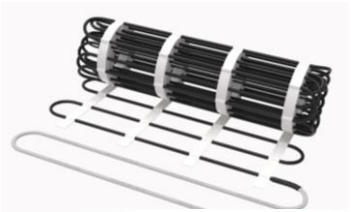
DE-ICERMAN

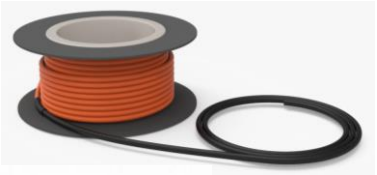
De-Ice Your World!



Installation Manual

Electric Snow-Melting Mats & Cables







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PRODUCT OVERVIEW AND SPECIFICATIONS

Snow Melting Mats/Cables are uniquely designed for the total and safe removal of snow and ice from various exterior surfaces, including parking lots, driveways, pavements, stairs, bridges, and roofs. Our system utilizes a twin-conductor heating cable that is securely pre-taped for fast and easy installation. The cable layout is consistently spaced, ensuring even heat distribution across the surface for reliable and efficient snow-melting performance.

Item	Heating Mat	Heating Cable
Power	50W/ft²	12W/ft
Voltage	120/240V	120V/240V
Wire Insulation	Fluoropolymer	Fluoropolymer
Ground	Wrapped copper shielding	Wrapped copper shielding
Jacket	PVC	PVC
Cable diameter	6~8mm	6~8mm
Cold lead length	20ft	20ft
Cold lead gauge		
Covered Area	6~120ft²	6~120ft²
Mat width	2ft or 3ft	
Cable spacing	3inch	3~5 inch
Certification	CCSAus	CCSAus

Application: Outdoor use only, embedded in concrete, asphalt, sand, interlock
Minimum bend radius: 3 inch (75 mm)
Maximum exposure temperature (continuous and storage): 221°F (105°C)
Maximum exposure temperature (short-term for asphalt covering): 285°F (140°C)
Minimum installation temperature: 14°F (-10°C)
Maximum continuous operating temperature (ambient): 68°F (20°C)

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Sizing Guides OF SNOW MELTING MAT AND CABLE

DE-ICERMAN Snow Melting Sizing Guide – **Heating Mats**

Voltage **V**	Model	Specifications					
		Area **FT²**	Size (W*L) **FT**		Power **W**	Current **A**	Resistance **Ohm**
120	D-SMM121-0300	6		2'*3'	300	2.5	48.00
	D-SMM121-0500	10		2'*5'	500	4.2	28.80
	D-SMM121-1000	20		2'*10'	1000	8.3	14.40
	D-SMM121-1500	30	3'*10'	2'*15'	1500	12.5	9.60
	D-SMM121-2000	40		2'*20'	2000	16.7	7.20
	D-SMM121-2250	45	3'*15'		2250	18.8	6.40
	D-SMM121-2500	50		2'*25'	2500	20.8	5.76
	D-SMM121-3000	60	3'*20'	2'*30'	3000	25.0	4.80
240	D-SMM122-0300	6		2'*3'	300	1.3	192.00
	D-SMM122-0500	10		2'*5'	500	2.1	115.20
	D-SMM122-1000	20		2'*10'	1000	4.2	57.60
	D-SMM122-1500	30	3'*10'	2'*15'	1500	6.3	38.40
	D-SMM122-2000	40		2'*20'	2000	8.3	28.80
	D-SMM122-2250	45	3'*15'		2250	9.4	25.60
	D-SMM122-2500	50		2'*25'	2500	10.4	23.04
	D-SMM122-3000	60	3'*20'	2'*30'	3000	12.5	19.20
	D-SMM122-3500	70		2'*35'	3500	14.6	16.46
	D-SMM122-4000	80		2'*40'	4000	16.7	14.40
	D-SMM122-4500	90	3'*20'	2'*45'	4500	18.8	12.80
	D-SMM122-5000	100		2'*50'	5000	20.8	11.52
	D-SMM122-5500	110		2'*55'	5500	22.9	10.47
	D-SMM122-6000	120	3'*40'	2'*60'	6000	25.0	9.60



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Sizing Guides OF SNOW MELTING MAT AND CABLE(Continue)

DE-ICERMAN Snow Melting Sizing Guide – **Heating Cable**

Voltage V	Model	Coverage with Cable spacing (sqft)						
		Length ft	Power **W**	Current **A**	Resistance **Ohm**	3 "	3.5 "	4 "
						50 w/Sqft	40 w/Sqft	37.5 w/Sqft
120	D-SMC121-1000	83	1000	8.3	14.40	20.8	24.2	27.7
	D-SMC121-2000	167	2000	16.7	7.20	41.8	48.7	55.7
	D-SMC121-2500	208	2500	20.8	5.76	52	60.6	69.3
	D-SMC121-3000	250	3000	25.0	4.80	62.5	73	83.3
240	D-SMC122-0432	36	432	1.8	122.5	9	10.5	12
	D-SMC122-0660	55	660	2.8	80.2	13.8	16	18.3
	D-SMC122-0840	70	840	3.5	63	17.5	20.4	23.3
	D-SMC122-1000	83	1000	4.2	52.9	20.8	24.2	27.7
	D-SMC122-1260	105	1260	5.3	42	26.3	30.6	35
	D-SMC122-1500	125	1500	6.3	35.3	31.3	36.4	41.7
	D-SMC122-1680	140	1680	7	31.5	35	40.8	46.7
	D-SMC122-2000	167	2000	8.3	26.5	41.8	48.7	55.7
	D-SMC122-2220	185	2220	9.3	23.8	46.3	54	61.7
	D-SMC122-2500	208	2500	10.4	21.2	52	60.6	69.3
	D-SMC122-2700	225	2700	11.3	19.6	56.3	65.6	75
	D-SMC122-3000	250	3000	12.5	17.6	62.5	73	83.3
	D-SMC122-3500	292	3500	14.6	15.1	73	85	97.3
	D-SMC122-4000	333	4000	16.7	13.2	83.3	97	111
	D-SMC122-4500	375	4500	18.8	11.8	93.8	109	125
	D-SMC122-5000	417	5000	20.8	10.6	104.3	122	139
	D-SMC122-5500	458	5500	22.9	9.6	114.5	133	152.7
	D-SMC122-6000	500	6000	25	8.8	125	146	166.7



