



June 2026 Webinar

Advanced Snow Melt Applications: Walkways, Stairs & Patios



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What We're Covering

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The Big Idea: It's All in The Plan

02

System Selection: Mats vs. Cable

03

Application Specifics: Walkways, Stairs & Patios

04

Technical Rules: Code, Spacing & Depth

05

Live Q&A

Open floor for project-specific troubleshooting and sizing calculations.

CORE PRINCIPLES

The Big Idea: Planning Drives Snow Melt Performance

Heat transfer from embedded elements is limited to a narrow **razor-thin 1.5 to 2-inch lateral spread**.

Each cable placement directly impacts performance.

The #1 Rule: Start with a Custom SmartPlan

Before any installation begins, a custom **SmartPlan** serves as your essential roadmap, eliminating guesswork and ensuring precision.

Remove Guesswork

This is the absolute #1 way to proceed, ensuring every aspect is planned before installation.

Deliberate Choices

Turns critical spacing into an engineered layout, not a stressful on-site decision.

The Field Rule: Revision over Improvisation

- Verify site dimensions, power requirements and snow melt system placement.
- The SmartPlan layout map ensures the heating element follows the exact intended path from the start.
- If the mat or cable path cannot be laid out cleanly due to changing site conditions, **revise the plan before installing.**

What is Included in Your SmartPlan?

Your custom SmartPlan is more than just a drawing; it's a comprehensive guide detailing every critical aspect of your snow melt installation, from technical specifications to field execution.

The Technical Details

Exact Cable or Mat Layout

A precise, scaled drawing showing the exact serpentine path, turn points, and mat placement.

Calculated Spacing

Clearly defines the targeted cable spacing.

Electrical Load Breakdowns

Total wattage, current draw, voltage, operating cost and recommended circuit breaker sizing tailored to your design.

Field Layout Milestones

Start Points & Junction Boxes

Pinpoints mat and cable start locations and optimal J-box placement, so cold leads take the shortest, cleanest path to the panel.

Expansion Joints

Expansion joints are mapped and the element path routed is around them — never across an expansion joint.

Drilling "Safe Zones"

Explicitly highlights designated cable-free zones to protect the system from future handrail installations.



 WarmlyYours.com

SmartPlan™ Snow Melting Installation Plans | WarmlyYours

Start your snow melting system project with a comprehensive, clear, and easy-to-follow plan by WarmlyYours.





SYSTEM SELECTION

Mat vs. Cable

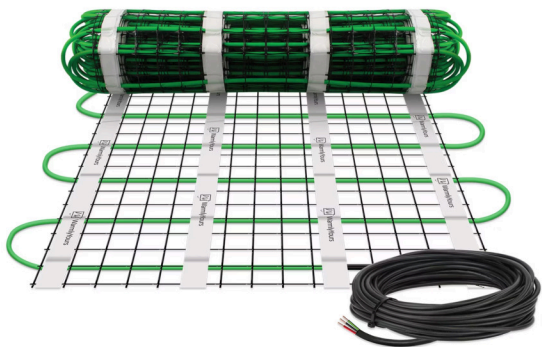
Choosing the right system for optimal snow melting performance and energy efficiency.

Two Powerful Solutions for Every Snow Melt Challenge

Choosing the right mat for optimal snow melting performance and energy efficiency.

☆ TOP PERFORMER

Snow Melt PowerMat



Speed & Uniformity

- **Best For:** Long, straight walkway sections, standard landings, and large rectangular areas. Paired with asphalt applications.
- **Pre-Set Performance:** Available in standard **3-inch** and **4-inch** spacing configurations.
- **Width Configurations:** Available in convenient **2-foot** and **3-foot** wide options to fit standard layouts.
- **Standard Voltages:** Engineered to operate on common **120V** and **240V** electrical systems.
- **Fast Installation:** Pre-attached elements mean a simple cut-and-turn layout design that makes roll-out incredibly fast and easy.
- **Heat Output:** up to 50 watts/sq.ft (3" cable spacing)

