



Amuheat Laminate Panel Installation Manual

Installation guidelines for installing the
Amuheat Laminate Panel under carpet

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Important Installation Guidelines

- ✓ Read the installation guide before starting the installation
- ✓ You can install the laminate panel directly under carpet & loose lay rugs
- ✓ Plan your layout and installation taking into consideration all fixed objects and where you may need to drill into the floor
- ✓ Ensure you have the correct heating panel size before installation
- ✓ Do not position the heating panel under cabinets and do not cut, shorten or lengthen the heating mat
- ✓ Ensure the laminate panel is tested before, during and after installation
- ✓ Avoid crossing the heating element, floor sensor wire or cold tail leads over or under each other and one another and do not overlap the heating panels
- ✓ Multiple heating panels connect to the thermostat in parallel - the cold tail leads cannot be joined and buried in the ground
- ✓ Do not drop or rest any heavy objects or tools on the heating panel
- ✓ Protect the laminate panel with cardboard or scraps of carpet between installation and floor installation
- ✓ Test the cable panel before the floor installation commences
 - Use underlays and flooring finishes suitable for use with floor heating
- ✓ Do not cut or join carpet flooring on top of the cable panel
- ✓ When stretching carpet flooring, avoid putting the carpet stretcher or knee kicker on top of the heating panel
- ✓ Remember to install the floor probe where the thermostat is located outside the room on concealed in a cupboard
- ✓ Make sure all electrical work is done by a qualified electrician and check your electrician provides a mains power supply connected via a RCD circuit
- ✓ Do not cover the heated floors with thick rugs, mattresses or other insulating materials, (e.g. thick duvets, bean bags etc.) as this traps the heat and raises the temperature under the carpet flooring
- ✓ Remember to turn the power off and turn the switch off when steam cleaning your carpets
- ✓ Never use the heating panel to dry out carpets
- ✓ Inform any person who takes occupation of the property about the position of the heating panels and these safety precautions
- ✓ Keep your heating design plan sketching and layout changes for future reference

Required Materials and Tools

Materials and Components

Before you start

Check your room measurements against your heating design plan or quoted floor areas. Ensure you have the right heater sizes for the areas you need to heat. Remember that the Amuheat Laminate Panel is not installed under permanent fixtures or appliances, or heavy furniture with solid bases. If you are missing any of the kit contents or have the incorrect heating panel to cover the floor area you require, call Amuheat Support.

The Amuheat Laminate Panel Kit includes:

- Heating design plan
- Installation guide
- Amuheat Laminate Panel
- Amuheat Element Monitor
- Floor Temperature Sensor
- Programmable thermostat control
- Warranty registration

You may also have a 20A contactor if you are installing multiple heating mats connected to one thermostat where the load capacity exceeds 16A.

The following tools and materials may be required for a successful installation:

- Scissors or Knife blade (to cut underlay)
- Adhesive cloth tape
- Permanent marker/Construction crayon & Tape measure
- Cardboard or carpet scraps (to protect the heater if the flooring install is delayed)
- RCD switch on electrical board (supplied and fitted by your electrician)
- 25mm Conduits (for heating mat cold tail leads & floor temperature sensor)
- Wall box, plate or c-clip (for mounting thermostat on the wall)

Compatible Floors & Underlays

Overview and recommendations

Overview

Suitable sub-floors must be correctly designed, constructed and prepared in accordance with building regulations. Suitable sub-floors include:

- 1) Plywood or Cement Boards
- 2) Smooth Concrete Slab
- 3) Waterproof Membranes
- 4) Acoustic Underlay
- 5) Ceramic Tile
- 6) Sand Cement Screed

Suitable underlays between 5-8mm include:

- 1) Rubber waffle (black or gold)
 - 2) Hessian
- ! NO foam underlay**

Suitable carpets between 2-10mm with the following backing include:

- 1) Jute
 - 2) Hessian
- ! NO rubber backing**

Recommendations

Our recommendation below is only intended to provide an outline guide to the floor preparation required and protection of Amuheat Laminate Panel during floor finish installation.

Underlay on Concrete Slab - The concrete slab must be clean, smooth and level.

Underlay on Timber - Ensure the subfloor is rigid and free from movement. Ensure the sub-floor is free of staples, nail standing proud on surface. Do not use staples to hold the underlay in place - use adhesive.

Protecting the Amuheat Laminate Panel - Proper care should be taken to ensure the heating cable is not damaged during the floor heating or floor covering installation. Heavy cardboard or carpet scraps should be used to protect the cable panel from traffic during the flooring installation.

