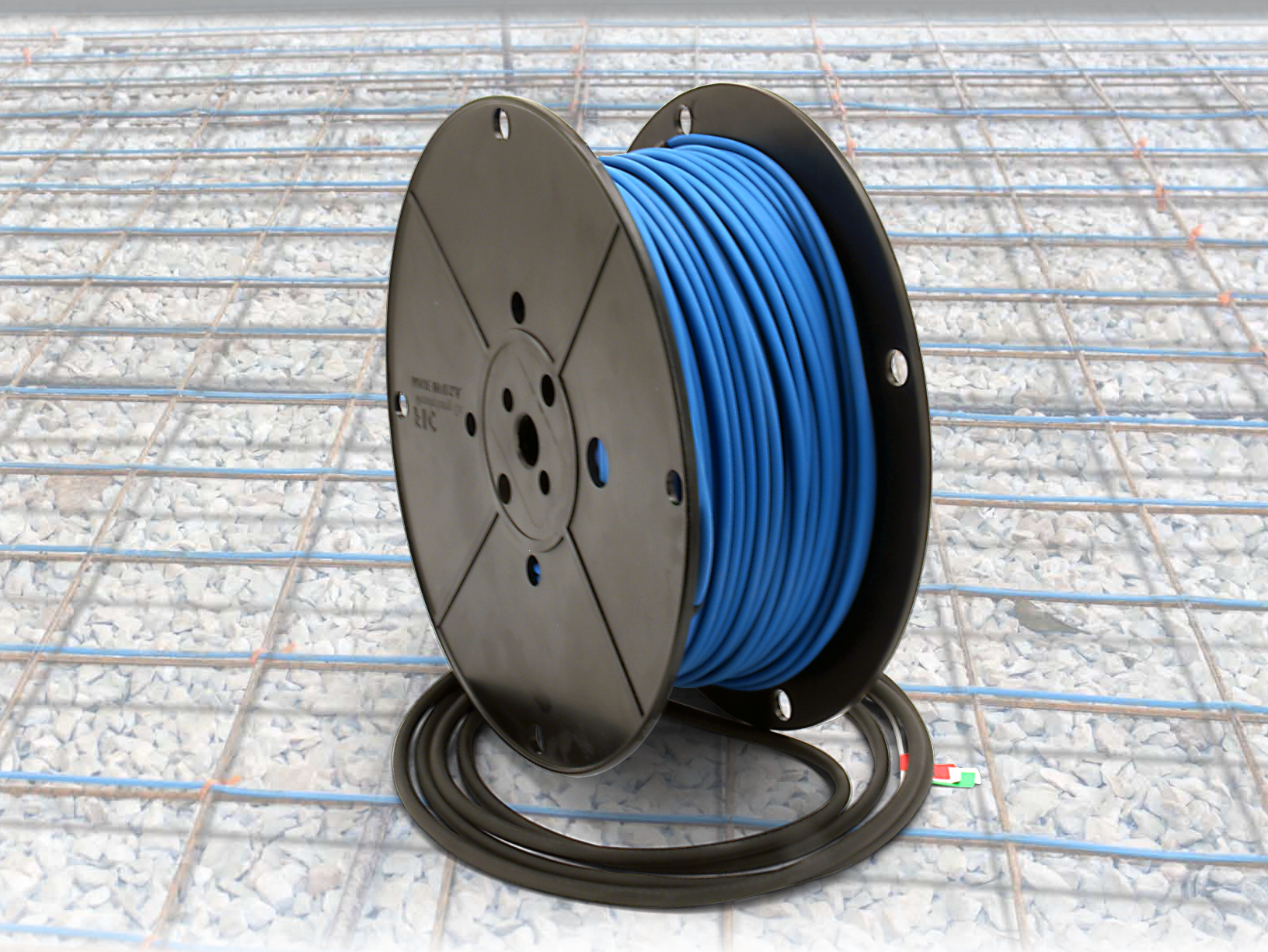


PRODUCT INFORMATION

INTERIOR SLAB HEATING CABLE

SlabHeat™



INTERIOR SLAB HEATING CABLE
SlabHeat™

Advantages, Features and Benefits

The Support Starts Here!