BEFORE INSTALLATION

PREPARATION AND REQUIREMENTS

** *Measure and plan the heating area for the snow-melt mats or cables, taking into account any obstacles such as lights, poles, columns, handrails, or drains. For complete snow removal, choose mats that fully cover the intended area.*

Important Notes:

1. The heating portion of the device must never cross, overlap, or touch itself at any point. The heating cable should not be cut, shortened or lengthened.
2. Heating elements must not be cut, shortened, or extended; modifying the cable length voids warranty and risks overheating.
3. Exercise extreme caution during installation to prevent damage to the heating cable jacket.
4. Do not drop heavy objects or drive vehicles over the cables before they are fully embedded.
5. Careful handling is required during the pouring of concrete or the application of asphalt.
6. The device is designated for use in general and wet locations (marked: -G, -W).
7. The minimum bending radius of the heating cable during installation must be at least 3 inches (75 mm), or no less than 10 times the cable's diameter.
8. The minimum allowable installation temperature is 14°F (–10°C).
9. The maximum operation ambient temperature is 68°F (20°C).
10. The standard cold lead is 20 ft (6 m) in length and can be or extended with a conventional splice, inside of an accessible power junction box it should be weatherproof for outdoor installation
11. The snow/moisture sensor should be installed in an open area, positioned away from trees or bushes, to ensure accurate detection of ambient moisture or snowfall and to properly activate the heating cable.
12. The distance between the heating device and any combustible surface must be at least 2 inches.
13. The heating device must not be installed in direct sunlight, and no additional thermal insulation materials should be applied during installation.
14. Do not cut or shorten the cable under any circumstances; the cable/joint must not be subjected to strain.
15. Verify the continuity and resistance of the snow-melting mats/cables before and after installation. The measured resistance should match the value listed in the Sizing Guide on the previous page, with an allowable tolerance of 5% to 10%.
16. High-voltage power wires must be routed in a separate conduit from low-voltage wires.
17. Allow adequate drying or curing time for the concrete, asphalt, or sand after installing the snow-melting mat/cable and before energizing the heating cable.
18. For easy reference, attach a label on the power distribution board indicating the installation locations of the snow-melting mats/cables.
19. The intended use is "IEEE 515.1 Installation Type C – Embedded Snow Melting.
20. All outdoor embedded installations must include a manufacturer-provided nameplate, as required by NEC 426-13.

NOTE: The installation shall follow all enclosed instructions and comply with all applicable local and national electrical codes, including ANSI/NFPA 70, NEC Article 426, and the Canadian Electrical Code (CEC) Part I section 62 or the National Electrical Code (U.S.A.), with specific reference to GFCI, GFEP, and RDC requirements as applicable.

WARNING:

Compliance with applicable ground fault protection requirements is mandatory, particularly when a ground fault protection device is not supplied with the heating unit itself.
The cable must NOT be compromised by shortening, cutting, or being subjected to any tensile strain at the cable/splice point.
NEVER power up the heating cable before it is fully encased within concrete, asphalt, or sand (including all testing purposes). This critical step prevents premature cable burnout and failure. Connection to the mains must be performed only by an electrician who is fully authorized and certified.

CAUTION: A ground-fault protection device shall be used with this heating device.

CONTROL OF SNOW MELTING SYSTEM

Your snow-melting system should ideally be operated using approved and supported DE-ICERMAN recommended control devices. These may include intelligent dual-zone control panels installed indoors or simpler outdoor control boxes with integrated sensors.
Carefully review the following sections when determining the appropriate placement of your sensors.

Recommended Thermostat Technical Specifications:
• Equipped with CSA, UL, or other certifications compliant with Canadian and U.S. safety standards.
• Rated current must exceed the maximum current of the snow-melt heating system.
• Includes moisture and temperature detection capabilities.
• Provides optimal control for heated driveways, walkways, and stairways.

Temperature switches and controls shall comply with the following requirements:
• A combined temperature-limiting and regulating device with an endurance rating of 250,000 cycles; or
• A temperature-regulating device used in conjunction with a separate temperature-limiting device with an endurance rating of 100,000 cycles.

Rated voltage	120V/240V 50/60Hz
Temperature control range	5~40℃
Time-meter	hold-on timer 1~24H programmable
Controllers	Automatic and manual override operator control
Sensor	Maximum 2 sensor capability

STATEMENT:
a) De-energize all power circuits before installation or servicing.
b) Keep the ends of the heating devices and all kit components dry before and during installation.
c) The conductive layer of the heating device must be connected to an appropriate grounding/earthing terminal.

RELAY CONTACTORS

Note the distinction between a control panel and a relay contactor. A control panel interprets sensor inputs and sends the necessary signals to operate the heating cables. Depending on the model, control panels may offer programmable and user-defined settings. When a large number of heating cables are used (typically exceeding 45 amps), DE-ICERMAN recommends installing one or more contactor panels. The contactor panels receive the connections from the heating cable leads and are then linked to the main control devices. If you have any questions, please contact your DE-ICERMAN representative.

INSTALLING SENSORS — CONDUITS AND FEEDER CABLES

When using a controller or other indoor-mounted options provided by DE-ICERMAN, one or more ground and/or roof sensors must be installed. Ground and roof sensors can be integrated on the same controller. Installing multiple sensors allows the system to collect faster and more varied data—such as conditions on the north and south sides of a building—resulting in more accurate activation of the heating system.

