



Saves Your Energy

Electrical Heating Solutions

Energy efficient building technology



Tassu and Tassu S underfloor heating cables

Tassu and Tassu S are maintenance-free products for long-term solutions in dry and damp areas. Tassu cable is available as 20 W/m and is used primarily for new concrete floor structures.

Tassu S cable is available as 10 W/m and is used for renovations together with wooden floor structures. Both Tassu-cables are preterminated twin conductor cables and a PVC-sheath.



Tassu

Thin solutions for renovations and thin floor structures

Ensto thin solutions, ThinMat and ThinKit, are easy and fast to install directly on top of an existing floor.

ThinKit

- Ideal for small and cramped areas
- Cable must always be laid on top of a fire proof material
- Round cable does not twist when fastened
- Installations must always be covered with levelling compound

ThinMat

- Can also be installed on top of wooden floor surfaces (e.g. chipboard and plywood)
- ThinMat 100 W/m² is sufficient for comfort heating in dry and damp indoor conditions. Whereas, ThinMat 160 W/m² is used for structures with less insulation and when concrete, stone or clinker is used as a flooring material
- Wooden surface material can not be used with ThinMat 160 W/m²
- The cable is enclosed in a strong adhesive mesh that prevents the cable from floating during casting
- Standard width 50 cm
- Installations must always be covered with levelling compound

The low height of the products minimizes additional increase in floor height. Products are easy and fast to install with low total costs and are suitable for concrete, stone and clinker and, with certain limitations, for wood, laminate and parquet.



ThinMat, cable diameter 3.4 mm

ThinKit with thermostat, cable diameter 4.2 mm

Ensto eWoodMat

- The Ensto eWoodMat underfloor heating mat, installed directly under parquet or laminate flooring, is a low-power solution, consuming up to 30 percent less energy than conventional electric floor-heating products do.



Ensto eWoodMat with thermostat ECO16LCD

Designing underfloor heating

Basic planning assumptions:

1. Adequate heating power throughout the cold season
 - Power of constant underfloor heating cables is $> 1.2 \times$ thermal loss of the calculated area
 - Power of partially storing underfloor heating cables is $> 1.4 \times$ the thermal loss of the calculated area
2. Floor surface temperature should feel comfortable in use
 - Even heat across the living quarters, cable laying distance 10–30 cm
 - Adequate floor temperature during warm seasons – not too hot during cold seasons
3. Floor temperature must not damage the flooring materials
 - The right choice of flooring materials
 - The right choice of temperature according to the flooring material
4. Adequate response speed to changing heating needs
 - Concrete thickness 80–100 mm

Selecting heating cables

Choose the right cable type, power output and installation method to suit the flooring material and structure. See the “Sizing and selection chart”. Cable installation depth, surfacing and distance between two cables can also affect the system. Local regulations must be taken into account.

Installing underfloor heating to an existing building

The floor structure must be first inspected to determine the best installation method and heating solution. Adding underfloor heating

is easier when the floor surfaces are being replaced or the whole floor construction is opened in order to improve insulation. In damp areas (new floor construction), underfloor heating cable is always laid under a waterproofing membrane. The laying distance between heating cables should be 10–20 cm to provide an even surface temperature.

Sizing

Based on the selection of the desired power/m², the installation spacing for Tassu, Tassu S and ThinKit cables can be found from the adjacent tables.

Installation spacing can also be calculated based on the following formula:

$$\text{Installation spacing} = \frac{\text{Surface area/m}^2}{\text{Cable length/m}}$$

Example:

The floor area to be heated is 11 m² and the selected cable is the Tassu12 with a length of 54 meters. The installation spacing is:

$$\text{Installation spacing} = \frac{11 \text{ m}^2}{54 \text{ m}} = 0.2 \text{ m} = 20 \text{ cm}$$

Power per surface area is calculated using the following formula:

$$\text{Power/W/m}^2 = \frac{\text{Cable power/W}}{\text{Floor surface area/m}^2}$$

$$\text{Power/W/m}^2 = \frac{1160 \text{ W}}{11 \text{ m}^2} = 105.4 \text{ W/m}^2$$

Tassu (20 W/m)

Bending radius min. 40 mm

Power per area	Installation spacing/cm
80	25
90	22
100	20
110	18
120	17
130	15
140	14
150	13

TassuS (10W/m)

Bending radius min. 40 mm

Power per area	Installation spacing/cm
60	17
70	14
80	13
90	11
100	10
110	9

ThinKit (10 W/m)

Bending radius min. 25 mm

Power per area	Installation spacing/cm
60	17
70	14
80	13
90	11
100	10
110	9
120	8.5
130	7.5
140	7
150	6.5

Sizing and selection chart

TYPE	Tassu	Tassu S	ThinKit	ThinMat		eWoodMat
	20 W/m	10 W/m	10 W/m	100 W/m ²	160 W/m ²	70W/m ²
NEW CONSTRUCTION						
CONCRETE						
Low heat-loss space	••	•••		•		
Concrete floor, single cast	•••	••				
Concrete floor, doublecast	••	•••				
Concrete/under laminate or parquet						•••
WOODEN STRUCTURE AS SEEN ON PAGE 26		•••				
PLASTERBOARD		•••	••			•••
RENOVATION AND THIN FLOOR CONSTRUCTION						
CONCRETE						
Concrete/Laminate or Parquet		••	•••	•••		••
Concrete/Tile		••	•••	•••	••	
Plaster board		•••	••	••		••
WOODEN STRUCTURE AS SEEN ON PAGE 26		•••				
CHIPBOARD AND PLYWOOD/TILE				•••		

••• recommended •• suitable • can be used

*) eWoodMat should be installed on min. 6mm thick XPS insulation plate so the floor material can be wood, concrete, plasterboard etc.

Electric partial storage heating

By using lower priced electricity (night time), heat can be stored in the concrete slab. This stored heat will transfer into the room during the day.

The concrete slab is heated with heating cables. The heat is transferred to the room creating a comfortable feeling. The heating characteristics are affected by the thickness of the concrete slab, cable installation depth and flooring material.

Ensto heating cables are suitable for both single and two stage casting concrete floors. Storage heating is mostly used in rooms with high heat resistance floor surfaces

such as wood, vinyl mats and fitted carpets. Ensure sufficient concrete slab mass for partial storage underfloor heating. Consider if complementary heating is required. Tassu cable is ideal when using partial storage heating. Output power should be 80–150 W/m², cable spacing 15–25 cm and installation depth 5–10 cm.

Correct temperatures

To obtain maximum cosiness and comfort, the following floor surface temperatures are recommended: Flooring material must be suitable for underfloor heating – ask the manufacturer of the flooring material!