⚡ BALANCED CHOICE

Snow Melt Cables



Maximum Flexibility

- **Best For:** Stairs, tight curves, irregular shapes, and working around landscaping obstacles.
- **System Compatibility:** Works perfectly with the **Snow Melt Embeddable Attachment Grid** for pavers and existing concrete surfaces.
- **Cost-Effective Material:** Less expensive than pre-made mats, offering premium adaptable coverage at a lower material cost.
- **Multi-Voltage Versatility:** Available in a wide variety of lengths and custom voltages (120V, 208V, 240V, and 277V) to accommodate heavy electrical loads.



APPLICATION DETAILS

Walkways, Stairs & Patios - Oh MY!

Meticulous planning for each application.

WALKWAYS: The "No-Skip Zone" & Layout Logistics

Designing snow melt for walkways requires meticulous planning to ensure complete coverage and safe pedestrian passage.

The Full-Coverage Mandate Walkways demand full-width coverage at a tight 3-inch wire-to-wire spacing. Pedestrian paths tolerate zero icy strips or partial layouts.	Wide Path Exception For exceptionally wide decorative walkways, a dedicated center-only heated path can be used to optimize energy efficiency where people actually walk.	Surface Transitions Never extend the heating element completely through structural seams where a walkway meets a driveway, step, or porch.
The Hybrid Approach Deploy fast pre-made mats for long, straight stretches, and transition to loose cable for curves, gates, and branches.	Lock in the Curves Firmly secure cables to a rigid framework or attachment grid to ensure proper spacing when installing in a curved area.	Respect Expansion Joints Never lay heating elements across a concrete expansion joint. Separate runs must terminate cleanly on either side.



 WarmlyYours.com

Effortless Winter Safety: Snow-Free Paver Walkway in Newtown, PA | ...

Discover effortless winter safety with a Snow Melt PowerMat system for this 212 sq. ft. paver walkway in Newtown, PA. Automated, energy efficient heating for snow-free access.

The "Cable, Never Mats" Format

Staircases present unique challenges for snow melt systems, where precise cable routing is essential for both functionality and safety.

Why Cable is Non-Negotiable

The Geometry Challenge

The multi-dimensional contours of treads, risers, and nosings make pre-formed mats impossible to install correctly. Loose cable is the only format that adapts to these intricate shapes.

Precise Routing

Cable allows installers to hand-route the heating element across each tread, down the vertical riser, and onto the next step, ensuring optimal coverage where it's needed most.

Field Priorities & Pours

Front-Edge Priority

Space is limited on narrow stair treads. Prioritize the layout along the leading edge of the step to keep the critical walking nose clear of ice buildup.

One Pass Per Riser

Treat vertical risers as physical transitions, not primary heated zones. Use a single cable run to drop down each riser and manage client expectations that risers stay cold by design.

Secure Against Sagging

Securely fasten the cable to the rigid framework on vertical risers and nosings to prevent shifting or sagging during the concrete pour, ensuring system integrity.



 WarmlyYours.com

Safe, Clear Stairs All Winter: A Chicago Radiant Heat Showcase | War...

A WarmlyYours snow melting system for heated stairs in Chicago, IL. See this 63 sq. ft. radiant heat project for new concrete landings and stairs.

HANDRAIL POST AVOIDANCE: The Drilling Danger

Preventing irreversible damage to embedded snow melt systems is critical, requiring meticulous planning and coordination.

The Ultimate Field Risk

Irreversible Damage

Severing an embedded snow melt cable while drilling is often irreparable, requiring extensive concrete demolition and costly reinstallation.

Proactive Protection

Complete system safety depends entirely on coordination before anyone steps onto the job site. Always pre-sleeve handrails.

The Prevention Protocol

Early Coordination

Engage railing contractors early. Share the layout and agree on handrail post locations before drilling begins.

