

InFloor 10T

INSTALLASJONSVEILEDNING

Innendørs oppvarming med InFloor 10T

Les denne instruksen nøye før du starter installasjonen.
Du vil alltid finne siste oppdaterte veiledning på vår hjemmeside.



Cenika Varme AS

Joseph Kellers vei 27
2409 Tranby
post@cenikavarme.no
www.cenikavarme.no
T: +47 22505020

Innhold

1.	Product specifications and details	3
2.	Selection of Floor Heating System	4
3.	Important instructions before installation of the system	4
4.	Floor sensors and Temperature controllers	4
5.	Electrical Provisions for the systems	5
6.	Pre-installation preparations	5
7.	Installation of Infloor Cable	6
8.	Operating Tips	7
9.	Illustrations	7
10.	Warranty	9
11.	Control Card	9
12.	YOUR FLOOR PLAN	10

1. PRODUCT SPECIFICATIONS AND DETAILS

InFloor 10T is designed for installation in concrete floors and slabs of newhomes, outdoors in driveways, parking lots, gutters, snow melting on roofs. They are aptly suited for large areas, indoors and outdoors like green houses, sports fields or factories

InFloor 10T comprises of Single or multistrand or coiled heating elements, provided with a primary insulation of Fluoropolymer (FP), then metal shielding and outer jacket of PVC/Polyolifin (LSZH). They terminate on cold leads of 4m length. The hot and cold junction is uniquely designed to make it 100% fool proof.

InFloor 10T is available in a wide range of capacities and length to suit your requirements.

InFloor 10T you brought has the following information

- **Type of Product**
- **Cable Length**
- **Wattage**
- **Operating Voltage**
- **Serial Number**

The following is the range of Infloor Cables

To-leder, 10W/M, 230V				
Art.nr	Art.navn	Lengde	Watt	Ω
CVA10070	InFloor 10T 100W	10	100	529.0
CVA10071	InFloor 10T 200W	20	200	264.5
CVA10072	InFloor 10T 300W	30	300	176.3
CVA10073	InFloor 10T 400W	40	400	132.3
CVA10074	InFloor 10T 500W	50	500	105.8
CVA10075	InFloor 10T 600W	60	600	88.17
CVA10076	InFloor 10T 700W	70	700	75.57
CVA10077	InFloor 10T 800W	80	800	66.13
CVA10078	InFloor 10T 900W	90	900	58.78
CVA10079	InFloor 10T 1000W	100	1000	52.90
CVA10080	InFloor 10T 1100W	110	1100	48.09
CVA10081	InFloor 10T 1200W	120	1200	44.08
CVA10082	InFloor 10T 1300W	130	1300	40.69
CVA10083	InFloor 10T 1400W	140	1400	37.79
CVA10084	InFloor 10T 1500W	150	1500	35.27
CVA10085	InFloor 10T 1600W	160	1600	33.06
CVA10086	InFloor 10T 1700W	170	1700	31.12
CVA10087	InFloor 10T 1800W	180	1800	29.39

2. SELECTION OF FLOOR HEATING SYSTEM

Selection of Floor Heating System will depend on the application. The following can be taken as a general guide:

- a. Concrete flooring - 150W/m²
- b. Ramps, Walkways, and Driveways - 250W/m²
- c. Green Houses, Sports Halls - 150W/m²

Please note the above-indicated values are meant as a general guide, actual requirement will depend on insulation levels, floor construction, type of floor coverings, ambient temperature, movement of the people etc.