Wood and cork surface	23–27 °C
Vinyl mat	26–28 °C
Ceramic tiles or concrete surface	26–28 °C
Laminate	23–27 °C

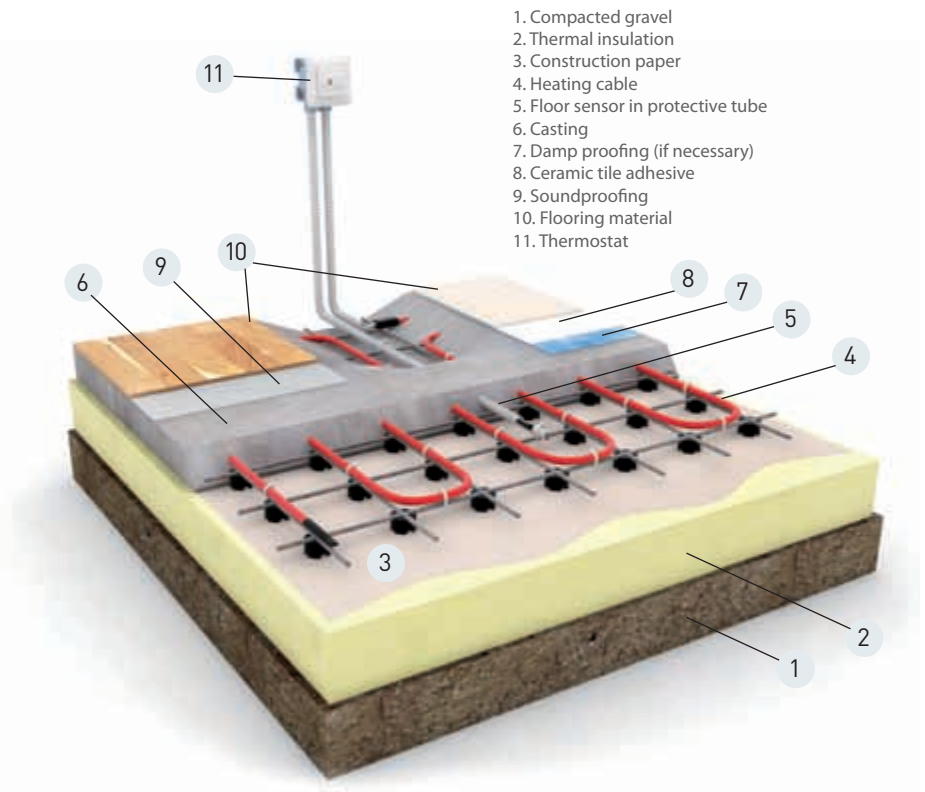
The maximum floor temperature can be limited by using a combination thermostat. If you have doubts concerning the temperatures, please contact the manufacturer of the flooring material.

Note! Thick wood flooring is a good insulation material.

Heating in concrete structures

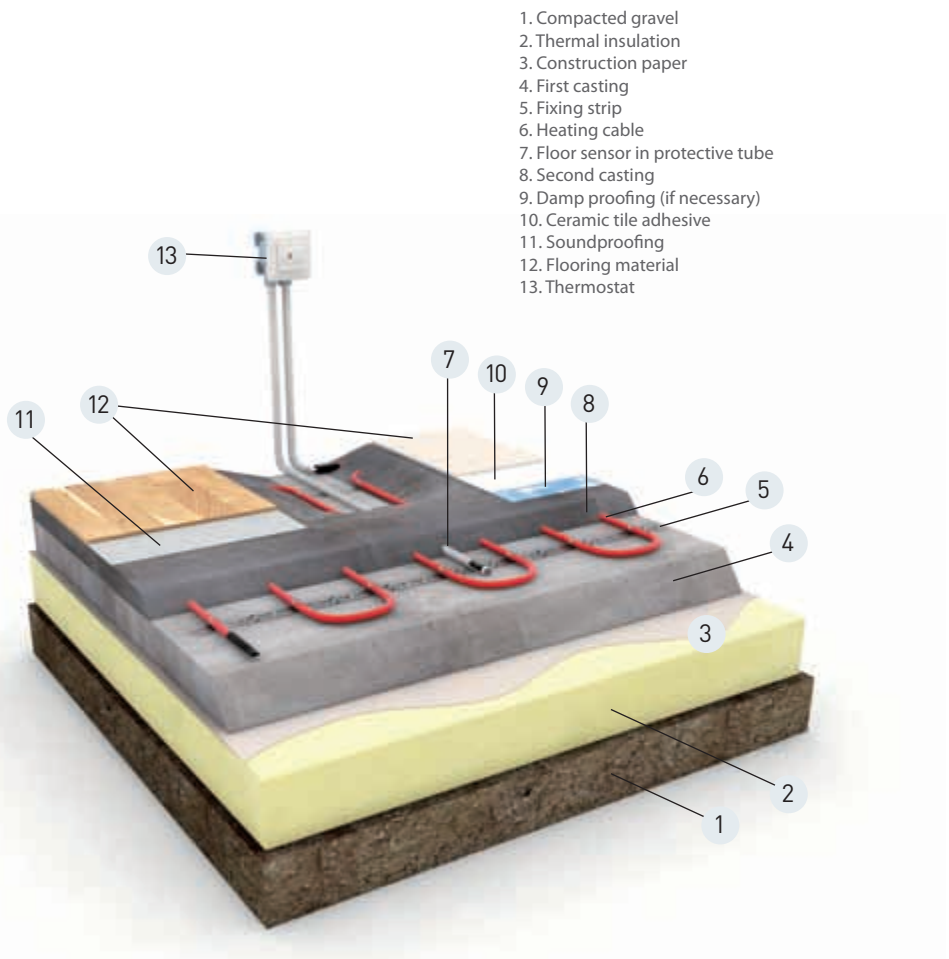
1-stage casting

- With 1-stage casting, attach the heating cable directly to the reinforcement mesh
- Be careful not to damage the cable or change the laying distance
- It is recommended that a layer of insulation is placed under the underfloor heating structure to reflect the heat flow upwards into the room
- During casting, you can make sure the full length of the cable is installed in a medium of equal thermal conductivity, by gently lifting the mesh and the cable to avoid possible air pockets
- Tassu cable is ideal for this floor construction. For well-insulated low-energy houses also Tassu S can be used



