

INSTALLASJONSVEILEDNING

Utendørs oppvarming med InSnow Mat

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



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1. PRODUCT SPECIFICATIONS AND DETAILS

InSnow Mat are uniquely designed for snow melting in parking bays, Drive ways, Pavements, outdoor steps, roofs, etc. with total safety.

The heating cable is a twin conductor with cold lead to give power connection. The In Snow Mat consists of flexible plastic mesh (grid) that carry heating cable uniformly fixed on it

Specifications:

Type: Twin conductor

Voltage: 230/400 V AC RMS

Range: 300 W/ sqm for InSnow Mat (Please refer product range table)

Cold lead: 15.0 m.

Insulation: Fluoropolymer (FP) / Cross linkable polymer

Metal Sheath: Al Mylar tape with drain wire

Sheath: Polyolefin/ PVC

Outer Diameter: 7.0 mm

The hot and cold junction is uniquely designed to make it 100% fool proof.

InSnow Mat can resist 240 deg C for a short time.

The product you brought has the following information

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

2. Do's & Don'ts

Do's!!!!!!!!!!!!

- Check the InSnow Mats immediately after receiving for transit damage and make sure that it is not in a damaged condition. Check Voltage and Wattage of mat is as per selection made, which is marked on label of the product.
- The plastic mesh can be cut to suit for various layout options, but the heating cable cannot be cut.
- Mat should be separated from other heat sources such as luminaries and chimneys.
- The cold lead, normally 15m long, can be cut /extended to suit the location of the electrical power connection box.
- Minimum bending radius of the heating cable while laying shall not be less than about six times of the cable diameter.
- The installation of the snow melting system shall be in accordance with the manufacturer's instructions and local National codes.
- Take precautions to avoid damage to heating cable during installation, due to dropping of sharp objects or stepping or careless pouring of concrete or asphalt.
- Allow sufficient drying or the curing period of the concrete/asphalt after installing the heating system and before energizing the heating system.

Don'ts!!!!!!!!!!!!

- Never alter the heating Mat length in any circumstances
- Never touch, cross or overlap of heating cable / Mat itself.
- Never install any Mat below -10°C ambient temperature.
- Never provide Power supply in Reel form of the cable and roll form of the mat.

3. Electrical provision for the InSnow Mat:

The snow melting system installation wiring shall be in accordance with the national wiring rules. **RCD Installation:** InSnow mat should be connected to a Ground Fault Circuit Interrupter (GFCI) / Residual Current Device (RCD) / equivalent having a rated residual operating current not exceeding 30mA.

Incase GFCI / RCD trips during normal operation, and cannot be reset, there is likely a fault in the circuit. No attempt should be made to re-energize the system. GFCI / RCD must not be bypassed in any circumstances.

4. Control of Snow Melting System:

- A control suitable for Snow Melting system with pavement mounted sensor should be used with Insnow mat.
- The floor sensor location shall be in open area, away from trees or bushes so that it can sense moisture in the air / snow fall and initiate the energisation of heating mat.
- Keep the power leads conduit separate from the sensor cable conduit.
- In case of Snow Melting system of load below the thermostat power rating, it can be connected directly to a control electronic thermostat as per the figure which gives typical scheme of electrical system.
- In case of snow melting system of load more than thermostat power rating, you may consult a qualified electrician for the scheme.
- For easy reference, fix a label at power distribution board indicating the location of the heating units installed.



5. Installation Instructions for Insnow Mats:

Testing:

Measure the cable resistance and Insulation resistance before commencing installation, before applying concrete/ asphalt and after the concrete/ asphalt is applied and record the readings on Control Card provided at the end of this manual.

5.1. Installation under Asphalt:

1. Use an insulation layer below the concrete subfloor (optional)
2. Apply the concrete layer of approx 50 mm over insulation and allow the concrete to set fully.
3. Clean the area below the heating mat so that it is free from sharp objects.
4. Lay the Mats according to the plan and fasten them to the reinforcing rods/ Cable laying strips so that they do not move during concrete/asphalt pouring.
5. Take the cold lead of the Cable through conduit pipe into the junction box. Do not use excessive forces to pull the cold leads otherwise it may damage the hot-cold splice.
6. Ensure that the heating cable and cold lead cable connections (splice joint) are completely enveloped by the asphalt (allow asphalt to cool to temperature of approx 100°C before pouring it over the splice joint) and without air pockets.