John Sweaney

– Product Manager
 – 417.447.8070

Shelby Combs

– Associate Product Manager
 – 417.447.8004

Tracy Hall

– National Sales Manager
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Tony Ledford

– Regional Sales Manager
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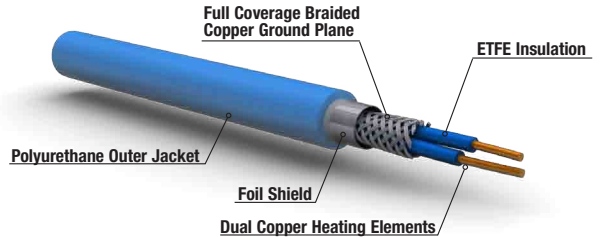
– Director of Business Development
 & Product Management
 – 417.447.8041

Kolyn Marshall

– Director of Strategic Marketing and
 Customer Service
 – 417.447.8031

Who are the competitors to SlabHeat?

- Warmly Yours®
- FlexTherm®
- Heatizon Systems®
- Raychem®
- Danfoss®
- Delta-Therm®
- EasyHeat™
- Orbit™



How does SlabHeat compare to the competition?

- UL Listed.
- The polyurethane outer jacket offers superior flexibility, abrasion and tear resistance, impact resistance, resiliency, and better low temperature stability than PVC.
- Full coverage braided copper ground plane ensures proper grounding of system.
- ETFE Insulation offers lighter weight and flexibility with excellent insulating properties.
- Dual copper heating elements allow for single point connection, no return connection required.
- 120 VAC and 240 VAC models allows for a wide range of installation applications.
- Standard SunStat controls offer GFCI protection as well as floor and/or air temperature operation.
- SunStat Relays offer simple expansion on systems greater than 15 amps.
- 10 year warranty.

	Format	Voltages	Lead Wire	Watt Density	Warranty	Element Type
SlabHeat	Cables	120/240	10 ft	15 W/sf (4" OC) 10 W/sf (6" OC) (5 W/ft)	10 years	Constant
Warmly Yours	Cables	120/240	20 ft	(6 W/ft)	10 years	Constant
	Mats			20 W/sf		
FlexTherm	Cable	240 (208 available)	10 ft	15 W/sf (4" OC) 10 W/sf (6" OC)	10 years	Constant
Heatizon	Cable	120 208 240	10 ft	(11.5 - 15 W/ft)	10 years	Constant
				(6 - 13 W/ft)		Variable
RayChem	Cable	120 208 240 277	10 ft	(6 W/ft)	10 years (Limited)	Constant
Danfoss	Cables	120 208 240	10 ft	(3 W/ft)	10 years	Constant
Delta-Therm	Cables	120 208 240 277	10 ft	(8 W/ft)	10 years	Constant
EasyHeat	Cables	208 240	10 ft	(8 W/ft)	10 years	Constant
Orbit	Cables	208 240	7 ft	15 W/sf (4" OC)	10 years	Constant



INTERIOR SLAB HEATING CABLE SlabHeat™ Controls



Programmable

SunStat Pro™ - Programmable Control

The SunStat Pro is, by far, the most sophisticated electric floor warming control available. It incorporates an amazing variety of function and elegance into one thermostat:

- Dual Voltage: 120 and 240 VAC
- Built-in 15-amp Relay
- Built-in GFCI (5 milliamp trip)
- “Masterstat” capability
- Connects directly to SunStat Relay
- SmartStart Technology
- 5/1/1 Day Programming
- Four Preset Program Schedules
- One User Program Schedule
- Floor, air, or air & floor temperature modes
- “Regulator” operation without sensor attached
- Display in degree F or degree C
- Temperature Range: 40°F - 99°F (4° - 37°C)
- 15' floor sensor included
- Large Back-lit Display
- Keyboard Lockout
- Manual On/Off Switch
- Home automation remote control
- System usage monitoring

Extra SunStat sensor wire



Description	Qty.	Order No.	Model No.	Ship wt. (lb.)
Programmable SunStat Pro	1	81009182	500670-SB	2
Extra SunStat Sensor (optional)	1	81009178	500110	1



Non-Programmable

SunStat - Non-programmable Control

Our digital Non-programmable SunStat has many of the same features as our Programmable model:

- Dual Voltage: 120 and 240 VAC
- Built-in 15-amp Relay
- Built-in GFCI (5 milliamp trip)
- “Masterstat” capability
- Connects directly to SunStat Relay
- Floor, air, or air & floor temperature modes
- “Regulator” operation without sensor attached
- Display in degree F or degree C
- Temperature Range: 40°F - 99°F (4° - 37°C)
- 15' floor sensor included
- Large Back-lit Display
- Keyboard Lockout
- Manual On/Off Switch
- Home automation remote control
- System usage monitoring