2-stage casting

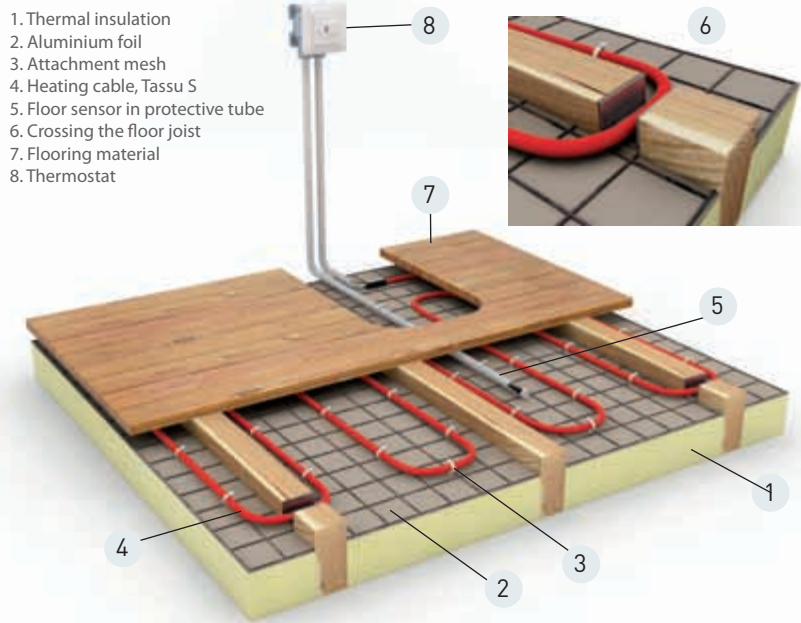
- Recommended for concrete floors of a thickness over 100 mm
- The reinforced steel grid and the electrical conduit pipes can be installed within the first casting layer (> 6 cm)
- Lay the cable on top of the first cast, after it has dried
- Secure the heating cable in place with fixing strips XBC1230 (cut to required length) attached to the concrete. The sensor of the thermostat must be installed in a protection tube placed between the heating cables
- The thickness of the second cast depends on the desired storage characteristics and the flooring material
- With tile and stone floors, place the cables deeper for even surface temperature
- With wood flooring, the temperature will be consistent even when the cable is closer to the surface
- All Ensto floor heating cables can be used for this construction



Structures are described in accordance with the Finnish installation method

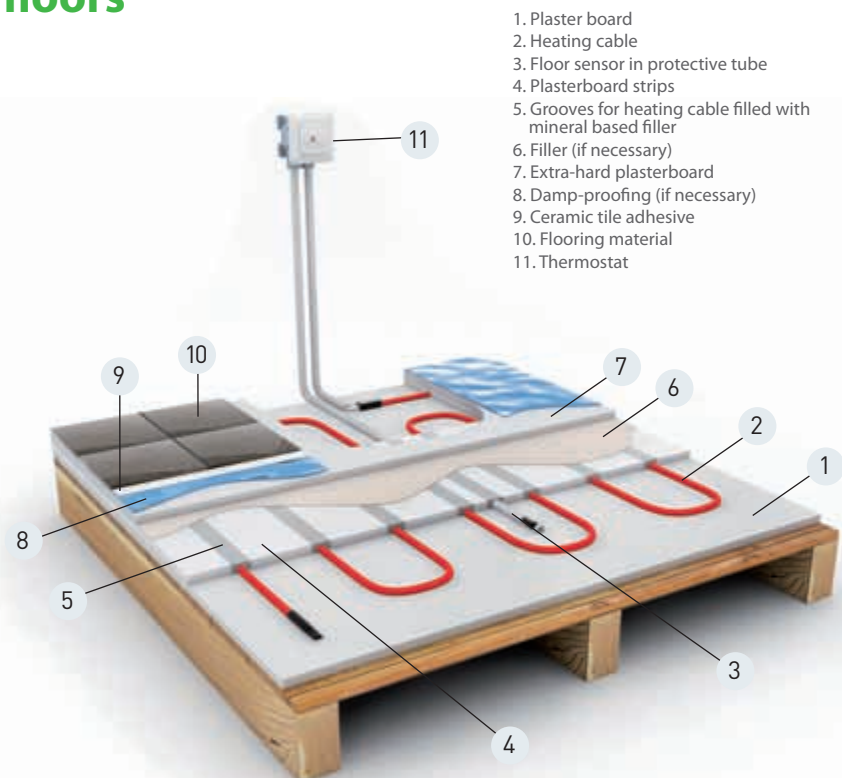
Heating in wooden structures

- Although they have very limited heat storage capacity, underfloor heating works well with wooden floors
- Suitable for base and intermediate floors
- Use only a heating cable that has the right structure and power (10 W/m) for your installation method. The maximum heat load with materials such as wood, parquet and laminate is 80 W/m²
- Only Tassu S cable can be used
- The heating cable is attached to a steel mesh situated between the insulation and the flooring material. The sensor of the thermostat must be installed in a protection tube at the floor joint/floor material connection point without touching the cables
- The mesh prevents the heating cable from sinking into the insulation and, therefore, prevents the cable from overheating
- You must leave a gap of 30 mm between the cable and flooring material and a similar space between the cable and any flammable materials such as wood
- When installing the cable across the floor joists, cut out a notch and place a protective metal plate where the cable crosses the runner
- Flooring material must be suitable for underfloor heating – ask the manufacturer of the flooring material



Heating in plasterboard floors

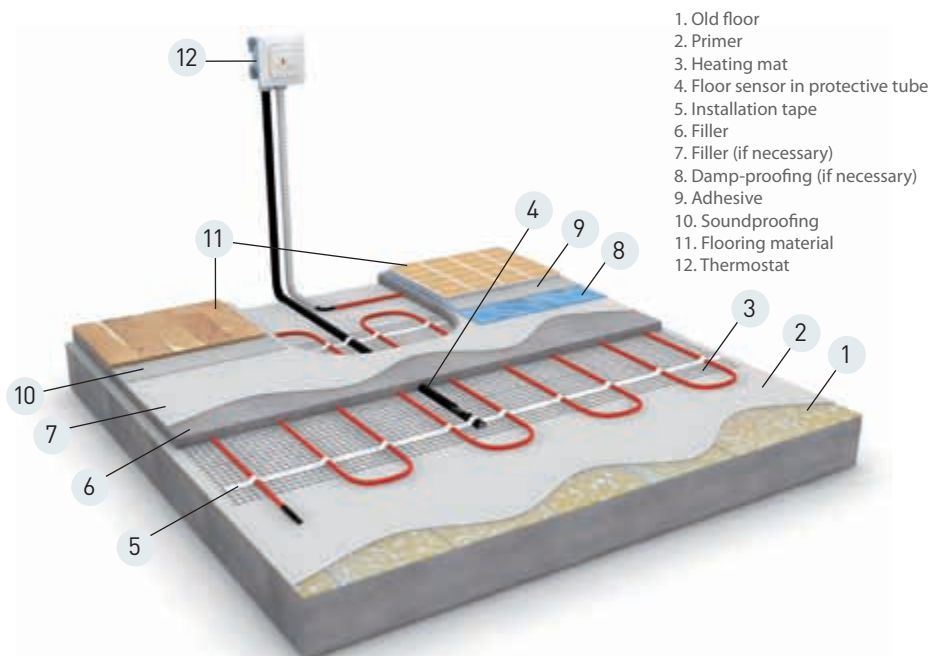
- Place strips of plasterboard on the top of the extra strong plasterboard that covers the whole floor. The width of the strips is related to the heating power needed (W/m²)
- A typical output is 70–100 W/m² corresponding to a cable spacing of between 10–14 cm
- Carefully install a low-power (10 W/m) heating cable between the strips. The sensor of the thermostat must be installed in a protection tube covered with plaster between the heating cables
- Fill in the grooves with mineral-based plaster
- Place an extra strong plasterboard layer on top of everything
- Tassu S and ThinkKit cables are recommended to this construction.
- Local building regulations must be followed



