



Warm Tiles™ Electric Floor Warming Systems
A complete selection of floor warming solutions.

Even in warm climates, tile, stone, marble and laminate floors can feel uncomfortably cold.



Warm Tiles™ floor warming systems remove the chill with a gentle, continuous warmth. Warm Tiles™ may be installed directly over plywood, concrete or cement backerboard substrates. The warming element rests in the mortar below your floor surface. Simple to measure, quick to install and easy to control, Warm Tiles™ delivers affordable luxury.

The pictures and illustrations represented in the following pages are for illustrative purposes only, and do not necessarily represent the exact products, placement, or dimension in the context they are found in. For additional information, please refer to product specific ordering tables and installation instructions (available at easyheat.com) for more details.



Product Selection Guide

Warm Tiles™ has a complete solution for your floor warming needs. Explore our floor warming products including cable systems, ultra thin or self-adhesive mats and cable solutions for use with uncoupling membrane. ▶ p4

Warm Tiles™ Electric Floor Warming Cables (DFT)

Warm Tiles™ Electric Floor Warming Cables (DFT) are designed to supply plenty of warmth and provide ultimate freedom in warming floors regardless of the shape of your room. ▶ p5

Warm Tiles™ Floor Warming Cable for use with Uncoupling Membrane (DMC)

Warm Tiles™ Electric Floor Warming Cable for Uncoupling Membrane (DMC) is specially designed to be used with all available uncoupling membranes. ▶ p10

Warm Tiles™ Electric Self-Adhesive Mats (SAM)

Warm Tiles™ Electric Self-Adhesive Mats (SAM) are ideally suited for rectangular areas, multi-dwelling residences, or expansive rooms. ▶ p15

Warm Tiles™ Electric Floor Warming Elite Mat (WTE)

Warm Tiles™ Electric Floor Warming Elite Mats (WTE) are super thin and designed for indoor floor warming applications which require minimal impact on floor height. They also reduce installation time and labor cost due to their special pre-manufactured mat design. ▶ p20

Warm Tiles™ Thermostats

Warm Tiles™ floor warming line voltage thermostats are dual-voltage and energy-efficient to maintain the perfect floor temperature. ▶ p26

Warm Tiles™ Floor Warming Accessories

Warm Tiles™ has a wide array of accessories; relay kits, electric fault indicators, repair kits, replacement clips, strapping concrete tape and sensor wire. ▶ p27

Warm Tiles™ Floor Warming Terminology Guide

Floor warming terminology can be a bit overwhelming. Use our floor warming terminology guide to understand frequently used industry terms. ▶ p30

Warm Tiles™ Floor Warming Product Selection Guide

Criteria	DFT	SAM	WTE	DMC
1. What is the target application?				
Typical Application	Residential Commercial	Residential Commercial	Residential Commercial	Residential Commercial
2. Can it be used with uncoupling membrane?				
For use with uncoupling membrane	✓ ^①	—	—	✓ ^①
3. Would you prefer a cable or mat?				
Cable	✓	—	—	✓
Mat	—	✓	✓	—
4. What are the layout options?				
Layout Options	Custom, based on area, using strapping	Rectangular	Standard, rectangular and custom	Custom, based on area, using uncoupling membrane
5. What is impact will it have on my floor height?				
Impact on floor height	An additional 0.344"	An additional 0.387"	An additional 0.211"	An additional 0.387"
6. What will be your the final floor finish?				
Ceramic/Porcelain Tile	✓	✓	✓	✓
Engineered Wood ^②	✓ ^①	✓ ^①	✓ ^①	✓ ^①
Terrazo	✓	✓	✓	✓
Natural Stone	✓	✓	✓	✓
Laminate floor	✓	✓	✓	✓
Marble	✓	✓	✓	✓
7. What is the subfloor material?				
Exterior Grade Plywood	✓ ^①	✓ ^①	✓	✓ ^①
Existing Ceramic Tile	✓	✓	✓	✓
Concrete/Masonry	✓	✓	✓	✓
Cement Backer Boards	✓	✓	✓	✓
Properly Prepared Vinyl	✓ ^①	✓ ^①	✓ ^①	✓ ^①
Hardwood	✓	✓	✓	✓
8. What is the time of installation?				
Time of installation	⊕⊕⊕	⊕⊕	⊕	⊕⊕
9. What is the difficulty of installation?				
Ease of Installation	Medium	Easy	Easy	Easy
10. What is the available supply voltage?				
Supply Voltage (Vac)	120, 240	120, 240	120, 240	120, 240
11. What is cold lead length?				
Standard Cold Lead Length	10 ft (3 m)	15 ft (4.6 m)	15 ft (4.6 m)	10 ft (3 m)

✓ Applicable

— Not Applicable

^① Verify with your local sales representative.

^② For used under engineered, floating wood floors only. Not approved for nailed-down installations.

Warm Tiles™ DFT Cables

Floor Warming Cables. For Commercial and Residential Applications.

Product Overview

- Warm Tiles™ Electric Floor Warming Cable (DFT) provide for a custom layout, based solely on the shape of a rooms walkable area.
- Included metal DFT strapping allows for two cable spacing options: standard cable spacing for rooms above heated spaces and alternating cable spacing for rooms above unheated areas, concrete slabs or high heat loss areas.

Applications

- DFT Cable are designed to gently and evenly warm flooring materials such as:
 - Marble
 - Ceramic
 - Glass and porcelain tile
 - Slate
 - Granite
 - Poured or dimensional stone
 - Laminate and certain engineered hardwood products

Certifications

- UL Listed, CSA Certified and conform to European Directives.
- The installation of the DFT cable in an uncoupling membrane is certified to Canadian standards only.



Features

- Available in 120 and 240 Vac kits.
- Easily installed on subfloor or concrete slab, in thin-set or self-leveling compound materials.
- Supplied with standard 10 ft (3.05 m) cold leads, which are designed to supply 12 W/ft² or 15 W/ft² when installed per instructions.
- Unlimited design configurations for even the most irregularly shaped layouts.
- Low profile cable thickness with minimal increase in floor height.
- Included strapping roll(s) can be cut to any length required.
 - Designed for two different spacing options between the cables depending on customer preferences, desired heat output or subfloor material.
- Can also be installed within an uncoupling membrane.
 - Use only uncoupling membranes that are rated for +194°F (+90°C) or greater and are approved by the manufacturer for having heating cable installed within them. Contact your local sales representative for details.
- Fifteen year limited warranty.



Warm Tiles™ DFT Cables

Floor Warming Cables. For Commercial and Residential Applications.

Installation Illustrations

Installation Over Double Layer Plywood

When installing Warm Tiles™ DFT cables over a plywood surface, be sure that the substrate is strong enough to support a tile or stone floor finish. Make sure your floor finish is installed according to the Tile Council of America for the United States or by the Terrazzo, Tile and Marble Association of Canada.

Installation Over Cement Backerboard

Install cement backerboard per installation instructions provided by manufacturer. Make sure your floor finish is installed according to The Tile Council of America for the United States or Terrazzo, Tile and Marble Association of Canada.

Installation Over Concrete

Rough or uneven concrete surfaces should be made smooth with a Portland cement underlayment to provide a wood float (or better) finish. Dry, dusty concrete slabs or masonry should be dampened and excess water swept off. Installation may be made on a damp surface. New concrete slabs must be level and true to within .25" (6 mm) in 10' (3 m).

Installation Using Crack Suppression Systems

Your floor warming system must be installed above the crack suppression system to achieve protection from stress cracks from the substrate below. Follow manufacturer's installation instructions for the crack suppression system you have purchased.

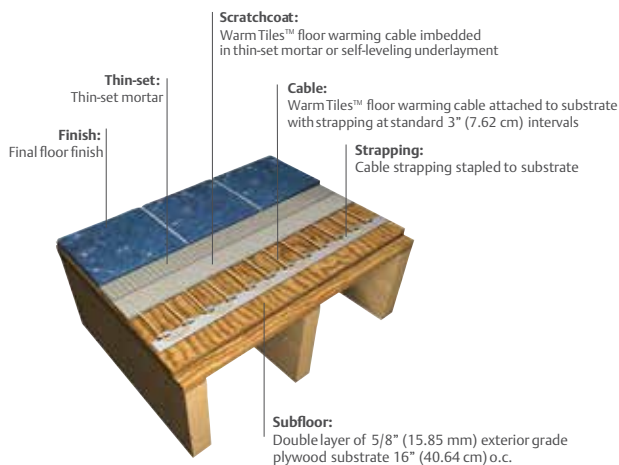
Installation Using Anti-Fracture Membranes

For membranes which are not designed for heating cables, your floor warming system must be installed below the anti-fracture membrane. Follow manufacturer's installation instructions for the anti-fracture system you have purchased.

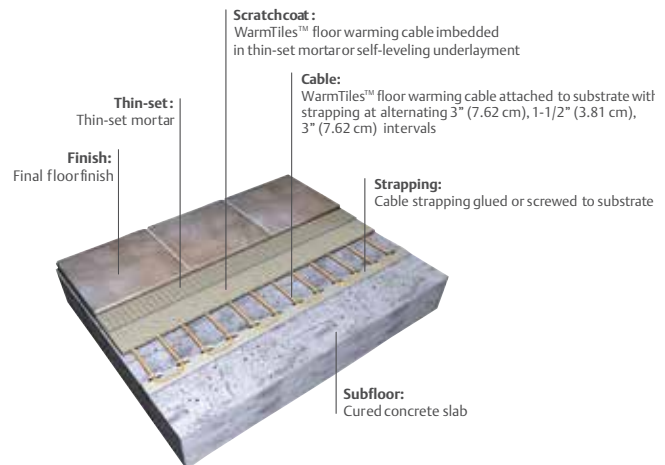
Installation Using Waterproofing Systems

Your floor warming system must be installed underneath the waterproofing system to protect it from water damage. Allow scratch coat to cure. Follow waterproofing manufacturer's installation instructions for the system you have purchased.

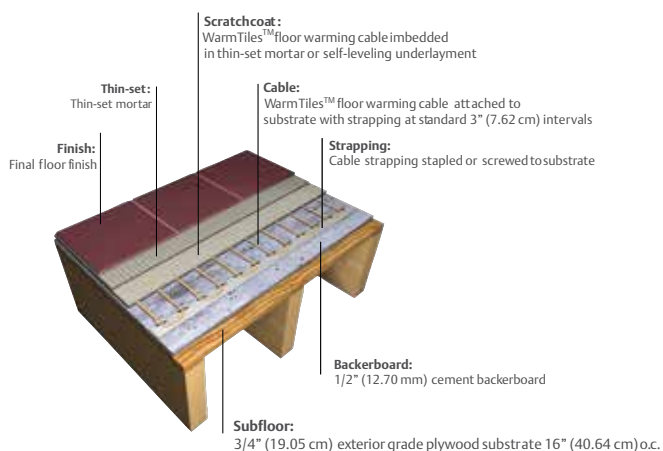
Tile and Stone Over Double Layer Plywood



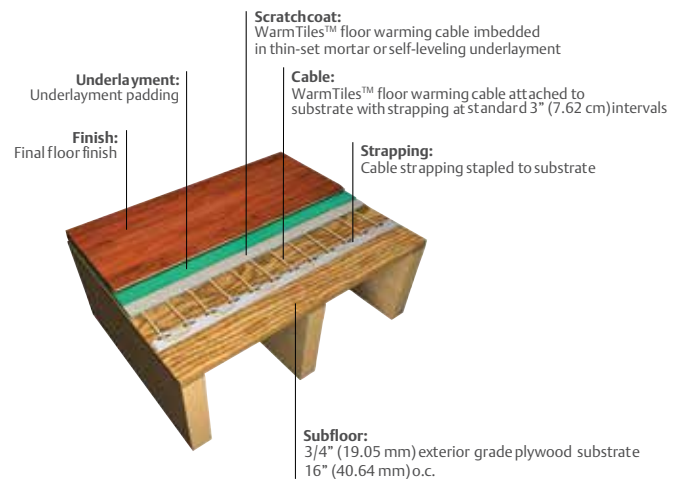
Tile and Stone Over Concrete



Tile and Stone Over Cement Backerboard



Engineered, Floating Wood Floor Over Plywood



Warm Tiles™ DFT Cables

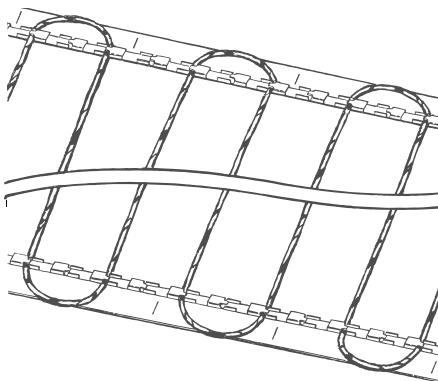
Floor Warming Cables. For Commercial and Residential Applications.

