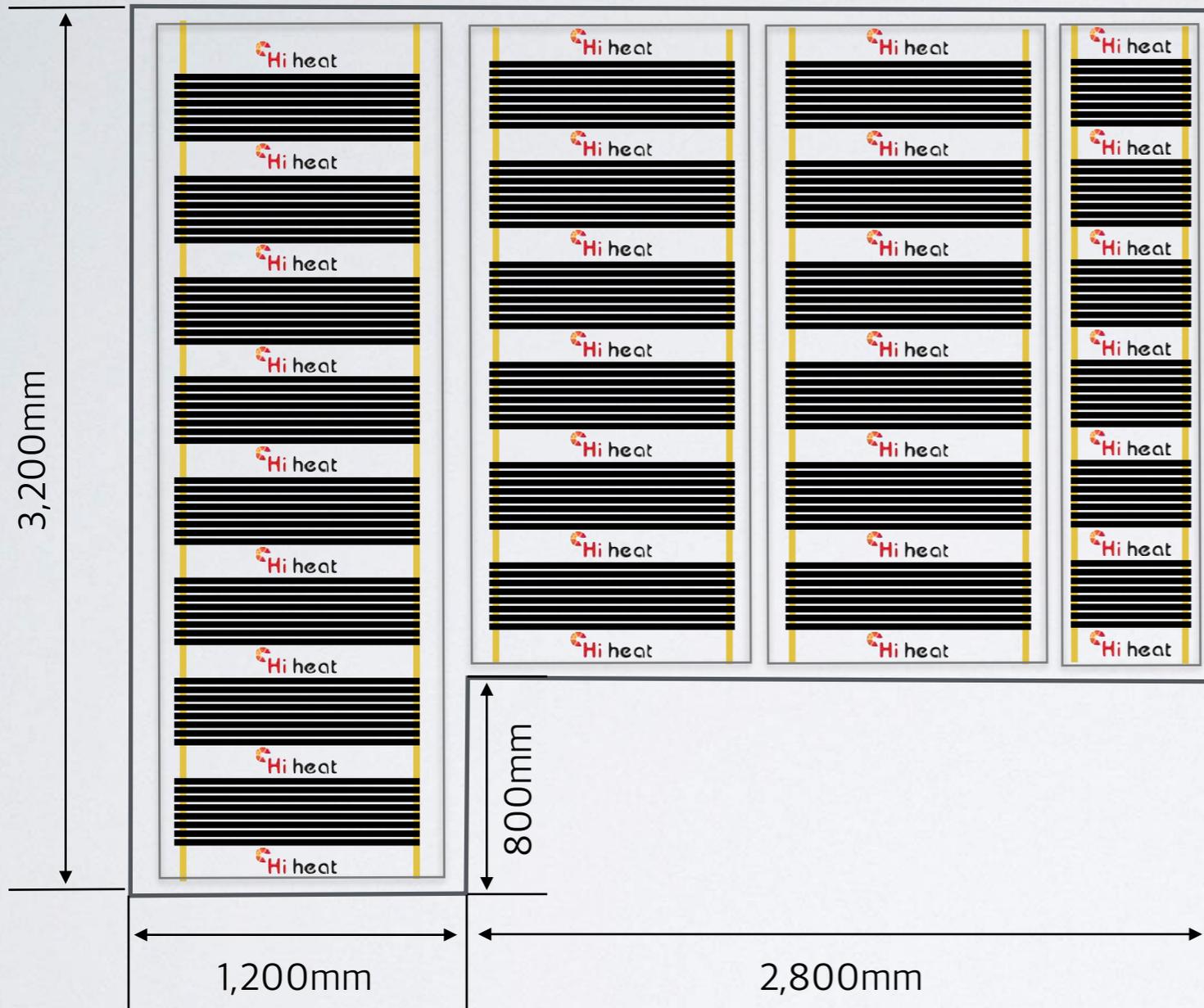


Infraraudonųjų spindulių grindų šildymas

Installation Manual

Planing Installation (M & T - Series)



❖ A Case for 220V

- A row of 310 ($3m * 220W = 660W$)
- 2 rows of 310 ($2.2m * 220W * 2rows = 968W$)
- A row of 305 ($2.2m * 110W = 242W$)

