



Installation instructions



An innovative product from

DiscreteHeat™

Making **things** better



Benefits of using the system.



True radiant heat

Minimal air movement and drafts create real comfort.



Energy efficient

Even, all-around heat uses less energy to provide real warmth.



Fast and responsive

No under heating or over heating.



Simple heating controls

Control the heating using our TherMiser thermostat.



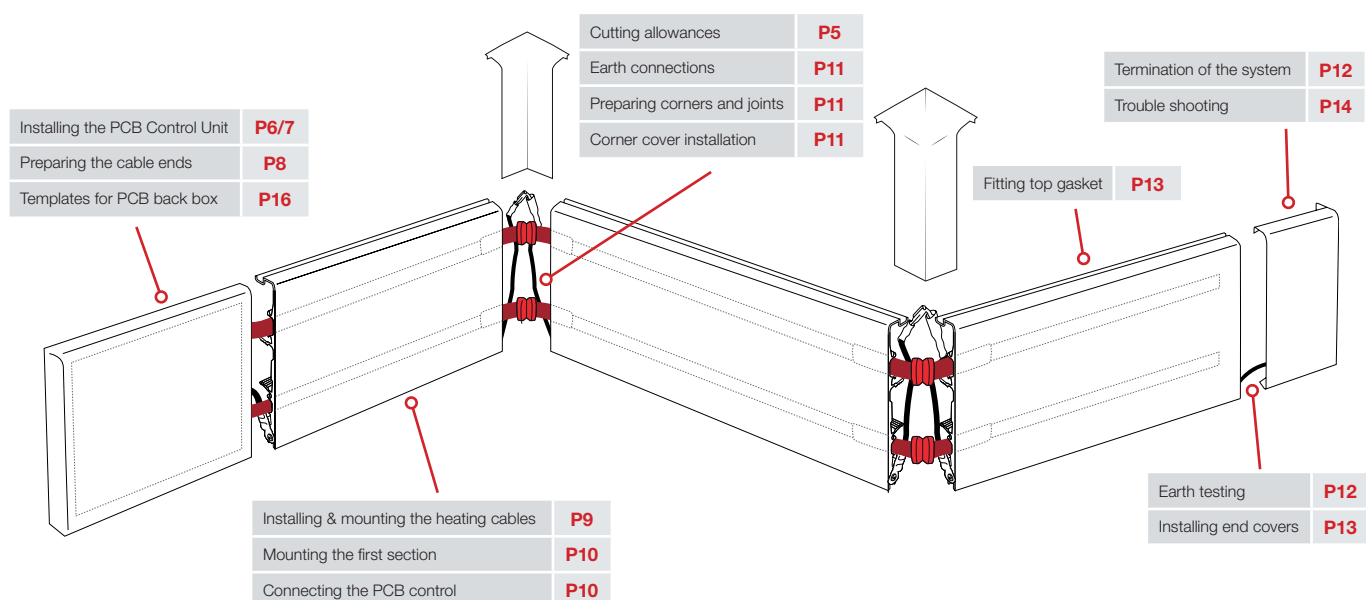
Unaffected by choice of flooring

Works with carpet, vinyl, tiles, wood and laminate flooring.



Free up wall space

Create a more spacious and versatile environment.



THE ENERGY SAVING ALTERNATIVE TO
ELECTRIC STORAGE HEATERS & UNDERFLOOR HEATING

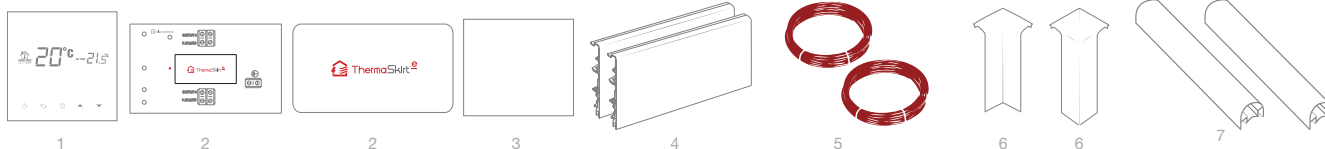


WARNING!

Electricity can be dangerous..

you should only attempt installation if you are competent with domestic or industrial wiring. DiscreteHeat recommends that any electrical installation should only be undertaken by a suitably qualified person and in accordance with PART P of the Building Regulations and BS 7671.

Typical ThermaSkirt-e parts list



1. ThermaSkirt TME3E Thermostat (recommended)

4. ThermaSkirt-e radiant panel(s)

7. Cable covers

2. TSE connection PCB & case

5. 2 or 3 x lengths of TSE heating cable

3. Stainless steel connection & termination covers

6. Corner Connections
(internal, external or odd-angle)

Tools required:



1. A suitable metal cutting saw, preferably a chop saw.

7. Power screw driver/impact driver.

2. DiscreteHeat rotary de-burring tool (incl. in spares kit).

8. Heat gun.

3. An accurate, quality tape measure (Grade 2 or better).

9. Plastic or timber faced mallet.

4. A pair of long nose pliers or similar.

10. Rawlplugs and/or plasterboard fixings with screws.

5. A Stanley knife/box cutter and/or plasterboard saw.

11. 22mm plastic pipe cutter.

