

## Engineering Specification

Job Name \_\_\_\_\_  
 Job Location \_\_\_\_\_  
 Engineer \_\_\_\_\_  
 Approval \_\_\_\_\_

Contractor \_\_\_\_\_  
 Approval \_\_\_\_\_  
 Contractor's P.O. No. \_\_\_\_\_  
 Representative \_\_\_\_\_

# SunTouch® WarmWire®

## 120 and 240 Voltages

SunTouch WarmWire is a series resistance heating cable assembly installed over plywood, backerboard, or concrete slab (according to ANSI or TCNA guidelines), and then embedded in 3/8" (9.5 mm) or greater self-leveling or polymer-modified thin-set mortar. WarmWire is approved for installation in shower applications.



### Specifications

<b>Supply Voltage</b>	120 VAC, 1-phase 240 VAC, 1-phase
<b>Amp Draw</b>	120 VAC: 1amp per 10 ft <sup>2</sup> 240 VAC: 1amp per 20 ft <sup>2</sup>
<b>Maximum Circuit Load</b>	20 amps (15 amps with SunStat control)
<b>Wire Spacing</b>	2.5" (63.5 mm) o.c. 3" (76 mm) o.c. 3.5" (89 mm) o.c.
<b>Maximum Allowable Temperature</b>	194°F (90°C) Continuously
<b>EMF</b>	Less than 1 milligauss at 1/2" (12.7 mm) above surface
<b>Minimum Allowable Bend Radius</b>	1" (25 mm)
<b>Power Lead Length</b>	10' (2.7 m)

**WarmWire is available in various lengths with voltage options of 120 or 240 VAC.**

### Installation Guidelines

- Measure and certify the correct wire resistance (ohms) value for the heating cables, record these readings in the chart provided in the installation manual.
- Use of manufacturer's alarm meter (LoudMouth™ meter) is recommended during installation.
- Clean the subfloor.
- Secure sections of the HeatMatrix or CableStrap™ to the floor.
- Weave the heating cable across the floor area, fastening it to the strap. Distance between heating cables may be varied on-site to fit requirements and should average 2.5", 3", or 3.5" on-center.
- Install the floor sensor in accordance with installation manual.
- Install floor coverings as detailed in installation manual.

Application Parameters		
<b>Watt Density</b>	✓ 2.5" (63.5 mm) o.c.	14.4 W/ft <sup>2</sup> (155.0 W/m <sup>2</sup> )
	3" (76 mm) o.c.	12.0 W/ft <sup>2</sup> (129.0 W/m <sup>2</sup> )
	3.5" (89 mm) o.c.	10.3 W/ft <sup>2</sup> (110.8 W/m <sup>2</sup> )
<b>Minimum Polymer-modified Thinset</b>	3/8" (9.5 mm)	
<b>Allowable Substrate</b>	Backer board over wood subfloor	
	Polymer-modified setting bed over wood subfloor	
	Polymer-modified setting bed over concrete slab	
	Thin slab/self-leveling concrete over wood subfloor	
	Thin slab/self-leveling concrete over concrete slab	
<b>Allowable Floor Coverings</b>	Tile/Stone	
	Carpet	
	Hardwood	

Note: Most anti-fracture membranes are approved for use with WarmWire. Contact manufacturer for details on specific products.



UL Listed for U.S. under UL Standard 1673 and Canada under CAN/CSA C22.2 No. 130.2-93. Listing file number E185866.

#### ⚠ WARNING

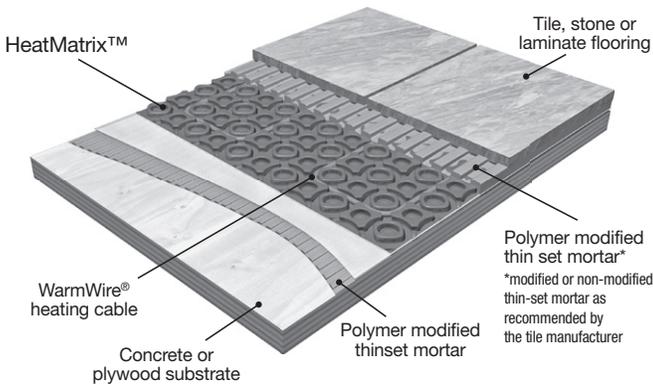
Never cut the heating cable or damage it in any way. Use only the attachment methods as described in the Installation Manuals for SunTouch WarmWire as other methods may damage the heating element.

#### ⚠ CAUTION

This Engineering Sheet is not intended to provide full installation instructions and safety information. In order to avoid property damage or injury, please refer to the complete installation manual and product safety information provided with the product.