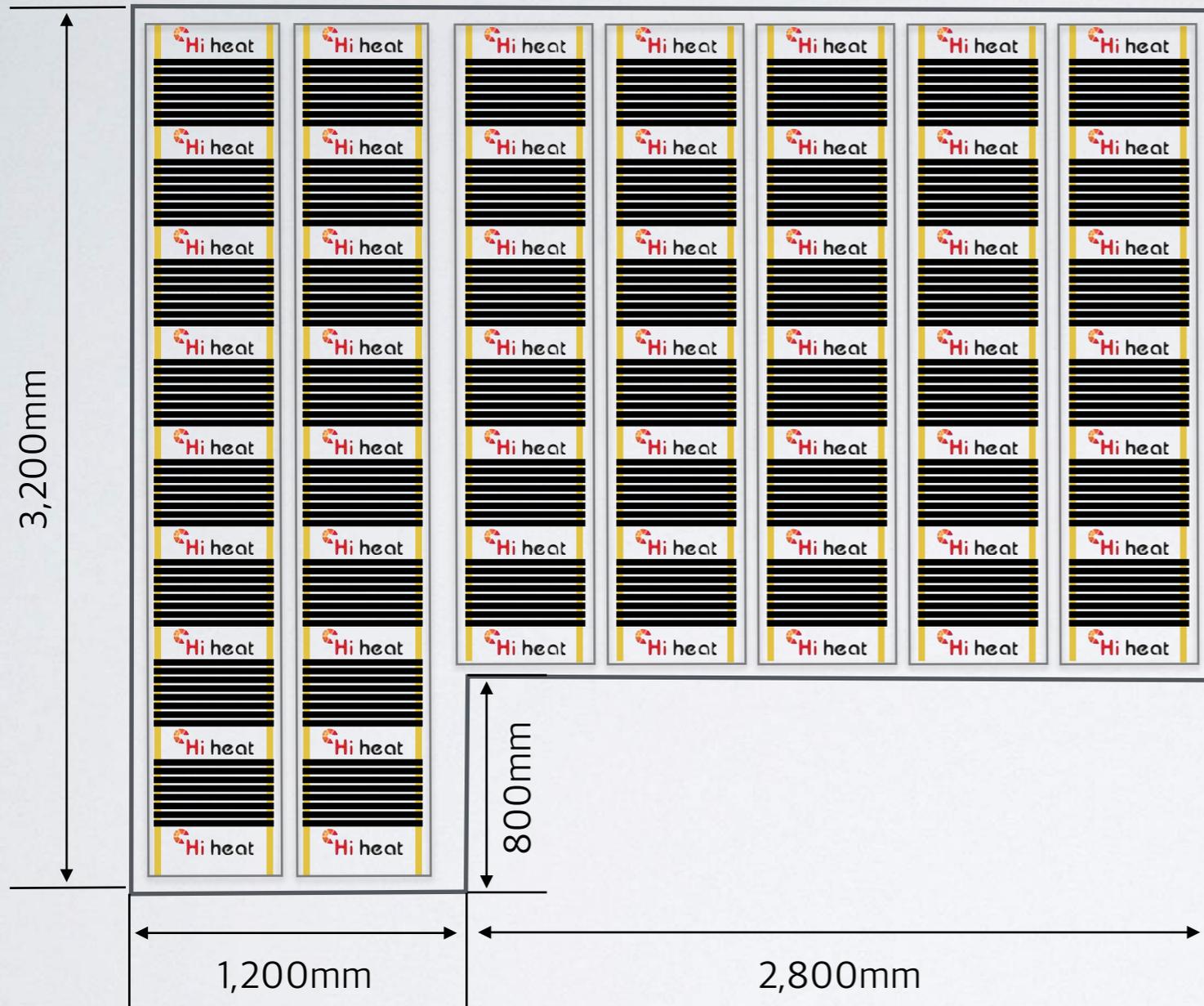
Total : 1,870W ($1,870W / 220V = 8.5A$) ★

- Please prepare a thermostat and circuit breaker (Bigger than above 8.5A)

❖ Tips!!

This room is 10sqm. The proper heating area is 80~90% of the room. It means that you need 8~9sqm of heating film and it is around 1.76 ($8sqm * 220w$)~1.98 ($9sqm * 220w$) KW (8~9A).

Planing Installation (M & T - Series)



❖ A Case for 110V

- 2 rows of 305 (3m * 110W * 2rows = 660W)
- 5 rows of 305 (2.2m * 110W * 5rows = 1,210W)

Total : 1,870W (**1,870W / 110V = 17A**) ★

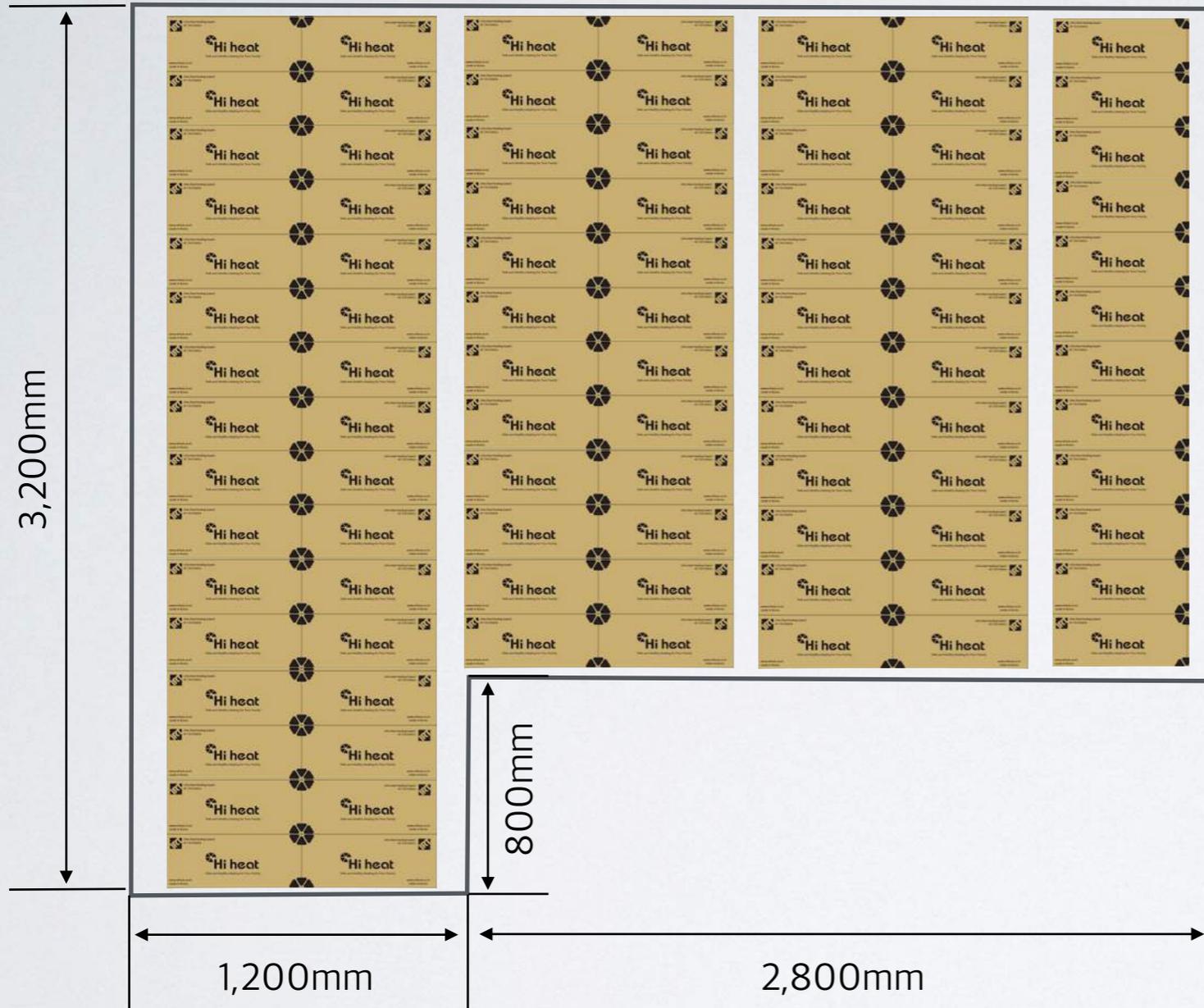
- Please prepare a thermostat and circuit breaker (Bigger than above **17A**)