Important Cable Installation Considerations

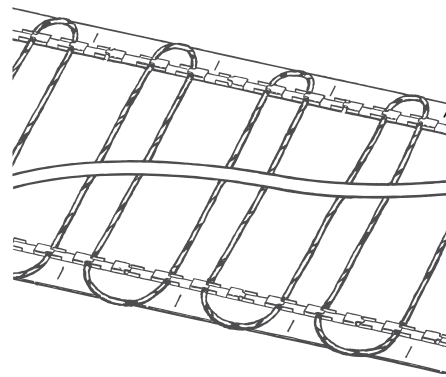
- Per NEC and CEC requirements ALWAYS use a ground fault protection device (GFCI) to reduce the danger of fire from a damaged or improperly installed heating cable. Electrical fault currents caused by damaged or improperly installed cable MAY NOT BE LARGE ENOUGH to trip a conventional circuit breaker.
- Heating cables must be installed in compliance with all national, state/provincial and local codes. Check with your local electrical inspector for specific details.
- Warm Tiles™ heating cables must be completely embedded in a cement-based layer of mortar prior to installation of the flooring material. DFT cable with strapping will add approximately 0.125 in (3 mm) to the floor height. If cables are exposed, they could be damaged which would expose live electrical parts and/or cause the cable to overheat.
- Cables are not designed as a primary source of space heating for any room in which it is installed.
- Floor areas may be warmed with a single cable or by using a combination of cables, provided the area to be heated is equal to the sum of the coverage area of the individual cables.
- Heating cable must not touch, cross or overlap itself at any point and cable must not be closer than 1-1/2 in (38 mm) to adjacent cable.
- Do not install heating cable under any type of nailed-down or stapled flooring. Floor nails and staples can damage the cable resulting in exposed live electrical parts and/or result in the cable overheating.
- When installing cable in floors that are routinely expected to be wet, a waterproofing membrane must be installed above the cables to keep them dry.
- Do not bend the heating cable at right angles – this could damage the electrical insulation; minimum bending radius is 3/4 in (19 mm)
- DO NOT CUT THE CABLE. Only the cold lead may be cut to suit hook-up in the electrical connection box (ECB).

Considerations For Choosing a Cable

Floor areas may be warmed with a single cable or by using a combination of cables, provided the area to be heated is equal to the sum of the coverage area of the individual cables. Cables are normally installed using a 3 in (76.2 mm) spacing between cable runs (Standard Heating Cable Spacing). For rooms located above unheated areas, including concrete slabs on grade, the recommended spacing is 3 in – 1-1/2 in – 3 in (76.2 mm – 38.1 mm – 76.2 mm), etc., between cable runs (Alternate Heating Cable Spacing). The same spacing should be used over the entire installation, as non-uniform spacing will result in areas that are either significantly cooler or warmer than other areas. It is recommended to carefully measure the actual floor area to be heated (Heated Area) and use the product selection chart to verify that each cable is the correct size and voltage. Select 120 Vac or 240 Vac to match your power supply. 240 Vac is generally more economical for areas larger than 70 ft² (6.50 m²).



Standard Cable Spacing
3 in (76.2 mm)
spacing between cable runs



Alternate Cable Spacing
3 in – 1-1/2 in – 3 in (76.2 mm – 38.1 mm – 76.2 mm)
spacing between cable runs

Warm Tiles™ DFT Cables

Floor Warming Cables. For Commercial and Residential Applications.

Measuring Walkable Area

Warm Tiles™ DFT cables provide unlimited design configurations for even the most difficult shaped room. The Warm Tiles™ DFT cable allows you to install full floor warming coverage by lacing the cable on the floor wherever you require a heated area. Find each floor section's square area by multiplying the length and width of each walkable floor section. Then add each floor section's walkable square area together for the installation's total walkable square area.

DFT Cable Kit Room Measurement Diagram

Shaded areas represent installation area of your DFT cable system.

A is 2 ft 6 in x 3 ft = 7.5 ft² (0.76 m x 0.91 m = 0.69 m²)

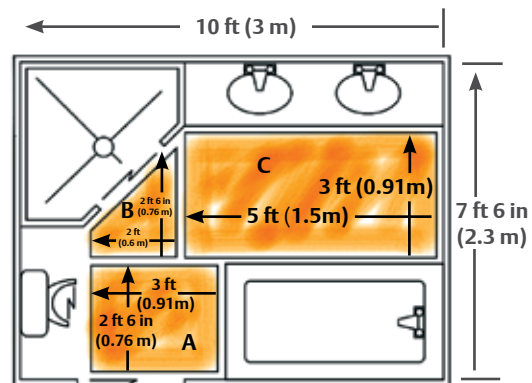
B is 2 ft 6 in x 2 ft ÷ 2 = 2.5 ft² [(0.76 m x 0.61 m) ÷ 2 = 0.23 m²]

C is 3 ft x 5 ft = 15 ft² (0.91 m x 1.52 m = 1.39 m²)

A + B + C = ft² (m²) total walkable heated area

7.5 ft² + 2.5 ft² + 15 ft² = 25 ft²

(0.69 m² + 0.23 m² + 1.39 m² = 2.31 m²) total heated area



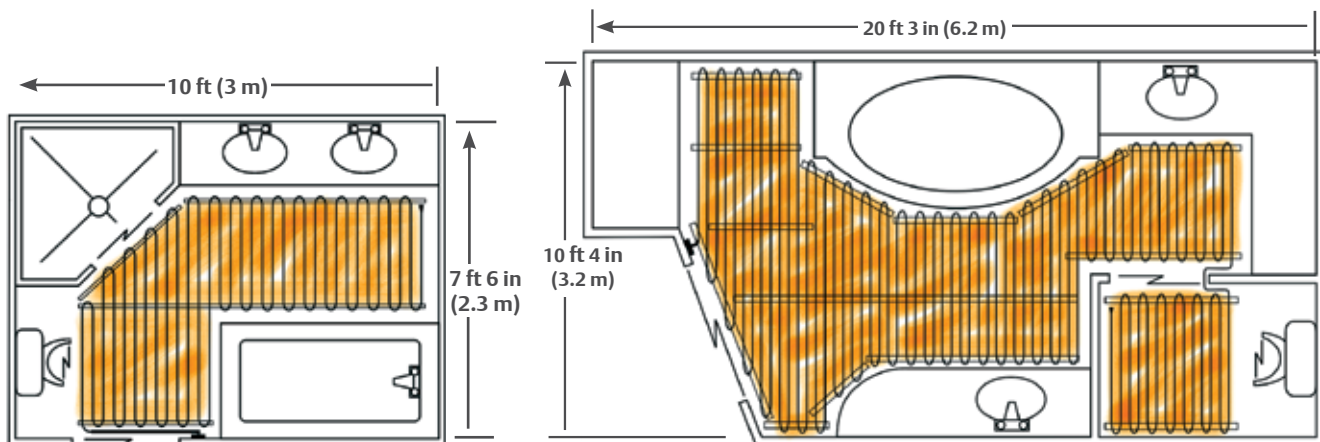
DFT Cable Kit Room Layout Diagram

Choose the product that most closely matches your heated area square footage from the Warm Tiles™ DFT cables product selection table.

In this example, you would choose 120 Vac DFT1022 cable kit for standard spacing or DFT1030 for alternating spacing.

For additional layouts or help in choosing the right product for your project, contact your local sales representative.

In this example, you would choose 240 Vac DFT2118 cable kit for standard spacing or DFT2157 for alternating spacing.



Warm Tiles™ DFT Cables

Floor Warming Cables. For Commercial and Residential Applications.

Product Selection

120 Vac							
Catalog Number	Description	Heated Area ft ² (m ²)		Amps ^③	Carton Quantity	Carton Weight lb (kg)	UPC
		Standard (12 W/ft ²) ^①	Alternating (15 W/ft ²) ^②				
DFT1011	“Blue” cable kit	9-13 (0.84-1.21)	7-9 (0.65-0.84)	1.1	2	3.75 (1.7)	01362701611
DFT1016	“Red” cable kit	14-18 (1.30-1.67)	10-13 (0.93-1.21)	1.6	2	3.68 (1.7)	01362701612
DFT1022	“Green” cable kit	19-26 (1.77-2.42)	14-19 (1.30-1.77)	2.2	2	4.0 (1.8)	01362701613
DFT1030	“Yellow” cable kit	27-34 (2.51-3.16)	20-26 (1.86-2.42)	3.0	2	4.0(1.8)	01362701614
DFT1039	“Purple” cable kit	35-42 (3.25-3.90)	27-33 (2.51-3.07)	4.0	2	4.7 (2.1)	01362701615
DFT1048	“Orange” cable kit	43-54 (4.00-5.02)	34-39 (3.16-3.62)	5.1	2	6.0 (2.7)	01362701616
DFT1059	“Brown” cable kit	55-65 (5.11-6.04)	40-48 (3.72-4.46)	6.4	2	6.45 (2.9)	01362701617
DFT1069	“Beige” cable kit	66-72 (6.13-6.69)	48-54 (4.46-5.02)	7.4	2	8.0 (3.6)	01362701618
DFT1079	“White” cable kit	73-82 (6.78-7.62)	55-62 (5.11-5.86)	8.5	1	10.5 (4.8)	01362701619
DFT1088	“Pink” cable kit	83-92 (7.71-8.55)	63-69 (5.85-6.41)	8.8	1	11.0 (5.0)	01362701609
DFT1098	“Silver” cable kit	93-102 (8.64-9.48)	70-76 (6.50-7.06)	9.6	1	12.0 (5.4)	01362701608
DFT1108	“Black” cable kit	103-113 (9.57-10.50)	77-85 (7.15-7.90)	10.7	1	12.0 (5.4)	01362701607

240 Vac							
Catalog Number	Description	Heated Area ft ² (m ²)		Amps ^③	Carton Quantity	Carton Weight lb (kg)	UPC
		Standard (12 W/ft ²) ^①	Alternating (15 W/ft ²) ^②				
DFT2021	“A” cable kit	18-25 (1.67-2.32)	13-19 (1.21-1.77)	1.1	2	4.0 (1.8)	01362701621
DFT2031	“B” cable kit	26-35 (2.42-3.25)	20-27 (1.86-2.51)	1.6	2	4.53 (2.1)	01362701622
DFT2053	“C” cable kit	48-55 (4.46-5.11)	35-44 (3.25-4.09)	2.6	2	4.0 (1.8)	01362701623
DFT2065	“D” cable kit	60-70 (5.57-6.50)	45-54 (4.18-5.02)	3.3	2	8.35 (3.8)	01362701624
DFT2078	“E” cable kit	71-83 (6.60-7.71)	55-63 (5.11-5.86)	4.0	2	9.0 (4.1)	01362701625
DFT2095	“F” cable kit	90-100 (8.36-9.29 m)	64-75 (5.95-6.97)	5.1	2	10.0 (4.5)	01362701626
DFT2118	“G” cable kit	110-130 (10.22-12.08)	84-94 (7.80-8.73)	6.3	2	11.0 (5.0)	01362701627
DFT2137	“H” cable kit	131-145 (12.17-13.47)	95-108 (8.83-10.03)	7.4	2	12.0 (5.4)	01362701628
DFT2157	“I” cable kit	146-165 (13.56-15.33)	109-125 (10.13-11.61)	8.5	1	13.0 (5.9)	01362701629
DFT2175	“J” cable kit	166-184 (15.42-17.10)	126-138 (11.71-12.82)	8.8	1	14.0 (6.4)	01362701630
DFT2195	“K” cable kit	185-204 (17.19-18.95)	139-153 (12.91-14.21)	9.6	1	15.0 (6.8)	01362701631
DFT2215	“L” cable kit	205-224 (19.05-20.81)	154-169 (14.31-15.70)	10.7	1	16.0 (7.3)	01362701632

① Use standard spacing on floors that are located above heated areas.