SunTouch product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact SunTouch Technical Service. SunTouch reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on SunTouch products previously or subsequently sold. Refer to the owner's manual for warranty information.

## SunTouch WarmWire Application Examples



WarmWire over wood frame floor with backer board

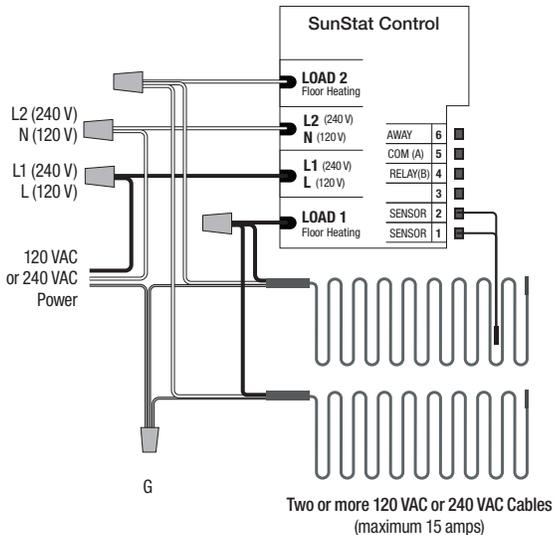


WarmWire over wood frame floor with double plywood



WarmWire over concrete slab floor

**Electrical Wiring Diagram for Multiple Cables with SunStat Control (120/240 VAC)** Dedicated 120 or 240 VAC, 20-amp (maximum) circuit (maximum 15 amp load through SunStat control).



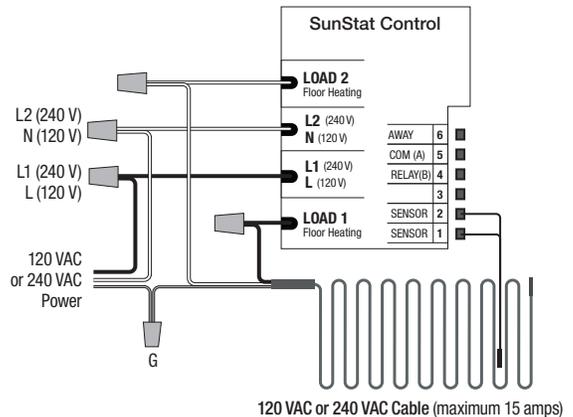
## 120 VAC WarmWire

√	Coverage (ft <sup>2</sup> )			Model#	Length	Amps
	2.5" o.c. (14.4 W/ft <sup>2</sup> )	3" o.c. (12 W/ft <sup>2</sup> )	3.5" o.c. (10.3 W/ft <sup>2</sup> )			
	8	10	12	120010WB-CST	39'	1.0
	13	15	18	120015WB-CST	59'	1.5
	17	20	24	120020WB-CST	78'	2.0
	21	25	30	120025WB-CST	98'	2.5
	25	30	36	120030WB-CST	117'	3.0
	29	35	42	120035WB-CST	137'	3.5
	34	40	48	120040WB-CST	157'	4.0
	38	45	54	120045WB-CST	176'	4.5
	42	50	60	120050WB-CST	196'	5.0
	51	60	72	120060WB-CST	235'	6.0
	59	70	84	120070WB-CST	274'	7.0
	67	80	96	120080WB-CST	313'	8.0
	76	90	108	120090WB-CST	352'	9.0
	84	100	120	120100WB-CST	391'	10.0

## 240 VAC WarmWire

√	Coverage (ft <sup>2</sup> )			Model#	Length	Amps
	2.5" o.c. (14.4 W/ft <sup>2</sup> )	3" o.c. (12 W/ft <sup>2</sup> )	3.5" o.c. (10.3 W/ft <sup>2</sup> )			
	17	20	24	240020WB-CST	78'	1.0
	25	30	36	240030WB-CST	117'	1.5
	34	40	48	240040WB-CST	157'	2.0
	42	50	60	240050WB-CST	196'	2.5
	51	60	72	240060WB-CST	235'	3.0
	59	70	84	240070WB-CST	274'	3.5
	67	80	96	240080WB-CST	313'	4.0
	76	90	108	240090WB-CST	352'	4.5
	84	100	120	240100WB-CST	391'	5.0
	101	120	144	240120WB-CST	470'	6.0
	118	140	168	240140WB-CST	548'	7.0
	135	160	192	240160WB-CST	626'	8.0
	151	180	216	240180WB-CST	704'	9.0
	168	200	240	240200WB-CST	783'	10.0

**Electrical Wiring Diagram for Single Cable with SunStat Control (120/240 VAC)** Dedicated 120 or 240 VAC, 20-amp (maximum) circuit (maximum 15 amp load through SunStat control).



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