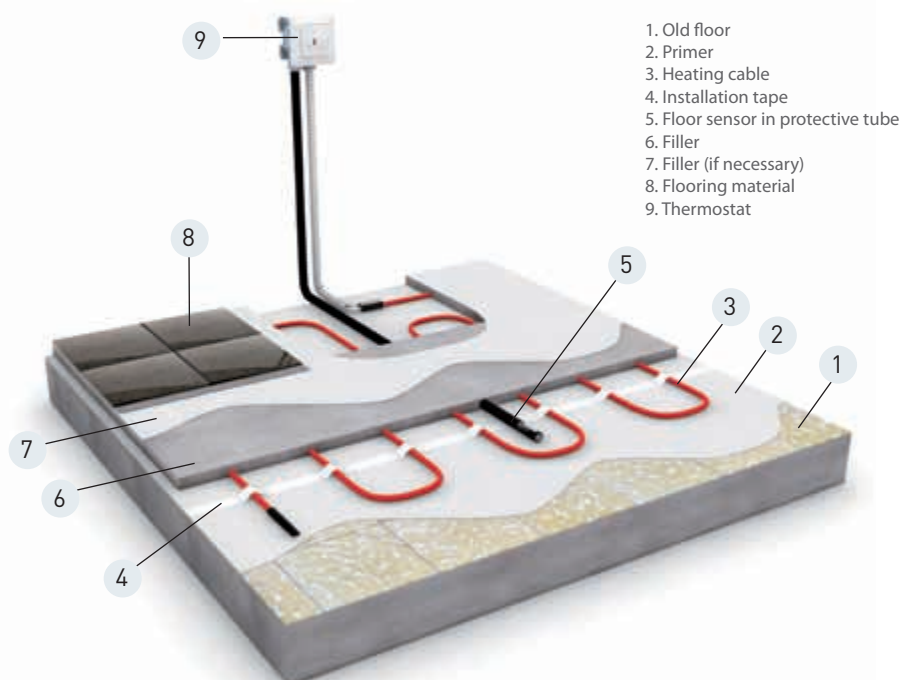
Structures are described in accordance with the Finnish installation method

Heating for renovations and thin floor constructions

- Heating mats can be installed directly on the top of the existing floor surface. No glue is needed because the mat is attached easily to the floor surface with a self adhesive mesh. The laying direction can be varied by just cutting the mesh and bending the cable. The sensor of the thermostat must be installed in a protection tube between the heating cables without it touching them. Cover the mat with filler and install the actual flooring material after the filler has dried
- ThinMat can also be installed on plywood and similar materials

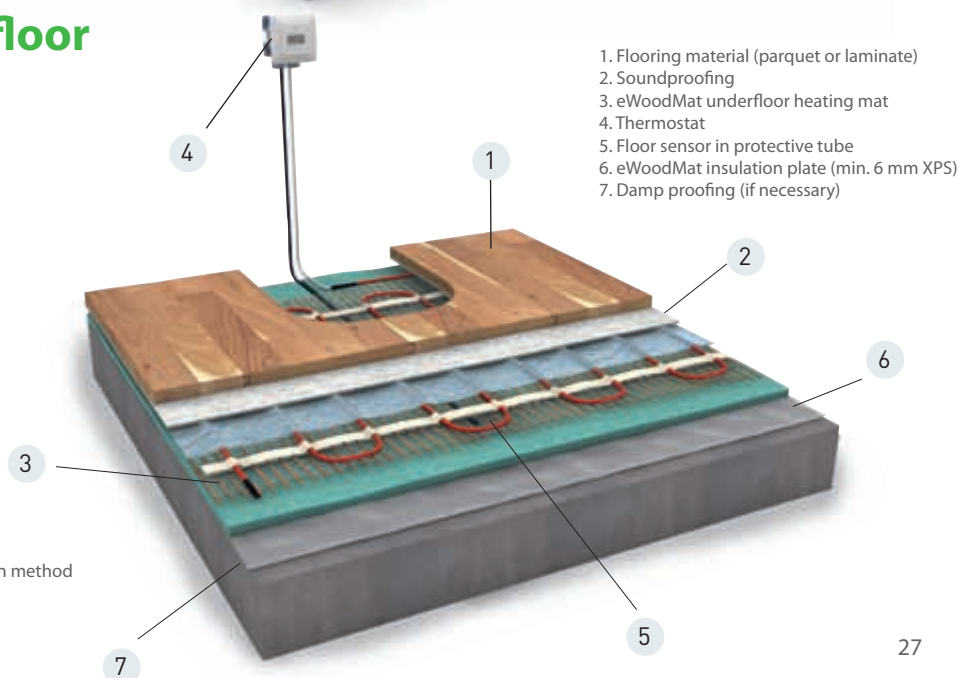


- ThinKit heating cables can be installed directly on top of the existing fireproof floor surface (not on wood). Cables can be installed with tape, fixing strips or glue. The sensor of the thermostat must be installed in a protection tube between the heating cables without touching them. Cover the cables with filler and install the actual flooring material after the filler has dried



ThinKit and ThinMat are designed especially for renovations where the floor height is crucial. If the floor height does not limit the installation, then Tassu S can be used.

Ensto eWoodMat underfloor heating



Structures are described in accordance with the Finnish installation method



Thermostats

- Energy savings and comfort

By using reliable and accurate thermostats, the temperature in each room stays even and comfortable. At the same time, energy and money can be saved. Stylish and easy-to-use. Screwless connectors make connecting fast and reliable.

Underfloor heating thermostats

Underfloor heating thermostats are used together with electrical underfloor heating cables and controlling the heating system through a sensor placed in the floor construction. Underfloor heating thermostats are most suitable when the floor surface material is ceramic tile. The thermostat can be located outside the heated area – only the floor sensor must be inside the heated area. All underfloor heating thermostats have a

fixed temperature reduction function and the hysteresis of the floor temperature is $\pm 0.5^\circ\text{C}$. The ECO10F thermostat is used for mounting flush in the wall. When installing the thermostat in damp areas, the ECOAC44 protective casing must be used (IP44). Screwless connectors make connecting fast and reliable. The adjustment range of the temperature can be limited using the adjustment knob limiters.

The ECO16FD thermostat is used for DIN-rail mounting. The floor sensor can be extended by up to 25 meters.

ECO16FJW is a 16A thermostat with in built 30mA residual current circuit breaker (RCCB). This makes the thermostat ideal for renovations where it would be difficult to connect the residual current circuit breaker at any other point in the circuit.