6. Power drill with hammer action.

12. 7mm drill bits.

Do's and don't's



DO Carefully check you have all the parts required by your design systems before you start cutting.

DO Check all skirting measurements twice before cutting: see diagram on page 5 (unless provided precut).

DO Ensure the power supply to the switched fused spur for the controls is installed by a qualified electrician.

DO Prepare the cable ends before inserting into the skirting panel. The cable is difficult to strip and mistakes are hard to correct once the cable is fixed into the cable channels.

DO Make sure the power is OFF before connecting the termination PCB



DON'T forget to chamfer the edge of the cut ends of the cable channels using the de-burring tool (provided in the spares kit).

DON'T Forget that aluminium expands (by about 1mm per metre), so make sure the ends of the skirting are not hard up against any fixed features.

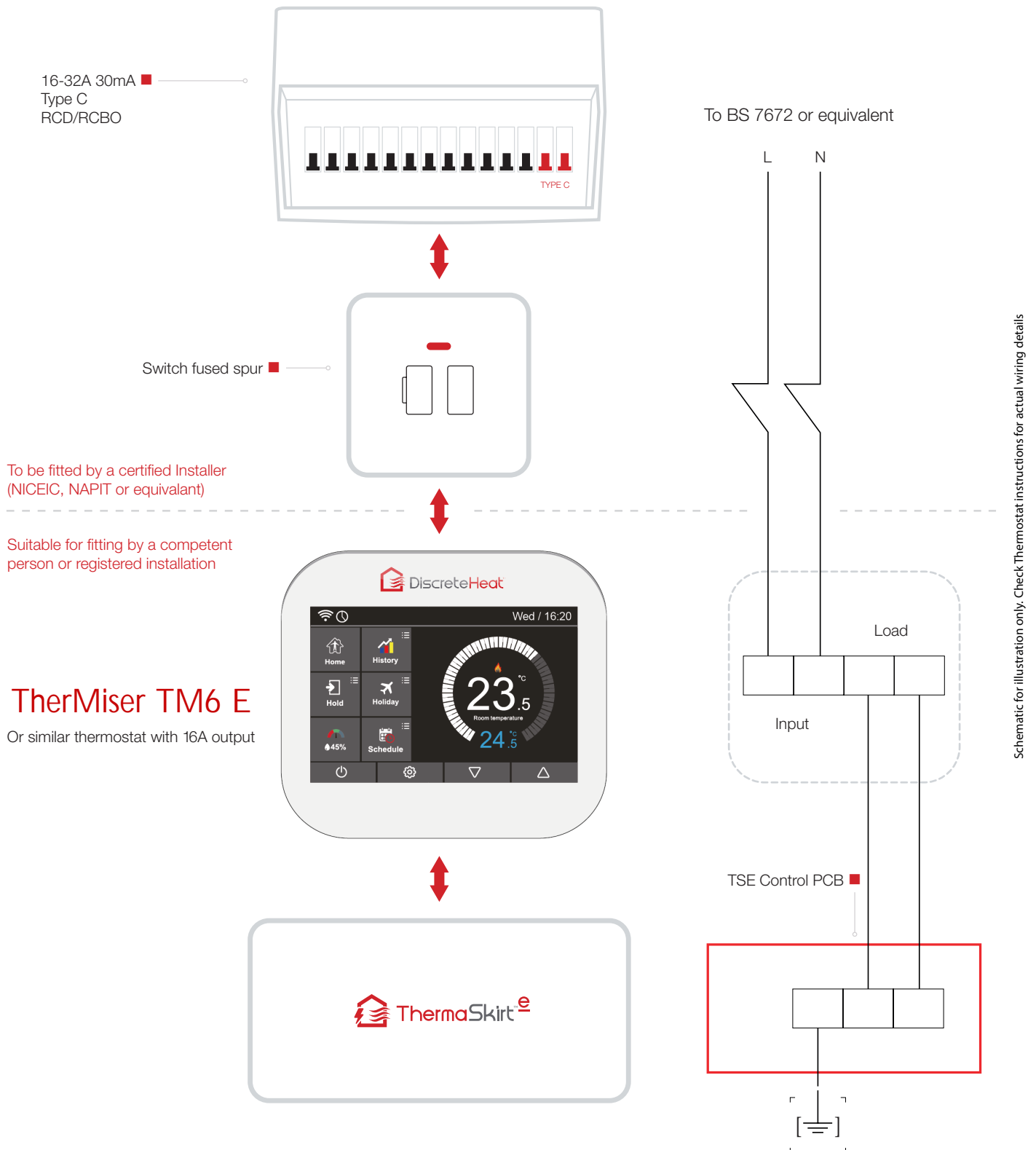
DON'T put the metal covers on or power up the unit/cables until the end of the installation!