Extra SunStat sensor wire



Description	Qty.	Order No.	Model No.	Ship wt. (lb.)
Non-programmable SunStat	1	81009183	500675-SB	2
Extra SunStat Sensor (optional)	1	81009178	500110	1



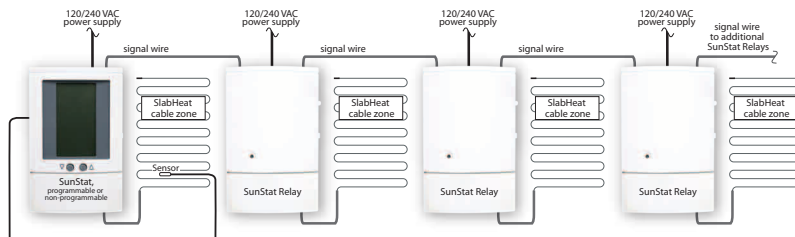
Relay

SunStat Relay

If the system requires more than 15 amps, we recommend installing SunStat Relays. Relays connect directly to SunStat thermostats for simple, elegant control of larger systems. Relays are dual voltage (120 VAC or 240 VAC), have a 15-amp capacity, an on/off switch, a GFCI and test light.

Description	Qty.	Order No.	Model No.	Ship wt. (lb.)
SunStat Relay	1	81009185	500680-BB	2

It is possible to drive up to 10 SunStat Relays with one SunStat thermostat



INTERIOR SLAB HEATING CABLE

SlabHeat™

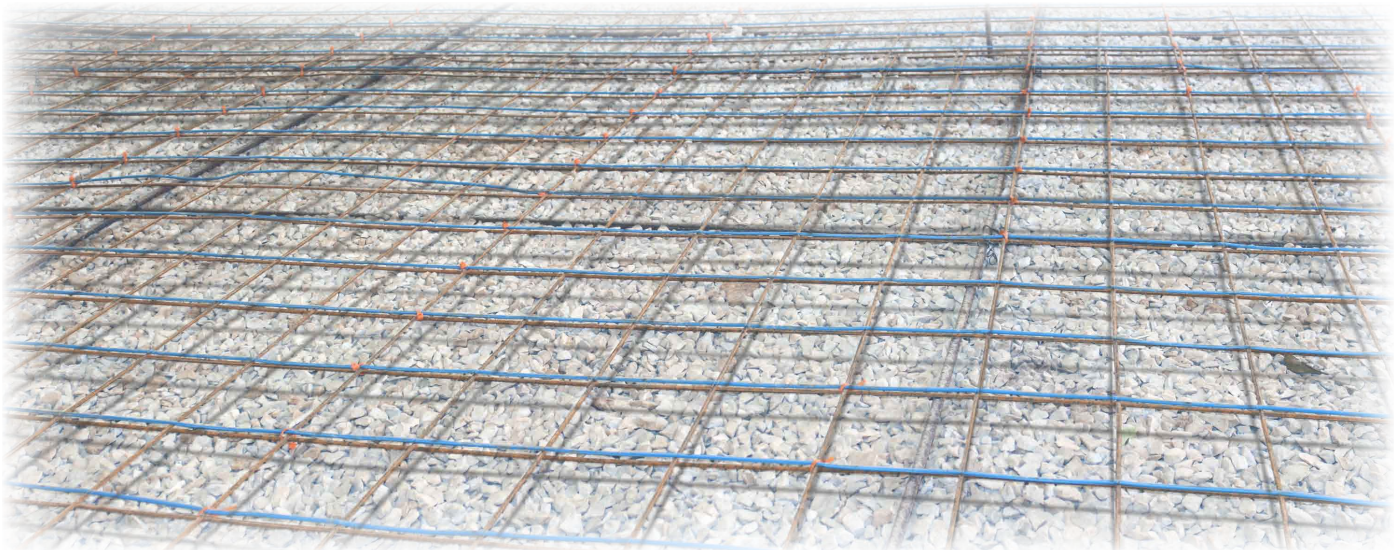
Product Options

120 VAC

Model	15 W/sqft 4" Spacing (Sq Feet)	10 W/sqft 6" Spacing (Sq Feet)	Cable Length (Feet)	Amp Draw	Watts	Ohms
SH15120050ST	50	75	146	6.3	750	16-21
SH15120066ST	66	98	193	8.3	990	11-15
SH15120082ST	82	122	241	10.3	1230	9-12
SH15120100ST	100	149	294	12.5	1500	7-10
SH15120114ST	114	170	336	14.3	1710	6-9