② Use alternating spacing on concrete slab floors or in rooms with excessive heat loss such as solariums.

③ Caution: Kit combinations that exceed 10 Amps should be connected by a qualified electrician.

Warm Tiles™ DMC Cable

Floor Warming Cable for use with Uncoupling Membrane. For Commercial and Residential Applications.

Product Overview

- Warm Tiles™ Electric Floor Warming Cable for Uncoupling Membrane (DMC) is the easy-to-install, reliable solution for your floor warming project.
- The cable was specially designed to be used with all available uncoupling membranes, so installation could not be simpler.

Applications

- DMC cables are designed to gently warm flooring materials such as:
 - Marble
 - Ceramic
 - Glass and porcelain tile
 - Slate
 - Granite
 - Poured or dimensional stone
 - Laminate and certain engineered hardwood products

Certifications

- CSA Certified for use in both the U.S. and Canada



Features

- Available in 120 and 240 Vac.
- Heating area range from 7 ft² – 250 ft² (0.7 m² – 23 m²).
- Cable can be laid directly from the spool into the membrane in whatever configuration you need.
- Once the cable is installed, tile installation is easy: self-leveling or scratch coat may not be required.
- Approved for a variety of applications and floor finishes for the ultimate in versatility and compatibility.
- Cables can also be installed in steps, including risers, leading to a bath/shower area in most jurisdictions. Check with your local electrical inspector before installing in steps.
- Cables can be installed in tiled showers or other wet areas, although it is recommended that you check with your local electrical inspector first to verify that this application is allowed in your jurisdiction.
- Fifteen year limited warranty.



Warm Tiles™ DMC Cable

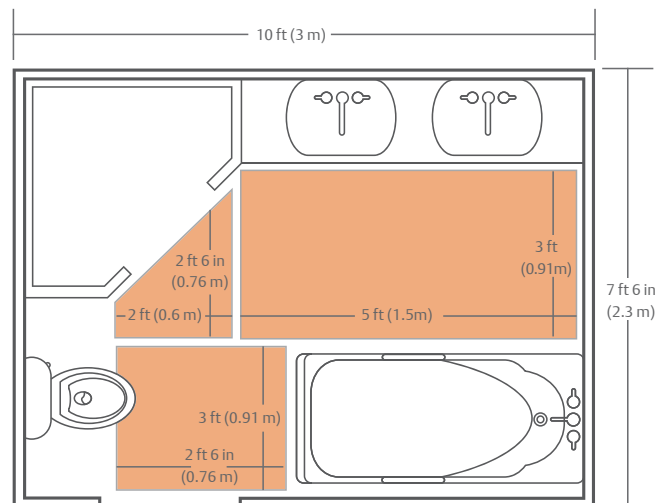
Floor Warming Cable for use with Uncoupling Membrane. For Commercial and Residential Applications.

Important Cable Installation Considerations

- Per NEC and CEC requirements ALWAYS use a ground fault protection device (GFCI) to reduce the danger of fire from a damaged or improperly installed heating cable. Electrical fault currents caused by damaged or improperly installed cable MAY NOT BE LARGE ENOUGH to trip a conventional circuit breaker.
- Heating cables must be installed in compliance with all national, state/provincial and local codes. Check with your local electrical inspector for specific details.
- The Warm Tiles™ heating cables must be completely embedded in a cement-based layer of mortar prior to installation of the flooring material. DMC cable with uncoupling membrane will add approximately 0.180 (4.5 mm) to the floor height, excluding membrane.
- Cables are not designed as a primary source of space heating for any room in which it is installed.
- Heating cable must not touch, cross or overlap itself at any point.
- Do not install heating cable under any type of nailed-down or stapled flooring. Floor nails and staples can damage the cable resulting in exposed live electrical parts and/or result in the cable overheating.
- Warm Tiles™ heating cables may not be installed under natural wood floors because the heat from the cables will cause these floors to warp, crack and/or discolor. Before beginning installation, check with the flooring manufacturer to verify that their materials are suitable for electric radiant underfloor heating.
- Do not bend the heating cable at right angles – this could damage the electrical insulation; minimum bending radius is 3/4 in (19 mm).
- When installing cable in floors that are routinely expected to be wet, such as tile showers, a waterproofing membrane must be installed above the cables to keep them dry. The cables are not rated for wet locations, and water could seep into the cable and result in cable failure, shock hazard and/or fire.
- DO NOT CUT THE CABLE. Only the cold lead may be cut to suit hook-up in the electrical connection box (ECB).

Measuring Walkable Area

Warm Tiles™ DMC cable is designed to be used with all available uncoupling membranes and can be laid directly from the spool into the membrane in whatever configuration you need. The DMC cable allows you to install full floor warming coverage wherever you require a heated area. Find each floor section's square area by multiplying the length and width of each walkable floor section. Then add each floor section's walkable square area together for the installation's total walkable square area.

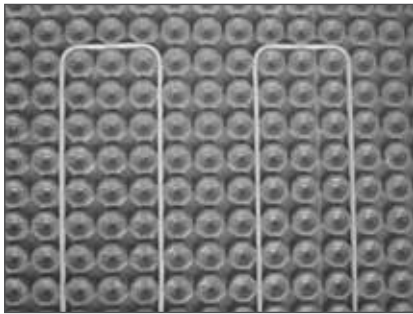


Warm Tiles™ DMC Cable

Floor Warming Cable for use with Uncoupling Membrane. For Commercial and Residential Applications.

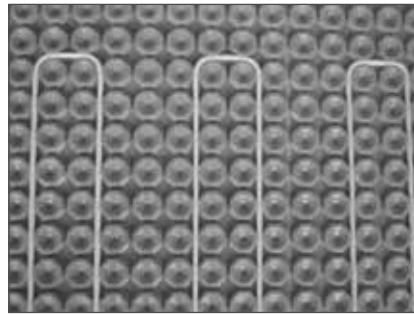
Cable Spacing

Floor areas may be warmed with a single cable or by using a combination of cables, provided the area to be heated is equal to the sum of the coverage area of the individual cables. Use standard cable spacing for rooms above heated areas. Dense cable spacing can be used for rooms above unheated areas, concrete slabs or high heat loss areas. Alternating cable spacing is used for excess cable or compensating for cable shortage. The same spacing should be used over the entire installation, as non-uniform spacing will result in areas that are either significantly cooler or warmer than other areas.



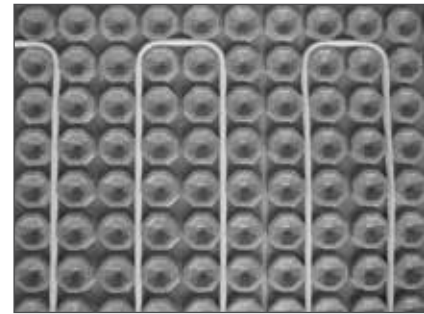
Standard Cable Spacing

Cables are spaced 3 channels apart. This results in spacing of 3-3/4 in (90 mm) between cables and provides 12 W/ft².



Alternating Cable Spacing

Cables are spaced alternately 3 channels apart then 2 channels apart. This results in spacing of 3-3/4 in (90 mm) and 2-1/2 in (60 mm) between cables and provides 15 W/ft².



Dense Cable Spacing

Cables are spaced 2 channels apart. This results in spacing of 2-1/2 in (60 mm) between cables and provides 18 W/ft².

Note: The spacing diagrams shown above are only valid for 1.25" (31.75 mm) membrane channel spacing. Cable spacing will be different depending on the membrane used. For membranes with other spacing, contact your local sales representative for more information.

Warm Tiles™ DMC Cable

Floor Warming Cable for use with Uncoupling Membrane. For Commercial and Residential Applications.

Cable Length and Power Supply

It is recommended to carefully measure the actual floor area to be heated (Heated Area) and use the product selection chart to verify that each cable is the correct size and voltage. Select 120 Vac or 240 Vac to match your power supply. 240 Vac is generally more economical for areas larger than 70 ft² (6.50 m²). The following heating area tables are based on membranes with 1.25 in (32 mm) spacing. For membranes with other spacing, contact your local sales representative for more information.

DMC 120 Vac Cable Kits

Model Number	Heating Area ft ² (m ²)			Cable Length ft (m)	Current Amps
	Standard Spacing (cables are spaced 3 channels apart) ①	Alternating Spacing (cables are spaced 3 channels apart then 2 channels apart) ②	Dense Spacing (cables are spaced 2 channels apart) ③		
DMC 1012	13-15 (1.2-1.4)	11-12 (1.0-1.2)	8-10 (0.8-0.9)	44 (13)	1.3
DMC 1016	16-20 (1.5-1.9)	13-17 (1.2-1.6)	11-14 (1.0-1.3)	58 (18)	1.7
DMC 1021	22-25 (2.0-2.4)	18-21 (1.7-2.0)	15-17 (1.4-1.6)	76 (23)	2.3
DMC 1025	25-30 (2.3-2.7)	21-25 (1.9-2.3)	17-20 (1.6-1.8)	88 (27)	2.6
DMC 1031	31-37 (2.9-3.5)	26-31 (2.4-2.9)	21-25 (1.9-2.3)	109 (33)	3.3
DMC 1042	39-52 (3.6-4.8)	33-43 (3.0-4.0)	26-34 (2.4-3.2)	145 (44)	4.4
DMC 1053	53-63 (4.9-5.8)	44-52 (4.1-4.9)	35-42 (3.3-3.9)	185 (56)	5.5
DMC 1065	63-77 (5.8-7.1)	52-64 (4.9-5.9)	42-51 (3.9-4.8)	224 (68)	6.7
DMC 1081	80-94 (7.4-8.7)	66-78 (6.2-7.3)	53-63 (4.9-5.8)	277 (85)	8.3
DMC 1097	96-112 (8.9-10.4)	80-94 (7.4-8.7)	64-75 (5.9-7.0)	333 (102)	10.0
DMC 1114	111-134 (10.3-12.5)	92-112 (8.6-10.4)	74-90 (6.9-8.3)	392 (120)	11.8

DMC 240 Vac Cable Kits

Model Number	Heating Area ft ² (m ²)			Cable Length ft (m)	Current Amps
	Standard Spacing (cables are spaced 3 channels apart) ①	Alternating Spacing (cables are spaced 3 channels apart then 2 channels apart) ②	Dense Spacing (cables are spaced 2 channels apart) ③		
DMC 2021	22-25 (2.0-2.3)	18-21 (1.7-1.9)	14-17 (1.3-1.5)	75 (23)	1.1
DMC 2025	25-30 (2.4-2.8)	21-25 (2.0-2.3)	17-20 (1.6-1.8)	88 (27)	1.3
DMC 2031	31-37 (2.9-3.5)	26-31 (2.4-2.9)	21-25 (1.9-2.3)	109 (33)	1.6
DMC 2042	39-52 (3.6-4.8)	33-43 (3.0-4.0)	26-34 (2.4-3.2)	145 (44)	2.2
DMC 2054	54-64 (5.0-6.0)	45-53 (4.2-5.0)	36-43 (3.3-4.0)	189 (58)	2.8
DMC 2063	62-75 (5.7-7.0)	52-62 (4.8-5.8)	41-50 (3.8-4.6)	219 (67)	3.3
DMC 2081	79-97 (7.3-9.0)	65-80 (6.1-7.5)	52-64 (4.9-6.0)	280 (85)	4.2
DMC 2097	94-114 (8.7-10.6)	78-95 (7.3-8.9)	63-76 (5.8-7.1)	333 (102)	5.0
DMC 2113	112-130 (10.4-12.1)	94-109 (8.7-10.1)	75-87 (7.0-8.1)	389 (118)	5.8
DMC 2131	130-150 (12.1-13.9)	108-125 (10.1-11.6)	87-100 (8.0-9.3)	447 (136)	6.7
DMC 2163	157-190 (14.5-17.7)	131-158 (12.1-14.7)	104-127 (9.7-11.8)	555 (169)	8.3
DMC 2196	190-227 (17.7-21.1)	158-189 (14.7-17.5)	127-151 (11.8-14.0)	667 (203)	10.0
DMC 2231	225-265 (20.9-24.6)	187-221 (17.4-20.5)	150-177 (13.9-16.4)	785 (239)	11.8

① Standard for 12 W/ft².