In case of 110V, there is only 50cm width!!

★ Tips!!

This room is 10sqm. The proper heating area is 80~90% of the room. It means that you need 8~9sqm of heating film and it is around 1.76 (8sqm*220w)~1.98(9sqm*220w) KW (16~18A).

Planing Installation



❖ A Case for 220V & 110V

- 1 row of A710 ($3m * 240W = 720W$)
- 2 rows of A710 ($2.2m * 240W * 2rows = 1,056W$)
- 1 row of A705 (half of A710) ($2.2m * 120W = 264W$)

Total : 2,040W

$$2,040W / 220V = \underline{9.3A} \quad \star$$

$$2,040W / 110V = \underline{18.5A} \quad \star$$

- Please prepare a thermostat and circuit breaker (Bigger than above 9.3 or 18.5A)

What do you need?



Hi Heat heating film



Clamp



Clamp Plier



Butyl Tape



Insulator (T:3~5mm)



OPP Tape



Thermostat



Soldering Iron for A710



Insulation Tape for A710



Electric wire (over 2.5sq)



Striper



Electric Meter

Job-Site Preparation



Ensure that the sub-floor(concrete or timber) is clean, dry and free from dust and debris.

Laying Insulator

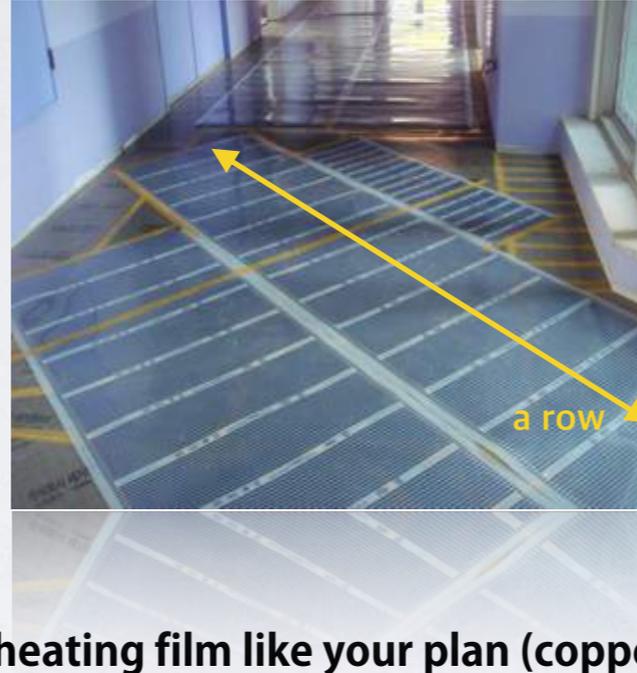


Lay out the insulation to cover the entire floor area.

(Up to situation, use double sided tape or adhesive spray)

Join the sheets of insulation together to prevent them from moving apart

Rolling out the Film



Roll out the heating film like your plan (copper face down).

Adjust positioning to obtain the best floor coverage and lightly fix into position with tape to avoid movement.

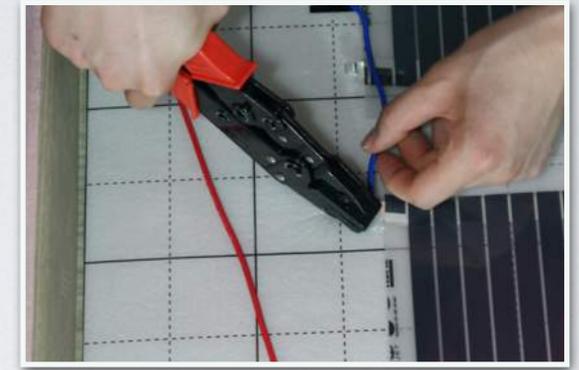
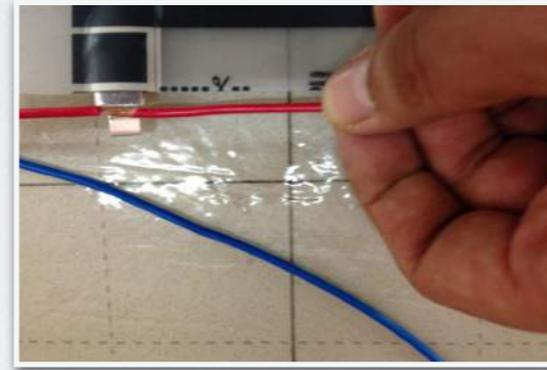
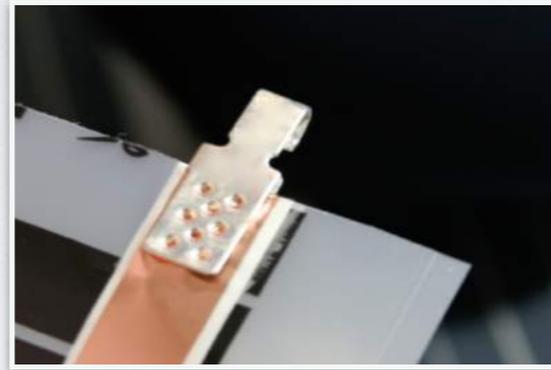
DO NOT WALK DIRECTLY ON THE HEATING FILM

THE LENGTH OF A ROW CAN NOT BE MORE THAN BELOW.

