Ecofilm C Radiant Ceiling Heating Foils

INSTALLATION INSTRUCTIONS

COMFORT LINE

List of accessory items required to complete installation.

1. Blue and brown double insulated cold-tail cables.
2. Approved crimping tool.
3. High dielectric insulation tape.
4. Double sided tape.
5. Insulating crimp covers.
6. Crimp connectors.

Preparing for the installation.

Before installing the Ecofilm C, a basic layout and wiring plan for each room should be drawn. This plan must take into account light fittings, sprinklers, and all other ceiling penetrations, then submitted to DEVI Heating to validate the warranty.

Preparing the Ecofilm C ceiling foil.

Cut the foil to length(s) in accordance to the layout plan. Where the copper bus ends are not to be fitted with a crimp and insulator, high dielectric insulation tape is to be folded over exposed ends of the bus.

Cutting options.

All cuts are to be at right angles to the copper bus strips that run along each edge of the foil. Where a cut exposes the end of the bus strip or the edge of black carbon heating element, insulate with high dielectric insulation tape.

Note: Ceiling foil is available in 2 configurations. Either as a continuous unbroken carbon film, or heating strips as shown in photos. Unbroken carbon film may be cut anywhere and is to be insulated with high dielectric insulation tape across the full width of the cut.

Crimping cold-tails.

The cold-tail should first be crimped into the crimp connector.
Single Cold-tail; strip 15mm of insulations, twist and fold 7mm back to double thickness. Insert wire and crimp.
**Double cold-tail**; strip 8mm of insulation from both cold-tails and twist together. Insert wires and crimp.

Crimping onto ceiling foils.

Position the crimp midway onto the bus and firmly squeeze the crimp closed. Using only the approved crimp tool, position tool as shown in picture.
Step 1. Position crimp tool from the hinged side of the crimp. and crimp firmly.
Step 2. Repeat once from the unhinged side of the crimp.
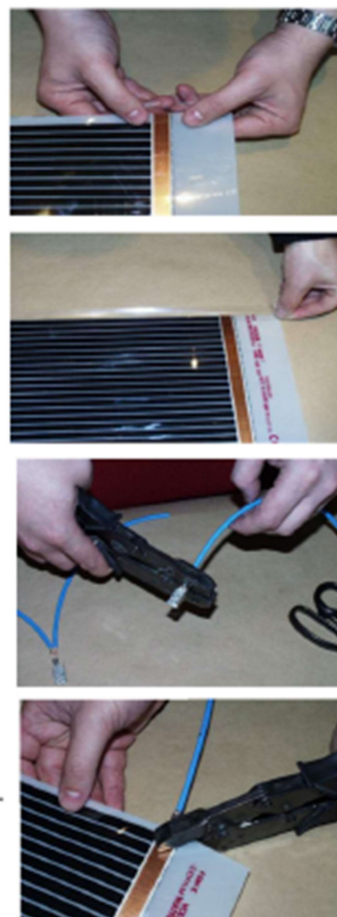
Fitting crimp covers.

Important! Each crimp **must** have a supplied electrically insulating crimp cover fitted as shown below.

If the crimp that the cover is to be fitted as 2 cold-tail leads, nip out the tab inside the crimp covers.
  fig 3 left; single cold-tail connection.
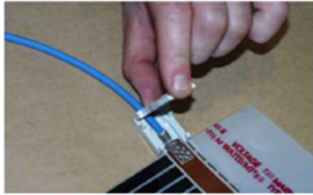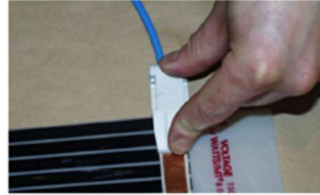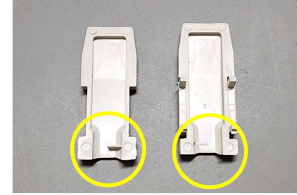 fig 3 right, double cold-tail connection.

| fig 1 | fig 2 | fig 3 |

Installation practice for Ecofilm ceiling foil heating.