3. IMPORTANT INSTRUCTIONS BEFORE INSTALLATION OF THE SYSTEM

1. Varmekabelen må ikke overlappe eller krysse seg selv på noen måte. Dette kan føre til overoppheting som vil skade kabel.
2. Varmekabelen må ikke forkortes da motstand i kabel vil reduseres og det kan føre til overoppheting.
3. Kaldkabelen er 4 meter, denne kan kappes eller skjøtes for å føres i veggboкс.
4. For å ikke skade kabelen under installasjon, må du ta forhåndsregler. Unngå skarpe gjenstander som f.eks stein under skoene, skarpt metall, kniver o.l. da dette kan skade ytterkappe.
5. Det anbefales å ha varmekabel på egne kurser.
6. Varmekabelen skal ikke installeres når temperatur er lavere enn -10°C.
7. Minimum bøyradius på varmekabelen skal ikke være mindre enn 10x diameter på kabel, ca 60mm.
8. Gulvføler skal plasseres midt imellom to varmekabelstrenger, men ikke nærmere enn 25mm inntil kabel.
9. Varmekabelen har en jordet skjerm som omdekker hele kabelen, det må påses at jording tilkobles.
10. Verifiser at påstemplet effekt og spenning stemmer med etikett på forpakningen. Varmekabelen må tilkobles av aut. El.installatør.
11. Mål kontinuitet, motstand og isolasjonsmotstand før og etter installasjon samt før tilkobling. Verdi på motstand skal være lik som tabellen viser. En toleranse på -5% to +10% er godkjent. Isolasjonsmotstand skal være >10Mohms.
13. Kaldkabel og følerledning skal ikke ligge inntil hverandre.
14. Aldri sett strøm på varmekabel når den er sammenkveilet.
15. Varmekabelen skal tilkobles en kurs med forankoblet jordfeilbryter 30mA.
16. Ved tilfeller der sikringskurs går og den ikke vil slå seg på ved forsøk må man kontakte elektriker.
17. Sørg for at betongen er ferdig herdet før tilkobling av spenning.
18. Fyll ut samsvarserklæring og ta bilder, dette bør overleveres til sluttkunde.

4. FLOOR SENSOR & TEMPERATURE CONTROLLER

Vi anbefaler bruk av termostater fra anerkjente produsenter.

The Floor sensor normally comes with a lead wire / Cable of 3.0M length. The floor sensor location shall be centered between two adjacent runs of heating cable.

Use a separate conduit to allow replacement of floor sensor in future if required. Sensor cable shall be routed to the thermostat located in the wall at suitable operating height.

Do not allow any other cable to overlap with the sensor cable. Use thermostat with combined temperature and moisture sensors for outdoor driveways and gutters for snow melting applications.

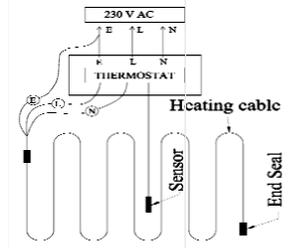
The details of the thermostats and installation guidelines gives in the instruction manual are provided along with the thermostat.

5. ELECTRICAL PROVISIONS FOR THE SYSTEMS

The Heating system installation wiring shall be in accordance with the national wiring rules.

The location of the Thermostat / connection box shall be flushed in the wall at about 4' height for easy access and setting. The Floor sensor cable and the heating cable cold leads shall be routed to the thermostat / power connection box in a separate conduit.

In case of heating system of load below 3.2KW based on thermostat power rating, it can be connected directly to a control electronic thermostat as per the adjacent diagram which gives typical scheme of electrical system. In case of heating system of load more than thermostat power rating, you may consult a qualified electrician for the scheme.

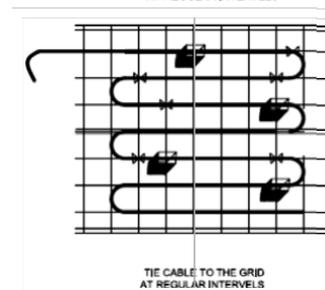
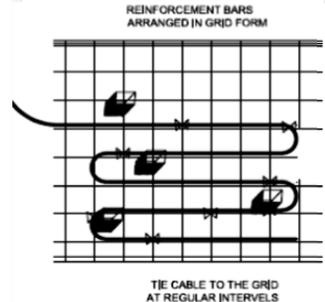
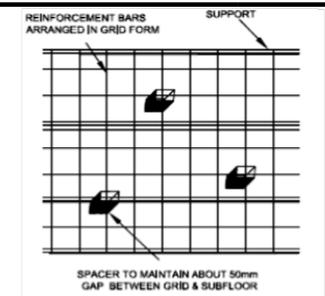


GFCI / RCD / Equivalent having a rated residual operating current not exceeding 30mA is recommended for protection against earth leakage currents.