PLACEMENT OF SENSORS

One fundamental principle is to position one sensor where snow and ice will appear first, and another where they will melt last. This ensures complete clearing of snow and ice. For example, on a sloped driveway leading to an underground garage, install one sensor at the top of the slope and another at the bottom. Sensor combinations may be ground-ground or ground-roof.

If only a single sensor is used, you must choose between prioritizing fast detection or a longer melt period—by placing it in the area where snow will disappear last.

Ground sensors must be located within the heated area. Because they detect both moisture and temperature, they should be installed midway between the heating wires, anywhere within the heating zone, and preferably at least 3 ft (1 m) inside the edges of the heated area. Maintain a minimum clearance of 1 inch between sensor conduits, sensors, and the heating cable. Never place two sensors within 3 ft of each other.

After selecting the sensor locations, install PVC or metal conduits and ensure all connections are properly sealed. The ground sensor mounting base is designed to be secured to a stable surface (such as a wood block or concrete block) to prevent it from being pushed downward during or after the concrete pour. Always secure the conduits to the base structure (rebar, compacted gravel base, blocks) to prevent movement during the pour. Conduits must run from the sensor location to the control panel. Verify the specifications and tail length of the selected ground sensor; a feeder cable may be required to extend the connection to the control panel.

NOTE: INSTALLATION IN ASPHALT

The temperature around the sensor and conduit must not exceed 80 °C (176 °F), which is lower than typical asphalt pours temperatures. For asphalt installations, always use metal conduits and install the sensor after the pour. Build a small wooden form to protect the sensor area during pouring, then place the sensor and complete the remaining asphalt around it.

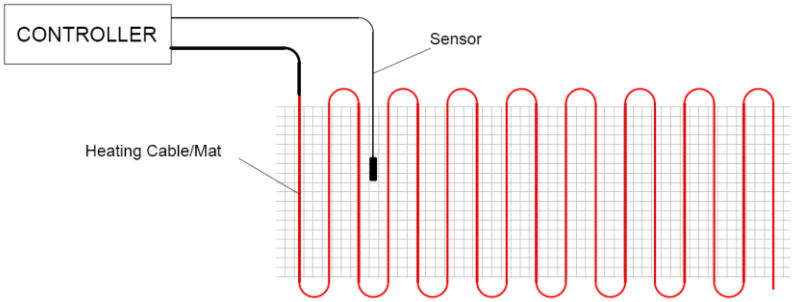
ELECTRICAL PROVISIONS

The heating system wiring must comply with the National Electric Code and all applicable local codes. Recommended controls and accessories include:

- **Floor/ground-sensing temperature controller or thermostat**
- **Plastic or wire zip ties**
- **GFCI (Ground Fault Circuit Interrupter)**
- **Dedicated circuit breaker(s) for all heater circuits**

The thermostat junction box should be installed approximately 4 ft (1.2 m) above ground for easy access. Route the sensor wire and the heating cable cold leads to the thermostat or power connection box in separate conduits.

If the heating system load is below 7,200 W at 120 V or 14,400 W at 240 V (based on thermostat rating), it may be connected directly to an electronic thermostat as shown in the typical wiring diagram. For loads exceeding the thermostat rating, contact DE-ICERMAN.



HEATING SYSTEM

All electrical connections must be performed by a licensed electrician and comply with all applicable local and national electrical codes.

Ensure sufficient amperage is supplied to the control panel or relay contactor based on the total mats or cables purchased. Confirm with your DE-ICERMAN representative whether a contactor panel is required. Both control and contactor panels are typically mounted indoors and located side by side.

All circuits must be GFCI protected. Some control panels include built-in GFEP protection—verify with your DE-ICERMAN representative or refer to the controller specification sheet.

Provide the correct supply voltage (120 V or 240 V) to the controller or relay panels. If a 208 V 3-phase connection is required, ensure proper wiring, as the amperage load will differ.

Sensor wires are often low-voltage and must always be routed in their own separate conduits. Multiple heating cable leads may share a conduit, but the heating portion of the cable must never be placed inside PVC or metal conduit.

Lead wires may be extended or shortened as needed, but never cut the heating cable. When extending lead wires, use a wall-mounted or in-ground weather-proof junction box.

CABLE SPACING AND HEATING OUTPUT

For pre-assembled DE-ICERMAN snow-melting mats, the standard cable spacing is approximately 3 inches, delivering 50 W/ft².

For loose cable installations or manually spaced mats, the maximum recommended spacing is 4 inches, providing 37 W/ft². Spacing should not exceed 5 inches or be less than 2 inches for outdoor applications.

Braker Size

Follow below table for breaker size

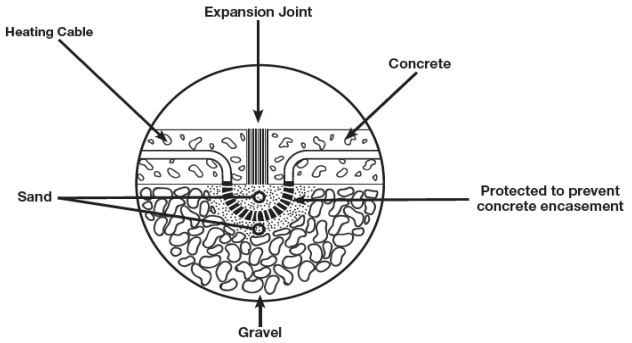
Breaker Size (Amps)	Maximum design load (Amps)
40	32
30	24
20	16
15	12

CABLE DE-RATING

It is permissible to de-rate the heating cable. To maintain the standard 3" spacing (50 W/ft² output), 240 V–rated mats may be supplied with 208 V power. **ALWAYS CONSULT YOUR ELECTRICIAN AND YOUR DE-ICERMAN REPRESENTATIVE** for precise calculations.
De-rating from 240 V to 208 V reduces the output from 50 W/ft² to approximately **37 W/ft²**, allowing greater coverage while lowering the amperage load.