Electrical Requirements

RCD Supply, Connection and Rough-in

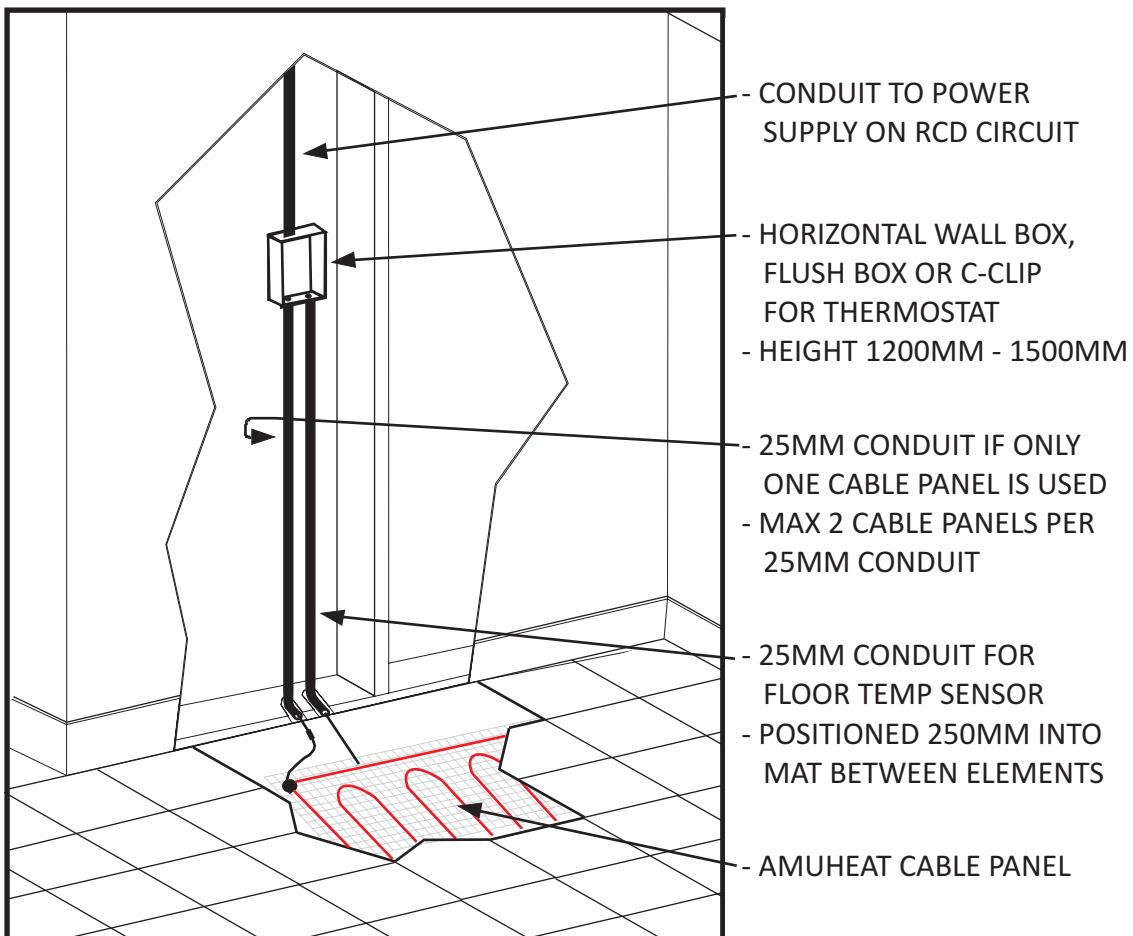
RCD Supply

Amuheat Laminate Panel installations must be connected to a supply with an approved Residual Current Device (RCD) mounted on the switchboard. It is recommended you consult with your electrician to ascertain whether or not the circuit and cabling can handle the additional load and if a RCD is protecting the circuit.

Electrical Connection

All electrical connections (including thermostats) must be performed by your electrician, in accordance with current AS/NZ 3000 wiring rules.