② Alternating for 15 W/ft².

③ Dense for 18 W/ft².

Warm Tiles™ DMC Cable

Floor Warming Cable for use with Uncoupling Membrane. For Commercial and Residential Applications.

Product Selection

120 Vac					
Catalog Number	Cable Length ft (m)	Power Consumption (Watts)	Carton Quantity	Carton Weight lb (kg)	UPC
DMC1012	44 (13)	159	2	2.1 (1.0)	01362718810
DMC1016	58 (18)	208	2	2.7 (1.2)	01362718811
DMC1021	76 (23)	274	2	3.1 (1.4)	01362718812
DMC1025	88 (27)	315	2	3.4 (1.5)	01362718813
DMC1031	109 (33)	394	2	3.6 (1.6)	01362718814
DMC1042	145 (44)	522	2	4.0 (1.8)	01362718815
DMC1053	185 (56)	665	2	4.6 (2.1)	01362718816
DMC1065	224 (68)	805	2	5.6 (2.5)	01362718817
DMC1081	277 (85)	998	2	7.2 (3.2)	01362718818
DMC1097	333 (102)	1200	2	8.7 (3.9)	01362718819
DMC1114	392 (120)	1412	2	10.3 (4.6)	01362718820

240 Vac					
Catalog Number	Cable Length ft (m)	Power Consumption (Watts)	Carton Quantity	Carton Weight lb (kg)	UPC
DMC2021	75 (23)	268	2	2.5 (1.1)	01362718821
DMC2025	88 (27)	317	2	3.0 (1.4)	01362718822
DMC2031	109(33)	393	2	3.6 (1.6)	01362718823
DMC2042	145 (44)	522	2	4.7 (2.1)	01362718824
DMC2054	189 (58)	679	2	6.2 (2.8)	01362718825
DMC2063	219 (67)	788	2	7.1 (3.2)	01362718826
DMC2081	280 (85)	1008	2	9.1 (4.1)	01362718827
DMC2097	333 (102)	1200	2	10.9 (4.9)	01362718828
DMC2113	389 (118)	1399	2	12.7 (5.7)	01362718829
DMC2131	447 (136)	1610	2	14.6 (6.6)	01362718830
DMC2163	555 (169)	1997	2	15.5 (7.0)	01362718831
DMC2196	667 (203)	2400	2	16.3 (7.3)	01362718832
DMC2231	785 (239)	2824	2	19.0 (8.6)	01362718833

Warm Tiles™ SAM Mat

Floor Warming Self-Adhesive Mat. For Commercial and Residential Applications.

Product Overview

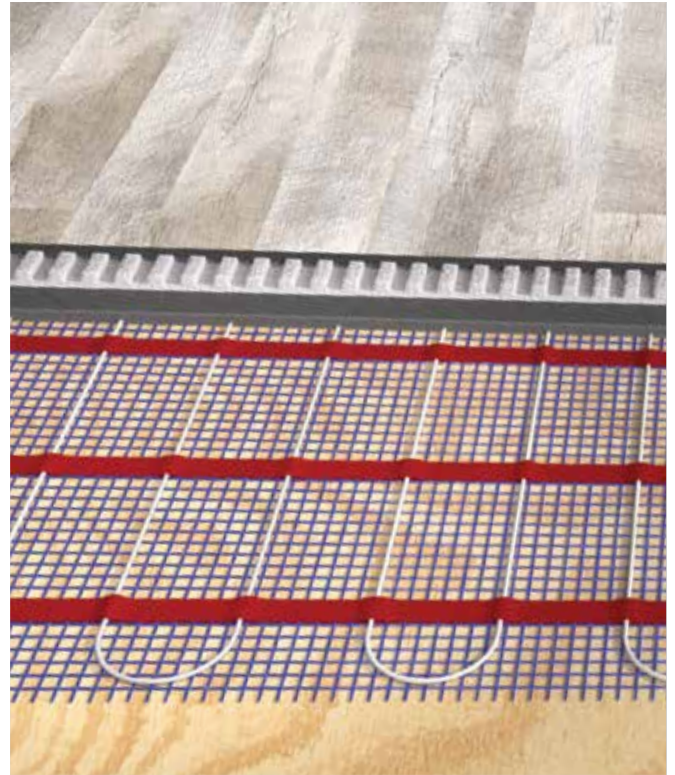
- Warm Tiles™ Electric Self-Adhesive Mats (SAM) are ideally suited for rectangular areas, multi-unit applications, or expansive rooms.
- The cable is fixed onto a mesh substrate and comes in standard sizes of pre-fabricated rectangular mats with self-adhesive, wide-spaced backing to help reduce installation time and labor.

Applications

- SAM mats are designed to gently warm flooring materials such as:
 - Marble
 - Ceramic
 - Glass and porcelain tile
 - Slate
 - Granite
 - Poured or dimensional stone
 - Laminate and engineered hardwood products

Certifications

- UL Listed, CSA Certified and conform to European Directives.



Features

- Available in 120 and 240 Vac with standard 15 ft (4.6 m) cold leads.
- Ideal for large areas, just roll out and affix to the subfloor.
- Mats can be altered in the field to fit various floor layouts.
- Comes in standard 20 in (0.51 m) rolls that are easy to stock and carry to the jobsite.
- Provides 15 W/ft², 14 W/ft² for select models, to quickly and efficiently warm floors.
- Plastic mesh substrate (not cable) can be cut to allow for additional layout customization.
- Custom mats are available for various shaped areas that do not conform to standard mat kits, such as ovals, circles and triangles. Contact your local representative for details.
- Approved for a variety of applications and floor finishes for the ultimate in versatility and compatibility.
- Cables can be installed in tiled showers or other wet areas, although it is recommended that you check with your local electrical inspector first to verify that this application is allowed in your jurisdiction.
- Fifteen year limited warranty.



Warm Tiles™ SAM Mat

Floor Warming Self-Adhesive Mat. For Commercial and Residential Applications.

Installation Illustrations

Installation over Double Layer Plywood

When installing SAM mats over a plywood surface, be sure that the substrate is strong enough to support a tile or stone floor finish. Make sure your floor finish is installed according to the Tile Council of America for the United States or by the Terrazzo, Tile and Marble Association of Canada.

Installation Over Cement Backerboard

Install cement backerboard per installation instructions provided by manufacturer. Make sure your floor finish is installed according to The Tile Council of America for the United States or Terrazzo, Tile and Marble Association of Canada.

Installation Over Concrete

Rough or uneven concrete surfaces should be made smooth with a Portland cement underlayment to provide a wood float (or better) finish. Dry, dusty concrete slabs or masonry should be dampened and excess water swept off. Installation may be made on a damp surface. New concrete slabs must be level and true to within 0.25" (6 mm) in 10' (3 m).

Installation Using Crack Suppression Systems

Your floor warming system must be installed above the crack suppression system to achieve protection from stress cracks from the substrate below. Follow manufacturers installation instructions for the crack suppression system you have purchased.

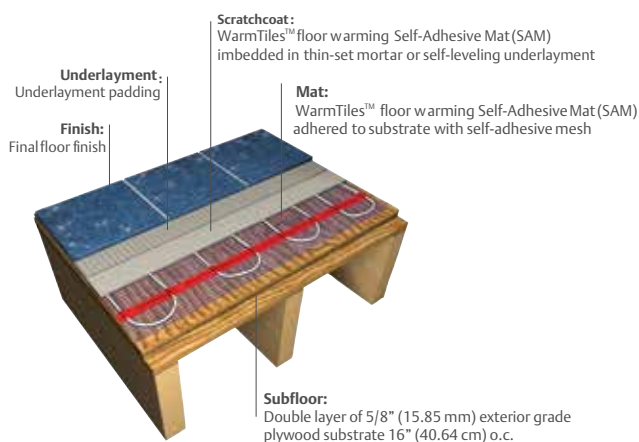
Installation Using Anti-Fracture Membranes

Your floor warming system must be installed below the anti-fracture membrane. Follow manufacturers installation instructions for the anti-fracture system you have purchased.

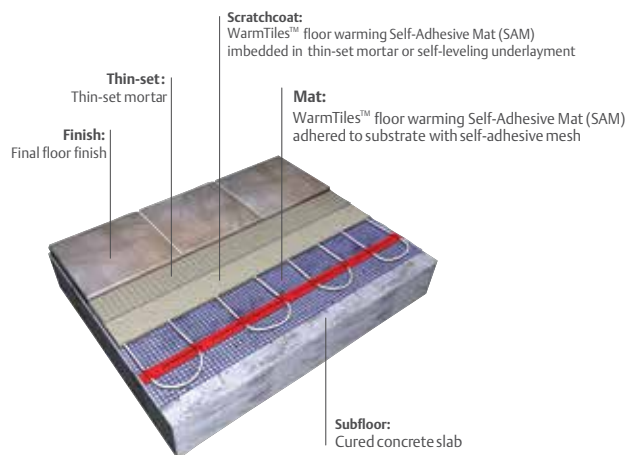
Installation Using Waterproofing Systems

Your floor warming system must be installed underneath the waterproofing system to protect it from water damage. Allow scratch coat to cure. Follow waterproofing manufacturers installation instructions for the system you have purchased.

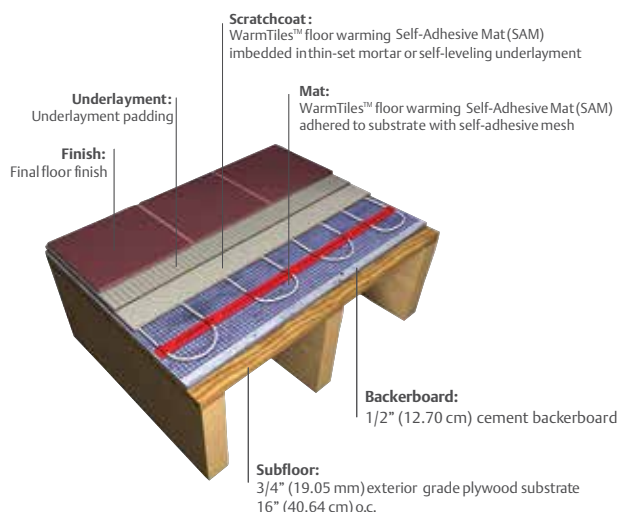
Tile and Stone Over Double Layer Plywood



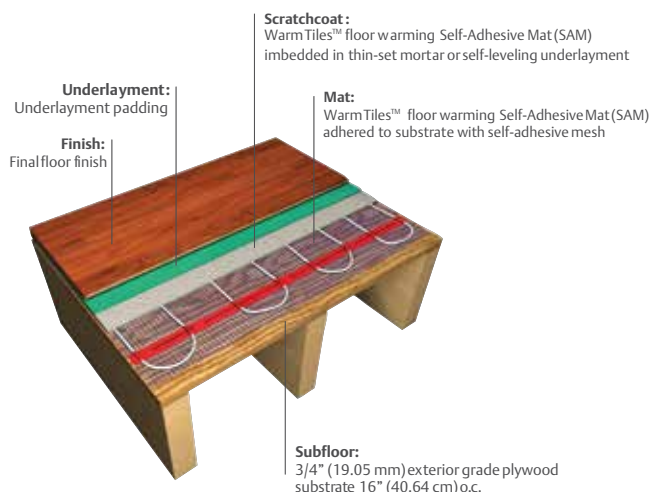
Tile and Stone Over Concrete



Tile and Stone Over Cement Backerboard



Engineered, Floating Wood Floor Over Plywood



Warm Tiles™ SAM Mat

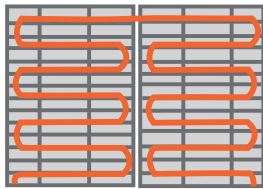
Floor Warming Self-Adhesive Mat. For Commercial and Residential Applications.