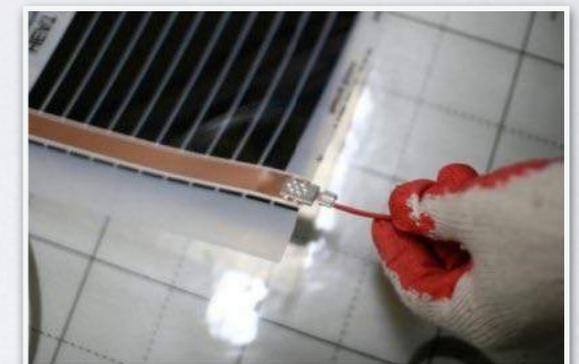
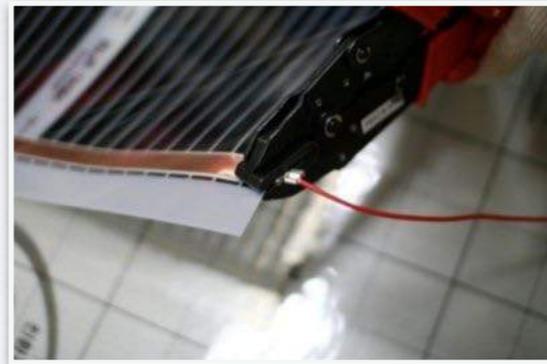
	310 (220W/220V)	308 (180W/220V)	305 (110W/220V)	305 (110W/110V)	MH305 (220W/220V)	A710 (705) (240W/220V)	A710 (705) (240W/110V)
Maximum Length (per a row)	5m	7m	11m	5.5m	5m	9m	4.5m

Connecting Wires

- Type 1

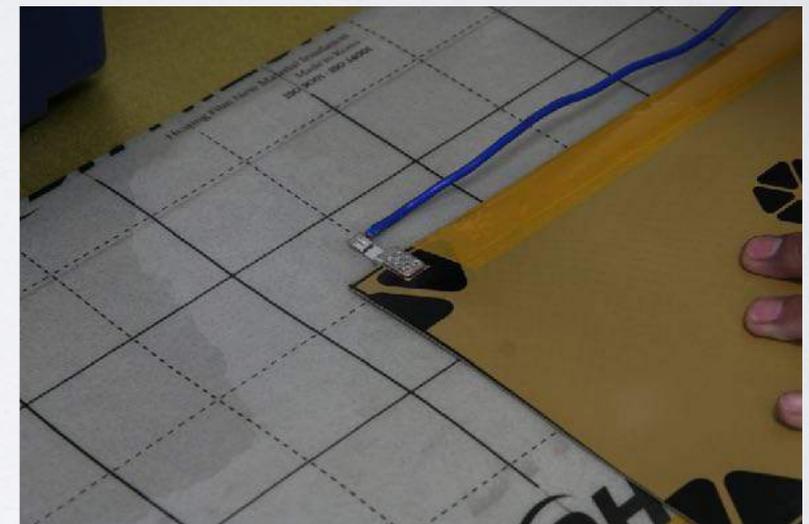


- Type 2

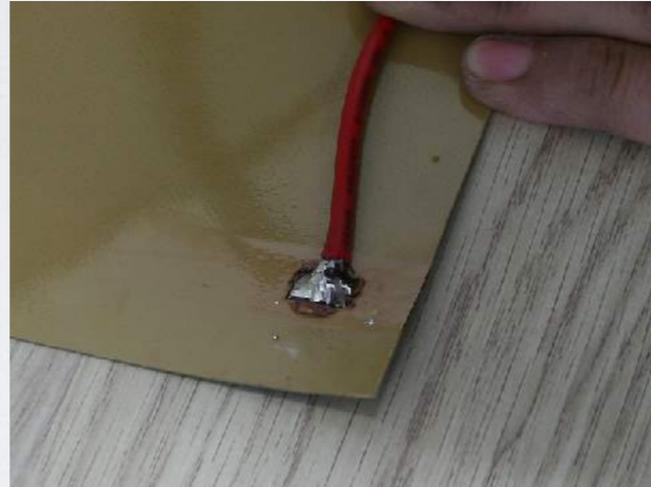


Insert the clamp into copper busbar and press it. **(NOT ON THE SILVER BUSBAR)** Strip the non-heating lead wires that will be attached to the connector (clamp). Insert the wire(s) into the barrel section of the clamp. Clamp the wires as shown pictures.