DIN-rail mounting



Impressivo



ECO16FJW

Ceiling heating thermostats

The flush mounted ECO10R room thermostat is used to control ceiling heating. The thermostat responds fast and accurately to room temperature variations providing an even temperature. The thermostat is equipped with a built-in temperature sensor. The adjustment range of the temperature can be limited with the limiters of the adjustment knob.



Jussi

Combination thermostats for room heating

The flush mounted ECO16FR thermostat is used for controlling either underfloor or ceiling heating. Underfloor heating can be controlled based on floor temperature (floor mode) or room temperature (room mode). In combination mode, the thermostat uses floor and room temperatures to control the heating. It is also possible to set the minimum and maximum values for the floor surface temperature. Ceiling heating control is based only on room temperature. The adjustment range of

the temperature can be limited by using the adjustment knob limiters. The combination thermostat is the best solution for bedrooms and living rooms because of the fast and accurate response to temperature variations. When the floor surface material is ceramic tile, it is recommended to use a combination thermostat in floor mode.

The ECO16LCD is a timing-enabled combination thermostat with a display, used for floor heating control. In addition to the combination feature, the ECO16LCD can also be used as a power

regulation thermostat. Its adjustment range is 0 to 10, with adjustments taking place at 30-minute intervals. Moreover, the thermostat allows you to program four different settings for weekdays (morning, day, evening, night) and two for the weekend (day, night). The thermostat's energy-efficient features enable you to cut consumption of heating energy without compromising your comfort of living.



Impressivo



Jussi



ECO16LCD

Thermostats for flush and surface mounting

Ensto thermostats are available in Jussi and the Impressivo series. The Jussi series is white and has timeless design. The Impressivo series is cost-efficient and easy to install. Impressivo thermostats are delivered in modules so it is possible to choose between different colours and cover frames.

Jussi for flush mounting



Everything needed for installation and use in one package

Jussi for surface mounting



Jussi-thermostats can be surface mounted by using surface mounting box

Impressivo for flush mounting



Insert



Cover frame



Centre plate



Product ready for installation and use

Colour options:



white



aluminium



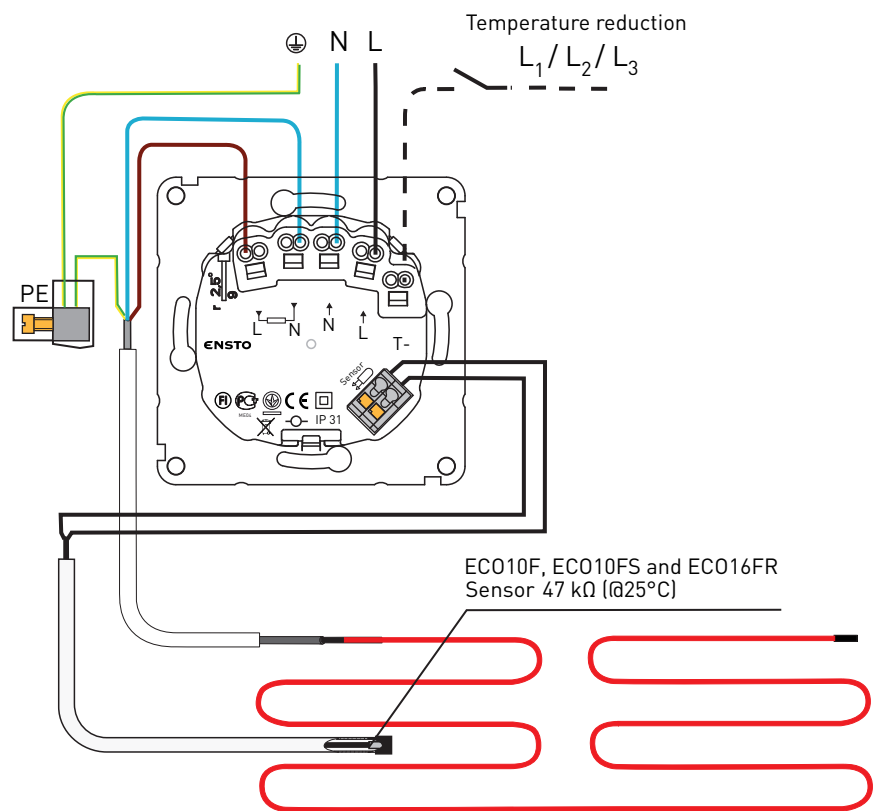
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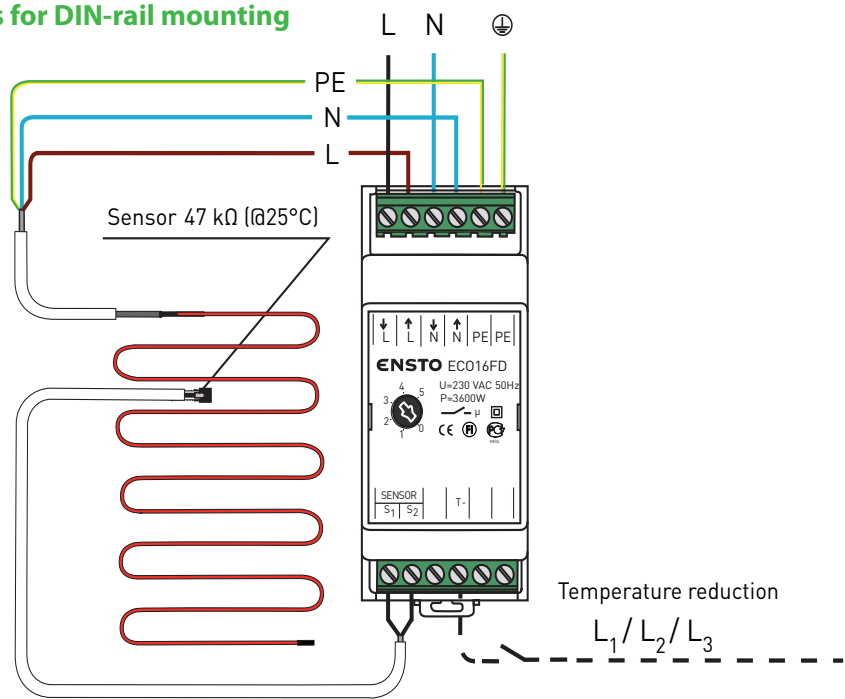
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Connection diagrams for thermostats