Providing a safe electrical supply

A typical domestic wiring example

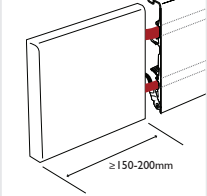
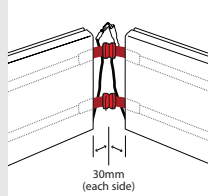
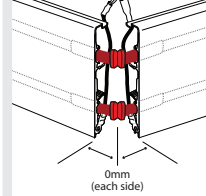
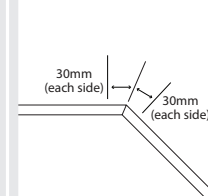
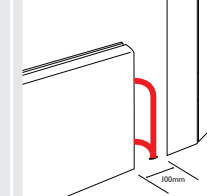
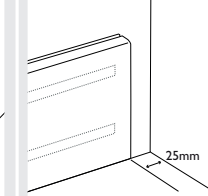
Wiring to a suitable thermostat unit should be done by a suitably certified or electrically competent person.

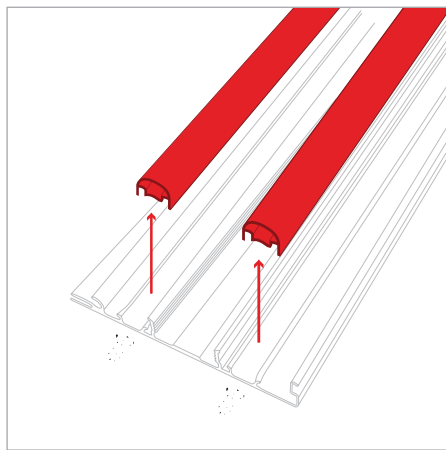
Once isolated from the mains power at the switch fused spur, installation of the ThermaSkirt-e components can commence.



Cutting and installing the skirting

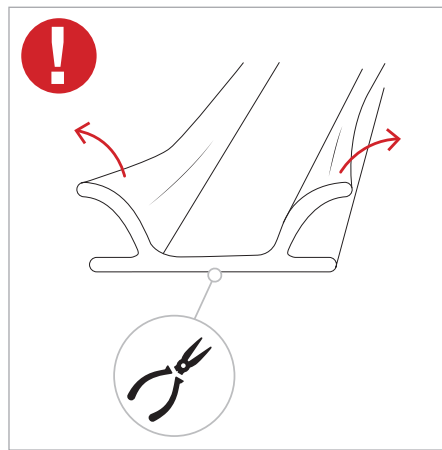
When cutting the ThermaSkirt panels, the following allowances should be made:

Power connection end	Internal corner	External corner	Special angle corner (int/ext)	Threshold/obstacle bypass	End termination
2 Channel $\leq 200\text{mm}$ 3 Channel $\leq 150\text{mm}$	30mm (each side)	0mm (each side)	30mm (each side)	100mm	25-30mm
					

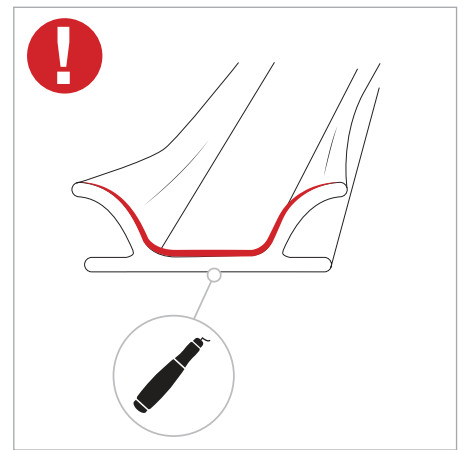


1 When cutting the ThermaSkirt-e profile it is recommended to REMOVE the rear cable covers to prevent any swarf being collected inside the cable channels.

After cutting, take care to remove ALL traces of aluminium swarf or particles from the cable channels, which could damage the heating cables.

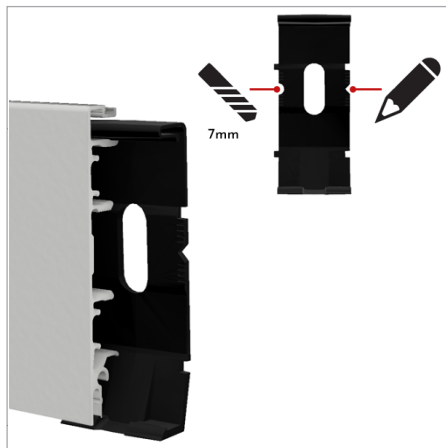


2 Using a pair of long nose pliers or similar, gently 'fan out' the ends of the cable channel to make a large bell mouth opening. This will prevent the cable from becoming snagged or damaged during installation.

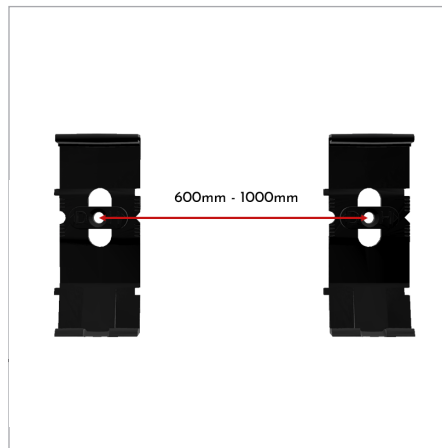


3 DEBURR! Using the de-burring tool (provided in the spares kit), make a chamfered edge to the cut ends of the cable channels.

NOTE: Failure to prepare the cut ends as shown in 2 & 3 will invalidate your warranty.