MANUAL EXPANSION JOINTS (CONCRETE INSTALLATIONS)

When installing mats or cables in concrete slabs, plan carefully for any expansion-joint cuts. Ensure the cable is not exposed to excessive tension and **never route the heating cable across an expansion joint**. Where joints exist, separate mat/cable sections should be used whenever possible.
Alternatively, mark the expansion-joint locations on the sub-base and apply a **2" × 2" downward loop** in the cable. This places the cable deeper to avoid saw blades and provides added flexibility as the slab expands and contracts seasonally.



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INSTALLATION INSTRUCTIONS - UNDER ASPHALT

When installing regular snow-melt mats or cables under asphalt, it's best to embed them in a thin layer of sand or concrete ¾" – 1" thick should be used to cover the top of the cables to protect them from the heat of the asphalt.

Note: *An electrician should use a megohmmeter and multimeter to measure both cable resistance and insulation resistance (1) before installation begins, (2) before applying asphalt, and (3) after the asphalt is applied. Record all readings in this manual. If any damage is detected, stop immediately and contact DE-ICERMAN.*

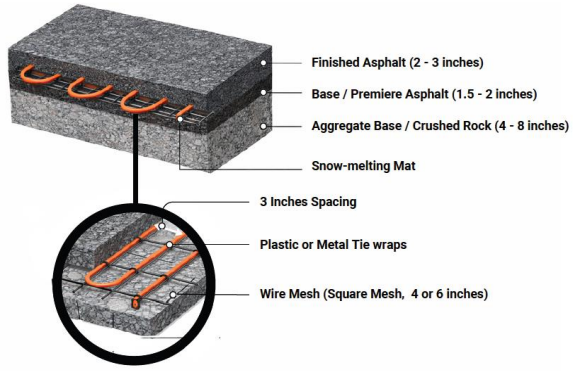
1. Ensure the contractor prepares a solid 4"–8" (102–203 mm) base of concrete, sand, or compacted aggregate before applying the asphalt.
2. Clean the area where the heating mat or cable will be installed, ensuring it is free of sharp objects. It is critical to keep heavy equipment, machinery, vehicles, shovels, and rakes away from the cable to avoid damage. When applying asphalt, use a roller with a maximum load of 2 tons. To reduce strain on the cable, lay the mats perpendicular to the roller's travel path.
3. Lay down the binder/base coat of asphalt and roll it smooth. The paving contractor should determine whether the binder coat needs to cool before continuing with the installation.
4. Unroll the mat or place the cable on the prepared surface (with the heating wires facing downward and the mesh facing upward to help protect the wires according to your layout plan. Apply a coat of bituminous binder.
   Refer to page 12, **"How to Modify the Mat,"** if any adjustments are needed.

Note: Test the mats/cables to ensure they have not been damaged and record all reading

5. Once the mats/cables are in place, route the provided cold lead(s) through a rigid metal conduit to an accessible weatherproof junction box. The electrician may install junction boxes that can be accessed from above, with the remainder of the box buried to protect it from vehicles or lawn equipment.

Note: Ensure that no heated section of the cable enters the conduit. Seal the ends of the conduit after routing the leads.

6. Sensors may be installed within the asphalted area. Refer to the earlier section "Placing Ground Sensors" on **page 7** for proper installation guidelines.
7. When the mat or cable is embedded in sand or mortar, the asphalt layer should not exceed 1.5 inches for optimal performance. If asphalt is being poured directly over the mat or cable, **allow it to cool to 285°F (140°C)** or below before application. In this case, a maximum thickness of **2 inches** of asphalt is recommended for best results.
8. After the asphalt has hardened, test the system again and record the results to confirm there is no damage. This ensures the installation is ready for activation once the asphalt has fully cured.
9. For easy reference, attach a label at the power distribution board indicating the location of the heating cables.



INSTALLATION INSTRUCTIONS UNDER CONCRETE

Note: Using a megohmmeter and a multimeter, the electrician must check both the cable resistance and insulation resistance at three stages: (1) prior to installation, (2) before concrete placement, and (3) after the concrete has been poured. All measurements should be documented. If any abnormal readings or damage are identified, STOP immediately and contact DE-ICERMAN.

1. Ensure the paving contractor has a solid 4”-8” (102–203mm) base of crushed rock aggregate, tamped and ready for the concrete pour.

2. Clean the area beneath the heating mat/cable, removing all sharp objects. Keep heavy equipment, machinery, vehicles, and sharp shovel or rake edges away from the cables to prevent damage.

3. For locations requiring handrails, the concrete installer should pre-sleeve the posts to avoid drilling after the pour. Route the mat/cable around all sleeves/posts, ensuring no direct contact. The mat/cable must not pass through expansion joints. Mark expansion joint locations with spray paint to prevent accidental cutting or drilling once the cables are hidden in concrete. Refer to pg.12 “How To Modify the Mat” if adjustments are needed.

4. Place the mat or cable on the tamped aggregate with the mesh facing up. Stake it securely so it remains flat. (Note: test and record mat/cable resistance readings.)
5. Route cold leads through rigid PVC or metal conduits to an accessible weatherproof junction box. Ensure no heated section enters any conduit and do not pull aggressively on cold leads to avoid damaging the splice. Seal conduit ends.

6. A ground sensor may be placed outside the paved area, but when installed within the slab (recommended), secure it properly so it does not sit flush with the final concrete surface. It may be mounted on a wood or concrete block.

7. Use a separate conduit for the low-voltage sensor wire. Do not share conduits with any high-voltage cold leads.

8. After installing conduits and sensors, pour sand to fully cover the mats/cables without air pockets. Maintain 1.5" (38mm) of sand coverage, but no more than 2" (51mm).

