

INSTALLATION PROCESS

Ground Preparation	Heating Panel Placement	Wiring	Testing	Connection Enclosure
				
<p>Grade must be level and free of debris. 1"-2" of fill or screen sand is recommended as a base for the heating panels.</p> <p>It is also recommended that the rough-in plumbing be completed prior to installation.</p>	<p>A heat loss calculation must be completed to determine the amount of heating panels required.</p> <p>The Heating panels are placed evenly throughout the entire area, beginning approximately 12" from inside walls.</p>	<p>Wiring should be done by a certified electrician and in accordance with NEC code requirements. Heating panels are wired in parallel with 12 Ga. direct bury wire and 3M-567 connectors. 5-8 panels are wired together on a circuit depending upon the wattage.</p>	<p>Each circuit should be resistance tested to verify that all the panels are wired correctly and working properly. The ohm readings of each circuit should be recorded on the Load Check form to comply with warranty requirements.</p>	<p>PC-3 Gel Caps are factory and UL listed and approved for protecting the connections against moisture and corrosion.</p> <p>Connectors are completely enclosed in the Gel cap after testing the circuits for continuity.</p>
Circuits & Sensors	Placing Sand Over Panels	Ready For Concrete	Controls	Comfort & Efficiency
				
<p>The 10 Ga. or 12 Ga. Circuits are brought back to the service entrance through plastic pvc or steel conduit.</p> <p>The floor can be controlled with a Radiant Ambient thermostat or a thermostat with a floor sensor.</p>	<p>4" - 8" of Fill or screen sand with no debris is recommended for placing on top of heating panels. Placement of sand can be done in a number of ways including a skidsteer. Special care should be taken when using this method to ensure no damage is done to the panels.</p>	<p>The sand can be tamped and a vapor barrier placed. (if required by building code)</p> <p>An Ohm reading should be taken on all circuits after the sand has been placed and once again after the concrete has been poured.</p>	<p>The heating panels are wired to the relay control box and then to the 240v -20 Amp circuit breakers in the service panel. Typically, the ETS system is run on an Off-Peak or Dual Fuel program offered by the electric provider.</p>	<p>ThermaRay Radiant systems create a healthier, more comfortable space with no maintenance, repair or replacement for the life of your building.</p>
<p>Section Drawing</p> <p>Slab on Grade or Walkout Basement with Footings & Frost Wall</p> <p>Wicking Protection Options: A. Low-E Slab Shield B. Expansion Joint Material C. 1" Styrofoam</p> <p>Concrete Slab</p> <p>6" - 8" of Fill Sand</p> <p>ThermaRay Radiant Heating Panels</p> <p>Existing Grade or Compacted Fill</p> <p>2" Rigid Foam Board Insulation (R10) Inside or Outside is acceptable If inside, then Wicking Protection is Required</p> <p>Stud Wall</p> <p>Frost Wall</p> <p>Footing</p>				
<p style="text-align: center;">For More Information:</p> <p style="text-align: center;">ThermaRay-USA (800) 506-7973</p> <p style="text-align: center;">www.thermaray-usa.com info@thermaray-usa.com</p>				