240 VAC

Model	15 W/sqft 4" Spacing (Sq Feet)	10 W/sqft 6" Spacing (Sq Feet)	Cable Length (Feet)	Amp Draw	Watts	Ohms
SH15240100ST	100	149	294	6.3	1500	33-41
SH15240132ST	132	196	388	8.3	1980	23-30
SH15240164ST	164	243	483	10.3	2460	18-23
SH15140200ST	200	297	590	12.5	3000	15-20
SH15240228ST	228	339	673	14.3	3420	13-17



INTERIOR SLAB HEATING CABLE SlabHeat™

Promotional Materials

Sales and Marketing Material

- Sales Sheet
- 22" x 48" Poster
- Binder Product Brochure
- Counter card
- Samples

Sales Sheet

SlabHeat™
ELECTRIC INDOOR SLAB HEATING

SlabHeat™ is engineered with the capability to produce enough BTUs to heat a slab, the space, the surface people walk on. Regardless of size, or thickness, SlabHeat is the way to provide heat just about any environment.

Benefits of SlabHeat

- Maintenance free
- No vents, or duct work
- Comfortable, even heat without the drying effects forced air heating
- Efficient
- Reliable, durable design
- Tough - engineered to handle the rigors of concrete installation
- Engineered by a company with decades of experience in hydronic and electric radiant heating

Slab Thickness	Watts per Sq. Ft.	Color Number	Model Number	Length	Temp. Rise	Temp. Rise
4" to 6"	8.0	811000	8111000001	120'	1.5° F	12.0° F
6" to 8"	8.0	811000	8111000002	120'	1.5° F	12.0° F
8" to 10"	8.0	811000	8111000003	120'	1.5° F	12.0° F
10" to 12"	8.0	811000	8111000004	120'	1.5° F	12.0° F
12" to 14"	8.0	811000	8111000005	120'	1.5° F	12.0° F
14" to 16"	8.0	811000	8111000006	120'	1.5° F	12.0° F
16" to 18"	8.0	811000	8111000007	120'	1.5° F	12.0° F
18" to 20"	8.0	811000	8111000008	120'	1.5° F	12.0° F
20" to 22"	8.0	811000	8111000009	120'	1.5° F	12.0° F
22" to 24"	8.0	811000	8111000010	120'	1.5° F	12.0° F
24" to 26"	8.0	811000	8111000011	120'	1.5° F	12.0° F
26" to 28"	8.0	811000	8111000012	120'	1.5° F	12.0° F
28" to 30"	8.0	811000	8111000013	120'	1.5° F	12.0° F
30" to 32"	8.0	811000	8111000014	120'	1.5° F	12.0° F
32" to 34"	8.0	811000	8111000015	120'	1.5° F	12.0° F
34" to 36"	8.0	811000	8111000016	120'	1.5° F	12.0° F
36" to 38"	8.0	811000	8111000017	120'	1.5° F	12.0° F
38" to 40"	8.0	811000	8111000018	120'	1.5° F	12.0° F
40" to 42"	8.0	811000	8111000019	120'	1.5° F	12.0° F
42" to 44"	8.0	811000	8111000020	120'	1.5° F	12.0° F
44" to 46"	8.0	811000	8111000021	120'	1.5° F	12.0° F
46" to 48"	8.0	811000	8111000022	120'	1.5° F	12.0° F
48" to 50"	8.0	811000	8111000023	120'	1.5° F	12.0° F
50" to 52"	8.0	811000	8111000024	120'	1.5° F	12.0° F
52" to 54"	8.0	811000	8111000025	120'	1.5° F	12.0° F
54" to 56"	8.0	811000	8111000026	120'	1.5° F	12.0° F
56" to 58"	8.0	811000	8111000027	120'	1.5° F	12.0° F
58" to 60"	8.0	811000	8111000028	120'	1.5° F	12.0° F
60" to 62"	8.0	811000	8111000029	120'	1.5° F	12.0° F
62" to 64"	8.0	811000	8111000030	120'	1.5° F	12.0° F
64" to 66"	8.0	811000	8111000031	120'	1.5° F	12.0° F
66" to 68"	8.0	811000	8111000032	120'	1.5° F	12.0° F
68" to 70"	8.0	811000	8111000033	120'	1.5° F	12.0° F
70" to 72"	8.0	811000	8111000034	120'	1.5° F	12.0° F
72" to 74"	8.0	811000	8111000035	120'	1.5° F	12.0° F
74" to 76"	8.0	811000	8111000036	120'	1.5° F	12.0° F
76" to 78"	8.0	811000	8111000037	120'	1.5° F	12.0° F
78" to 80"	8.0	811000	8111000038	120'	1.5° F	12.0° F
80" to 82"	8.0	811000	8111000039	120'	1.5° F	12.0° F
82" to 84"	8.0	811000	8111000040	120'	1.5° F	12.0° F
84" to 86"	8.0	811000	8111000041	120'	1.5° F	12.0° F
86" to 88"	8.0	811000	8111000042	120'	1.5° F	12.0° F
88" to 90"	8.0	811000	8111000043	120'	1.5° F	12.0° F
90" to 92"	8.0	811000	8111000044	120'	1.5° F	12.0° F
92" to 94"	8.0	811000	8111000045	120'	1.5° F	12.0° F
94" to 96"	8.0	811000	8111000046	120'	1.5° F	12.0° F
96" to 98"	8.0	811000	8111000047	120'	1.5° F	12.0° F
98" to 100"	8.0	811000	8111000048	120'	1.5° F	12.0° F