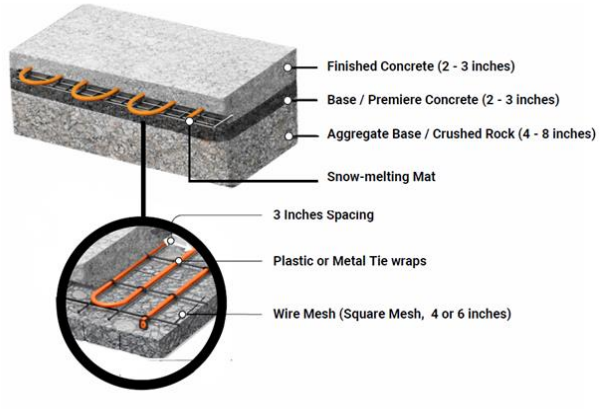
9. An electrician must perform final tests with a multimeter and megohmmeter, recording all readings and verifying each mat/cable is in proper working order before energizing after the sand has cured.

For easy reference, attach the layout plan to the power distribution board to show the heating cable locations.

INSTALLATION INSTRUCTIONS UNDER CONCRETE (continued)

FOR SINGLE POUR INSTALLATION

1. Secure the snow melt mats/cables to the wire mesh or rebar using 3”–4” (51–76 mm) plastic zip ties.
2. Raise the mesh/rebar with concrete rubble or brick pavers so the heating mat/cable sits 2”–3” (51–76 mm) below the finished surface. Ensure the mesh side faces up to protect the cable.
3. Route the cold lead(s) through rigid metal or PVC conduits to an accessible, weatherproof junction box. Keep all heated cable sections out of conduits. Do not pull the leads with excessive force. Seal conduit ends.
4. Use a separate conduit for the low-voltage sensor wire. Do NOT share it with any high-voltage cold lead.
5. After conduits and sensors are in place, pour the concrete, fully covering the mats/cables without air pockets. Provide at least 2” (50 mm) of concrete above the heating cable.
6. An electrician must perform final multi-meter and megohmmeter testing, recording all readings before energizing the system.
7. Attach the layout plan to the power distribution board for reference



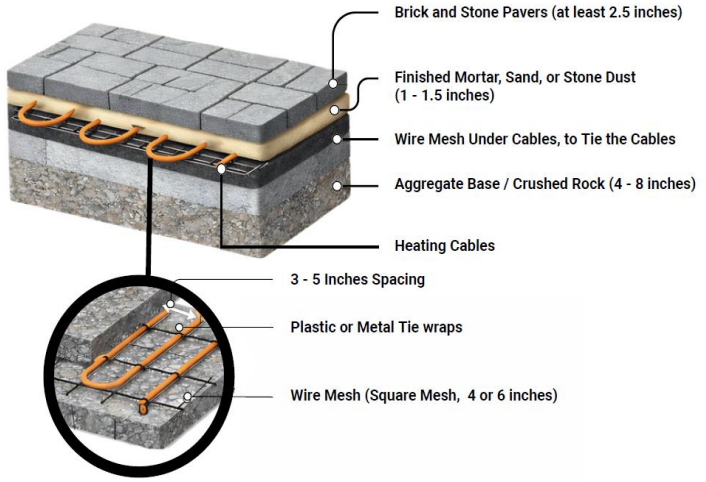
INSTALLATION INSTRUCTIONS UNDER PAVERS

Note: Using a megohmmeter and multi-meter, an electrician must check cable resistance and insulation resistance (1) before adding sand, and (2) after sand is placed. Record all readings. If damage is detected, STOP and contact DE-ICERMAN.

1. Ensure the contractor has a compacted 4”–8” (102–203 mm) crushed rock base ready for the mortar or sand/gravel installation.
2. Keep all heavy machinery, vehicles, and equipment away from exposed heating cables. We strongly recommend periodic resistance checks during installation to detect any early faults.
3. For stairs, ramps, or areas requiring handrails, have the installer pre-sleeve all posts to avoid drilling into cured mortar. Route the heating mats/cables around all sleeves or posts. Clearly mark cable paths for all contractors.
4. When installing over sand or gravel, secure mats/cables with landscape staples or provided cable strips. Add a second 1” layer of sand or gravel over the cables before placing pavers.
5. Route cold leads through metal or PVC conduits to a weatherproof junction box. Keep heated cable sections out of conduits. Plan sensor locations in advance when using in-ground sensors. Test mats/cables and record readings.
6. Avoid walking on the factory splice and protect cables from damage by shovels or rakes.

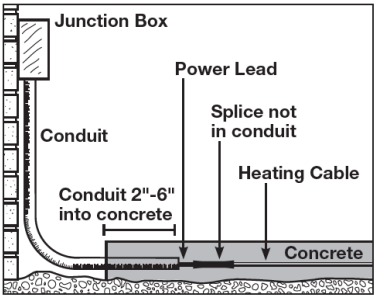
7. After the mortar is poured and cured, an electrician must complete final testing with a multi-meter to confirm each cable is operating properly. Record all values at the back of this manual.

Pavers Sand DE-ICERMAN Snow Mat Sand 4-8” of hardcore base.



INSTALLATION POWER LEAD CABLE

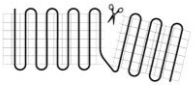
Mat/cable cannot be laid closer than 6 inches from the edges of slabs. In asphalt, this is increased to 12 inches from the edge where no curb is provided.



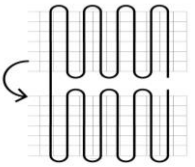
HOW TO MODIFY THE SNOW MELT MAT

Mats can be cut, turned and flipped to fit a specific area. NEVER CUT THE CABLE.