For a 3.2KW load a 16A GFCI/RCD is required. Please consult a qualified electrician for selecting a GFCI of suitable rating based on the floor heating system or any other protection equipment as per the local rules and regulations applicable.

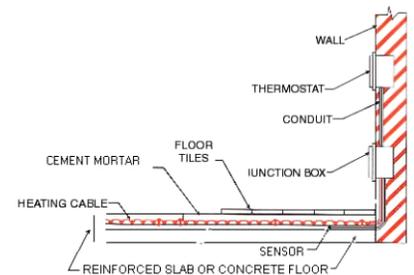
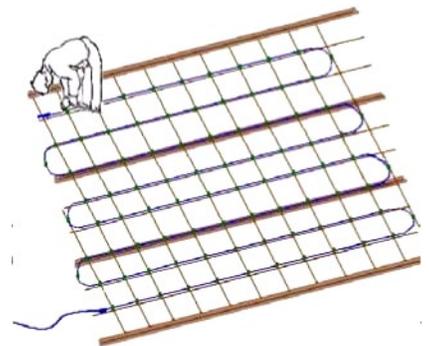
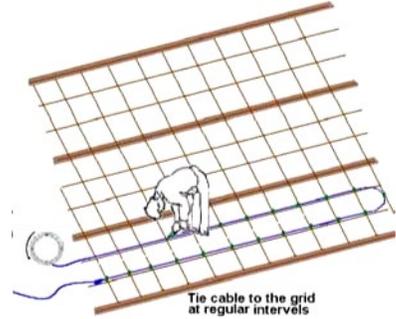
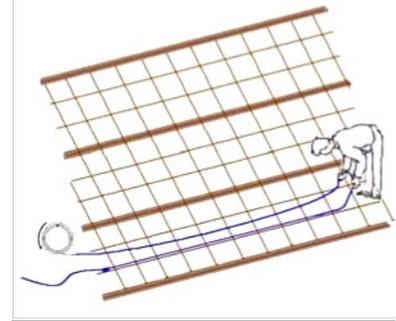
6. PRE-INSTALLATION PREPARATIONS

1. Reinforcement mesh on the floor or slab should be strong enough when walked on it for installation of the heating cable.
2. Reinforcement mesh should be properly positioned and supported so that it does not get disturbed during the concrete pouring. Ensure the thickness of the concrete floor or slab correctly so that the Heating Cable should be on the reinforcement mesh, minimum 50mm below the finished concrete/slab surface.
3. Prepare the plan of the area requiring the heating system & note the area to be heated. Identify suitable location for installing the power supply box / thermostat and sensor.
4. Mark the layout of heating cable on the floor plan as indicated in the illustrations given at the end of this manual. Marking cable layout on a plan makes it easy for tracing back the heating cable routing and entire installation.
5. Check Voltage, Wattage & Length on the package of the procured floor heating cable and ensure it is as per your requirement based on the area measured and wattage loading recommended/desired.
6. Physically check resistance of Floor Heating Cable and its insulation resistance with a multimeter / megger. Resistance value shall match to the value given in product range table. A tolerance of -5% to +10% is allowed. Insulation Resistance shall be more than 10Mohms. Record it in the control card, format given at the end of this English instruction manual.
7. Now you are ready for laying InFloor cable as you marked on the Floor plan layout in beginning of this section.