7. There are two main installation methods for Asphalt:

7.1 Mats are covered with sand or concrete before Asphalt is applied:

Before Asphalt is applied; a thin layer of sand or concrete (20 mm thick) is used to cover the top of the cables to protect them from the heat of the asphalt. Allow the asphalt to cool to a temperature of 130 to 140 deg C before it is applied.

7.2 Asphalt is applied directly on the mats:

Cenika Varme recommends InSnow Mat for direct asphalt application as it can resist 240 deg C for a short time. With this type of cables, it is not necessary to cover the cables with sand. This reduces the time and the installation cost. In order not to damage the cable, heavy machinery (Rollers or Asphalt laying machines should not be used on the cables.

8. Position the snow sensor in the open area, away from trees or bushes so that it can sense the moisture in the air / snow fall and initiate the heating of the cables. The sensor cables must be protected by a suitable conduit pipe (suitable to 240° C short terms). The conduit pipe is sealed at the end so the asphalt cannot seep in.

9. The cold leads also should be protected by a suitable conduit pipe (suitable to 240° C short terms) and its ends sealed so that Asphalt does not seep in.

10. The asphalt should have a minimum thickness of approx 50 mm measured from the top of Insnow mat.

11. After the asphalt gets hardened, provide all the required connections (Snow sensor, thermostat etc). before switching on the heating Mat.

5.2. Installation under Concrete:

1. Follow the Sr. No 1 to 5 as mentioned in Installation under Asphalt on page 5.

2. The concrete mixture must not contain sharp stones as these may damage the cables. Pour the concrete covering the cables completely without leaving any air pockets.

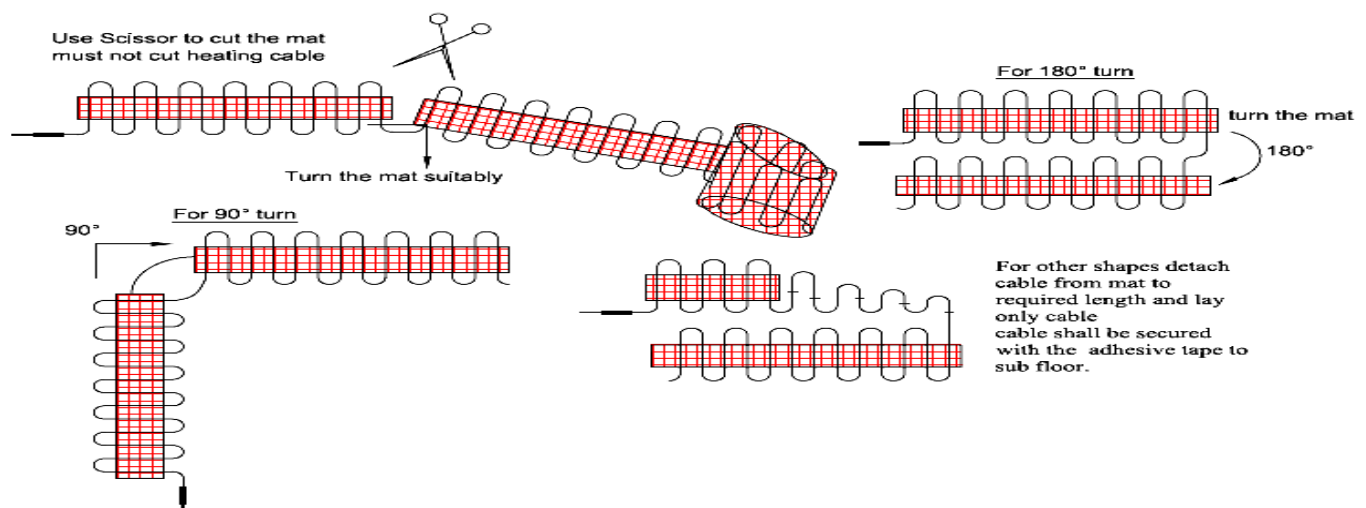
3. Position the snow sensor in the open area, away from trees or bushes so that it can sense the moisture in the air / snow fall and initiate the heating of the cables. The sensor cables must be protected by a suitable conduit pipe. The conduit pipe is sealed at the end so the concrete does not seep in.