Connecting Wires - A710 (705) #1



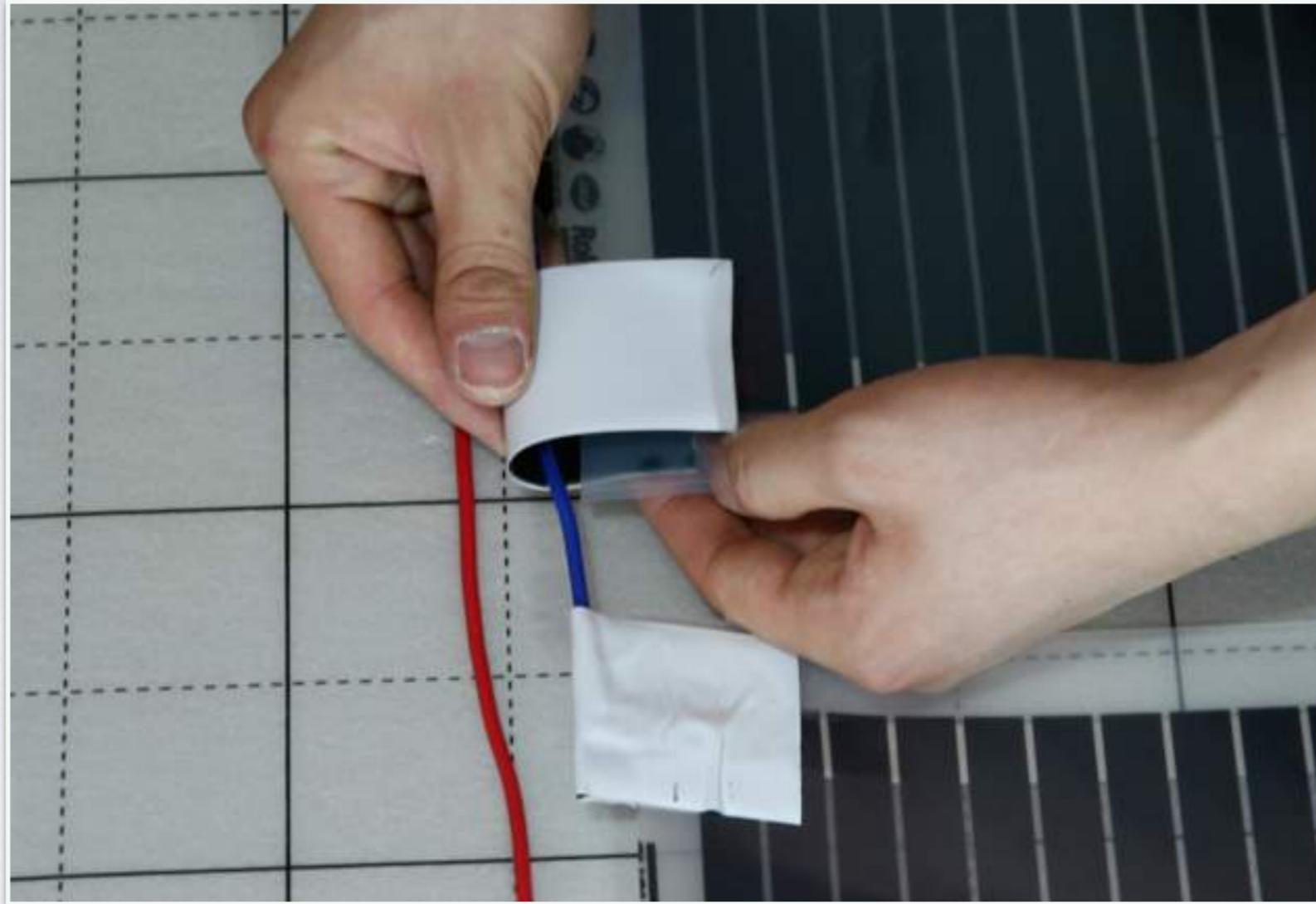
Connecting Wires - A710 (705) #2



1. Insulate the entire cut area with tapes.
2. Removing a layer from the copper area and 1st soldering
3. Connecting wire
4. Insulating with Butyl tape and tape.

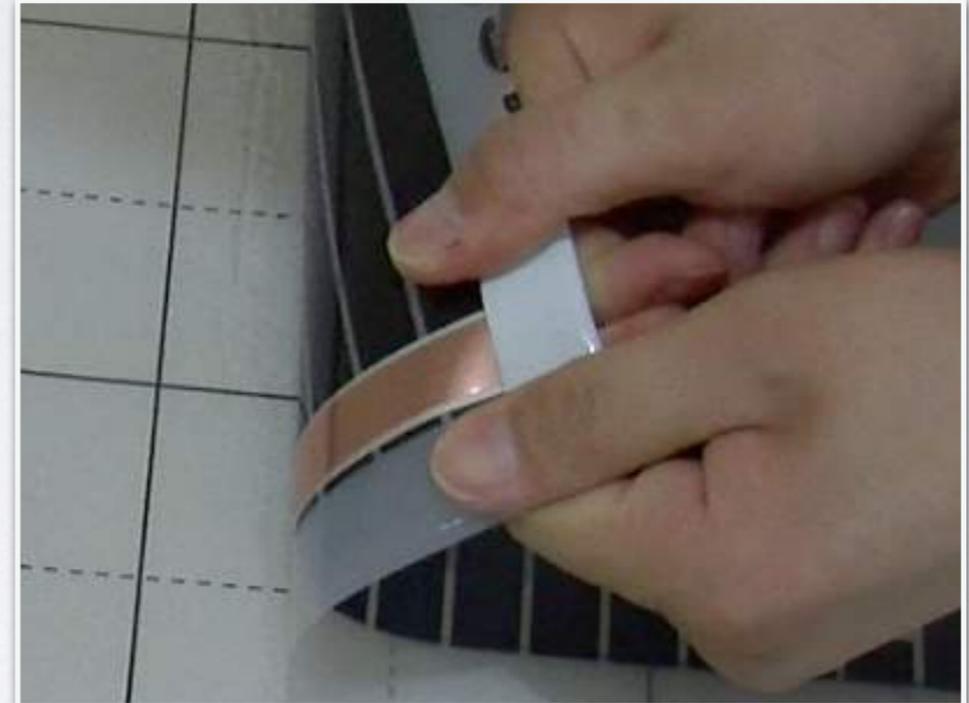
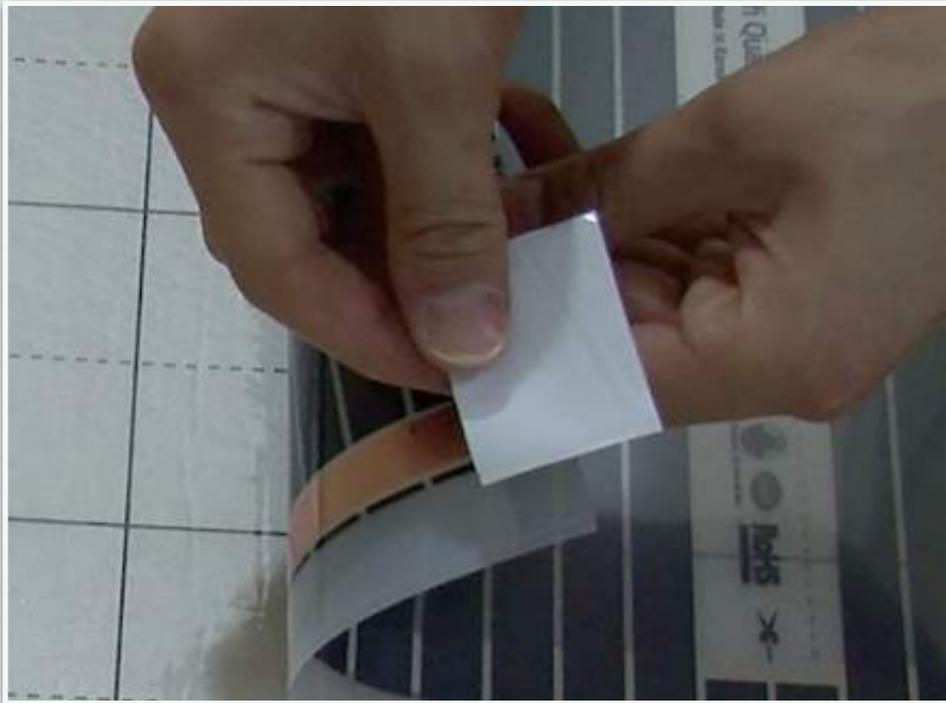