Important Cable Installation Considerations

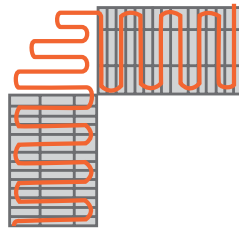
- Per NEC and CEC requirements ALWAYS use a ground fault protection device (GFCI) to reduce the danger of fire from a damaged or improperly installed heating cable. Electrical fault currents caused by damaged or improperly installed cable MAY NOT BE LARGE ENOUGH to trip a conventional circuit breaker.
- Heating cables must be installed in compliance with all national, state/provincial and local codes. Check with your local electrical inspector for specific details.
- Warm Tiles™ heating cables must be completely embedded in a cement-based layer of mortar prior to installation of the flooring material. SAM will add approximately 0.25 in (6.35 mm) to the floor height.
- Mats are not designed as a primary source of space heating for any room.
- Heating cable must not touch, cross or overlap itself at any point.
- Do not install heating cable under carpet, vinyl composition or linoleum type floors, or any type of nailed-down wood flooring. Floor nailing can damage the cable resulting in exposed live electrical parts and/or result in the cable overheating.
- Do not bend the heating cable at right angles – this could damage the electrical insulation; minimum bending radius is 3/4 in (19 mm).
- The heating cable of the mat must not extend beyond the room or area in which it originates.
- DO NOT CUT THE CABLE. Only the cold lead may be cut to suit hook-up in the electrical connection box (ECB).

Mat Shape Configurations

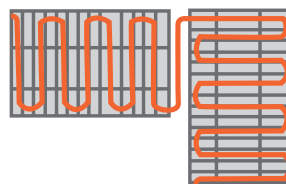
The heating cable of the Warm Tiles™ SAM mat is adhered in a serpentine pattern onto lengths of mesh substrate. It is quick and easy to cover large areas. These mats can be angled, turned or completely flipped around in order to cover the space by cutting only the mesh, and moving the remaining sections of mats in a new direction. In doing this, you are creating as much walkable heated area as possible.



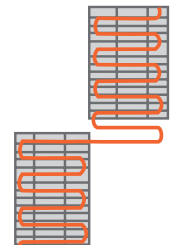
Back to Back



Fill Turn



Flip Turn



Roll Over

Warm Tiles™ SAM Mat

Floor Warming Self-Adhesive Mat. For Commercial and Residential Applications.

Measuring Walkable Area

Warm Tiles™ SAM mat mesh substrate is self-adhesive allowing you to place the mat on the subfloor and have it stay put while you embed the mat in thin-set or self-leveling underlayment. Various floor areas may be warmed with a single mat or by using a combination of mats. Find each floor section's square area by multiplying the length and width of each walkable floor section. Then add each floor section's walkable square area together for the installation's total walkable square area.

Cable Kit Room Measurement Diagram

Shaded areas represent installation areas of your mat system.

A is 1ft 8 in x 6 ft 6 in = 10.86 ft² (0.51 m x 1.98 m = 1.01 m²)

B is 1ft 8 in x 6 ft 6 in = 10.86 ft² (0.51 m x 1.98 m = 1.01 m²)

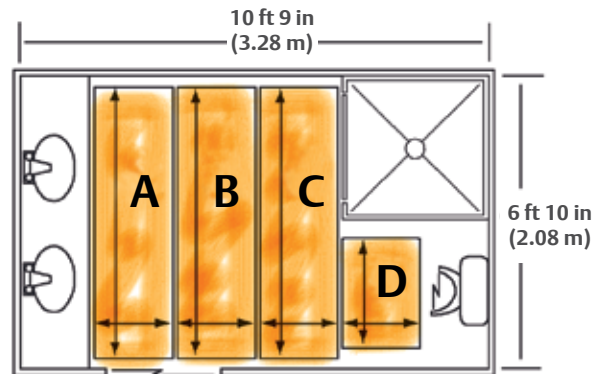
C is 1ft 8 in x 6 ft 6 in = 10.86 ft² (0.51 m x 1.98 m = 1.01 m²)

D is 1ft 8 in x 2 ft 6 in = 4.18 ft² (0.51 m x 0.76 m = 0.39 m²)

A + B + C + D = ft² (m²) total walkable heated area

10.86 ft² + 10.86 ft² + 10.86 ft² + 4.18 ft² = **36.78 ft²**

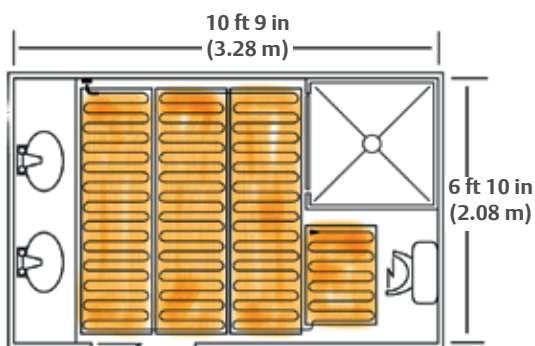
(1.01 m² + 1.01 m² + 1.01 m² + 0.39 m²) = **3.42 m²** total heated area



Cable Kit Room Layout Diagram

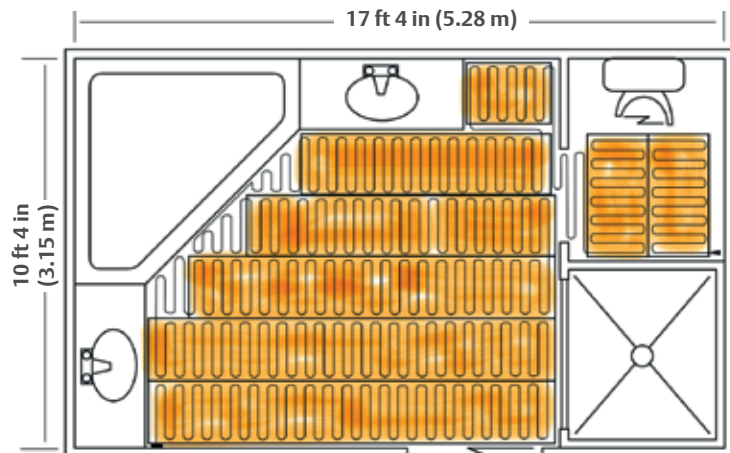
Choose the product that most closely matches your heated area square footage from the Warm Tiles™ SAM mat product selection table.

In this example, you would choose 120 Vac SAM 1033 mat kit.



For additional layouts or help in choosing the right product for your project, contact your local sales representative.

In this example, you would choose 120 Vac SAM 1087 mat kit.



Warm Tiles™ SAM Mat

Floor Warming Self-Adhesive Mat. For Commercial and Residential Applications.

Considerations For Choosing a Cable

Choose between 120 Vac or 240 Vac, to match your power supply. For areas larger than about 70 ft² (6.50 m²), the 240 Vac kits may be more economical. All mats are 20 in (0.51 m) wide. Multiple mats may be used to increase heated area ft² (m²) of installation.

Product Selection

120 Vac						
Catalog Number	Description	Heated Area ft ² (m ²)	Amps ①	Carton Quantity	Carton Weight lb (kg)	UPC
SAM 1010	20 in x 6.67 ft (0.51 x 2.03 m)	12-15 (1.11-1.39)	1.3	1	3 (1.4)	01362701561
SAM 1013	20 in x 8.67 ft (0.51 x 2.64 m)	16-19 (1.50-1.76)	1.7	1	3.3 (1.5)	01362701562
SAM 1017	20 in x 11.33 ft (0.51 x 3.45 m)	20-22 (1.86-2.04)	2.2	1	3.6 (1.6)	01362701563
SAM 1020	20 in x 13.33 ft (0.51 x 4.06 m)	23-28 (2.14-2.60)	2.5	1	3.9 (1.8)	01362701564
SAM 1025	20 in x 16.67 ft (0.51 x 5.08 m)	29-36 (2.69-3.34)	3.1	1	4.3 (2.0)	01362701565
SAM 1033	20 in x 22 ft (0.51 x 6.71 m)	37-46 (3.44-4.27)	4.2	1	4.9 (2.2)	01362701566
SAM 1042	20 in x 28 ft (0.51 x 8.53 m)	47-54 (4.37-5.02)	5.3	1	5.3 (2.4)	01362701567
SAM 1050	20 in x 33.33 ft (0.51 x 10.16 m)	55-66 (5.11-6.13)	6.5	1	6.2 (2.8)	01362701568
SAM 1062	20 in x 41.33 ft (0.51 x 12.60 m)	67-80 (6.22-7.43)	8.1	1	7.5 (3.4)	01362701569
SAM 1075	20 in x 50 ft (0.51 x 15.24 m)	81-94 (7.53-8.73)	9.7	1	8.7 (3.9)	01362701570
SAM 1087	20 in x 58 ft (0.51 x 17.68 m)	95-106 (8.83-9.85)	11.5	1	9.7 (4.3)	01362701571
SAM 1100	20 in x 66.67 ft (0.51 x 20.32 m)	107-120 (9.94-11.15)	13.1	1	10.8 (4.9)	01362701572

240 Vac						
Catalog Number	Description	Heated Area ft ² (m ²)	Amps ①	Carton Quantity	Carton Weight lb (kg)	UPC
SAM 2010	20 in x 6.67 ft (0.51 x 2.03 m)	12-15 (1.11-1.39)	1.3	1	3 (1.4)	01362701581
SAM 2013	20 in x 8.67 ft (0.51 x 2.64 m)	16-19 (1.50-1.76)	1.7	1	3.3 (1.5)	01362701582
SAM 2017	20 in x 11.33 ft (0.51 x 3.45 m)	20-22 (1.86-2.04)	2.2	1	3.6 (1.6)	01362701583
SAM 2020	20 in x 13.33 ft (0.51 x 4.06 m)	23-28 (2.14-2.60)	2.5	1	3.9 (1.8)	01362701584
SAM 2025	20 in x 16.67 ft (0.51 x 5.08 m)	29-36 (2.69-3.34)	3.1	1	4.3 (2.0)	01362701585
SAM 2033	20 in x 22 ft (0.51 x 6.71 m)	37-46 (3.44-4.27)	4.2	1	4.9 (2.2)	01362701586
SAM 2042	20 in x 28 ft (0.51 x 8.53 m)	47-54 (4.37-5.02)	5.3	1	5.3 (2.4)	01362701587
SAM 2050	20 in x 33.33 ft (0.51 x 10.16 m)	55-66 (5.11-6.13)	6.5	1	6.2 (2.8)	01362701588
SAM 2062	20 in x 41.33 ft (0.51 x 12.60 m)	67-80 (6.22-7.43)	8.1	1	7.5 (3.4)	01362701589
SAM 2075	20 in x 50 ft (0.51 x 15.24 m)	81-94 (7.53-8.73)	9.7	1	8.7 (3.9)	01362701590
SAM 2087	20 in x 58 ft (0.51 x 17.68 m)	95-106 (8.83-9.85)	11.5	1	9.7 (4.3)	01362701591
SAM 2100	20 in x 66.67 ft (0.51 x 20.32 m)	107-120 (9.94-11.15)	13.1	1	10.8 (4.9)	01362701592

① Caution: Kit combinations that exceed 10 Amps should be connected by a qualified electrician.

Warm Tiles™ Elite WTE Mat

Floor Warming Mats. For Commercial and Residential Applications.

Product Overview

- Warm Tiles™ Electric Floor Warming Elite (WTE) mats are designed for indoor floor warming applications with minimal impact on floor height.
- Mats consist of heating cable interwoven into slim, durable fabric, and come in standard and custom, made-to-order sizes.

Applications

- WTE mats are designed to gently warm flooring materials such as:
 - Marble
 - Ceramic
 - Glass and porcelain tile
 - Slate
 - Granite
 - Poured or dimensional stone
 - Laminate and engineered hardwood products

Ordering Information

- We can assist you to determine the appropriate WTE mat for your application. Contact your local sales representative for details.

Certifications

- UL Listed and CSA Certified.



Features

- Available in 120 and 240 Vac with standard 15 ft (4.57 m) cold leads.
- Thin 0.125 in (3.2 mm) mat means minimal impact on floor height.
- Same-day installation possible due to cost effective fabric mat design.
- High power output up to 15 W/ft², 14 W/ft² for select models, provides ample heat to quickly and efficiently warm up floors.
- Custom mats are available for various shaped areas. Contact your local sales representative for details.
- Cables can be installed in tiled showers or other wet areas, although it is recommended that you check with your local electrical inspector first to verify that this application is allowed in your jurisdiction.
- Fifteen year limited warranty.