4 Attach the mounting bracket temporarily to an off cut of the profile as shown. Using the two guides, mark using either a pencil or a 7mm drill bit.

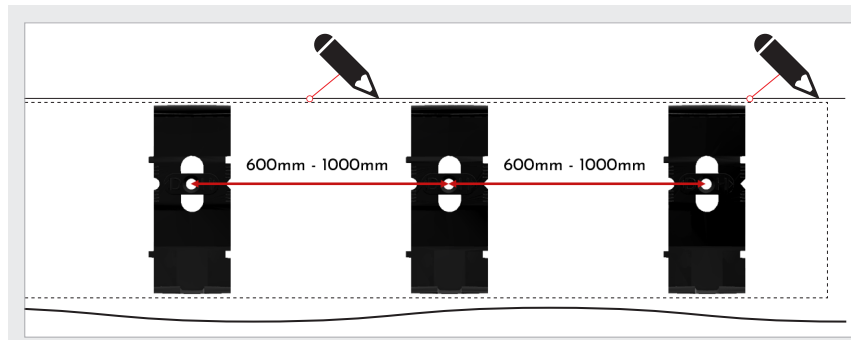


5 Each mounting bracket should be located 600-1000mm apart. **NOTE:** Take care to avoid significant undulations in the finished floor level.



6 Using suitable fixings, secure the adjustable wall brackets, ensuring they are straight and parallel to the floor.

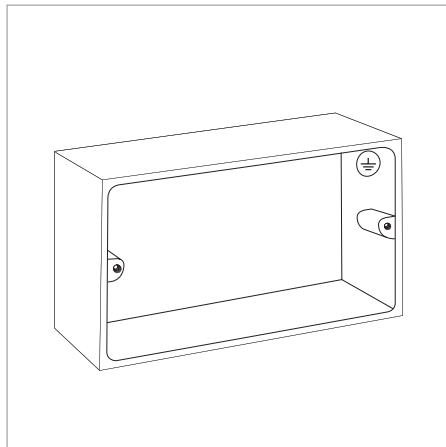
Cutting and installing the skirting



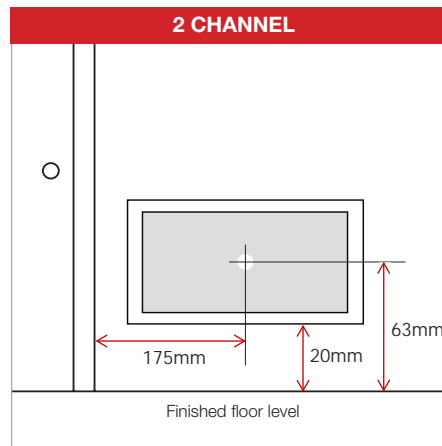
TOPTIP:

If your floors are very uneven, use this alternative method to mark the centres of your brackets. Mark the top of the section of the ThermaSkirt panel, and then measure down using the offcut (P5, Fig4).

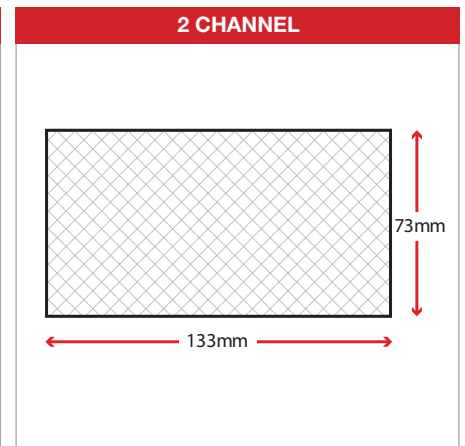
Electrical connection - 2 channel



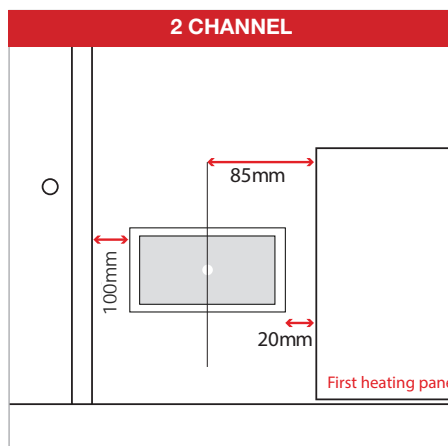
1 A UK standard 2 gang back box should be used. See page 8 for non UK back box fitting.



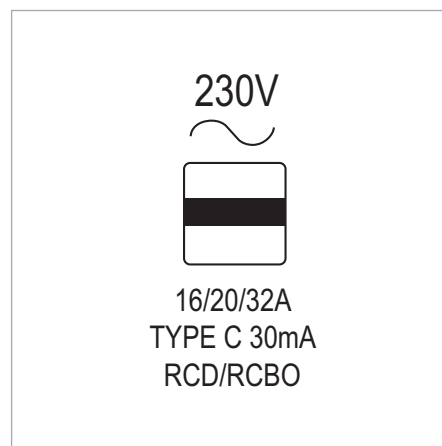
2 The centre of the back box should be 175mm from the start and 65mm from the finished floor level.



3 A reveal 133x73x35 must be made in the wall to accept the back box. **NOTE** a fitting template can be found at the back of the instruction manual.