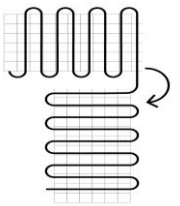
Basic Cut and Turn



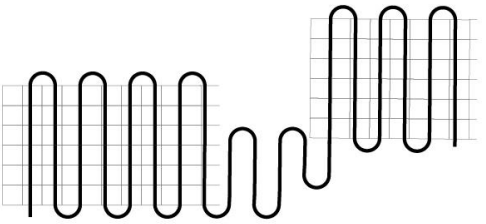
90° Turn-cut & flip mat



180° Turn-cut, and turn mat



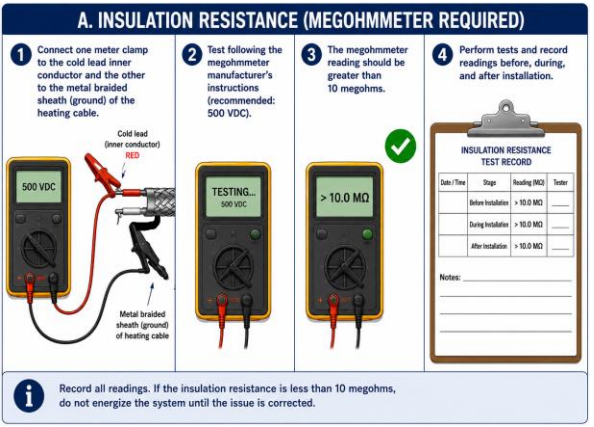
For non-standard layouts, the heating cable can be separated from the mat and adjusted to the required length. Ensure any loosened sections are properly secured, using an appropriate fastening method as required.



TESTING THE SNOW MELT MAT/CABLE

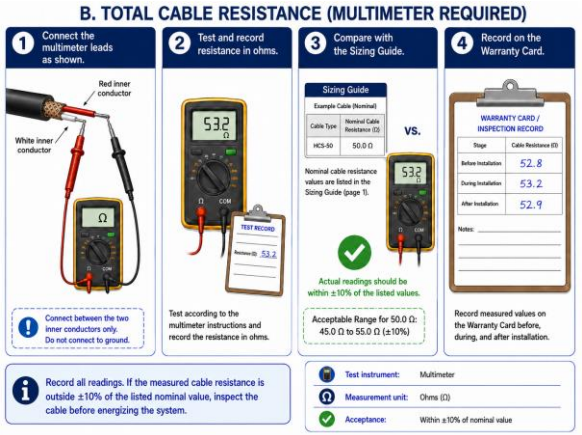
A. Insulation Resistance (Megohmmeter Required)

1. Connect one meter clamp to the cold lead inner conductor and the other to the metal braided sheath (ground) of the heating cable.
2. Test following the megohmmeter manufacturer's instructions (recommended: 500 VDC).
3. The megohmmeter reading should be greater than 10 megohms.
4. Perform tests and record readings before, during, and after installation.



B. Total Cable Resistance (Multimeter Required)

1. Connect one meter clamp to one cold lead inner conductor and the other clamp to the opposite cold lead inner conductor.
2. Test according to the multimeter instructions and record the resistance in ohms.
3. Nominal cable resistance values are listed in the Sizing Guide (page 1). Actual readings should be within ±10% of the listed values.
4. Record measured values on the Warranty Card before, during, and after installation.



INSTALLATION OF LOOSE CABLES

DE-ICERMAN loose cables are designed to allow for custom spacing and flexible installation on steps.

Methods to Secure the Cable

1. **Attached to Rebar Mesh or Similar:**
   - Secure cables to the reinforcement mesh using plastic zip ties.
   - Do **not** use metal clamps or twist the wire with drills.
   - Use the spacing chart provided in this manual to determine total square-foot output based on 3", 4", or 5" spacing.
   - Cables must not be spaced closer than 3" or wider than 5".

2. **Secured to DE-ICERMAN Cable Strapping:**
   - Lay the strap on the base (crushed gravel, sand, or concrete).
   - If necessary, secure with hot glue or liquid nails.
   - The cable weight usually holds the strap in place, but securing the outer straps is recommended to prevent shifting during concrete pouring or paver installation. based on 3", 4", or 5" spacing.
   - Apply straps at both ends of the installation and approximately every 3–5 ft (1–1.5 m) along the length to ensure consistent cable spacing.

When using a reinforcement mesh, such as rebar, secure the cables to the grid with **plastic zip ties**. Do **not** use metal clamps or twist wires with drills. Refer to the spacing chart in this manual to determine total square-foot output based on **3", 4", or 5" spacing**. Cables must not be spaced closer than 3" or wider than 5".

Alternatively, use DE-ICERMAN cable strapping to maintain consistent spacing. Lay the strap on the base (crushed gravel, sand, or concrete) and, if needed, secure it with hot glue or liquid nails. The weight of the cable usually holds the strap in place, but securing the outer straps is recommended to prevent movement during concrete pouring or paver installation. Apply straps at both ends of the installation and approximately every 3–5 ft along the length to ensure even cable spacing.

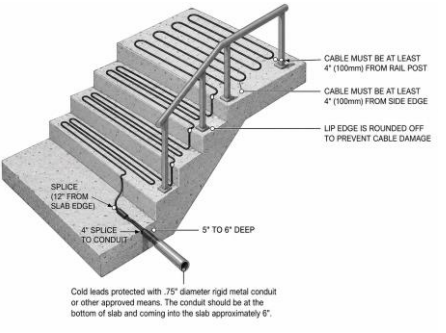
DE-ICERMAN Cable strapping

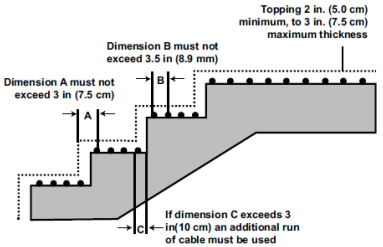




INSTALLATION LOOSE CABLE ON STEPS

DE-ICERMAN loose cables are designed for steps and landings. Follow these guidelines using the techniques and precautions outlined above:





Loose cables on steps

To select the right cable model for your installation, see the following example.
the proper installation in stairs.

LANDING

6 ft. x 6 ft. = 36 sq. ft.

x 4 (spaced at every 3 in.) = 144 ft.

STEPS

3 steps (12 in. x 6 ft. each)

4 lengths of cable per stair, Subtract 3 inches. from each side, making room for handrail posts

6ft – (3 "+ 3") = 5.5 ft. x 4 = 22 ft. + 3 ft. = 25 ft. (per stairs 3 ft. is the amount needed for curves and tread riser).