Electrical Rough In

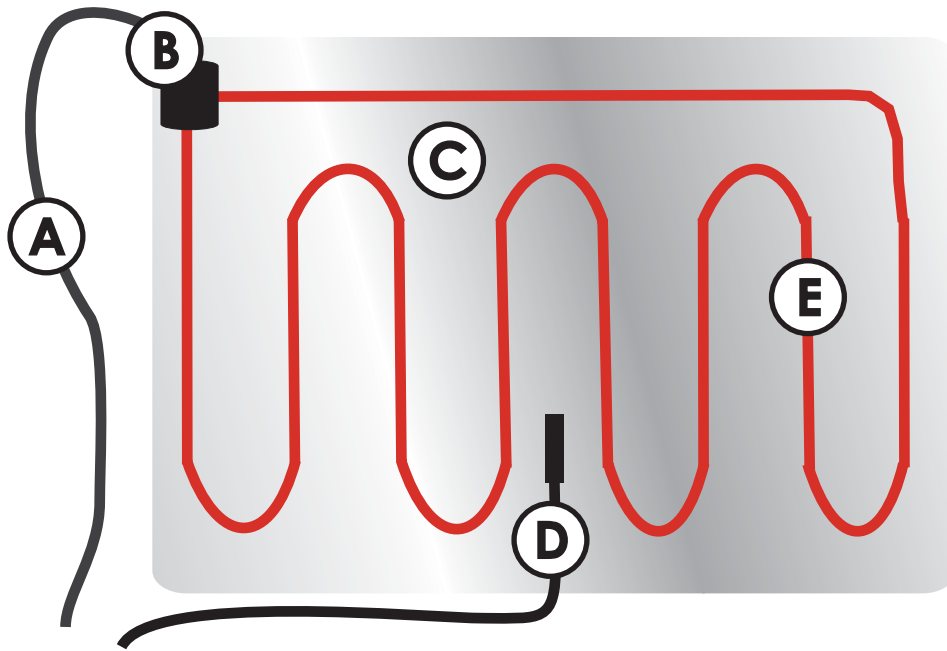


Getting Started

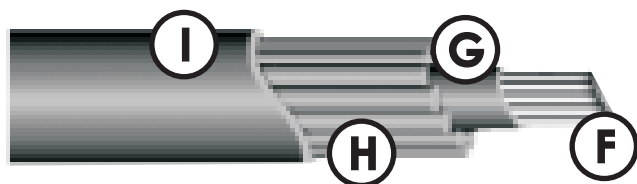
Amuheat Laminate Panel

Construction

The Amuheat Laminate Panel heating cable is sandwiched between a polyester mat, designed to keep the heating cable evenly spaced throughout the panel. The single cold tail return wire have factory-made joints, and run back to the thermostat/power supply in a channel cut out of the underlay.



- A Cold lead tail (flat cord)
- B Factory made joint
- C Polyester mat
- D Floor temperature sensor
- E 1mm Heating cable
- F Multi strand conductor wire
- G Primary Tefzel insulation
- H Metal braiding connected to earth
- I Secondary Tefzel insulation



Getting Started

Testing the Amuheat Laminate Panel

The Amuheat Laminate Panel heater is tested and supplied in good working order from the factory. Before installing the heating cable panel, insulation and resistance tests should be conducted to ensure the integrity of the cable.

Resistance Test

To ensure continuity in the Amuheat Cable:

- Set the multimeter to measure in 0-200 Ohms.
- Place one probe on the active conductor (brown or red) and the other on the neutral conductor (blue or black).
- Confirm your reading falls within +/- 15% of the factory recorded value listed on the product label. Record the reading in the Test Log on page xx of this guide.
- If installing an Amuheat Floor Temperature Sensor, test the sensor probe as well. Set the multimeter to 20K Ohms. Probe wires should read between 8K-12K Ohms.
- If your installation uses two or more cable panels per zone, label each cable panels cold tail lead with corresponding mat numbers (eg. "M1", "M2", etc.).

Insulation Test

To ensure the Amuheat Cable is insulated:

- Set the multimeter to measure in 0-200 Ohms.
- Place one probe on the active conductor (brown or red) and the other on the earth wire (green/yellow).
- Confirm your reading is open circuit or infinity.
- Repeat this step on the neutral conductor (blue or black) and on the earth wire (green/yellow).

If at any time your readings are not in line with the guidelines above, or you suspect there is a problem at any point of the installation, stop installing immediately and contact Amuheat Support.

The Amuheat Laminate Panel heater must be tested:

- **Before and after the heating installation.**
- **After the floor finish installation.**
- **Before the electrician connects power to the heater.**

Getting Started

Plan Installation Layout

It is VERY IMPORTANT to plan the installation before securing the Amuheat Laminate Panel to the floor.