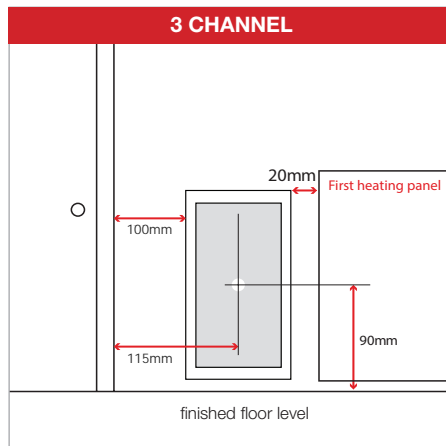
4 The ThermaSkirt heating panel should allow a minimum of 85mm from the center.



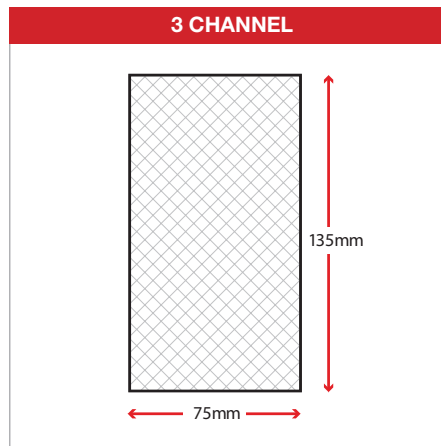
5 The 3 core 230v AC supply into the back box should be at least 2.5mm² and fed from a Type C RCD or RCBO circuit breaker (BS7671).

	Power 230V	Apx mtr of Thermaksirt
STANDARD PCB		
10A	2,300W	15m
13A	2,990W	20m
16A	3,680W	25m

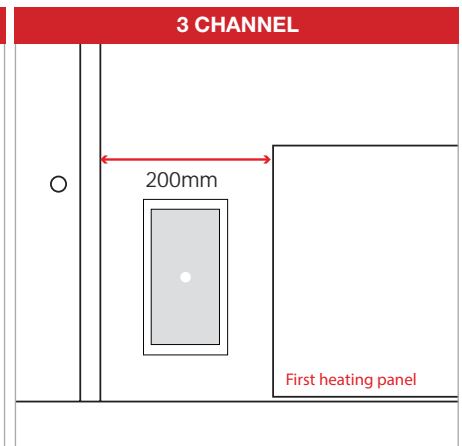
Electrical connection - 3 channel



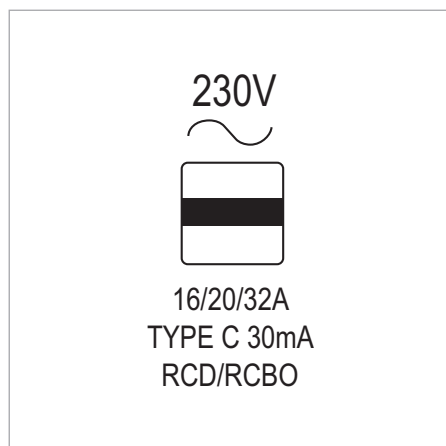
1 The centre of the back box should be 65mm from the start and 90mm above the finished floor level.



2 A reveal 135x75x35 must be made in the wall to accept the back box. **NOTE** a fitting template can be found at the back of the instruction manual.



3 The ThermaSkirt heating panel should allow a minimum of 150mm from the start.

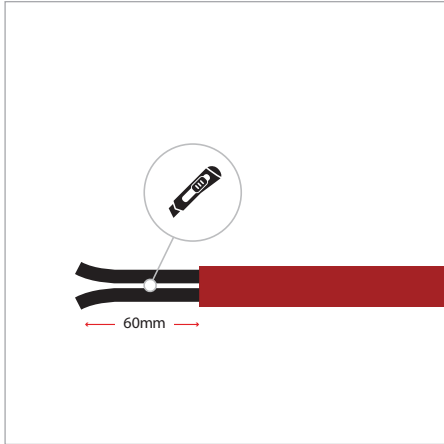


4 The 3 core 230v AC supply into the back box should be 2.5mm² and fed from a Type C RCD or RCBO circuit breaker (BS7671).

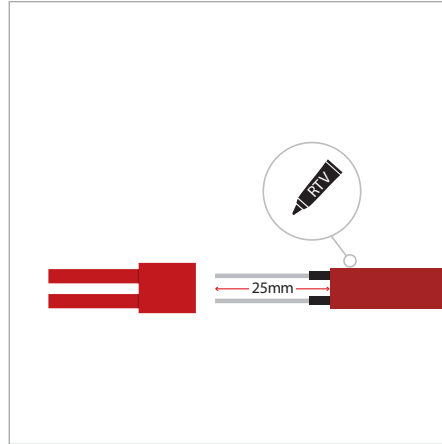
	Power 230V	Apx mtr of ThermaSkirt
STANDARD PCB		
10A	2,300W	15m
13A	2,990W	20m
16A	3,680W	25m
3 CHANNEL		
10A	2,160W	12m
13A	2,700W	15m
16A	3,240W	18m