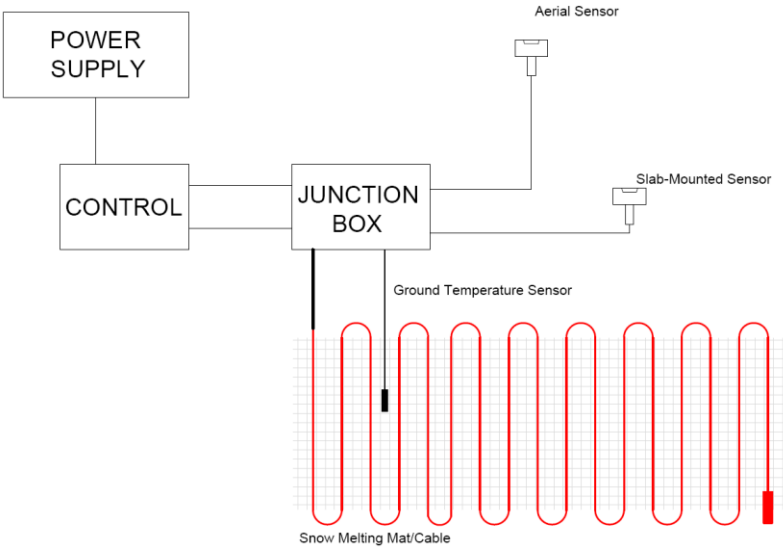
TOTAL CABLE REQUIRED

144 ft. + 25 ft. + 25 ft. + 25 ft. = 219 ft.

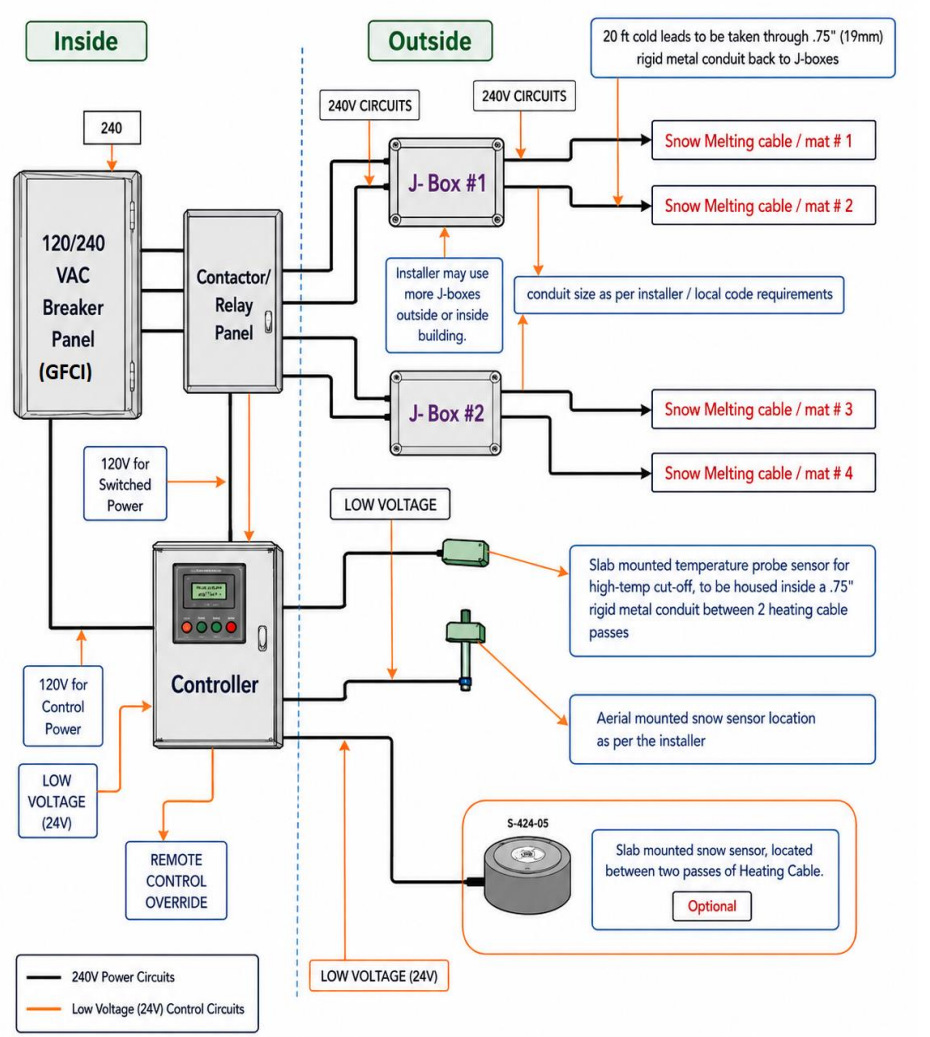
NOTICE:
Do not install the mat or cable on or under non-masonry stairs, such as wood or composite constructions.

1. Use DE-ICERMAN cable strapping, cut to approximately 10” (or the depth of the step). Apply strips every 2–3 ft (0.6–0.9 m) across the step width to maintain consistent spacing.
2. On a 10” deep step, install three runs of cable, with one run at the outermost edge to ensure heating coverage even if stones overhang the step. Contact DE-ICERMAN for unusual layouts or masonry work.
3. Begin installation nearest the 1” conduit provided for the lead wire, either at the top of the landing or bottom of the steps, and work sequentially up or down.
4. When moving to the next step, manually bend the cable 90° while gently countering the cable’s memory. Avoid over-bending. Route diagonally where possible to minimize bending radius, and lightly chisel sharp concrete edges if necessary.
5. If railings are planned, leave a minimum 6” clearance along step edges to accommodate post installation after masonry or concrete work.
6. Even when using cable strapping, apply hot glue at key points to secure bends and maintain proper cable positioning.