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417.522.4807 (fax)

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Brochure

SlabHeat™
ELECTRIC INDOOR SLAB HEATING

No shoes required.
Enjoy the comfort of heated concrete floors.

Poster

SlabHeat™
INTERIOR SLAB HEATING CABLE

The comfort of radiant without the mechanical room.

SunTouch
Electric Floor Heating & Snow Melting
A Watts Water Technologies Company

Samples

Comfort by the foot.
Enjoy the comfort of heated concrete floors.

SlabHeat™
INTERIOR SLAB HEATING CABLE

Counter Card

SlabHeat™
INTERIOR SLAB HEATING CABLE

No shoes required.
Enjoy the comfort of heated concrete floors.

Brass shielded copper ground plane
High temperature EPOXY dielectric coating
Low impedance copper alloy heating elements
Ripable tough high temperature polyurethane jacket
Fiberglass shield

INTERIOR SLAB HEATING CABLE

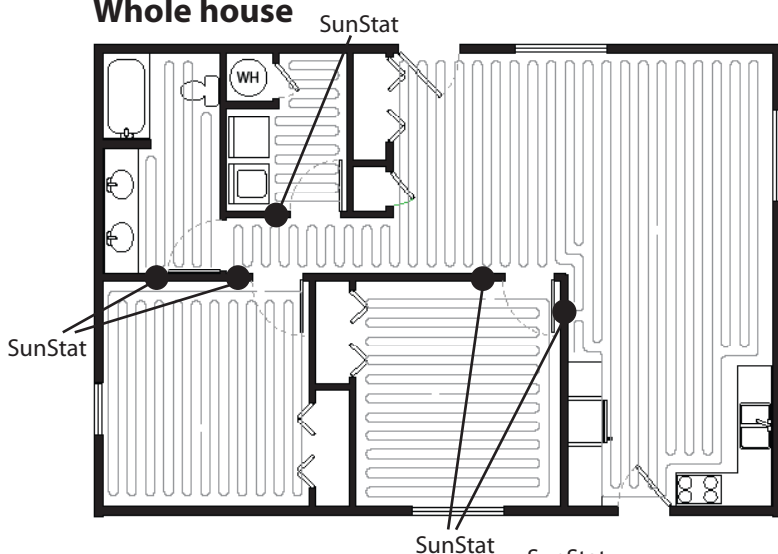
SlabHeat™

System Design

Typical SlabHeat Installations

The illustrations on this page show some typical SlabHeat installation locations. In addition to these, SlabHeat is also well suited for any kind of home addition with concrete slab. It's perfect for a bedroom addition, a sun room, a detached garage, or an extended living area. SlabHeat also works well for use in commercial areas. **Please note; this document is not meant to provide full installation instructions. In order to avoid property damage or injury, please refer to the complete installation manual and warnings provided with the product.**