Preparing the wires

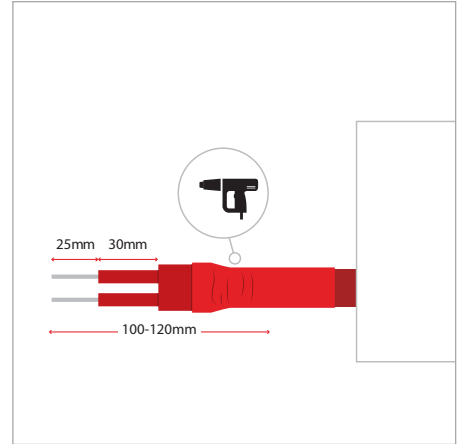
NOTE: Heating cables are usually supplied pre-pared. If not prepare the cable connector ends before inserting into the Skirting panel. The cable is difficult to strip and mistakes are hard to correct once the cable is fixed into the cable channels.



1 If not already done, prepare both ends of the TSE heating cable. Remove outer silicone sheath and split the centre core down the middle. Strip the black insulation off to reveal the conductor cores.

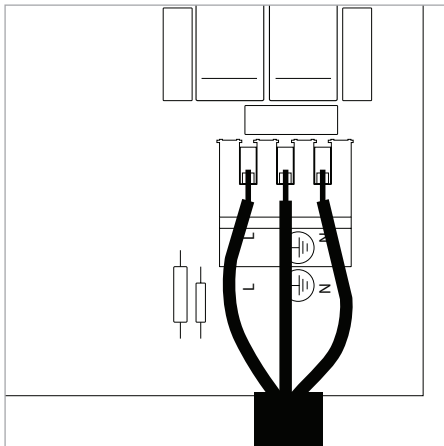


2 Using RTV silicone sealant, lubricate the end of the cable then slide the insulating 'trousers' over each exposed cable core.

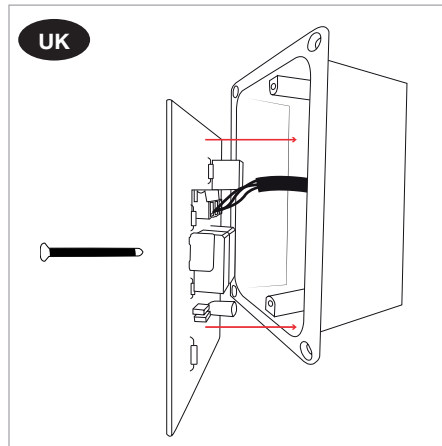


3 Seal the trousers to the cable using the heat shrink tubing provided.

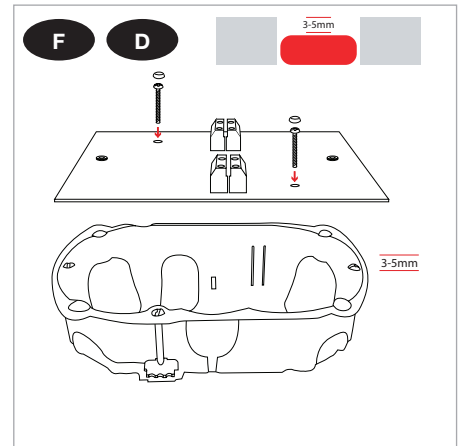
Wiring the connection unit



1 Connect the incoming 230V supply to the terminals marked L, N & E - Live (Brown), Neutral (blue) & Earth (Green/yellow) on the PCB.



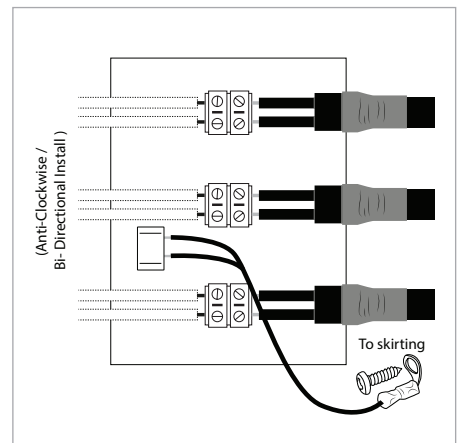
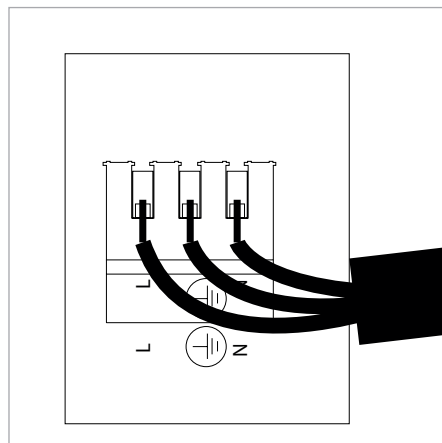
2 Carefully locate the PCB into the back box and align using 2 x M3.5 covers screws. You are now ready to install the first section of ThermaSkirt and heating cable.



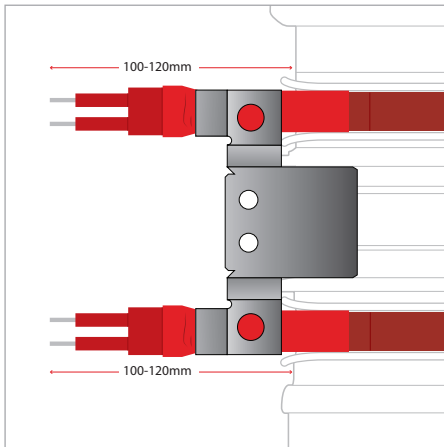
3 For European/other back boxes, please use the fixing screws supplied with the back box.