Warm Tiles™ Elite WTE Mat

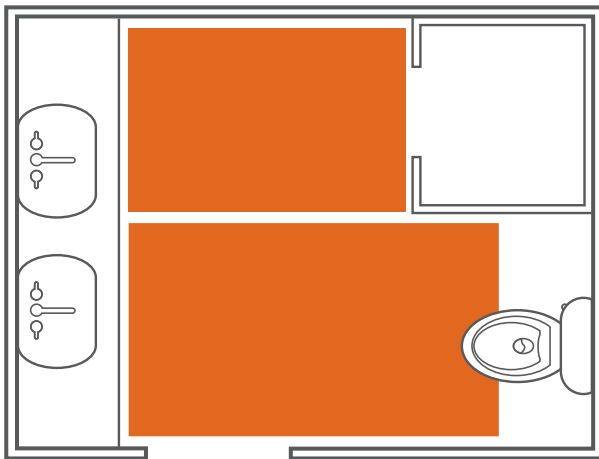
Floor Warming Mats. For Commercial and Residential Applications.

Important Cable Installation Considerations

- Per NEC and CEC requirements ALWAYS use a ground fault protection device (GFCI) to reduce the danger of fire from a damaged or improperly installed heating cable. Electrical fault currents caused by damaged or improperly installed cable MAY NOT BE LARGE ENOUGH to trip a conventional circuit breaker.
- Heating cables must be installed in compliance with all national, state/provincial and local codes. Check with your local electrical inspector for specific details.
- Warm Tiles™ heating cables must be completely embedded in a cement-based layer of mortar prior to installation of the flooring material. WTE will add approximately 0.211 in (5.36 mm) to the floor height.
- Do not install heating cable under carpet, vinyl composition or linoleum type floors, or any type of nailed-down wood flooring. Floor nailing can damage the cable resulting in exposed live electrical parts and/or result in the cable overheating.
- Cables are not designed as a primary source of space heating for any room.
- Do not alter the length of the heating cable (inside the heating mat) to suit a floor area larger or smaller than the recommended range for that mat: the cable will overheat or not warm properly. Physical injury or fire may result if altered. Only the cold lead may be cut to suit the location of the electrical connection box.
- When using multiple WTE mats, ensure the outside wire of adjacent mats are within 1-1/2 in (38 mm) to 3 in (76 mm) of one another to ensure the cable spacing and heat distribution are consistent across the floor.
- Spacing closer than 1-1/2 in (38 mm), can cause the cable to overheat. Do not space mats greater than 3 in (76 mm) apart, as the floor will not warm to a comfortable temperature.
- DO NOT CUT THE CABLE. Only the cold lead may be cut to suit hook-up in the electrical connection box (ECB).

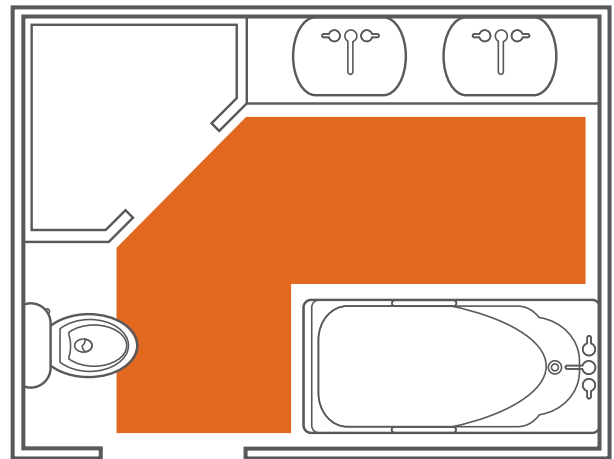
Walkable Area

Warm Tiles™ WTE mats allow you to install full floor warming coverage with the least impact on floor level. Various floor areas may be warmed with a single mat or by using a combination of mats.



Standard Configuration

Flexible and easy to install. Available in popular sizes for rectangular areas.



Custom Configuration

Available for coverage in rooms with irregular shapes and obstacles.

Warm Tiles™ Elite WTE Mat

Floor Warming Mats. For Commercial and Residential Applications.

Standard Product Selection for 120 Vac

Catalog Number	Length in (m)	Width in (m)	Heated Area ft ² (m ²)	Carton Quantity	Carton Weight lb (kg)	UPC
WTE0400271	40 (1.02)	27 (0.69)	7.5 (0.70)	1	2.9 (1.3)	01362716538
WTE0400321	40 (1.02)	32 (0.81)	8.9 (0.83)	1	3.0 (1.4)	01362716546
WTE0400401	40 (1.02)	40 (1.02)	11.1 (1.03)	1	3.1 (1.4)	01362716442
WTE0400481	40 (1.02)	48 (1.22)	13.3 (1.24)	1	3.2 (1.5)	01362716537
WTE0480241	48 (1.22)	24 (0.61)	8.0 (0.74)	1	2.9 (1.3)	01362716443
WTE0480301	48 (1.22)	30 (0.76)	10.0 (0.93)	1	3.0 (1.4)	01362716501
WTE0480361	48 (1.22)	36 (0.91)	12.0 (1.11)	1	3.2 (1.5)	01362716541
WTE0480481	48 (1.22)	48 (1.22)	16.0 (1.49)	1	3.4 (1.5)	01362716444
WTE0600241	60 (1.52)	24 (0.61)	10.0 (0.93)	1	4.0 (1.8)	01362716446
WTE0600301	60 (1.52)	30 (0.76)	12.5 (1.16)	1	4.2 (1.9)	01362716542
WTE0600361	60 (1.52)	36 (0.91)	15.0 (1.39)	1	4.4 (2.0)	01362716543
WTE0600421	60 (1.52)	42 (1.67)	17.5 (1.63)	1	4.5 (2.0)	01362716447
WTE0600481	60 (1.52)	48 (1.22)	20.0 (1.86)	1	4.7 (2.1)	01362716544
WTE0600601	60 (1.52)	60 (1.52)	25.0 (2.32)	1	5.0 (2.3)	01362716450
WTE0720241	72 (1.83)	24 (0.61)	12.0 (1.11)	1	4.2 (1.9)	01362716458
WTE0720301	72 (1.83)	30 (0.76)	15.0 (1.39)	1	4.4 (2.0)	01362716460
WTE0720361	72 (1.83)	36 (0.91)	18.0 (1.67)	1	4.6 (2.1)	01362716545
WTE0720421	72 (1.83)	42 (1.67)	21.0 (1.95)	1	4.8 (2.2)	01362716463
WTE0720481	72 (1.83)	48 (1.22)	24.0 (2.23)	1	5.0 (2.3)	01362716539
WTE0720601	72 (1.83)	60 (1.52)	30.0 (2.79)	1	5.4 (2.4)	01362716464
WTE0840241	84 (2.13)	24 (0.61)	14.0 (1.30)	1	4.3 (2.0)	01362716468
WTE0840301	84 (2.13)	30 (0.76)	17.5 (1.63)	1	4.5 (2.0)	01362716469
WTE0840361	84 (2.13)	36 (0.91)	21.0 (1.95)	1	4.8 (2.2)	01362716470
WTE0840421	84 (2.13)	42 (1.67)	24.5 (2.28)	1	5.0 (2.3)	01362716472
WTE0840481	84 (2.13)	48 (1.22)	28.0 (2.60)	1	5.2 (2.4)	01362716473
WTE0840601	84 (2.13)	60 (1.52)	35.0 (3.25)	1	5.7 (2.6)	01362716475
WTE0960241	96 (2.44)	24 (0.61)	16.0 (1.49)	1	4.4 (2.0)	01362716476
WTE0960301	96 (2.44)	30 (0.76)	20.0 (1.86)	1	4.7 (2.1)	01362716440
WTE0960361	96 (2.44)	36 (0.91)	24.0 (2.23)	1	5.0 (2.3)	01362716480
WTE0960421	96 (2.44)	42 (1.67)	28.0 (2.60)	1	5.2 (2.4)	01362716479
WTE0960481	96 (2.44)	48 (1.22)	32.0 (2.97)	1	5.5 (2.5)	01362716478
WTE0960601	96 (2.44)	60 (1.52)	40.0 (3.72)	1	6.0 (2.7)	01362716477
WTE1080241	108 (2.74)	24 (0.61)	18.0 (1.67)	1	4.6 (2.1)	01362716474
WTE1080301	108 (2.74)	30 (0.76)	22.5 (2.09)	1	4.9 (2.2)	01362716471
WTE1080361	108 (2.74)	36 (0.91)	27.0 (2.51)	1	5.2 (2.4)	01362716467
WTE1080421	108 (2.74)	42 (1.67)	31.5 (2.93)	1	5.5 (2.5)	01362716466
WTE1080481	108 (2.74)	48 (1.22)	36.0 (3.34)	1	5.8 (2.6)	01362716465

Warm Tiles™ Elite WTE Mat

Floor Warming Mats. For Commercial and Residential Applications.

Standard Product Selection for 120 Vac

Catalog Number	Length in (m)	Width in (m)	Heated Area ft ² (m ²)	Carton Quantity	Carton Weight lb (kg)	UPC
WTE1080601	108 (2.74)	60 (1.52)	45.0 (4.18)	1	6.4 (2.9)	01362716461
WTE1180241	118 (3.00)	24 (0.61)	19.7 (1.83)	1	4.7 (2.1)	01362716451
WTE1180301	118 (3.00)	30 (0.76)	24.6 (2.29)	1	5.0 (2.3)	01362716449
WTE1180361	118 (3.00)	36 (0.91)	29.5 (2.74)	1	5.3 (2.4)	01362716448
WTE1180421	118 (3.00)	42 (1.67)	34.4 (3.20)	1	5.7 (2.6)	01362716445
WTE1180481	118 (3.00)	48 (1.22)	39.3 (3.65)	1	6.0 (2.7)	01362716481
WTE1180601	118 (3.00)	60 (1.52)	49.2 (4.57)	1	6.6 (3.0)	01362716441

Warm Tiles™ Elite WTE Mat

Floor Warming Mats. For Commercial and Residential Applications.