Insulating the Clamps



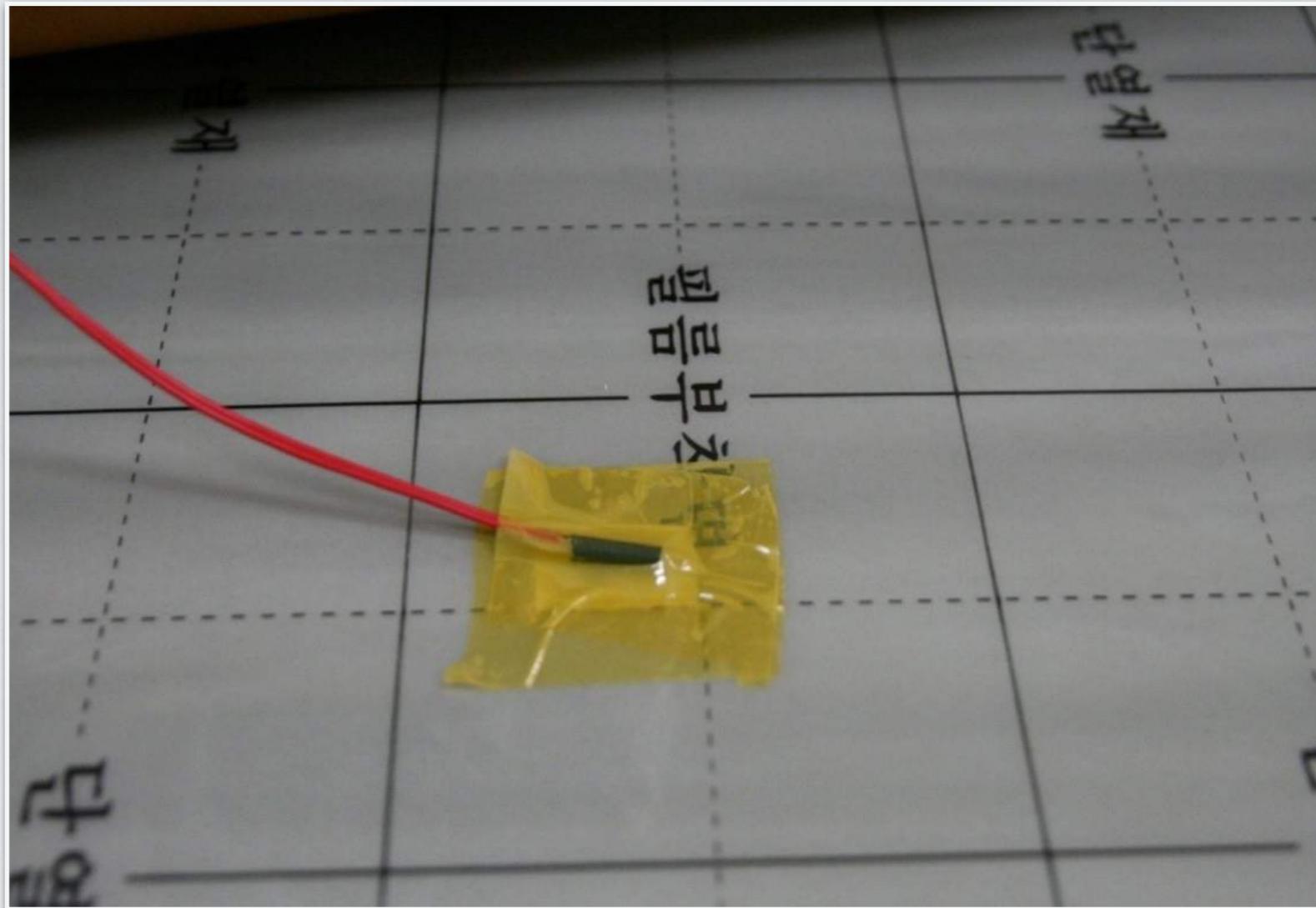
Insulate the connectors (clamps) by attaching butyl tape both sides as shown pictures.

Insulating The Other End of Each Busbar



Place a length of electrical tape over the exposed end of each bus bar opposite the electrical connector.