ECO thermostats for flush mounting



ECO16FD thermostats for DIN-rail mounting



Flush mounting of ECO16FW thermostat

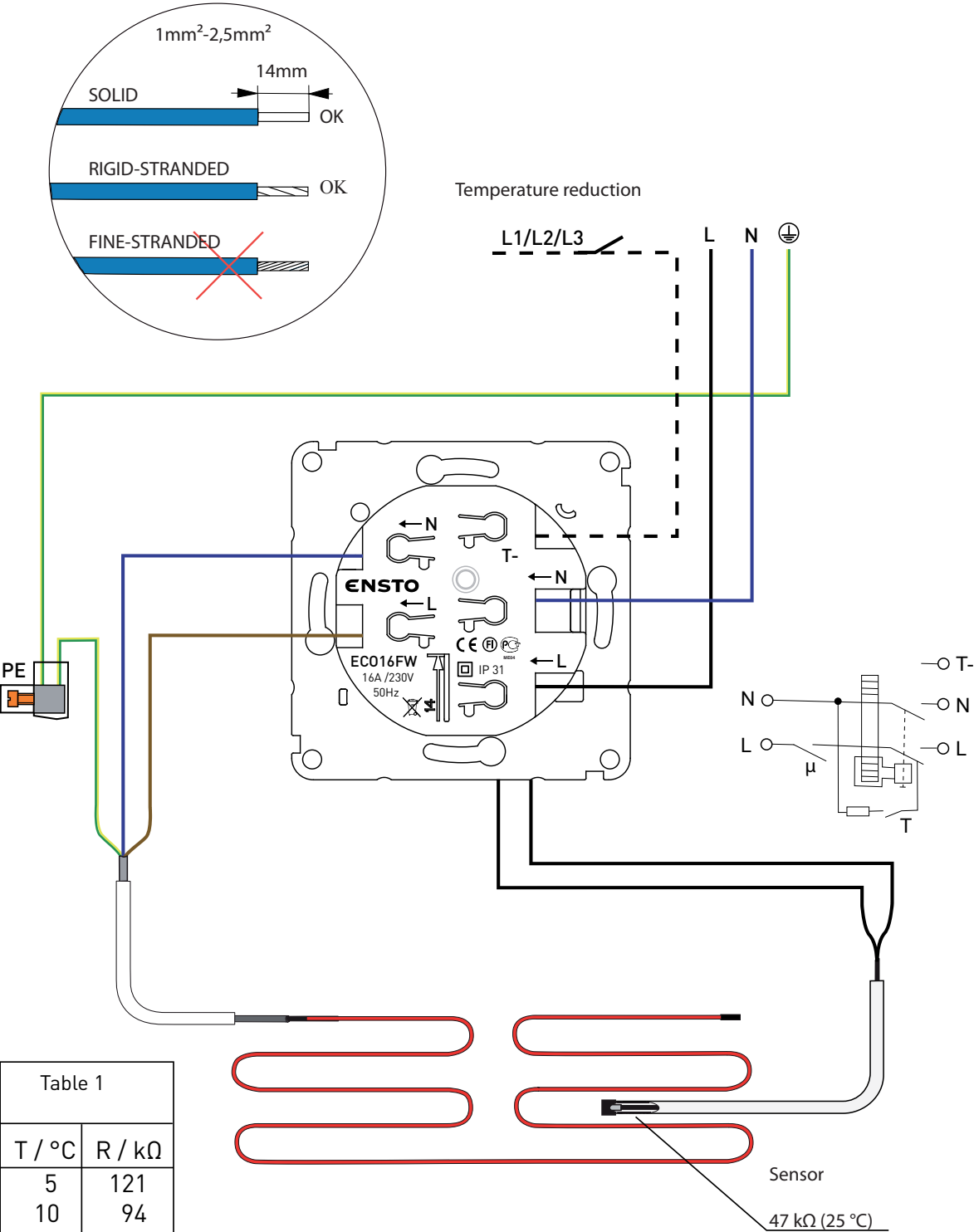


Table 1	
T / °C	R / kΩ
5	121
10	94
20	59
30	38
40	25
50	17
60	11

Underfloor Heating EFH

Tassu-underfloor heating cable

By using TASSU underfloor heating cables, a direct or partial storage floor heating can be carried out. The direct underfloor heating is used in wet or damp areas, where the floormaterial is low thermal resistant, e.g. clinker. The direct underfloor heating is suitable also in other areas as the only heating form. The partial storage underfloor heating is used for example in living rooms and kitchens. The output per square meter should be 80-150 W/m², the installation distance 13 – 25 cm and the installation depth 5-10 cm. The heating cable is a preterminated twin-conductor cable with a PVC sheath. The lowest installation temperature is -10 °C. The output of the cable is 20W/m with a nominal voltage of 230V. The heating cable is supplied with a cold lead of 2.5 meter.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
TASSU1	6418677637858	7 m, 1,0-1,7 m ² , 150 W	1/60
TASSU2	6410081682639	11 m, 1,6-2,7 m ² , 240 W	1/60
TASSU3	6418677631696	15 m, 2,0-3,7 m ² , 300 W	1/60
TASSU4	6410081682646	20 m, 2,9-5,0 m ² , 440 W	1/60
TASSU6	6410081682653	29 m, 4,0-7,2 m ² , 600 W	1/60
TASSU9	6410081682660	40 m, 5,8-10,0 m ² , 900 W	1/60
TASSU12	6410081682677	54 m, 7,6-13,5 m ² , 1200 W	1/30
TASSU16	6410081682684	72 m, 9,8-18,0 m ² , 1600 W	1/30
TASSU18	6410081682189	86 m, 11,4-21,5 m ² , 1800 W	1/30
TASSU22	6410081682691	106 m, 13,3-26,5 m ² , 2200 W	1/30



Tassu S -underfloor heating cables

The TASSU S underfloor heating cables are used in plasterboard floors, wooden floors and in renovation, where the cable is installed on top of the old floor. The output per square meter should be 60 – 110 W/m², the installation distance 9 – 17 cm and the installation depth 2.5 cm. The heating cable is a preterminated twin-conductor cable with a PVC sheath. The lowest installation temperature is -10 °C. The output of the cable is 10W/m with a nominal voltage of 230V. The heating cable is supplied with a cold lead of 2.5 meter. Power below 80 W/m² is for low energy houses.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
TASSU70S	6418677637780	7 m, 0,7-1,2 m ² , 70 W	1/60
TASSU100S	6418677637797	10 m, 1,0-1,7 m ² , 100 W	1/60
TASSU15S	6410081682806	16 m, 1,5-2,7 m ² , 165 W	1/60
TASSU35S	6410081682820	29 m, 2,8-4,8 m ² , 300 W	1/60
TASSU45S	6410081682844	42 m, 3,8-6,9 m ² , 400 W	1/60
TASSU65S	6410081682868	59 m, 5,3-9,7 m ² , 600 W	1/30
TASSU75S	6418677637803	71 m, 6,5-11,9 m ² , 700 W	1/30
TASSU85S	6410081682882	79 m, 7,1-13,0 m ² , 800 W	1/30
TASSU95S	6418677637810	87 m, 8,0-14,5 m ² , 900 W	1/30
TASSU115S	6410081682905	106 m, 9,3-17,0 m ² , 1100 W	1/30
TASSU135S	6418677637827	117 m, 11,5-20,0 m ² , 1300 W	1/30
TASSU155S	6418677637834	140 m, 13,7-24,0 m ² , 1500 W	1/30