Document "Safe Zones"

Explicitly design, mark, and document cable-free zones on the SmartPlan for pre-sleeving.

Cross-Reference SmartPlan Layout

Always cross-reference snow melt layouts with final architectural plans to catch hidden conflicts before the pour.

PATIOS: Sizing & Power Strategy

Designing snow melt for patios involves navigating high power demands and precise installation specifications to ensure efficient and effective operation.

⚡ Electrical Infrastructure & Sizing

High Demand Load

Patios are typically one of the biggest heated areas on a residential project. Large heated areas significantly increase breaker counts and necessitate meticulous planning for cold leads and junction box placements.

Early Electrical Planning

Always size the main electrical panel and junction-box capacity to match the total zone count before finalizing the layout and installation.

📐 Physical Depth & Surface Limits

The 2.5-Inch Paver Cap

If finishing the patio with decorative pavers, stone thickness must be capped at a maximum of **2.5 inches** to ensure heat effectively reaches the surface.

Efficiency Drives Savings

A tight, consistent **3-inch serpentine layout** over large patio areas maximizes performance while saving the most energy and long-term operating costs.



 WarmlyYours.com

Snow-Free Living: A Heated Concrete Patio for Year-Round Access in ...

The operating cost for this 259 sq. ft. heated concrete patio in Kildeer, IL, is approximately \$1.91 per hour while the system is actively melting snow. Due to the high efficiency of the automated control, which only runs the system during...



SYSTEM PERFORMANCE

Follow The...Rules!

Or the Inspector Will Find You!

Cable Spacing, Depth & Protection

Adhering to strict dimensional and handling guidelines is paramount for system performance and longevity.

Universal Dimensions

3-Inch Spacing Baseline

Maintain an absolute, consistent **3-inch wire-to-wire spacing** on all flat surfaces and stair treads.



2-to-3-Inch Embed Depth

The heating cable must sit exactly **2 to 3 inches below the finished top surface** for optimal heat transfer and protection.

Physical Cable Protections

Never Cut the Cable

Snow melt cables are fixed lengths. **They can never be cut or altered in the field.** Site changes require a layout redesign.



Respect Minimum Bend Radius

Always maintain the cable's specified **minimum bend radius of 2.5"** to prevent damage or structural integrity compromise.

NEW POURS: Plan the Path Early

For new concrete pours, meticulous planning and precise installation of snow melt systems are crucial to ensure durability and optimal performance from the ground up.

1. Structural Reinforcement & Routing

Pre-Plan

Map out the exact cable footprint and route it across the structural reinforcement grid long before the cement trucks arrive.

Firm Anchoring

Securely attach the heating cable directly to the structural rebar or wire mesh layout.

Withstand the Pour

The cable must be tied tightly enough to withstand high-pressure concrete placement, heavy walking traffic, and mechanical vibration. Verify sub-3/4-inch aggregate.

2. Stabilizing the Embed Depth

Prevent "Floating"

Proper tie-downs prevent the cable from floating upward or getting displaced, ensuring it locks permanently into its targeted depth zone.

The New Pour Depth Zone

Guarantee a consistent embedment depth of **2 inches minimum to 3 inches maximum** beneath the finished top surface.

Watch the Thresholds

Pay ultra-close attention to the depth at step nosings, slab edges, and tricky landing transitions where concrete depth frequently fluctuates.

FIELD TESTING & THE EMERGENCY PROTOCOL

Rigorous testing at critical stages and a clear emergency plan are essential to guarantee the integrity and functionality of every snow melt system.

⚡ The Non-Negotiable 3-Stage Test

Always use a high-quality digital multimeter and a megohmmeter (megger) to test the system at these critical junctures:

Upon Delivery

Test the cable right out of the box to verify it arrived from the factory perfectly intact.

After Layout

Test immediately after securing the cable to the mesh/rebar, right before the concrete truck arrives.