Amuheat Design & Layout

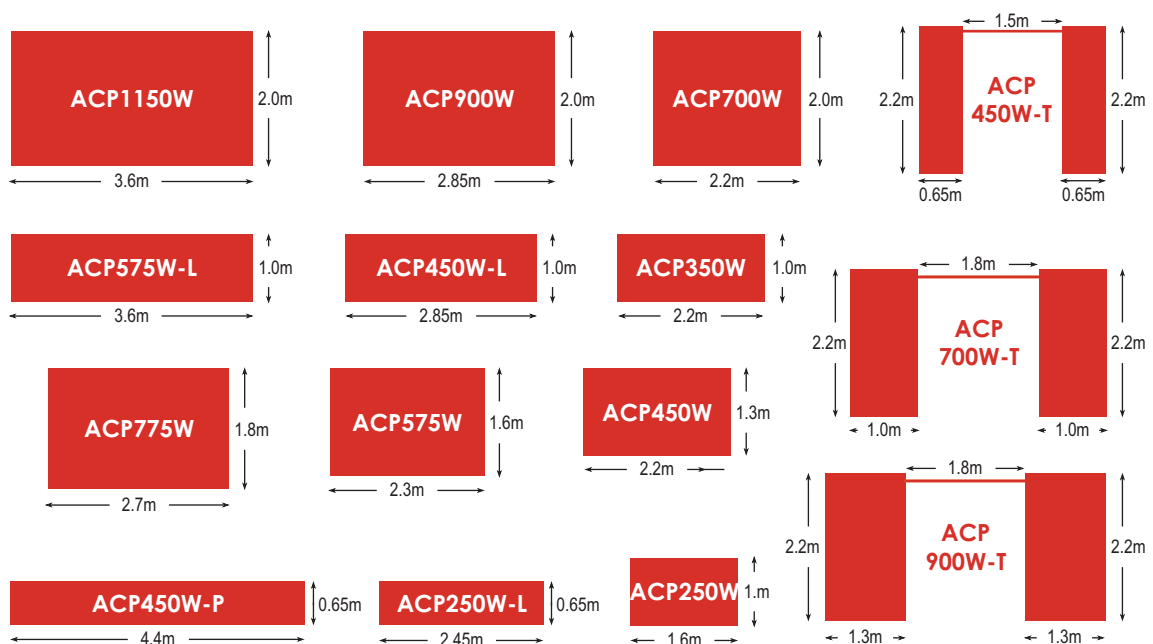
Amuheat provides a design and layout service to assist in planning the installation. Take a moment to double-check that your heating design plan has the proper room dimensions and that you have the correct size and number of heating mats.