Ensure back box is at **least 3-5mm below** the surface!

3 channel wiring differences

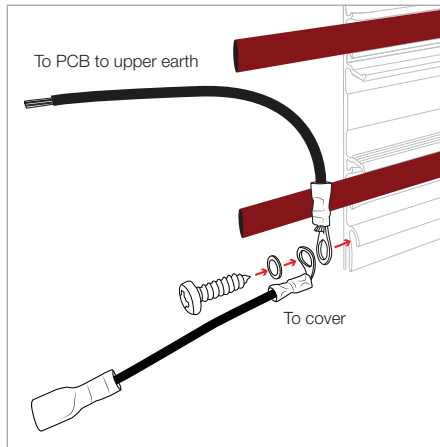


Install the heating cables - first section

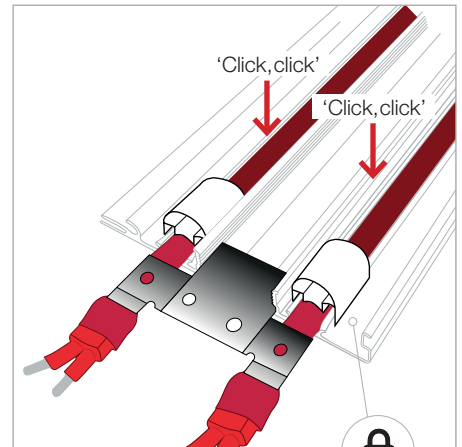


1 Lay the 1st section face down on the floor, taking care that it cannot be scratched or damaged by surface debris. With the connection ends protruding by 85mm, insert the cables into the cable channels.

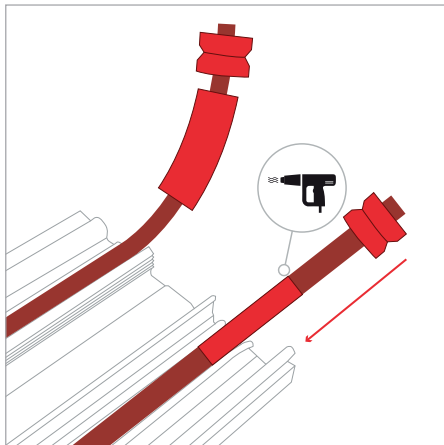
Insert the retaining clip as shown (behind the cables/wall side)



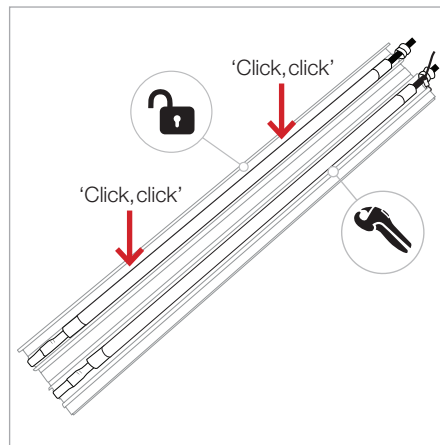
2 Add the earthing cable to the first section of skirting using the supplied screws and star washers to securely fasten in place.



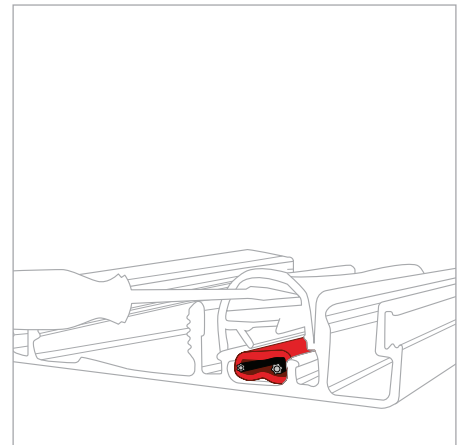
3 Using the short 25mm white cable clamps, locate them 50/50 over the heatshrink and cable. Double click (click, click!) to lock the cable into the channel.



4 Insert the cable into the channel (ensuring there are no bumps or kinks) and prepare the for the next section (typically a corner) as shown by using the supplied heat shrink protection and the rubber grommits. This is a crucial step to ensure the cable doesn't chafe and snag.

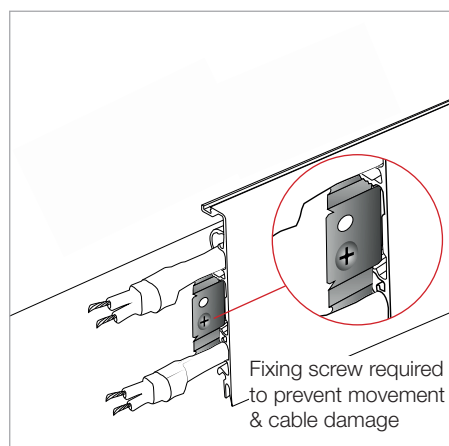


5 Using the 1 meter cable channel covers, fill in, cutting to length as required using the 22mm pipe cutters. Push the cable covers fully home (Click, click!).