After the Pour

Test during and immediately after the concrete placement to ensure no elements were damaged by tools or foot traffic.



The Golden Rule: A fault caught before the concrete sets is a simple fix; a fault caught after requires locating the break and opening up the concrete in only that specific spot to repair the element.



Emergency Protocol: If Nicked, STOP!

If a cable jacket is nicked or damaged during installation, follow these critical steps:

Cease Work Immediately

If a shovel, trowel, or tool nicks the cable jacket during the pour, do not try to hide or bury it.

Box Out the Concrete

Box out the concrete around the damaged area to keep the nick fully accessible for repair.

Deploy a Splice Kit

Record the UL tag part number from the cable lead and contact WarmlyYours immediately for an official factory splice kit. Never pour concrete over a suspect cable.

MANAGING EXCESS or Too Little CABLE: PREVENTION FIRST

Safely handling excess heating cable on-site is crucial for system integrity and warranty compliance.

The Golden Rule or OHM'S LAW!

- ⊗ **Never Cut the Cable:** Snow melt cables are engineered with fixed internal resistance. Trimming even a few inches off will instantly ruin the electrical balance, destroy the system, and void the warranty.

Expect Site Changes: Real-world dimensions frequently shift from the original blueprints. When you end up with extra heating element, you must absorb it safely.

Approved Field Strategies

Call WarmlyYours First

If you see a major layout discrepancy early on, stop and contact our design team immediately. We can re-pull your dimensions and issue an updated, revised layout plan.

Utilize Buffer Zones

Route excess cable in a consistent, continuous serpentine pattern across non-critical layout zones, such as intermediate stair landings or the top and bottom thresholds of walkways.

Tighten Your Spacing

If your original SmartPlan called for 4-inch wire spacing, dropping down to a tight 3-inch spacing baseline across a section will safely absorb a significant amount of extra length.

Expand Your Spacing

When you don't have enough cable for the area, widen the spacing up to 4" to help cover the space. You can also draw coverage from non-critical areas.

CODE & STRUCTURAL RESTRICTIONS

National Electrical Code (NEC) Mandates

Adherence to NEC standards ensures safe and functional snow melt system operation.

GFEP Breakers Only

All systems must use 30 mA Ground-Fault Equipment Protection (GFEP) circuit breakers, not standard 5 mA GFCIs, to prevent nuisance tripping.

Supply at the Main Panel

Since most control panels lack integrated GFEP, specialized breakers must be installed directly at the main electrical panel.

Mandatory Warning Signage

A permanent, highly visible snow melt warning plaque is required at the main breaker box for inspection compliance and warranty validation.

ELECTRICAL ROUTING & JUNCTION BOX PLACEMENT

Cold Lead Management

Strategic handling of cold leads is essential to prevent damage and ensure system longevity.

①

Direct Path

Route cold leads along the **shortest possible path** from the power source to the heated area. Ensure they **never cross over active heating cables**.

②

Length Rule

Electricians may **shorten cold leads**, but they must **never be extended or spliced** unless inside an approved, accessible junction box.

Junction Box Strategy

Proper junction box placement is vital for accessibility and system integration.

③

Location Planning

If an indoor panel is inaccessible, plan for an **outdoor-rated, weatherproof junction box** near the heated zone.

④

SmartPlan Customization

Mark target junction box locations on your **initial job sketch** for our design team to incorporate into the final layout.

Conduit & Factory Splice Protection

Protecting critical connections from physical damage and heat buildup.

Conduit Requirements

Run each cold lead through its own rigid metal **3/4-inch conduit, or other approved means**. The active heated section of the cable must **never enter this conduit**.

Embed Factory Splice

The factory splice (where cold lead meets heating element) **must be 100% embedded** in the slab masonry, never left inside a conduit or junction box.



STRATEGIC SENSOR PLACEMENT FOR STAIRS & LANDINGS

Aerial Sensors (Mast or Wall-Mounted)

Optimal above-ground placement ensures accurate weather data for efficient system activation.