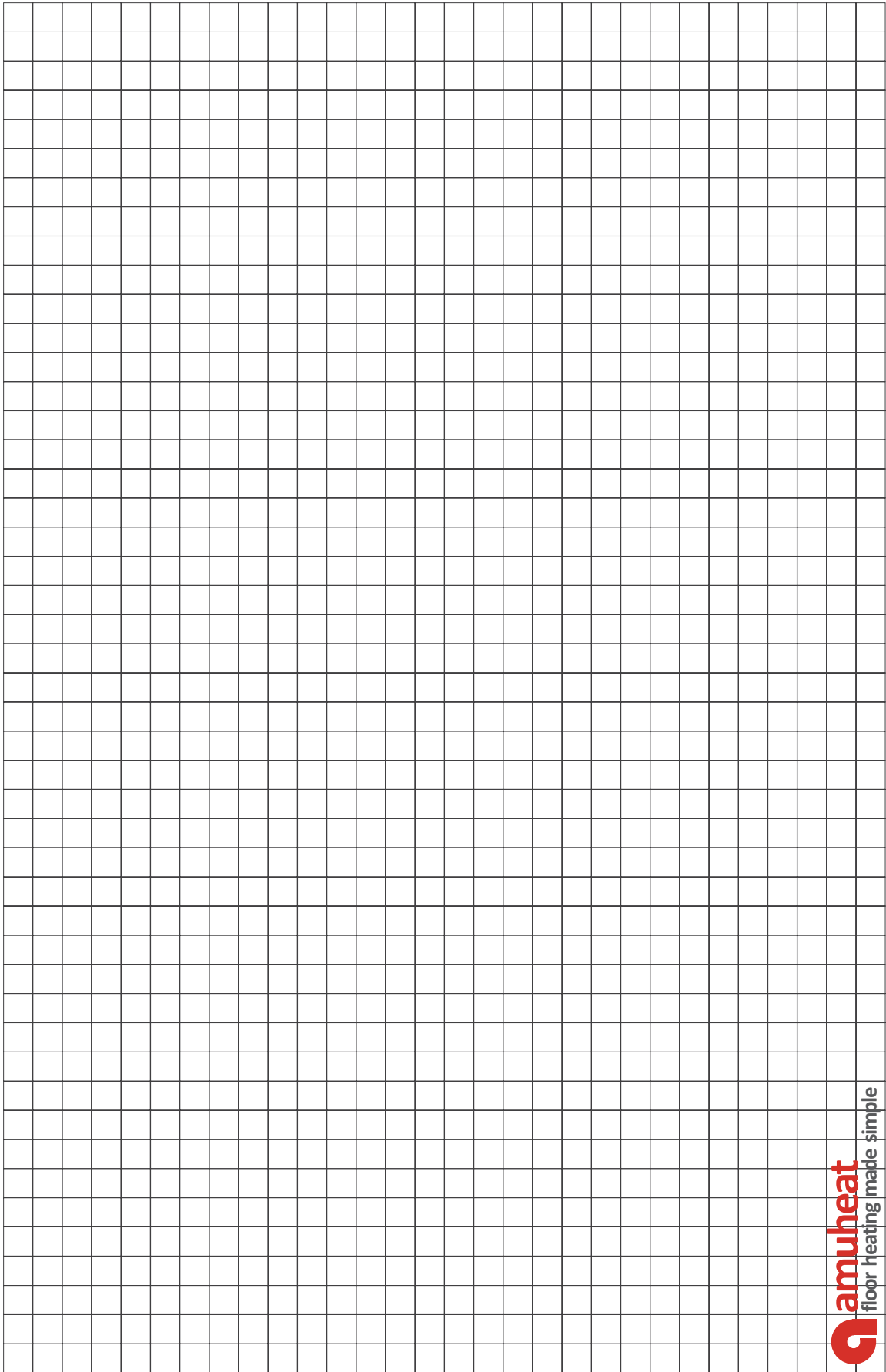
Design your own Layout

Follow these steps to assist you in planning the design and installation:

1. Draw the room dimensions to scale on a piece of paper
2. Mark and draw the dimensions of all permanent fixtures including drains, toilets, etc.
3. Mark the position of the supply and thermostat.
4. Mark the laminate panels on the available floor areas. Refer to the size chart below to work out which panel or combination of panels suit
5. Remember to allow a buffer where cold tail leads will run along.

Amuheat Cable Panel Size Chart





amuhheat
floor heating made simple

Getting Started

Amuheat Element Fault Monitor

Before connecting any wires to the Element Fault Monitor, install the batteries in the device and turn it “on” and “off” to test the alarm. Provided the alarm is in good working order, connect the cold tail lead wiring to the Element Fault Monitor as follows:

- Connect 1st inner conductor core wire to the terminal L1.
- Connect 2nd inner conductor core wire to terminal L2.
- Connect both ground sheaths to terminal E.

Turn on the Element Fault Monitor. The monitor will immediately beep when a short or break in the heating element is detected and alerts the flooring contractor to a potentially damaged heating element before he lays the tiles over the floor heating system.

Installation

Installing the Amuheat Laminate Panel

Step 1 *Electrical Preparation*

- The Amuheat Laminate Panel is supplied with one cold tail leads which runs from the floor to the thermostat in 25mm conduits (limit 2 cable panels per conduit).
- The Floor Temperature Sensor requires its own conduit and should not be placed in the same conduit as the cold tail leads.
- Neither the cold tail leads or sensor wire should cross, or come into contact with the heating cable.

Step 2 *Floor Preparation*

- The floor must be clean before fitting the underlay.
- After the underlay has been fitted to the floor, vacuum it and carefully remove any foreign objects like staples, grit or nails, which may damage the cable panel.
- The underlay must not be stapled or nailed to the floor, but butted together and glued to the floor.

Step 3 *Layout*

- Referring to your heating layout design, mark out the areas on the sub-floor where permanent fixtures will be fitted.
- Mark out the position of the heating panel.
- Mark the planned route of the returning cold tail lead
- This is the last time you can make sure that the length of heating panel required is the same as the length of the heating mat you have.

! Note: Conduct insulation and resistance tests (refer to page 7)

Step 4 *Position the Heating Panel*

- Position the Amuheat Laminate Panel in the marked positions. For the positioning of the factory joint consider the following:
 - Distance of the block to the planned position of the thermostat
 - Preferably do not position the connector block in a high traffic area
 - The block may face either up or down, to minimize the required length of cable



Cut for joint face down.