7. INSTALLATION OF InFloor CABLE

1. Now start installing Floor heating Cable, from the location of power connection box you identified.
2. Roll out the Floor Heating Cable. Secure it to the reinforcement mesh or grid using Strapping ties.
3. Floor Heating Cable should be laid 5 cm away from the wall perimeter.
4. Floor Heating Cable shall be laid in meandering fashion so that they are equally spaced. The distance between two heating cable should not be less than 5 cm.
5. Route the power leads through a conduit from the floor to the connection box. If using multiple cables, route all power leads through a conduit from the floor to the connection box in the wall.
6. Check the resistance and insulation resistance value after laying. Check if these values are consistent with pre-install values. Record values in the control card.
7. Now you are ready to lay the final concrete floor / slab or tiles.
8. Pour the cement mortar and spread it evenly on the reinforcement mesh/grid. The concrete floor or slab thickness shall be about 50mm on top of the heating cable.
9. Ensure the entire heating cable, factory splices and thermostat sensor is embedded in the cement mortar. The choice and application of building materials should be in accordance with building materials manufacturer's instructions.
10. Ensure the correct maturity and curing times for drying of construction materials is followed before you powering ON the heating cables.
11. Check the Continuity, resistance and Insulation resistance value after the tiles are laid. This should be consistent with the value recorded prior to flooring. Record values in the control card, format given at the end of this manual
12. Please see the illustrations given on page 7 & 8 of this manual for concrete flooring.

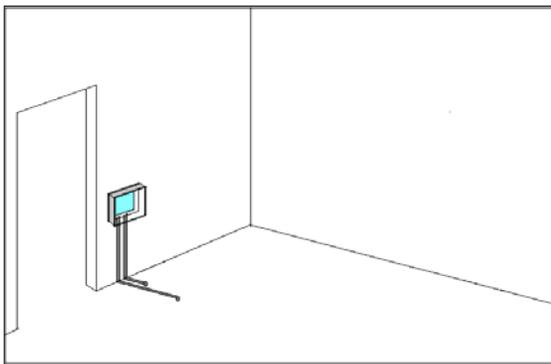


8. OPERATING TIPS

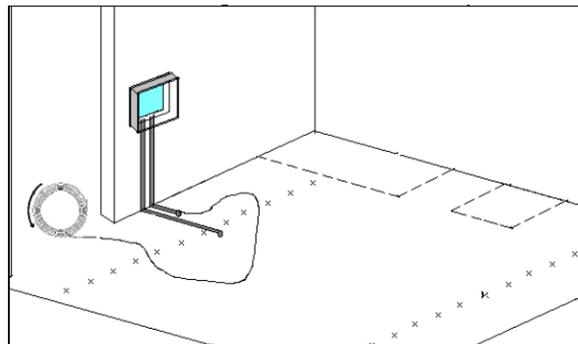
1. Energy consumption will vary depending on ambient temperature. For lower energy consumption, set the thermostats to optimum temperature setting.
2. Energy consumption can be minimized by turning the system OFF when heating is not required, but you will have to allow time for the floor to warm up once the system is turned ON again.

9. ILLUSTRATIONS

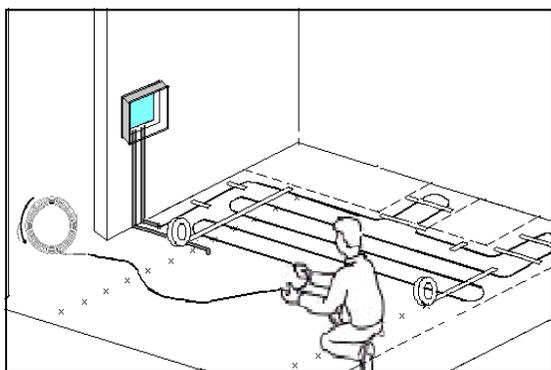
1. How to lay the InFloor cable to suit the concrete floor layout?



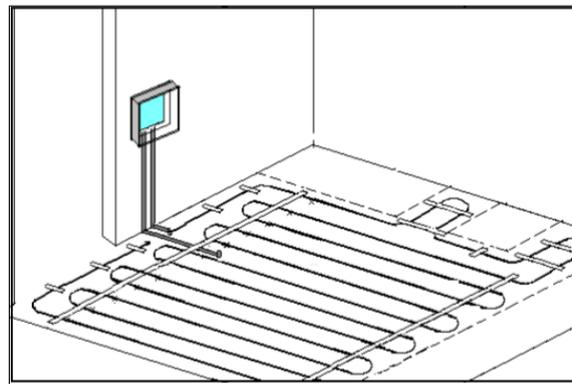
Identify the power point location for the cable power connection junction box.