4. The cold leads also should be protected by a suitable conduit pipe and its ends sealed so that concrete does not seep in. The concrete should have a minimum thickness of approx 50 mm measured from the top of Insnow Mat.

6. Installation Instructions for InSnow Mats:

Installation procedure for InSnow Mats ar lying and fastening to the reinforced rods is not necessary. You can simply unroll the mat on prepared surface before pouring Asphalt or Concrete as Mentioned above.

The Mat can be cut and turned at 90° or 180° while laying to cover the total area. Don't cut the Cable. Refer the below picture for guideline.



Range of Products @ 230V:

Toleder 300W/m2 @ 230V						
Art.nr	Art.navn	B (m)	L (m)	m2	Watt	Ω
CVA10600	InSnow 300T 230V/300W 1m2 50cm	0,5	2	1	300	176.33
CVA10601	InSnow 300T 230V/600W 2m2 50cm	0,5	4	2	600	88.17
CVA10602	InSnow 300T 230V/1200W 4m2 50cm	0,5	8	4	1200	44.08
CVA10603	InSnow 300T 230V/1500W 5m2 50cm	0,5	10	5	1500	35.27
CVA10604	InSnow 300T 230V/1800W 6m2 50cm	0,5	12	6	1800	29.39
CVA10605	InSnow 300T 230V/2100W 7m2 50cm	0,5	14	7	2100	25.19
CVA10606	InSnow 300T 230V/2400W 8m2 50cm	0,5	16	8	2400	22.04
CVA10607	InSnow 300T 230V/3000W 10m2 50cm	0,5	20	10	3000	17.63
CVA10608	InSnow 300T 230V/3600W 12m2 50cm	0,5	24	12	3600	14.69
CVA10609	InSnow 300T 230V/3000W 10m2 100cm	1	10	10	3000	17.63
CVA10610	InSnow 300T 230V/3600W 12m2 100cm	1	12	12	3600	14.69
CVA10611	InSnow 300T 230V/4200W 14m2 100cm	1	14	14	4200	12.60
CVA10612	InSnow 300T 230V/4800W 16m2 100cm	1	16	16	4800	11.02
CVA10613	InSnow 300T 230V/5400W 18m2 100cm	1	18	18	5400	9.80
CVA10614	InSnow 300T 230V/6000W 20m2 100cm	1	20	20	6000	8.82

Range of Products @ 400V:

Toleder 300W/m2 @ 400V						
Art.nr	Art.navn	B (m)	L (m)	m2	Watt	Ω
CVA10620	InSnow 300T 400V/1200W 4m2 50cm	0,5	8	4	1200	133.33
CVA10621	InSnow 300T 400V/1800W 6m2 50cm	0,5	12	6	1800	88.89
CVA10622	InSnow 300T 400V/2400W 8m2 50cm	0,5	16	8	2400	66.67
CVA10623	InSnow 300T 400V/3000W 10m2 50cm	0,5	20	10	3000	53.33
CVA10624	InSnow 300T 400V/3600W 12m2 50cm	0,5	24	12	3600	44.44
CVA10625	InSnow 300T 400V/2400W 8m2 100cm	0,1	8	8	2400	66.67
CVA10626	InSnow 300T 400V/3000W 10m2 100cm	0,1	10	10	3000	53.33
CVA10627	InSnow 300T 400V/3600W 12m2 100cm	0,1	12	12	3600	44.44
CVA10628	InSnow 300T 400V/4200W 14m2 100cm	0,1	14	14	4200	38.10
CVA10629	InSnow 300T 400V/4800W 16m2 100cm	0,1	16	16	4800	33.33
CVA10630	InSnow 300T 400V/5400W 18m2 100cm	0,1	18	18	5400	29.63
CVA10631	InSnow 300T 400V/6000W 20m2 100cm	0,1	20	20	6000	26.67

7. WARRANTY

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

In case of defective Mat, Cenika Varme AS obligation will be limited to repair or supply a new Mat/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 limitation the loss or profit arising from any cause whatsoever. The warranty is a material warranty only for the heating Mat/cable and does not cover field labor.

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

8. CONTROL CARD

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

YOUR FLOOR PLAN