Cut for joint face up

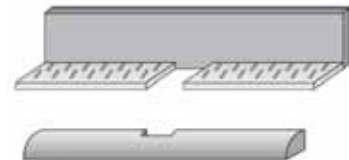
Installation

Installing the Amuheat Laminate Panel

- Ensure that the edge of the laminate panel is far enough away from the wall so that the teeth of the stretching equipment will not damage the mat when fitting the carpet (about 0,5 metre)

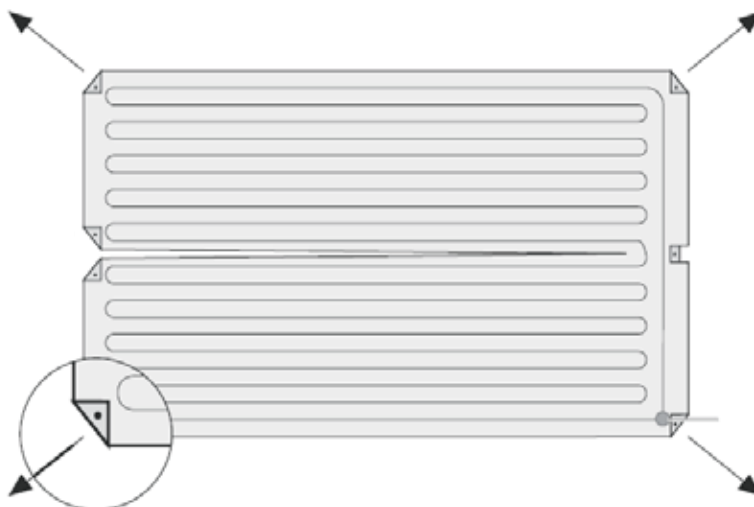
Step 5 Cold Tail Lead

- Cut away carpet gripper / smooth edge for the cold tail lead to emerge near the thermostat.
- Never join the cold tail leads under the carpet as this could cause a short circuit. In case the cable is too short, it is recommended that the joint position or laminate panel be re-positioned and moved closer to thermostat supply.
- Laminate Panels with extra length cable may be ordered from the factory.



Step 6 Fix the Laminate Panel to Sub-floor

- Stretch the cable panel and fix it to the underlay/sub-floor by means of nailing or taping it with adhesive cloth/duct tape to the underlay.
- When nailing, fold over the corners for higher tear-out strength.
- Take care not to hit the element. If necessary, the laminate panel may be slit from the loops side for better flattening. **Do not cut through the heating element.**



! Note: Conduct insulation and resistance tests (refer to page 7)

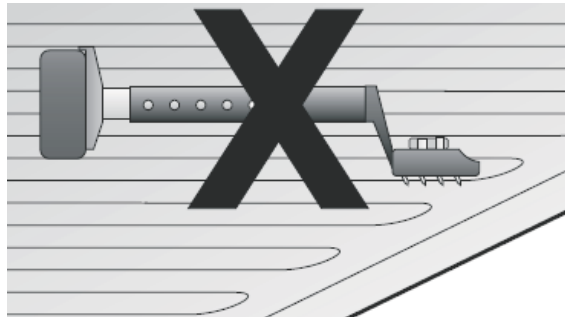
Installation

Protecting Amuheat Laminate Panel

Ensure you use underlays and carpet finishes suitable for use with underfloor heating systems.

Laying Carpet Directly onto Laminate Panel

- Ensure that the fitting of the carpet does not change the position of the laminate panel or cause folds or creases in the laminate panel.
- Do not cut or join the carpet on top of the laminate panel
- If joining carpets with heat bond tape is unavoidable over the laminate panel, a strip of Carboard must be moved along with the iron under the seam.
- When stretching the carpet, avoid putting the carpet stretcher or knee kicker on top of the laminate panel



Installation

Under Rug

For loose rugs on top of wood, tiles, stone etc., proceed as follows:

Step 1

- Purchase a piece of underlay and cut it about 5 cm smaller than your rug all around.
- Attach this underlay to the floor so that it cannot slide, bulge or curl up. This can be done by means of tape, nails, staples or glue depending on the floor type.

Step 2

- Check the underlay carefully and remove grit and other foreign objects, which may damage the heater.
- Install the laminate panel as under fitted carpets. The heater may be glued or taped to the underlay, or nailed to the floor.
- In case of reversible carpets, put tape over the thermoplastic glue spots of the cable panel, to prevent the glue from marking your carpet on the reverse side. The glue has the purpose of securing the laminate panel in its position.