ThinKit with thermostat

ThinKit is designed to be used as floor heating in small and cramped areas and it should be installed to thin layer of levelling compound. The cable is round with a diameter of only 4.2 mm. The small diameter enables the use of less casting material during installation. ThinKit may be used together with a wide range of flooring material, but the cable should always be laid upon fireproof material and have to be covered with levelling compound. The sizes of ThinKit cover an area of 1–20.6 m². ThinKit contains heating cable, a thermostat with Jussi and Elko compatible cover frames and center plates, flexible plastic tube and installation tape. The thermostat, ECO10FSJ+E, has an operating range of 10–35 °C. IP31. The length of the cold lead is 3 m. Power below 80 W/m² is for low energy houses.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
EFHTK1+T	6418677635847	13,5 m, 0,9-2,2 m ² , 130 W + T	1/60
EFHTK1.5+T	6418677635854	14,5 m, 1,0-2,5 m ² , 150 W + T	1/60
EFHTK2+T	6418677635861	22,5 m, 1,5-3,7 m ² , 220 W + T	1/60
EFHTK3+T	6418677635878	28,5 m, 1,9-4,7 m ² , 280 W + T	1/60
EFHTK4+T	6418677635885	40 m, 2,7-6,7 m ² , 400 W + T	1/60
EFHTK5+T	6418677635892	45 m, 3,0-7,5 m ² , 450 W + T	1/60
EFHTK6+T	6418677637957	55 m, 3,7-9,2 m ² , 550 W + T	1/60
EFHTK7+T	6418677635908	70 m, 4,6-11,5 m ² , 690 W + T	1/60
EFHTK8+T	6418677635915	78 m, 5,2-13 m ² , 780 W + T	1/60
EFHTK10+T	6418677635922	98 m, 6,5-16,3 m ² , 980 W + T	1/30
EFHTK11+T	6418677635939	110 m, 7,3-18,3 m ² , 1100 W + T	1/30
EFHTK16+T	6418677635946	165 m, 11,0-27,5 m ² , 1650 W + T	1/30



Underfloor Heating EFH

ThinKit without thermostat

ThinKit is designed to be used as floor heating in small and cramped areas and it should be installed to thin layer of levelling compound. The cable is round with a diameter of only 4.2 mm. The small diameter enables the use of less casting material during installation. ThinKit may be used together with a wide range of flooring material, but the cable should always be laid upon fireproof material and have to be covered with levelling compound. The sizes of ThinKit cover an area of 1–20.6 m². ThinKit contains heating cable, flexible plastic tube and installation tape. The length of the cold lead is 3 m. Power below 80 W/m² is for low energy houses.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
EFHTK1	6418677636790	13,5 m, 0,9-2,2 m², 130 W	1/60
EFHTK1.5	6418677636806	14,5 m, 1,0-2,5 m², 150 W	1/60
EFHTK2	6418677636813	22,5 m, 1,5-3,7 m², 220 W	1/60
EFHTK3	6418677636820	28,5 m, 1,9-4,7 m², 280 W	1/60
EFHTK4	6418677636837	40 m, 2,7-6,7 m², 400 W	1/60
EFHTK5	6418677636844	45 m, 3,0-7,5 m², 450 W	1/60
EFHTK6	6418677637841	55 m, 3,7-9,2 m², 550 W	1/60
EFHTK7	6418677636851	70 m, 4,6-11,5 m², 690 W	1/60
EFHTK8	6418677636868	78 m, 5,2-13 m², 780 W	1/60
EFHTK10	6418677636875	98 m, 6,5-16,3 m², 980 W	1/30
EFHTK11	6418677636882	110 m, 7,3-18,3 m², 1100 W	1/30
EFHTK16	6418677636899	165 m, 11,0-27,5 m², 1650 W	1/30



Fixing equipment

Cable fixing strip XBC1230 is used for fixing the underfloor heating cable.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
XBC1230	6410013290024	Galvanised attachment ribbon 20 m, installation gap 30 mm	1/10



ThinMat-underfloor heating mat – 100 W/m² with thermostat

Lower power per square meter, 100 W/m², is sufficient for comfort heating in dry and damp indoor conditions and it should be installed to thin layer of levelling compound. Wood, parquet, laminate, concrete, stone or clinker can be used for surface material. Suitable for installation on top of chipboard, but have to be covered with levelling compound. The package includes a floor heating mat, floor heating thermostat, adhesive aluminium tape, a sensor and a flexible installation tube for the sensor. The temperature range of the thermostat ECO10FSJ+E is 10 - 35 °C, IP31. The rated voltage is 230 V. Lowest installation temperature, + 5 °C. ThinMat width is 48 cm. The length of the cold lead is 4 m.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
EFHTM100.1+T	6418677636691	2 m, 1 m², 100 W + T	1/40
EFHTM100.15+T	6418677636707	3 m, 1,5 m², 150 W + T	1/40
EFHTM100.2+T	6418677636714	4 m, 2 m², 200 W + T	1/40
EFHTM100.3+T	6418677636721	6 m, 3 m², 300 W + T	1/40
EFHTM100.4+T	6418677636738	8 m, 4 m², 400 W + T	1/40
EFHTM100.5+T	6418677636745	10 m, 5 m², 500 W + T	1/40
EFHTM100.6+T	6418677636752	12 m, 6 m², 600 W + T	1/40
EFHTM100.8+T	6418677636769	16 m, 8 m², 800 W + T	1/24
EFHTM100.10+T	6418677636776	20 m, 10 m², 1000 W + T	1/24
EFHTM100.12+T	6418677636783	24 m, 12 m², 1200 W + T	1/24



ThinMat-underfloor heating mat – 100 W/m² without thermostat

Lower power per square meter, 100 W/m², is sufficient for comfort heating in dry and damp indoor conditions and it should be installed to thin layer of levelling compound. Wood, parquet, laminate, concrete, stone or clinker can be used for surface material. Suitable for installation on top of chipboard, but have to be covered with levelling compound. The package includes a floor heating mat, adhesive aluminium tape, and a flexible installation tube for the sensor. The rated voltage is 230 V. Lowest installation temperature, + 5 °C. ThinMat width is 48 cm. The length of the cold lead is 4 m.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
EFHTM100.1	6418677635366	2 m, 1 m², 100 W	1/40
EFHTM100.15	6418677635373	3 m, 1,5 m², 150 W	1/40
EFHTM100.2	6418677635380	4 m, 2 m², 200 W	1/40
EFHTM100.3	6418677635397	6 m, 3 m², 300 W	1/40
EFHTM100.4	6418677635403	8 m, 4 m², 400 W	1/40
EFHTM100.5	6418677635410	10 m, 5 m², 500 W	1/40
EFHTM100.6	6418677635427	12 m, 6 m², 600 W	1/40
EFHTM100.8	6418677635441	16 m, 8 m², 800 W	1/24
EFHTM100.10	6418677636189	20 m, 10 m², 1000 W	1/24
EFHTM100.12	6418677636196	24 m, 12 m², 1200 W	1/24



Underfloor Heating EFH

ThinMat-underfloor heating mat – 160 W/m² without thermostat

More power, 160 W/m², is required in less insulated premises with concrete, stone or clinker flooring. Installation below wooden, parquet or laminate surfaces or on top of chipboards is not recommended. The package includes a floor heating mat, adhesive aluminium tape and a flexible installation tube for the sensor. The rated voltage is 230 V. Lowest installation temperature, + 5 °C. ThinMat width is 48 cm. The length of the cold lead is 4 m.