Standard Product Selection for 240 Vac

Catalog Number	Length m (in)	Width m (in)	Heated Area m ² (ft ²)	Carton Quantity	Carton Weight kg (lb)	UPC
WTE0400272	40 (1.02)	27 (0.69)	7.5 (0.70)	1	2.9 (1.3)	01362716513
WTE0400322	40 (1.02)	32 (0.81)	8.9 (0.83)	1	3.0 (1.4)	01362716512
WTE0400402	40 (1.02)	40 (1.02)	11.1 (1.03)	1	3.1 (1.4)	01362716462
WTE0400482	40 (1.02)	48 (1.22)	13.3 (1.24)	1	3.2 (1.5)	01362716507
WTE0480242	48 (1.22)	24 (0.61)	8.0 (0.74)	1	2.9 (1.3)	01362716510
WTE0480302	48 (1.22)	30 (0.76)	10.0 (0.93)	1	3.0 (1.4)	01362716498
WTE0480362	48 (1.22)	36 (0.91)	12.0 (1.11)	1	3.2 (1.5)	01362716499
WTE0480482	48 (1.22)	48 (1.22)	16.0 (1.49)	1	3.4 (1.5)	01362716500
WTE0600242	60 (1.52)	24 (0.61)	10.0 (0.93)	1	4.0 (1.8)	01362716482
WTE0600302	60 (1.52)	30 (0.76)	12.5 (1.16)	1	4.2 (1.9)	01362716483
WTE0600362	60 (1.52)	36 (0.91)	15.0 (1.39)	1	4.4 (2.0)	01362716484
WTE0600422	60 (1.52)	42 (1.67)	17.5 (1.63)	1	4.5 (2.0)	01362716503
WTE0600482	60 (1.52)	48 (1.22)	20.0 (1.86)	1	4.7 (2.1)	01362716504
WTE0600602	60 (1.52)	60 (1.52)	25.0 (2.32)	1	5.0 (2.3)	01362716505
WTE0720242	72 (1.83)	24 (0.61)	12.0 (1.11)	1	4.2 (1.9)	01362716506
WTE0720302	72 (1.83)	30 (0.76)	15.0 (1.39)	1	4.4 (2.0)	01362716508
WTE0720362	72 (1.83)	36 (0.91)	18.0 (1.67)	1	4.6 (2.1)	01362716509
WTE0720422	72 (1.83)	42 (1.67)	21.0 (1.95)	1	4.8 (2.2)	01362716511
WTE0720482	72 (1.83)	48 (1.22)	24.0 (2.23)	1	5.0 (2.3)	01362716516
WTE0720602	72 (1.83)	60 (1.52)	30.0 (2.79)	1	5.4 (2.4)	01362716517
WTE0840242	84 (2.13)	24 (0.61)	14.0 (1.30)	1	4.3 (2.0)	01362716518
WTE0840302	84 (2.13)	30 (0.76)	17.5 (1.63)	1	4.5 (2.0)	01362716519
WTE0840362	84 (2.13)	36 (0.91)	21.0 (1.95)	1	4.8 (2.2)	01362716524
WTE0840422	84 (2.13)	42 (1.67)	24.5 (2.28)	1	5.0 (2.3)	01362716526
WTE0840482	84 (2.13)	48 (1.22)	28.0 (2.60)	1	5.2 (2.4)	01362716528
WTE0840602	84 (2.13)	60 (1.52)	35.0 (3.25)	1	5.7 (2.6)	01362716529
WTE0960242	96 (2.44)	24 (0.61)	16.0 (1.49)	1	4.4 (2.0)	01362716531
WTE0960302	96 (2.44)	30 (0.76)	20.0 (1.86)	1	4.7 (2.1)	01362716532
WTE0960362	96 (2.44)	36 (0.91)	24.0 (2.23)	1	5.0 (2.3)	01362716534
WTE0960422	96 (2.44)	42 (1.67)	28.0 (2.60)	1	5.2 (2.4)	01362716535
WTE0960482	96 (2.44)	48 (1.22)	32.0 (2.97)	1	5.5 (2.5)	01362716536
WTE0960602	96 (2.44)	60 (1.52)	40.0 (3.72)	1	6.0 (2.7)	01362716540
WTE1080242	108 (2.74)	24 (0.61)	18.0 (1.67)	1	4.6 (2.1)	01362716502
WTE1080302	108 (2.74)	30 (0.76)	22.5 (2.09)	1	4.9 (2.2)	01362716492
WTE1080362	108 (2.74)	36 (0.91)	27.0 (2.51)	1	5.2 (2.4)	01362716533
WTE1080422	108 (2.74)	42 (1.67)	31.5 (2.93)	1	5.5 (2.5)	01362716530
WTE1080482	108 (2.74)	48 (1.22)	36.0 (3.34)	1	5.8 (2.6)	01362716527
WTE1080602	108 (2.74)	60 (1.52)	45.0 (4.18)	1	6.4 (2.9)	01362716525
WTE1180242	118 (3.00)	24 (0.61)	19.7 (1.83)	1	4.7 (2.1)	01362716523
WTE1180302	118 (3.00)	30 (0.76)	24.6 (2.29)	1	5.0 (2.3)	01362716522
WTE1180362	118 (3.00)	36 (0.91)	29.5 (2.74)	1	5.3 (2.4)	01362716521
WTE1180422	118 (3.00)	42 (1.67)	34.4 (3.20)	1	5.7 (2.6)	01362716520
WTE1180482	118 (3.00)	48 (1.22)	39.3 (3.65)	1	6.0 (2.7)	01362716515
WTE1180602	118 (3.00)	60 (1.52)	49.2 (4.57)	1	3.0 (6.6)	01362716514

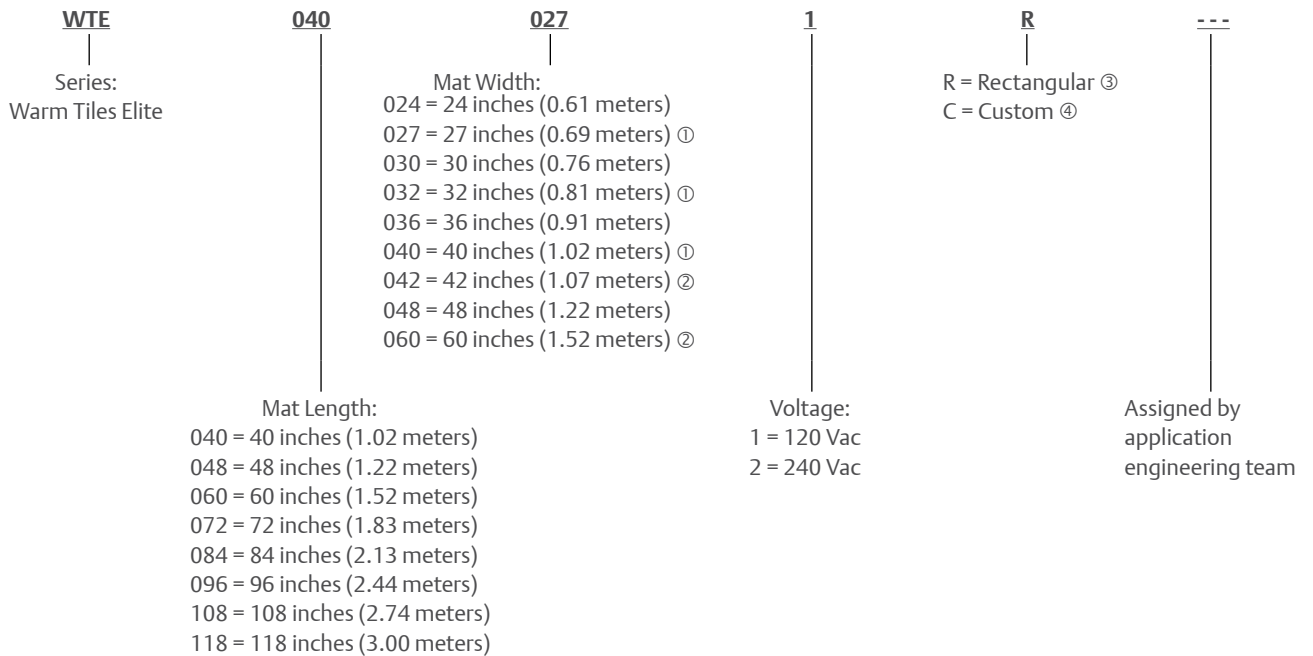
Warm Tiles™ Elite WTE Mat

Floor Warming Mats. For Commercial and Residential Applications.

Custom Warm Tiles™ WTE Mats

If the layout or installation conditions prevent the use of the standard Warm Tiles™ Elite product offering, our team will work with you to create custom WTE mats tailored to your unique specifications and layout. Submit the WTE Custom Order Form with all the required information, and the Warm Tiles™ Application Engineering team will design a custom mat just for you.

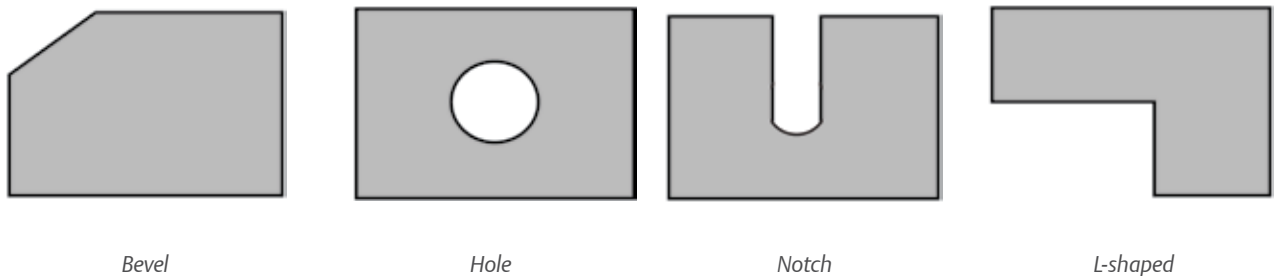
Catalog Number Guide



- ① Only available for mat length of 40 in (1.02 m).
- ② Not available for mat lengths of 40 in and 48 in (1.02 and 1.22 m).
- ③ Custom rectangular shape mat without any notches or cutouts will have a suffix "R" after its main part number. Example: WTE0630491R – 63 in x 49 in (1.60 m x 1.24 m), 120 Vac special size RECTANGULAR custom WTE mat.
- ④ Irregular shape custom mat that may contain any combination of notches, cutouts, bevels, etc. Example: WTE0630491C023 – 63 inches x 49 inches (1.60 m x 1.24 m), 120 Vac special size irregular shape CUSTOM mat with a unique design (three-digit code behind "C" suffix is assigned by application engineering team).

Custom Mat Shapes

WTE mats can be provided in custom sizes or shapes – some typical shapes may include:



Note: Contact a local sales representative for assistance.

Warm Tiles™ Thermostats

Floor Warming Thermostats. For Commercial and Residential Applications.

Product Overview

- Warm Tiles™ floor warming thermostats are designed to offer precise temperature control for all Warm Tiles™ floor warming systems

Applications

- Monitors and regulates the warmth of Warm Tiles™ heated floors.

Certifications

- CSA Certified to US and Canadian Standards.



Features

- FGS programmable thermostat cycles on and off automatically to suit 5/2 or full 7 day schedules.
- FG non-programmable thermostat for manual operation with a simple temperature adjustment and on/off switch.
- Thermostats have dual 120/240 Vac design and control loads up to 15 Amps total system current.
- Integrated GFCI meets NEC/CEC electrical code with no need to buy and install a separate GFCI on systems under 15 amps.
- Responsive buttons and intuitive feedback simplify operation.
- Large, easy to read, backlit LCD display.
- Eighteen month limited warranty.



Product Selection

Catalog Number	Description	Carton Quantity	Carton Weight lb (kg)	UPC
FG	120/240 Vac dual-voltage 15A non-programmable thermostat	5	8 (3.6)	01362716585
FGS	120/240 Vac dual-voltage 15A programmable thermostat	5	8 (3.6)	01362716584

Warm Tiles™ Floor Warming Accessories

Relay Kits for Electric Floor Warming Systems. For Commercial and Residential Applications.

Product Overview

- The Warm Tiles™ relay kits (RK1 and RK2) allow you to connect multiple floor warming kits to a single thermostat, when power required exceeds 15 Amps.

Applications

- Controls the power supply to Warm Tiles™ electric heating cable systems.

Certifications

- Relay kits (RK1 and RK2) are UL Listed to US and Canadian Safety Standards.



Features

- Allows a single thermostat to control loads that are larger than the rating of the thermostat.
- Multiple relay kits can be used to control very large loads using a single thermostat.
- Will facilitate control of large square footage floor warming installations via a single thermostat when installed in accordance with product instructions.
- One year limited warranty.



RK1 and RK2 Relay Kits

Product Selection

Catalog Number	Description	Carton Quantity	Carton Weight lb (kg)	UPC
RK1	Relay kit, 120 Vac, 24 Amps	1	0.5 (0.2)	01362701298
RK2	Relay kit, 240 Vac, 24 Amps	1	0.5 (0.2)	01362701299

Warm Tiles™ Floor Warming Accessories

Relay Kits for Electric Floor Warming Systems. For Commercial and Residential Applications.

Guidelines for Floor Warming Relay Kits

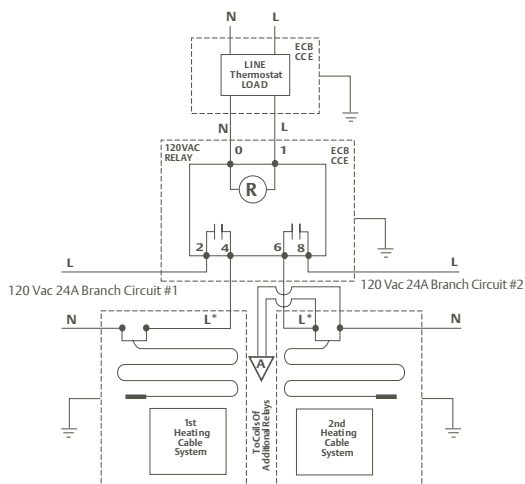
Warm Tiles™ relay kits allow you to connect two or more floor warming kits in the same room. First you would connect the first line voltage feed to the thermostat. The load connection pigtails from the thermostat are run to the coil of the relay, which is housed in a separate electrical box. A second line voltage feed is connected to the input terminals of the relay and the heating cable cold leads are connected to the output terminals. When the thermostat calls for heat, the coil is engaged, connecting the input and output terminals, therefore allowing power to flow to the cables. Remember to follow the detailed instructions provided in each relay kit.