Temperature Sensor & Overheating Sensor

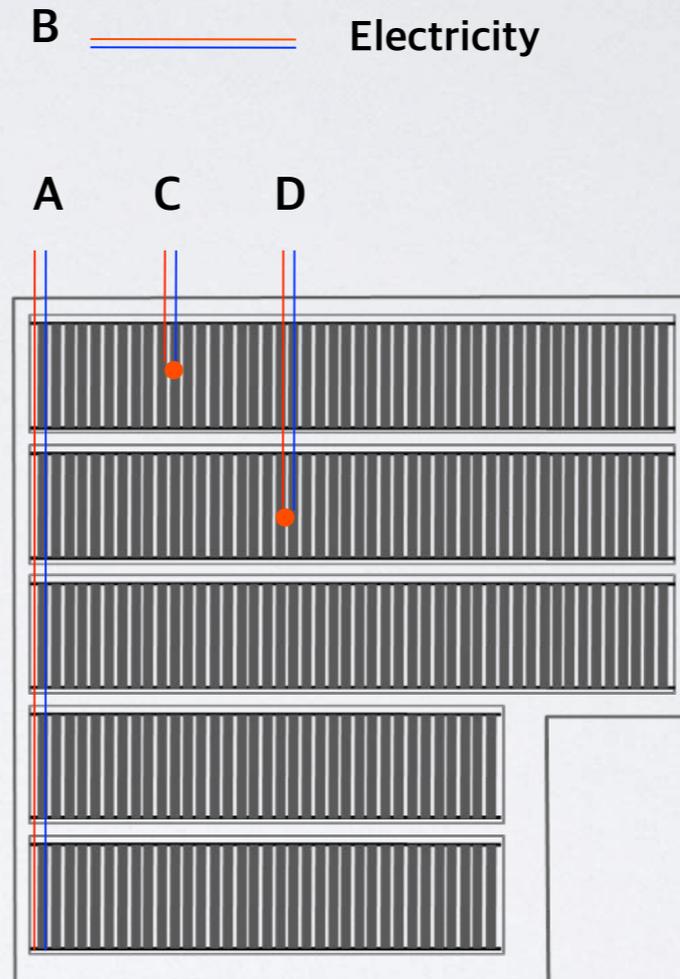
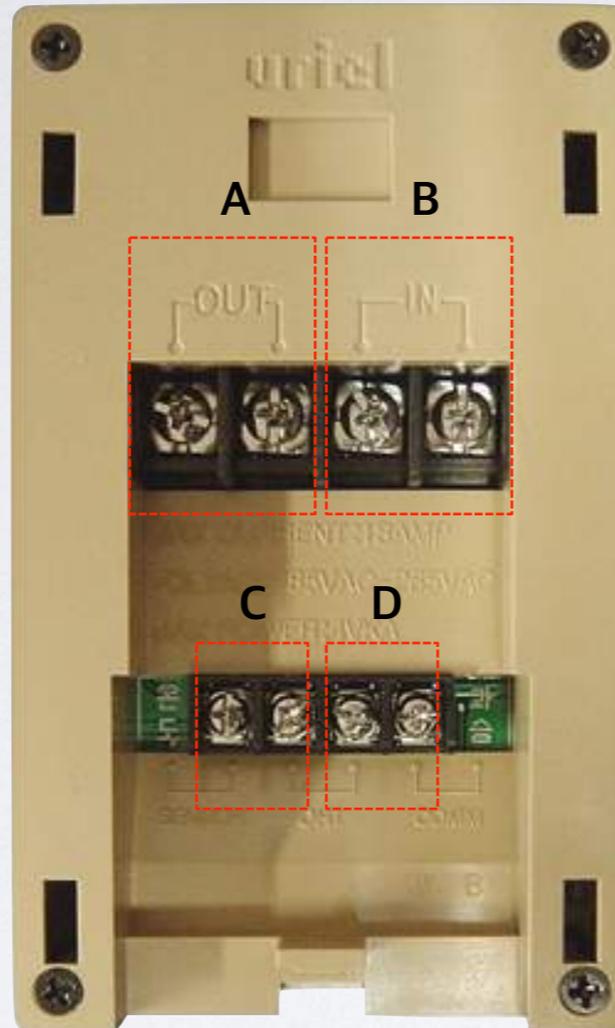


Place sensor in the middle of film. (cut the insulation mat 1*1cm and cover the hole by tape)

※ why in the MIDDLE OF FILM?

→ Because the area is the hottest in the film and begins to warm from the middle.

Insulating The Other End of Each Busbar



- 2 wires from film to "A"
- 2 electricity wire (power) to "B"
- Temperature sensor to "C"
- Overheating sensor to "D"