Ideal Placement

Mount where the sensor has completely unobstructed access to falling precipitation and ambient air currents (e.g., atop a fence post or on an "L" bracket on the side of a building).

Clearance Requirements

Keep the sensor completely away from roof overhangs, tree canopies, railings, nearby walls, or HVAC exhaust vents that can block snow or skew temperature readings.

Best Application

Perfect for retrofit applications, stairs, and high-traffic commercial areas where an in-ground sensor would be exposed to heavy physical wear. Ensure it remains low enough for easy maintenance access.

Slab Sensors (In-Ground Pavement Sensors)

Embedding sensors directly into the pavement provides precise surface temperature and moisture detection.

Ideal Placement

Install the sensor perfectly flush with the finished masonry surface, positioned exactly midway between two parallel heating cables.

Clearance Requirements

Avoid placing the sensor on narrow step treads, near outer edges, or directly in path thresholds heavily exposed to boots, shovels, or snowblowers that could cause physical damage.

Best Application

Ideal for permanent, high-efficiency concrete pours where the sensor body stays fully protected.

Compliance Note

Check local regulations before installing; many jurisdictions strictly mandate slab sensors to meet energy-code efficiency compliance.

Choosing the correct sensor type and adhering to precise placement guidelines are critical for maximizing the performance and longevity of any snow melt system.



ROAD TO SUCCESS

There's No Place Like...Bring It Home!

What Does Success Look Like!

MASTER CHECKLIST: ROADMAP TO SUCCESS

The 5 Golden Rules of Snow Melting

Adhering to these fundamental principles is critical for ensuring the longevity, efficiency, and safety of every snow melting system installation.



Never Cut the Cable

Fixed-length elements cannot be shortened. Use tight 3-inch spacing loops or designated buffer zones to absorb any field excess.



Embed the Factory Splice

The connection point between the heating cable and cold lead must be 100% buried in concrete or mortar, never left inside a conduit.



Isolate at Expansion Joints

Protect your system from structural shifting. Heating elements must never cross an existing or planned concrete expansion joint.



The 3-Stage Test Protocol

Protect your profit margin. Test with **digital ohmmeter** and a **megger** on delivery, before the pour, and immediately after the pour.



30 mA GFEP Protection

Standard residential GFCIs will trip constantly. Ensure your electrician supplies dedicated 30 mA GFEP breakers directly at the main panel.



LIVE Q&A

Now let's open it up for your questions.

Can I cut the heating cable if it's too long for the stairs?

How much does a snow melting system cost to operate?

How quickly do these systems melt the snow?

Will this work on a rural driveway?

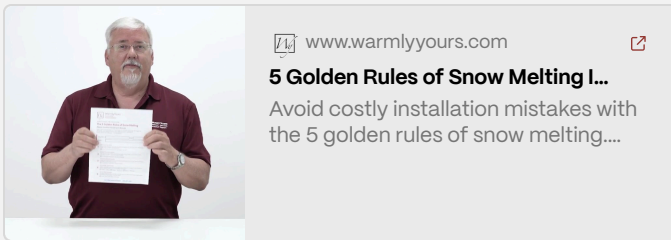
CLOSE + SUPPORT

Resources Coming Your Way

Via email:

- ✓ PDF of today's slides
- ✓ PRO PDF Field Resource - The 5 Golden Rules of Snow Melting
- ✓ PRO Reward coupon
- ✓ Recording of this webinar

Watch Scott's Monthly PRO How-To



24/7 PRO Technical Support

Need help on a job? Call us:

- ☎ 800-875-5285
- ✉ techsupport@warmlyyours.com

We'd rather help you plan the install than troubleshoot a problem later. Don't hesitate to call.

Next Webinar in the Series

July 2026 PRO Webinar: Wed, July 29 — 1:00pm CST