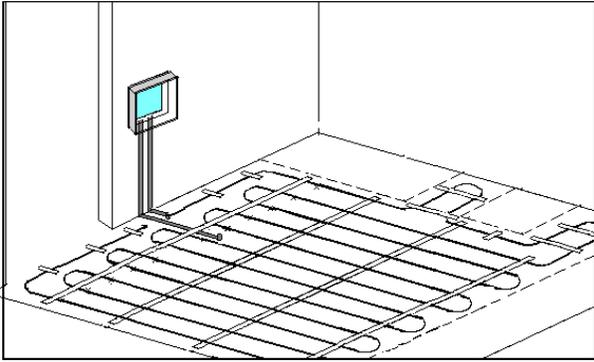
Mark the floor for distributing the evenly on the floor



Start laying cable from power point. Use strapping tape to hold the cable to sub floor. fittings.



Lay cable uniformly to cover complete area. Keep space for the fixtures/bathroom fittings

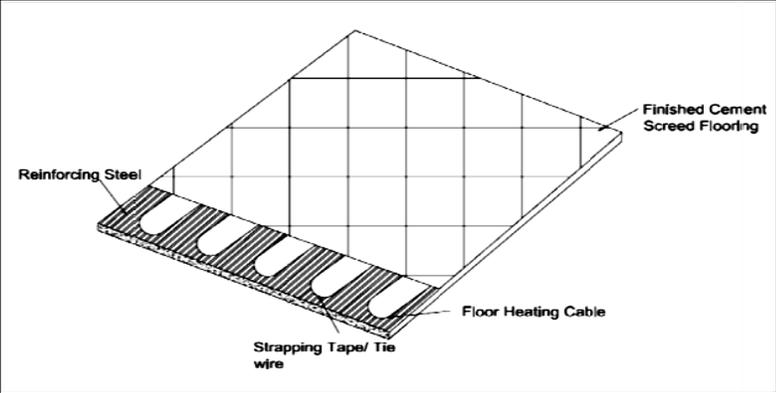


Ensure cable is held to the sub floor properly by strapping tape. Now you are ready for final flooring.

2. How to lay the InFloor cable in-concrete flooring?

Installation of Infloor Cable in-concrete flooring is similar to illustration 1 above and you have to follow all the steps except for strapping the cable. As in case of concrete flooring, the floor consists of reinforced cement concrete, the cable shall be laid on the reinforced steel and tied / strapped at definite intervals to the steel bars.

Cross Section details of concrete floor:



10. WARRANTY

Cenika Varme AS provides a warranty for the Infloor Cables for a period of 25 years from date of installation.

In case of defective cable, Cenika Varme obligation will be limited to repair or supply a new cable, free of charge to the customer.

The warranty does not cover installations made by unauthorized persons or faults caused by incorrect design by others / misuse / damage caused by others / damage in transit / incorrect installation and any other subsequent damage that may occur. Repair / replacement will be fully chargeable if the damage is because of any of the above reasons.

Cenika Varme AS is under no circumstances liable for consequential damages or losses including without limitations the loss or profit arising from any cause whatsoever. The warranty is a material warranty only for the heating cable and does not cover field labor.

The warranty is void if there is any payment default, details are not entered on Control Card. We recommend the control card is registered online.

11. CONTROL CARD

Sl. No.	Test	Before commencing of installation	After installation of cable but before final flooring	After final flooring
	Kontinuitet			
	Isolasjonsmotstand (M.ohm)			
	Motstand (Ohm)			
Address of installation				
Date of installation				
Name and Signature of Qualified Electrician				
Note: Ensure this control card is filled & signed by authorized electrician and safely stored along your floor plan.				

After End of life cycle, the product shall be disposed as per local norms.



12. YOUR FLOOR PLAN