Checking Electric Current

Total : 1,870W ($1,870\text{W} / 220\text{V} = \underline{8.5\text{A}}$) ☆

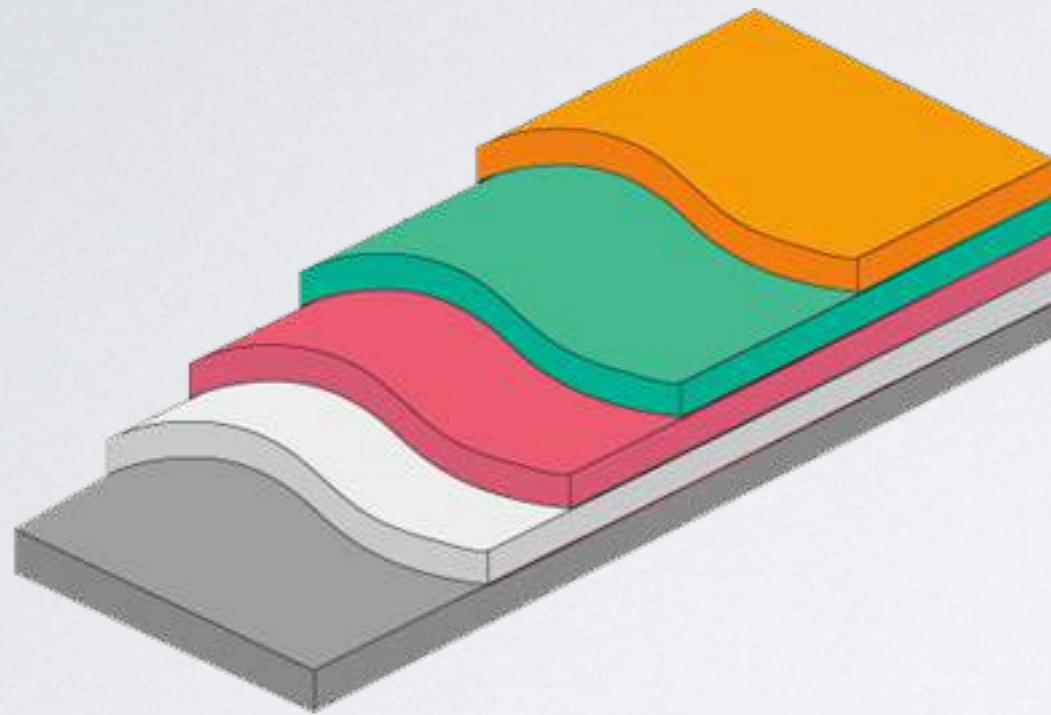


Please check whether it close to your plan.

If it is much less than plan, you must check every connect part on the row.

※ It is not exactly same with plan, due to unstable voltage and other causes.

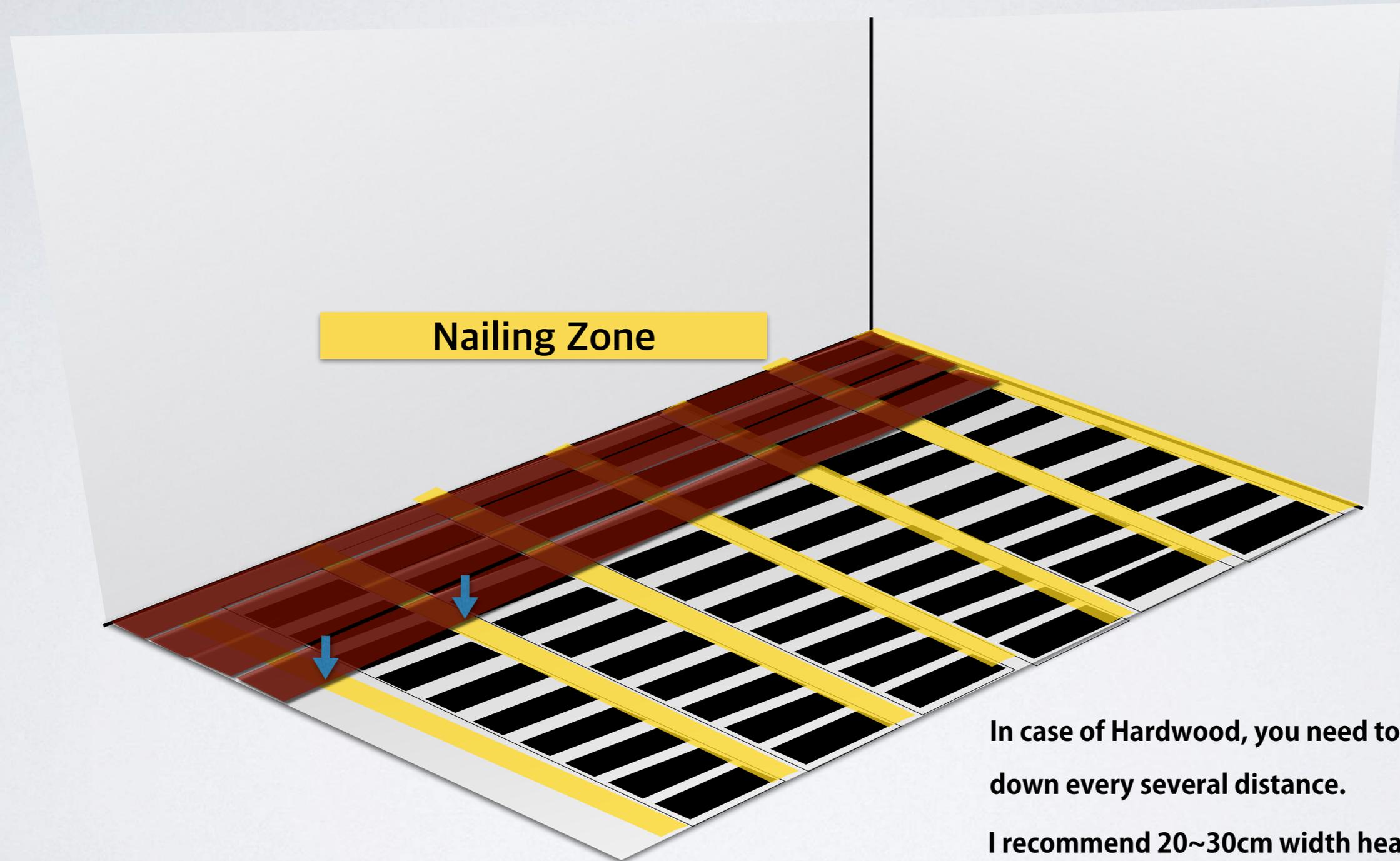
Constructed Section of Heating Film



Covering (Laminate floor, Tile, Linoleum, etc)
Protection Pad (PVC, PE Board, etc)
Heating Film (A710, 705, M(T)310, 308, 305)
Insulator (3~5mm)
Concrete Floor

- **Concrete floor + insulator (3~5mm) + Hi Heat Heating Film + PVC (Vinyl) + Laminated Floor (Nonadhesive flooring)**
- **Concrete floor + insulator (3~5mm) + Hi Heat Heating Film + Protection Pad + Linoleum or Vinyl flooring (adhesive flooring)**

Covering : Solid Hardwood



Nailing Zone

In case of Hardwood, you need to nail down every several distance.

I recommend 20~30cm width heating films and nail between sheets (Nail Zone)