TYPE	EAN CODE	DESCRIPTION	PACKAGE
EFHTM160.05	6418677637964	1 m, 0,5 m ² , 80 W	1/40
EFHTM160.1	6418677635458	2 m, 1 m ² , 160 W	1/40
EFHTM160.15	6418677637186	3 m, 1,5 m ² , 240 W	1/40
EFHTM160.2	6418677635465	4 m, 2 m ² , 320 W	1/40
EFHTM160.25	6418677637193	5 m, 2,5 m ² , 400 W	1/40
EFHTM160.3	6418677635472	6 m, 3 m ² , 480 W	1/40
EFHTM160.4	6418677635489	8 m, 4 m ² , 640 W	1/40
EFHTM160.5	6418677635496	10 m, 5 m ² , 800 W	1/40
EFHTM160.6	6418677637209	12 m, 6 m ² , 960 W	1/40
EFHTM160.7	6418677637216	14 m, 7 m ² , 1120 W	1/24
EFHTM160.8	6418677637063	16 m, 8 m ² , 1280 W	1/24
EFHTM160.10	6418677637070	20 m, 10 m ² , 1600 W	1/24

eWoodMat heating cable mat - 70W / m² without a thermostat

Low power per square meter, 70 W / m², suitable for dry areas of low-energy houses as the primary source of heat and sufficient for comfort heating in well insulated older houses. For the surface material can be used for parquet and laminate. Suitable for installation on concrete, wood or other flat, single-floor structure if minimum thickness of 6mm XPS insulation is used beneath the heating mat. Package includes a floor heating mat, aluminum tape and a flexible conduit for the sensor. Rated voltage is 230 V. The cold cable length is 4 m. The lowest installation temperature is +5 ° C. eWoodMat width is 50 cm.



TYPE	EAN CODE	DESCRIPTION	PACKAGE
EFHWM70.2	6418677637520	4 m, 2 m ² , 140 W	1/40
EFHWM70.3	6418677637544	6 m, 3 m ² , 210 W	1/40
EFHWM70.4	6418677637568	8 m, 4 m ² , 280 W	1/40
EFHWM70.5	6418677637582	10 m, 5 m ² , 350 W	1/24
EFHWM70.6	6418677637605	12 m, 6 m ² , 420 W	1/24
EFHWM70.7	6418677637629	14 m, 7 m ² , 490 W	1/24
EFHWM70.8	6418677637643	16 m, 8 m ² , 560 W	1/24
EFHWM70.10	6418677637667	20 m, 10 m ² , 700 W	1/12
EFHWM70.13	6418677637681	26 m, 13 m ² , 910 W	1/12
EFHWM70.16	6418677637704	32 m, 16 m ² , 1120 W	1/12
EFHIP6	6418677637728	For eWoodMat,10 pcs 0,5mx1,2m	1/6

ECO Heating Control

Room thermostats

Room heating thermostats for temperature control in individual rooms.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
ECO10RJ	6418677630798	Room thermostat 10A, with Jussi electrical fittings	1/12
ECO10RJ+E	6418677630859	Room heating thermostat 10A, Jussi + Elko fittings	1/12



Underfloor heating thermostats

Underfloor heating thermostats for temperature control in individual rooms. Nominal current 10 A res. Maximum load 10 A. Temperature reduction of 4 °C with 230 V control voltage. Nominal voltage 230 V. Control range +10 °C...+60 °C. The NTC-sensor cable is 4 meter long, max Ø 7.5 mm, and can be extended up to 10 meter. Sensor 47 kohm / 25°C. Ambient temperature -20°C...+30°C. The thermostats has a two-pole switch. The thermostats are compatible with JUSSI- and ELKO - electrical fittings. IP31.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
ECO10FJ	6418677630774	Underfloor heating thermostat 10A, Jussi	1/12
ECO10FE	6418677630781	Underfloor heating thermostat 10A, Elko	1/12
ECO10FJ+E	6418677630835	Underfloor heating thermostat 10A, Jussi + Elko	1/12
ECO10FJMP	6418677630828	Multipack, 6 pcs. ECO10FJ underfloor heating thermostat, Jussi electrical fittings, 230V	1/80
ECO16FD	6418677636158	Underfloor heating thermostat 16 A, DIN-rail mounted	1/12
ECOAC44	6410035300909	Protective casing for ECO10F thermostat, IP44	1/12

Floor thermostat with residual circuit breaker

ECO16FJW	6418677637308	Underfloor heating thermostat, 16A, with residual circuit breaker	1/12
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Impressivo underfloor heating thermostat

ECO10FI.00	6418677635564	Floor heating thermostat 10 A, Impressivo	1/12
ECO10FI-81	6418677635601	Cover plate, Impressivo, anthracite	1/10
ECO10FI-83	6418677635618	Cover plate, Impressivo, aluminium	1/10
ECO10FI-84	6418677635588	Cover plate, Impressivo, white	1/10
ECO10FI-85	6418677635595	Cover plate, Impressivo, grey	1/10



Combination thermostats

Combination thermostat can be used as a combination thermostat or only either as a room thermostat or floor heating thermostat. Combination thermostat for room-specific temperature adjustment. Nominal current 16 A res. Max 3600 W. 230 V, +10 %...-15 %. 50 Hz. Control voltage 230 V. Regulation range floor +10 °C...+50 °C, room +5 °C...+35 °C. Temperature drop 0...-15 °C. Temperature increase 0...+5 °C. Floor min temperature limit +5-40 °C. Floor max temperature limit +25-50 °C. NTC sensor 4 m, max diameter 7,5 mm, can be extended 10 m MMJ 2 x 1,5 mm². Sensor 47 kohm / 25 °C. Operating temperature range -20 °C...+30 °C. 2-pole switch mechanism, IP30.

TYPE	EAN CODE	DESCRIPTION	PACKAGE
ECO16FRJ	6418677630804	Combination thermostat, 16A, with Jussi electrical fittings, 230V	1/12
ECO16FRE	6418677630811	Combination thermostat, 16A, with Elko electrical fittings, 230V	1/12
ECO16FRJ+E	6418677630842	Combination thermostat, 16A, with Jussi + Elko electrical fittings, 230V	1/12

Combination thermostat with display

ECO16LCDJ+E	6418677637261	Combination thermostat, 16A, with Jussi + Elko electrical fittings, 230V	1/12
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