Whole house

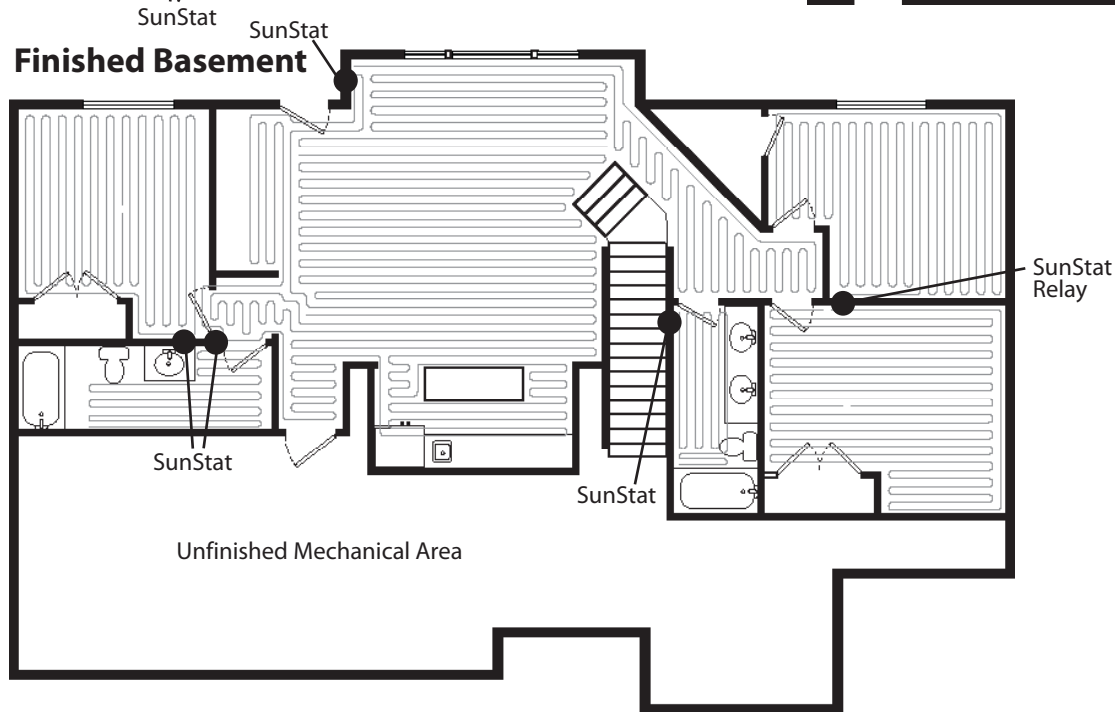


Note: For a new concrete slab, when a run of cable exceeds 20 feet, an additional U-shaped loop should be added to help minimize possible damage to the cable from thermal expansion. Please see the SlabHeat Installation manual for detailed information.

Garage



Finished Basement



USA: 4500 East Progress Place, Springfield, MO 65803; www.suntouch.com
Canada: 5435 North Service Rd., Burlington, ONT. L7L 5H7; www.suntouch.com

INTERIOR SLAB HEATING CABLE

SlabHeat™

Designing the System

A properly designed heating system begins with an accurate heat-loss calculation to determine whether the system will provide enough energy to function as the primary heat source for the space or provide floor warming only. If floor warming alone is desired, use the guide below. If it is a primary heating system, a detailed heat-loss must be performed first, then select wire spacing based on heat output.

SlabHeat cable should be installed in all interior floor areas to be warmed. It cannot be used for exterior applications, snow melting, or in ceilings.

STEP 1.1

Make a sketch of the room. Measure the total square footage of floor area to be warmed (measurements should be made all the way to the edge of walls, cabinets, tub, etc). Keep in mind the following:

Heat will not conduct beyond 3" - 4" on either side of the heating cable, therefore consistent coverage is important.

- **Do not** install the cables underneath cabinets or fixtures or inside a wall. Excessive heat will build up and cause damage.
- **Do not** run the heating cables into small closets or other confined areas where excessive heat will build up.
- **Do not** install the heating cables closer than 6" from toilet rings to avoid possible melting of wax rings.
- **Do not** cross expansion joints in a slab unless proper technique and protection steps are followed.
- **Do not** place the heating cable any closer than 4 inches from other items such as underground cable or piping to avoid overheating them.
- **Do install** heating cable within about 1-1/2" to 2" from a counter or vanity in the kick-space to ensure warmth in this area.
- Cable must be laid in a manner to prevent other obstructions placed on top of the finished floor surface, resulting in captured heat or allowing potential damage from mounting brackets, bolts, or similar.
- In open areas, like sun rooms or dining rooms, install the heating cables 4" to 6" away from the perimeter of the room. If the cable is installed in a slab where an exterior wall will be built, keep the cable 8" to 12" away from the edge of the slab.
- The heating cable and factory splices must be completely embedded in the concrete. Only the power lead may exit the slab. It will be pulled through UL listed conduit to a UL listed junction box or the control box.
- For a new concrete slab, when a run of cable exceeds 20 feet, an additional U-shaped loop should be added to help minimize possible damage to the cable from thermal expansion.