Step 3

- Carefully roll the rug over the laminate panel and underlay and ensure it lies completely flat.
- Check regularly that the loose rug, heater panel and underlay are flat & clean, since with this kind of installation there is an increased risk of overheating compared to fitted carpets.

Note: Where loose rugs are laid on top of fitted carpets, do not install the carpet heaters underneath the rug, but install under the fitted carpets.

Electrical Connections

Connecting the Supply and Thermostat

Electrical Connections

Programmable floor-sensing thermostats offer the best control over floor temperature and maximises energy savings. Users can program specific days and times they want their floor heating system turned on or off.

All electrical connections including the thermostat must be performed by your electrician, in accordance with current AS/NZ 3000 wiring rules.

- The Amuheat Laminate Panel cold tail lead must be pulled up, in a conduit, to the electrical supply/thermostat position on the wall.
- The supply must be connected on a RCD circuit.
- The heating cables earth wire must be connected to the mains supply earth.
- Conduct resistance and insulation tests on the heating cable prior to connection. Compare the results with those taken before, during and after the heating and flooring installation.

Thermostat Connections

It is recommended that you use an Amuheat thermostat to control your Amuheat floor heating system. There are three different controls to choose from and each is supplied with their own instructions.

- Refer to the thermostat installation instructions for proper wiring instructions.
- Remember to install and connect the Floor Temperature Sensor the designated terminal block on the thermostat control.
- Multiple heating mats are connected in parallel.
- The amps rating of the thermostat limits the total number of heating mats that can be controlled by a single thermostat. A contactor will be required when the amps drawn is greater than the thermostat amp rating.

Electrical Connections

Amuheat Laminate Panel Test Log

Laminate Panel Test Log

Job Address:				
Room/Zone:			Date:	
Installer name:			Contact number:	
Laminate Panel Model Number:				
	Active to Neutral	Earth to Earth	Active to Earth	Neutral to Earth
<i>Ohm Reading</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Infinity</i>	<i>Infinity</i>
Factory Resistance			<input type="checkbox"/> Check	<input type="checkbox"/> Check
Resistance Test (After Unpacking)			<input type="checkbox"/> Check	<input type="checkbox"/> Check
Resistance Test (After Install)			<input type="checkbox"/> Check	<input type="checkbox"/> Check
Connect the Element Fault Monitor to the Amuheat Laminate Panel and Activate				
Resistance Test (Before Floor Install)			<input type="checkbox"/> Check	<input type="checkbox"/> Check
Connect the Element Fault Monitor to the Amuheat Laminate Panel and Activate				
Resistance Test (After Floor Install)			<input type="checkbox"/> Check	<input type="checkbox"/> Check
Connect the Element Fault Monitor to the Amuheat Laminate Panel and Activate				
Resistance Test (Before Electricals)			<input type="checkbox"/> Check	<input type="checkbox"/> Check

Safety

Listed below are precautions which are essential for the safe use of the laminate panel:

- The cable panel must be earthed and must be protected with a RCD.
- Do not allow small children or people who are immobile or insensitive to heat to lie on the heated carpet for prolonged periods.
- In case of damage or the unlikely event of heater failure, your earth leakage system will trip. In such case, switch off, unplug the heater and contact Amuheat Support.
Do not try to repair!
- Do not insert any sharp object through the heated carpet.
- Read carefully all the instructions provided with the heaters and save them.
- Do not cover the heater excessively with thick rugs, mattresses or other insulating materials, (e.g. thick duvets, bean bags etc.) as this traps the heat and raises the temperature under the carpet.
- Inform any person who takes occupation of the property about the position of the heaters and these safety precautions.
- Do not operate any electrical appliance with a damaged cord or after the appliance has been damaged.
- Turn the power off and remove the plug when steam cleaning your carpets.
- Never use the heating panels to dry out carpets.

Troubleshooting

Locating a break or short

Checking For Breaks

To determine if there is a break in the heating cable under the floor:

- Set the multimeter to measure in 0-200 Ohms.
- Place one probe on the active conductor (red or brown) and the other on the neutral conductor (blue or black).
- Confirm your reading falls within +/- 15% of the recorded value before during and after installation.
- If your Ohm reading is lower (outside the 15% range), but there is clearly some continuity, check your Ohm meter and your batteries.
- If you have absolutely no reading (= infinity on your meter), then there is a break (= total cut) in the conductor.