- Minimum clearance of 10mm between heating strip and battens is required.
- Minimum clearance of 50mm from heating foils and noggins/top plates.
- Minimum distance of 150mm from electrical boxes and light fittings.
  NB: Third party product clearances take precedence.
- Cold tail wiring to be positioned to in such a way as not to sit on heating element.
- Other party electrical wiring to have a minimum clearance of 25mm from the heating foils.
- Maximum thickness of the sealing lining shall not exceed 16mm.
- Insulation thickness for 'between floors' shall be a minimum thickness of 80mm.
- Insulation thickness to ceiling spaces shall be a minimum of 150mm.
- There must be no air gap between the foil and the insulation.
- Maximum length of an individual foil run is not to exceed a load of 10A
- Each foil run may comprise of one or more lengths of ceiling foil.
- Foils must not install across dilatation joints of the ceiling.
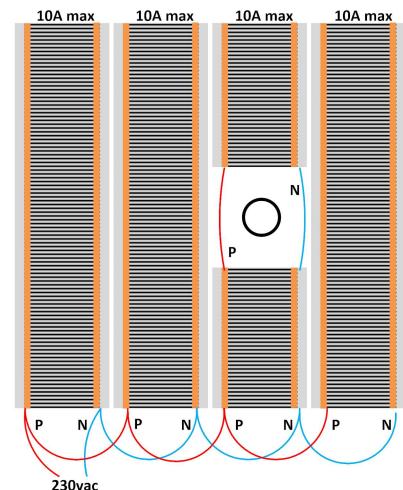
Installation warnings.
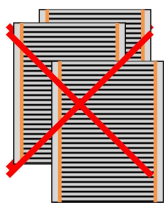
DO NOT overlap, crease or fold beyond minimum bend radius of the foil.

DO NOT cut diagonally or damage individual heating strips.

DO NOT install with heating strips beneath cellulose based materials or flammable materials.

Ecofolm C may be installed at a new build stage or retrofitted.

New build installation of Ecofilm C foil.

- Review your plan and confirm all foil lengths.

- Check minimum face to face clearances of the ceiling battens.

  520mm for the 600mm wide foil.
  323mm for the 400mm wide foil.

  Note: Check spacing regularly during the installation at different locations on the ceiling.

- Confirm the spacing and size of the plasterboard glue landings that they will require to place on battens during the installation of the plaster board or ceiling panels.
- Scallop both clear edges of the foil to accommodate the installation of the plaster board to the ceiling battens.
  Note: Take care to ensure no damage to or exposure of the black resistive carbon heating strips or copper bus.

- Install the individual elements with the copper bus facing downward.
- Secure one end of the foil to the batten run.
- Staples may be used on wooden battens, double sided tape and/or flat headed self tapping screws for metal battens.
- At approximately one meter spans, roll out and pull taut against the batten and secure.

New build wiring of Ecofilm C foil.

- Review your plan then determine the cold tail lengths.
- Fit the cold tails per instructions above.
- Allow at least one set of cold tail in each zone to reach a demarcation box or the thermostat.

- Install the limit sensor in accordance to instructions (page 4).

- Note: Upon completion of each zone, confirm layout matches the plan and record ohmic resistance of the zone and record on the last page of these instructions.

Retrofitting the Ecofilm C foil.

● Review plan and confirm the foil lengths. It is easier to do the cutting of the foil to the required lengths in a room below the ceiling.

● Retrofitting of the Ceiling foils is carried out from above the existing ceiling.

● Install the precut lengths of foil (with the copper bus facing downward) direct onto the existing ceiling lining beneath the ceiling insulation, ensuring that there is no gap beneath the ceiling foil.

> **Note**: to ease the ceiling foil in between the ceiling battens/joists, you may trim the clear plastic edges from the foil (to within 12mm of the heating panel).

Retrofit wiring of Ecofilm C foil.

● Review your plan and determine the required length of the cold tails.

● Fit cold tails to the element in accordance to Page 1 of this instruction manual.

● Allow sufficient cold tail at either one or the other end of the foil run to reach a demarcation point or junction box.

● Install a limitation sensor in accordance to instructions.

Installation of ceiling limitation sensor.

● Secure the limitation sensor to the batten in such a manner that the sensor will sit on the ceiling adjacent to the ceiling foil.

● The sensor should be secured in such a way that it will remain in surface contact with the ceiling cladding and be no further than 10mm from the heating panel of the ceiling foil.

Note: When setting the limitation sensor on the thermostat, it should be set no higher than 40 degrees Celsius.