STEP 1.2

Select the cable spacing. Below are typical spacings for various types of rooms. This spacing can vary depending on the insulation of the floor and room, and the desired effect. **Note: Never space cables closer than 4" apart; this will cause a very hot area and may cause damage.**

Typical uses:

- 4" spacing: Sun room floors, basement slabs, bathrooms, kitchens, living areas, and baths with exterior walls.
(NOTE: Insulation is always recommended due to high heat losses in these areas. Performance is never guaranteed due to construction and climate differences in these applications.)
- 6" spacing: Hallways, entry ways, garages, workshops, and large areas with low heat loss.

INTERIOR SLAB HEATING CABLE

SlabHeat™

System Design

Expected floor temperature:

- Insulated concrete slab: With the cables installed on an insulated concrete slab, and finished floor installed, most floors can be heated up to 15°F (9°C) warmer than they would otherwise be. Response time is greatly improved vs uninsulated slabs.
- Uninsulated concrete slabs: With the cables installed on an uninsulated concrete slab, and finished floor installed, most floors can be heated up to 10°-15°F (12° to 9°C) warmer than they would otherwise be. Response time will lag compared to an insulated slab.

Please consult a designer or the factory if questions remain about the surface temperature that can be expected from the cables in any particular construction.

- Do not place over 15 amps at 120 VAC (1800 watts) or 15 amps (3600 watts) at 240 VAC through a SunStat control.
- Select either 120 VAC or 240 VAC depending on the power available. **DO NOT** mix voltages on the same system if more than one cable is to be installed to cover an area.
- Load no more than 12 amps (1440 watts) on a 15-amp circuit breaker, or 15 amps (1800 watts) on a 20-amp circuit breaker.
- If an area requires more than 15 amps of SlabHeat to be controlled by one SunStat, use SunStat Relay(s) to take the additional amp load.

STEP 1.3

Multiply the square footage measured in Step 1.1 by 0.90 to allow for 4" to 6" spacing around the edges of the floor area. Use this resulting square footage to select the appropriate cables.

Remember:

If the exact size of product calculated is not found, adjust the warming area(s) or select the **next smaller size**.

Remember, the heating cable must never be cut shorter to fit, and must be completely embedded in concrete in the floor. Failure to do so may result in damage to the product. Be careful not to select a product which is too large.

STEP 1.4

If installing SlabHeat on top of an existing slab, select enough CableStrap™ to secure the cable to the floor. One box contains 25 ft. of strap, enough to prepare about 50 sq. ft. of floor at 4 ft. spacing. Strap is usually spaced every 3 to 4 ft. across the floor.

Frequently Asked Questions

Question:

Answer:

What is SlabHeat?

SlabHeat cable is a series resistance electric heating cable consisting of a polyurethane outer jacket, full coverage braided copper ground plane, ETFE insulation, and dual copper heating elements connected to a single power lead for easy single-point connection.

Question:

Answer:

Where may SlabHeat be installed?

SlabHeat cable is designed to be installed in residential or commercial concrete slab, slab-on-grade, or slab-over-existing-slab interior applications only. It cannot be used for exterior applications, snow melting, or in ceilings. For exterior and snow melting applications, go to www.suntouch.com for information on our ProMelt electric snow melting products.

Question:

Answer:

What are the power requirements for SlabHeat?

SlabHeat cable is available in either 120 VAC or 240 VAC models. Multiple coils may be combined on a single control up to a maximum of 15 amps. DO NOT mix voltages on the same system if multiple cables are to be installed in an area. Never load more than 12 amps (1440 watts) on a 15-amp circuit breaker, or 15 amps (1800 watts) on a 20-amp circuit breaker. If an area requires more than 15 amps to be controlled by one thermostat, use SunStat Relay(s) to take the additional amp load.

Question:

Answer:

What is the recommended wire spacing for SlabHeat?

Wire spacing for SlabHeat cable depends on the heat loss of the space and the required output from the floor. 4" wire spacing would typically be used for sun rooms, basement slabs, bathrooms, kitchens, living areas, and baths with exterior walls. 6" wire spacing is recommended for hallways, entry ways, and large areas with low heat loss. Please note insulation is always recommended due to high heat losses in these areas. Never place SlabHeat cable any closer than 4" from itself or other items such as underground cable or piping to avoid overheating them. Never place SlabHeat closer than 8" to an exterior wall.

Question:

Answer:

Can the SlabHeat cable length be modified?

SlabHeat Cable must never be cut shorter to fit, and must be completely embedded in concrete in the floor. Failure to do so may result in damage to the product. If the exact size of SlabHeat Cable calculated is not available, it may be necessary to adjust the warming area(s) or select the next smaller size.