Checking For Electrical Short

To determine if there is a short in the heating cable under the floor:

- Set the multimeter to measure in 0-200 Ohms.
- Place one probe on the active conductor (brown or red) and the other on the corresponding earth wire (green/yellow).
- Confirm your reading is open circuit or infinity.
- Repeat this step on the neutral conductor (blue or black) and it's corresponding earth wire (green/yellow).
- If you have continuity between either the active-earth or neutral-earth combinations, there is a short in the heating cable.

Contact Amuheat Support for more information.

Contact Information

Technical Support and Contact Details

The Amuheat Cable Strip is designed and developed to ensure that installation is quick and simple. As with all electrical work, you must make certain you adhere to electrical standards.

Installation of the Amheat Cable Strip may constitute as prescribed electrical work in your state, and should be performed by a qualified tradesperson.

Installation and technical support is available **Monday - Friday** between the hours of **9.00am - 4.00pm** by contacting the Amuheat Support on 1300 123 456.

Additional information can be found on our website at www.amuheat.com.au.

Australia

Amuheat Pty Limited

ABN 86133998900

**Lg1 64 Talavera Road
Macquarie Park NSW 2113**

Line (02) 9114 6934

Fax (02) 8211 5180

Sales@amuheat.com.au

Http://www.amuheat.com.au

Warranty

Amuheat Cable Panel & Thermostat

The Amuheat Laminate Panel is supported by a 5 year manufacturers warranty from the date of purchase.

The Amuheat Thermostats supplied with the Amuheat Laminate Panel Kits carry a 1 year warranty from date of purchase.

Amuheat Pty Limited assumes no responsibility under this warranty for any damage to the Amuheat Cable Panel or Amuheat Thermostat caused by any trades people, visitors on the job site or damage caused as a result of post-installation work.

Under this warranty, Amuheat will provide the following remedy, in each case up to a limit equal to the sum payable to Amuheat at the time of purchase:

- If the Amuheat Laminate Panel or Thermostat is determined to be defective in materials and workmanship, and has not been damaged as a result of misuse or misapplication, Amuheat will reimburse the costs for location of the fault, repair, as well as labor and materials required to perform the repair.
- If the repair of the Amuheat Laminate Panel or Thermostat is not feasible, Amuheat will at their discretion replace or refund the original cost of the Amuheat Laminate Panel or Thermostat.

In order to validate the warranty, the following conditions must be met.

- The Warranty Card must be completed and returned to Amuheat within 90 days of purchase.
- Proof of purchase will be required in the event of a claim - retain your receipt
- The Amuheat Laminate Panel has been installed in accordance with the accompanying Installation Manual, any special written design or installation guidelines provided by Amuheat for the project and all local and building and electrical codes.
- The heater has been earthed and connected to a supply protected by a RCD circuit.
- The heater is used with a thermostat or control system approved by Amuheat.

Amuheat disclaims any warranty not provided herein. Amuheat further disclaims any responsibility for any consequential damages arising from ownership or use of the Product, including inconvenience, loss of use and costs of operating the Amuheat Laminate Panel heater.

Warranty Registration Card

Owner

First Name: _____
Surname: _____
Address _____
Suburb: _____ State: _____ Code: _____
Telephone: _____ Mobile: _____
Email: _____
Date of Purchase: _____
Where did you find out about Amuheat: _____

Installer

First Name: _____
Surname: _____
Address _____
Suburb: _____ State: _____ Code: _____
Telephone: _____ Mobile: _____
Email: _____
Date Installed: _____

Amuheat Laminate Panel

Model Number: _____	Room: _____
Model Number: _____	Room: _____
Model Number: _____	Room: _____
Model Number: _____	Room: _____
Model Number: _____	Room: _____

Amuheat Thermostat

Model Number: _____ Qty: _____

I confirm that I have read and understand the contents of the installation manual, and accept the limited conditions of Amuheat' liability under the warranty and confirm the Product is installed in accordance with this guide.

Signature: _____ Date: _____

**When completed please cut along the dotted line and return to:
Amuheat Warranty Registration, PO Box 975, North Ryde BC, NSW 1670**



© 2008 Amuheat Pty Limited
Lg1 64 Talavera Road Macquarie Park NSW 2113
PO Box 975 North Ryde BC NSW 1611
Tel: (02) 9114 6934 Fax: (02) 8211 5180
info@amuheat.com.au www.amuheat.com.au