NOTE: It is recommended that the circuit supplying the heating cable have ground fault protection; this is mandatory by electrical code for some applications in many regions. Consult an electrical inspector to determine the specific ground fault requirements for your application prior to installation. If you are unsure that your circuit has ground fault protection, consult an electrician. Per US National Electrical Code - Installation in a bathroom requires that this product be installed on a circuit protected by a separate Ground Fault Circuit Interrupter (GFCI).

Basic Guidelines for 120 Vac floor warming kit combinations up to 24 Amps and require the use of a relay.

RK-1 120 Vac Thermostat Relay Kit

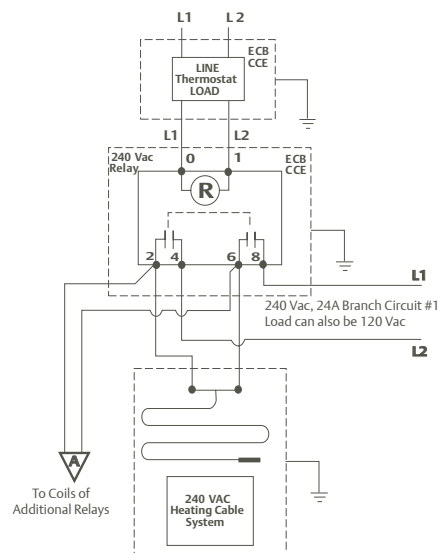
- Provides large area coverage using only 1 thermostat
- Switches 2 separate multiple 120 Vac floor warming systems, each with a total 24 Amp maximum load.



Basic Guidelines for 240 Vac floor warming kit combinations up to 24 Amps and require the use of a relay.

RK-2 240 Vac Thermostat Relay Kit

- Provides large area coverage using only 1 thermostat
- Switches multiple 240 Vac floor warming systems with a total 24 Amp maximum load.



Warm Tiles™ Floor Warming Accessories

Floor Warming. For Commercial and Residential Applications.

Product Overview

- Warm Tiles™ provides the right accessories to install our floor warming systems.

Detecto DT1 Heating Cable and Mat Fault Indicator

- The Detecto DT1 heating cable and mat fault indicator (battery operated) is designed to monitor Warm Tiles™ cable or mat systems at every step during installation.
- Detecto DT1 sounds an alarm immediately in the event of a ground fault detection, or an open or shorted connection in the cable.
- One year limited warranty.

DFTRK Repair Kit

- The DFTRK repair kit can be used to make repairs to damaged floor heating cables and is suitable for use on most types of heating cables/mats with either single or dual conductor heating elements.
- One year limited warranty.

Other Accessories

- Warm Tiles™ offers other accessories including replacement clips, strapping and concrete tape for your floor warming needs.
- One year limited warranty.

Certifications

- Detecto DT1 conforms to European Directives.



Detecto DT1 Heating Cable and Mat Fault Indicator



DFTRK Warm Tiles™ Repair Kit



CKT



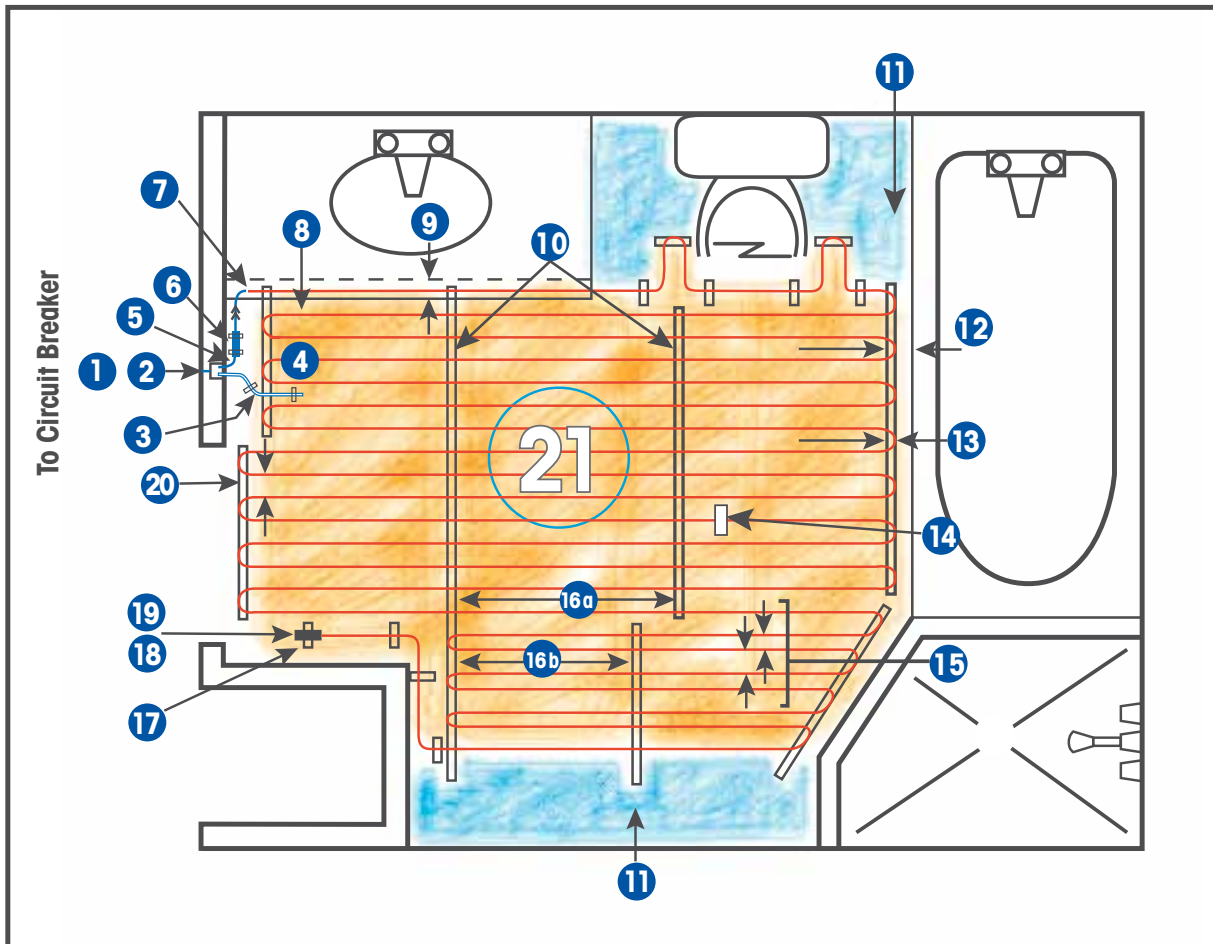
Replacement temperature sensor

Product Selection

Catalog Number	Description	Carton Quantity	Carton Weight lb (kg)	UPC
DT1	Detecto electric fault indicator	1	1.0 (0.5)	01362701296
DFTRK	Warm Tiles™ repair kit	1	0.5 (0.2)	01362701271
10685001	Clips (50 per bag)	1	0.2 (0.1)	01362700283
DFTCK	Metal strapping kit (1) 25 ft (7.62 m) reel	1	1.5 (0.7)	01362701638
CKT	Concrete kit tape, 25 ft (7.62 m)	1	0.5 (0.2)	01362701297
10739001	Replacement temperature sensor	1	0.3 (0.1)	01362700163

Floor Warming Terminology Guide

Warm Tiles™ radiates warmth through a network of low profile warming cables, mats, hardware and electrical controls for an economical and long lasting floor warming system. The following terms may appear frequently throughout your installation. Each is graphically illustrated in this key illustration.



Floor Warming Terminology Guide

1. Power Supply

Wiring The 120 Vac or 240 Vac customer-supplied power cable; terminated in the circuit breaker panel and pulled into the ECB for connection to the heating controller.

2. Electrical Connection Box (ECB)

Customer-supplied electrical enclosure that houses the heating controller for the heating cable system. Cold lead is pulled through the wall cavity and into the ECB using the fish cords.

3. Sensor Wire

If a floor temperature-sensing heating controller will be used, it is necessary to install a sensor wire at the same time as the cable system. The sensor wire relays changes in floor temperature to the heating controller, which maintains the floor temperature at the desired level.

4. Dimension 6" (15.24 mm)

Minimum distance the sensor wire should extend between two adjacent runs of heating cable, measured from the arc of the return loop.

5. Cold Lead

Non-heated section of cable that transports current to the heating cable section; has a black outer jacket, covering a copper braid and two inner color-coded conductors (black/white for 120 Vac cables or red/black for 240 Vac cables), and is slightly larger in diameter than the heating cable section.

6. Cold Lead Splice

Factory connection between the cold lead and heating cable; can be recessed 0.25" (25 mm) into the sub-floor, due to its slightly larger diameter.

7. Start-of-Run

Location of the cold lead splice; where the heated section of cable begins.

8. Heating Cable

Section of cable that warms the floor; has clear outer covering with visible underlying copper braid.

9. Dimension 1.5" (3.80 mm)

Minimum distance permitted between sections of heating cable or between heating cable and walls, vanity kick plates and fixtures.

10. Cable Strapping

Coiled strapping used to harness the heating cable to the floor; may be cut to length as needed.

11. Low Traffic Areas

Sections of the floor that are seldom walked upon and do not require heating cable coverage unless it is necessary to use up surplus cable.

12. Border Dimension

Space between the outside perimeter of the heating cable and the surrounding room walls; may be set to 1.5" – 6" (3.80 cm – 15.24 cm) as required, to slightly alter the heated area and enable a proper fit with the selected DFT Cable.

13. Return Loop

Location where the heating cable turns 180° through the cable strapping, forming a loop that extends .75" (19 mm) [1" (25 mm) max.] beyond the strapping cable slots.

14. "Half of Cable" Marker

Label attached to the heating cable at its mid-point, which should appear during installation at the "Half of Heated Area" line drawn on the floor (Step 3). Serves as a useful mid-installation check as to whether or not there will be a cable surplus or shortage at the end-of-run for cables over 27 ft (8.23 m) a one quarter and three quarter marker are also used.

15. Alternating Heating Cable Spacing

The heating cable configuration used for floors above unheated areas and concrete slabs. Cable is laced through the strapping at repeating spacing intervals of 1.5" – 3" – 1.5" – 3" (3.80 cm – 7.6 cm – 3.80 cm – 7.6 cm), etc. using the pre-dimensioned holes of the cable strapping (also see *Standard Heating Cable Spacing*).

16. Cable Strapping Spacing

Distance between parallel rows of the cables trapping. To prevent contact between adjacent runs of heating cable, a minimum separation must be maintained. For Standard Heating Cable Spacing (see 16a in the key) the maximum separation is 36" (91.44 cm). For Alternating Heating Cable Spacing (see 16b in the Key) the maximum separation is 24" (60.96 cm).

17. Ribbon Strapping

Plastic strips, 1" (25 mm) wide and 12" (30.48 cm) long; may be cut to length and stapled, to fasten to the cold lead splice and tail splice to the floor.

18. Tail Splice

Factory connection between the heating cable conductors located at the end-of-run (uncoiled from the spool last).

19. End-of-Run

Location where the Tail Splice is secured to the sub-floor (Step 8). With Warm Tiles™ DFT Cable there is no need to route the end-of-run back to the ECB.

20. Standard Heating Cable Spacing

The Heating Cable configuration normally used on wood sub-floors located above heated areas. Cable is laced through the cable strapping at a constant spacing interval of 3" (7.61 cm) between adjacent cable runs (also see *Alternating Heating Cable Spacing*).

21. Heated Area

Area physically covered by the heating cable; typically much smaller than the total room area since it does not include vanities, fixtures and low traffic areas.

Floor warming systems available in a wide variety of sizes and configurations.



Emerson delivers the broadest line of high performance Warm Tiles™ electric floor warming systems that have earned the trust and satisfaction of residential and commercial customers.

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