Installation images
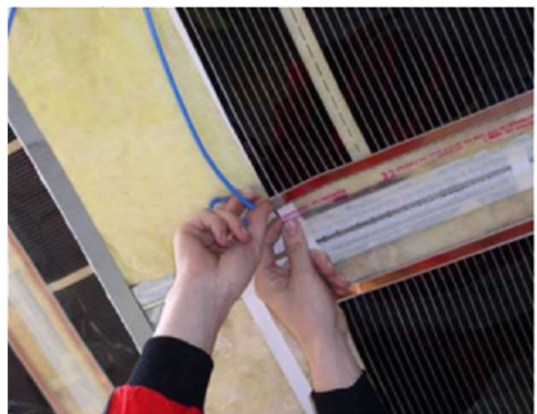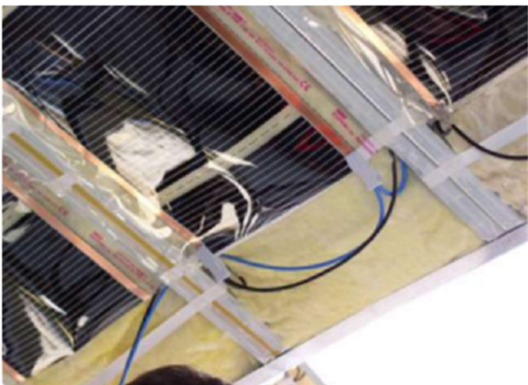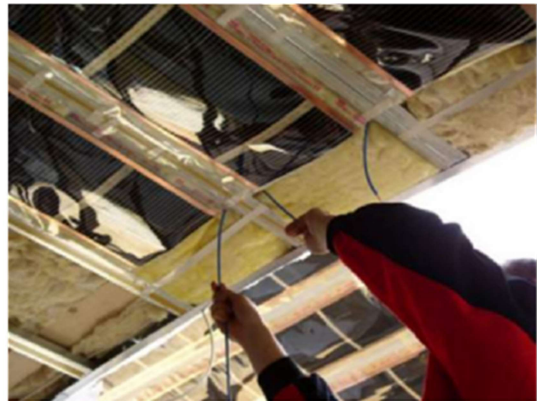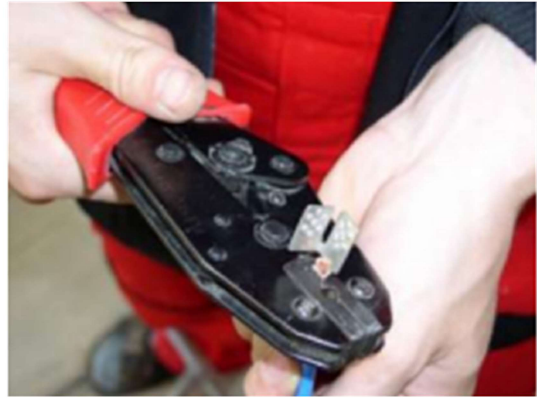
Thermostats

The following thermostats are recommended for the control of Ecoflim ceiling foil.

| DEVIreg 532 | DEVIreg Touch | DEVIreg Smart | ECO SK99 | BMR-DTR-01 |

● DEVIreg 532, Dual sensing manual thermostat.

● DEVIreg Touch, DEVIreg Smart and ECOSK99 are to be configured for dual sensing
   during installation.
   The DEVI Smart is WI-FI is programmable only with limited user interface on thermostat screen.
   ECO SK99 is both programmable via WI-FI **and** thermostat user interface on the thermostat screen.

● BMR-DTR-01 to be serial wired for dual sensing during installation; distribution board mounted.

● For wiring details please refer to the manual of each of the thermostats or call
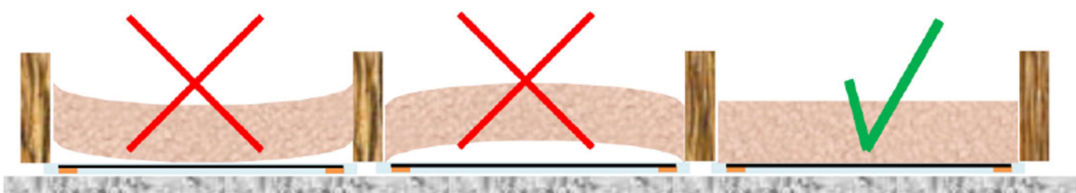   DEVI Heating Systems LTD for assistance.

Thermal Insulation.

DEVI recommend the following insulation thicknesses to be installed directly on top
of the heating foils.

Foils installed between floor levels.   80mm thick.
Foils in ceiling open to roof cavity.   150mm thick.

Note: No air gaps between ceiling foil and ceiling cladding.
           No air gap insulations and heating foils.

WARRANTY

Ecofilm installation record

Zone	Name of area	Foil (metres)	Resistance

The manufacturer of the Comfortline Ecofilm radiant ceiling foil elements offer a warranty of 5 years. The warranty does not cover faults resulting in transportation, situational damage, negligent handling, workmanship or failure of the installer to follow the installation instructions.

To make valid this warranty, this warranty is to be completed and either posted or emailed to Comfortline New Zealand (details below).

Name: _____

Address: _____

_____

Date of sale: _____

Product: _____

Comfortline New Zealand Ltd
P.O.Box 8582, Riccarton,
Christchurch, New Zealand.
Telephone: (03) 348 0070
email: Sales@devi.co.nz