Question:

Answer:

How does a SlabHeat electric radiant floor compare to a hydronic (water based) radiant floor?

In general, hydronic radiant systems require more space for infrastructure, such as added space in the floor for tubes and room in the mechanical room for a water heating appliance, pumps, valves and fittings. Hydronic systems allow for various fuel sources, such as natural gas, oil, propane, solar, or electric. SlabHeat is limited to electric. SlabHeat is simpler than hydronic, takes up less space, goes in faster and for small areas, the per square foot cost is much lower. Once the system is installed, the floors will feel wonderful regardless of the chosen approach.

Question:

Answer:

Who should install SlabHeat?

To install SlabHeat, intermediate skills in electrical wiring is required. Normally the heating product may be secured in place by qualified installers. However, consider hiring an electrician to rough in the wiring, especially if it is necessary to route from the circuit breaker panel. Please be aware that local codes may require this product and/or the thermostatic control be installed or connected by an electrician.

Frequently Asked Questions

Question:

Is SlabHeat an efficient way to heat?

Answer:

Generally speaking, radiant floor heating is a more efficient way to warm a space than forced air or baseboard. Radiant systems broadcast energy at the speed of light from the floor to warm all the surfaces of the room. The air temperature stays lower so there is less heat loss through windows and air infiltration, yet comfort is greater. All the electricity used by SlabHeat is converted to useful heat. Gas appliances only convert a percentage to heat; the rest is lost up the stack. For many people, gas or oil is more economical per BTU than electricity, even considering the conversion loss. A lot depends on the price for these energy sources and how well the structure is insulated. Some power companies offer reduced rates or substantial discounts on electricity consumed during "off-peak" times. Off-peak hours are the times of day or night when the power companies usually have excess energy supply due to low demand. These "off-peak" rates can further enhance the efficiency of the SlabHeat electric radiant heating system

Question:

What controls are required for SlabHeat?

Answer:

SlabHeat cables utilize our standard SunStat dual voltage (120 VAC/240 VAC) controls. The SunStat Programmable and Non-programmable use a floor sensor to provide direct floor-warming control for better comfort. SunStat controls can also sense air temperature with a floor temperature limit. If an area requires more than 15 amps to be controlled by one SunStat, SunStat Relay(s) are used to take the additional amp load. Always select controls that will meet the voltage and amperage ratings of the system and are designed for resistance heating systems.

Question:

How deep should SlabHeat be embedded?

Answer:

Pour concrete over the base and SlabHeat Cable so that there is a minimum of 3/4" of material above the heating cable. The SlabHeat Cable should be no more than 1-1/2" to 2" below the top finished surface of the floor. Make sure SlabHeat cable is fully embedded, as well as 2" to 6" of the conduit(s) enclosing the power lead and slab sensor wiring.

Question:

Are there areas where SlabHeat should not be installed?

Answer:

SlabHeat cable should be installed in all interior floor areas that are to be warmed. Keep in mind heat will radiate 3" to 4" from the SlabHeat cable, therefore consistent coverage is important. SlabHeat should be installed within 2" of a counter or vanity kick-space to ensure warmth in this area. Do not install SlabHeat under cabinets, fixtures or inside walls. Avoid running SlabHeat in small closets or other confined areas where excessive heat will build up. Do not install SlabHeat closer than 6" from toilet rings to avoid possible melting of wax rings. Never cross expansion joints in a slab unless proper technique and protection steps are followed. See the SlabHeat Installation manual for detailed information on proper installation techniques.

Question:

When should I turn on the SlabHeat cable?

Answer:

Allow concrete to fully cure as required by the concrete supplier, typically 28 days. Do not energize the SlabHeat Cable except to briefly test it (NO MORE than 10 minutes), as this would improperly accelerate the curing and potentially cause concrete damage.

Question:

What if I damage SlabHeat?

Answer:

Repair kits are available for SlabHeat Cable. Never attempt to repair a damaged cable without a factory approved repair kit. Contact the factory for assistance.

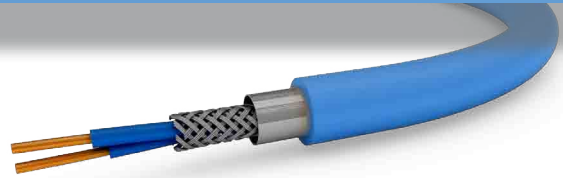
Question:

How long is the SlabHeat warranty?

Answer:

SlabHeat has a 10 year warranty.

INTERIOR SLAB HEATING CABLE
SlabHeat™



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