COMPLETE SNOW MELT SYSTEM



www.deicerman.com | 1-647-894-1347 | info@deicerman.com



TYPICAL LINE DIAGRAM SNOW MELT SYSTEM 240V - (FOR 4 CIRCUITS/CABLES) WITH PREMIUM CONTROL

DE-Icerman Snow Melt Warranty Registration

Thank you for purchasing De-Icerman Snow Melting System. Once the report form is completed, please copy the form and attach a copy to the main breaker box, or give to the homeowner or business owner.

Please send a copy to De-Icrman via mail to: sales@deicerman.com / info@deicerman.com

Project location/Owner information

Name:	Phone:	
Address:	Email:	
City:	Province:	Postal Code:
P.O. #:	Job Name:	

ELECTRICIAN INFORMATION			PAVING/CONCRETE INSTALLER INFORMATION		
Company Name			Company Name		
Address			Address		
City	Province:	Postal Code	City	Province	Postal Code
Installer Name	Phone		Installer Name	Phone	

Install Date:	Installed Under: ☐ Concrete ☐ Asphalt ☐ Pavers ☐ Other, If Pavers, thickness of the Paver:..... [2.5" (64mm) Max]
Material Depth Below Cable [2" (51mm) Min.]:	Material Depth Above Cable [1.5" (38mm) Min.]:

	Cable/Mat 1	Cable/Mat 2	Cable/Mat 3	Cable/Mat 4	Cable/Mat 5	Cable/Mat 6	Cable/Mat 7	Cable/Mat 8
Zone number								
OHM Reading 1 - Before Install								
*MegOHM Reading 1 - Before Install								
OHM Reading 2 - During Install								
*MegOHM Reading 2 - During Install								
OHM Reading 3 - After Install								
*MegOHM Reading 3 - After Install								

Megohms readings are done across the assembly's green ground wire to each conductor separately. Keep a copy of this form with your warranty documentation.

ABOUT THE WARRANTY

WARNING!

The warranty registration form must be **FILLED OUT and RETURNED** to **De-Icerman** for the warranty to be activated. Otherwise,

THE WARRANTY WILL NOT BE ACTIVATED OR VALID.

De-Icerman Inc. warrants the De-Icerman snow melting cables and mats ("the Product") to be free from defects in materials and workmanship for two years from the date of purchase, provided that the Product is installed in accordance with the De-Icerman product installation guide, any special written or oral design or installation guidelines provided by De-Icerman for the specific project that the Product is intended, the provisions of the National Electric Code (NEC), and all applicable local building and electrical codes.

If the Product is determined to be defective in materials and workmanship, and has not been damaged as a result of misuse, misapplication or improper installation, De-Icerman will replace the Product or refund the original cost of the Product. Controls sold under the De-Icerman name are warranted for two years from date of purchase. Should the control be defective or malfunction, return the control to De-Icerman and it will be repaired or replaced (at De-Icerman' option). The warranty does not cover removal or reinstallation costs.

See entire warranty in packaging. Other controls carry their manufacturer's warranty. De-IcermanInc. assumes no responsibility under this warranty for any damage to the Product prior to or during installation by anyone, including, but not limited to trades people or visitors to the job site, or damage caused as a result of post installation work.

The Limited Warranty is null and void if the Product owner or his representative attempts to repair the Product without receiving authorization. Upon notification of an actual or possible problem, De-Icerman will issue an Authorization to Proceed under the terms of the Limited Warranty.
De-Icerman reseves the right to void said warranty, if the product owner repairs any heating wire, for any reason.
Warranty Subject to the Following Conditions:
1. The warranty of the snow melting system must be registered by completing and returning the attached
'De-Icerman Warranty Registration' card to De-Icerman Inc. within (30)thirty days of date of purchase. Please keep your invoice, as proof of date of purchase will be required in the event of a claim.

2. The snow melting cables or mats must be installed properly under concrete, asphalt or in mortar under pavers
3. The snow melting system must be electrically grounded and protected by a GFI (Ground Fault Interrupter).
4. The installation must comply with all national and local electrical and building codes, as well as any other applicable statutory requirements.
5. The manufacturer hereby reserves the right to inspect the installation site at any reasonable time.

6. The warranty is not automatically transferred with change of ownership, but the manufacturer may, on application, transfer the warranty for the period remaining. This transfer is solely at the discretion of the manufacturer.
7. The snow melting should be used strictly in accordance with the following:
7a. Hard wire the snow melting cables and mats to a dedicated circuit. the voltage of the circuit should match the voltage of the snow melting system, and the size of the circuit should be such that the system does not occupy more than 80% of the circuit capacity.
7b. Should you feel no warmth from the surface that the system is installed within 60 minutes, verify that there is power to the control or thermostat. Contact De-Icerman after verifying that there is power to the system. Under no circumstances should you or anyone else tamper with or attempt to repair the snow melt system - this will render the warranty null and void.
7c. Switch the system on and off as you would any conventional electric heater, although timers or thermostats may be used if preferred.
7d. Use reasonable care in the operation of the system. Do not drop heavy articles, pierce or cut the surface that the heating system is installed.
7e. All restrictions and warnings detailed in the installation guide must be strictly followed.

DE-ICERMAN INC. DISCLAIMS ANY WARRANTY NOT PROVIDED HEREIN, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. DE-ICERMANFURTHER DISCLAIMS ANY RESPONSIBILITY FOR SPECIAL, INDIRECT,
SECONDARY, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING FROM OWNERSHIP OR USE OF THIS PRODUCT, INCLUDING INCONVENIENCE OR LOSS OF USE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE OF THIS DOCUMENT. NO AGENT OR REPRESENTATIVE OF DE-ICERMANHAS ANY AUTHORITY TO EXTEND OR MODIFY THIS WARRANTY UNLESS SUCH EXTENSION OR MODIFICATION IS MADE IN WRITING BY A CORPORATE OFFICER.