6 To remove cable cover, use a large flat screwdriver or similar; Ensure you do not put pressure on the heating cable

Install the heating cables - first section



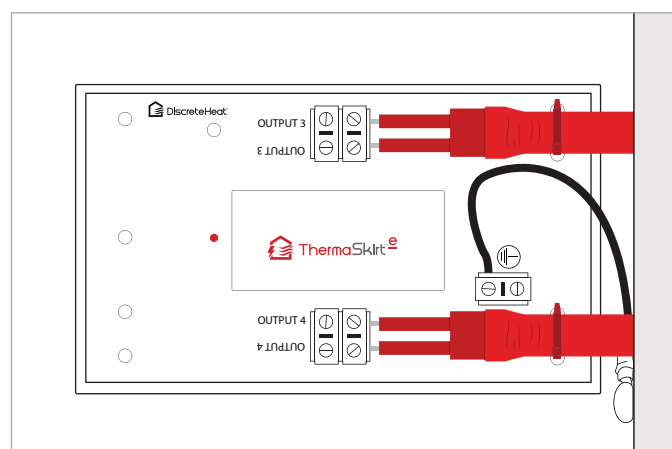
NOTE

Retaining clip only required at 1st panel/PCB connection. For subsequent panels and termination: read on.

- 7** Place the assembled 1st panel upright and locate part way onto the wall brackets. Adjust the cable & skirting panel as necessary, aligning the cable with the output terminals on the pre-installed PCB.

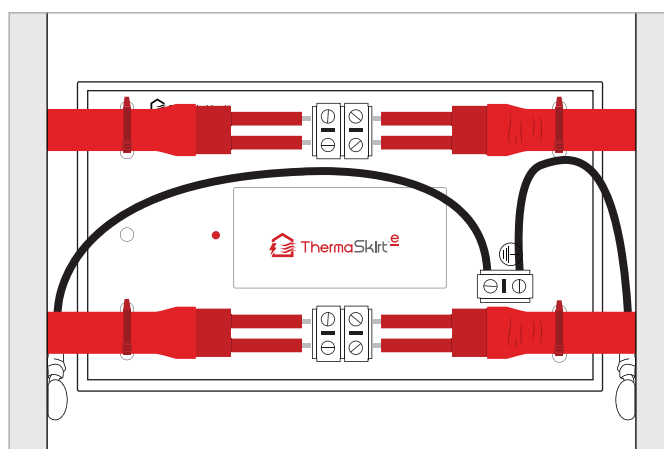
Connecting the cables to the PCB

Single direction wiring (clockwise / RH shown)



- 1** Connect the 2 x output TSE 075 heating cables as shown to the output terminals, trimming the trouser legs and cable cores as required. NOTE: The cables are not pole sensitive.

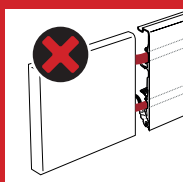
Bi directional wiring



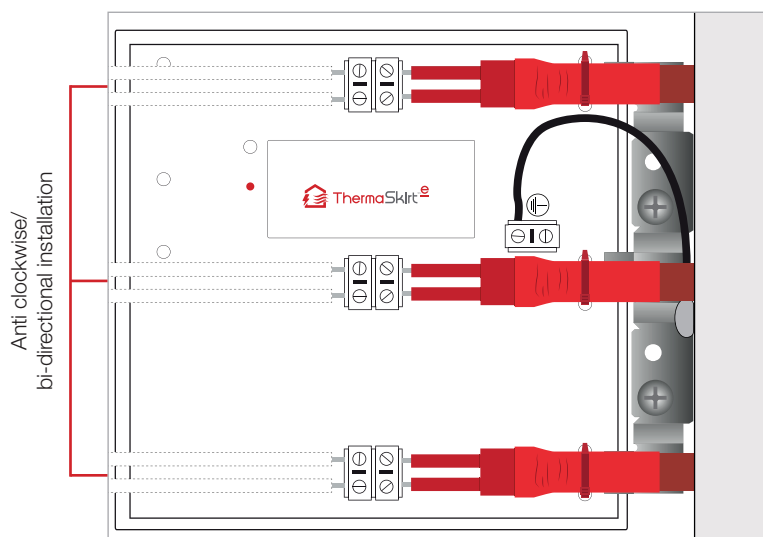
- 2** If heating in two directions from a centre feed, wire as above.

NOTE

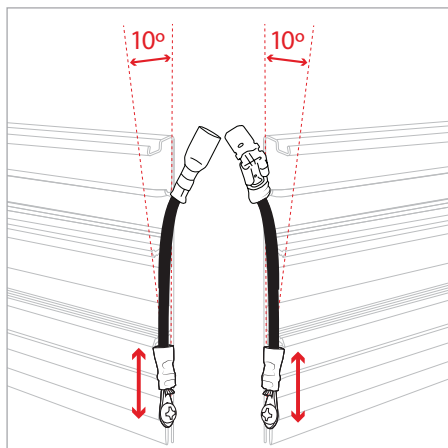
DO NOT put the cover on or power up the unit/cables until the end of the installation!



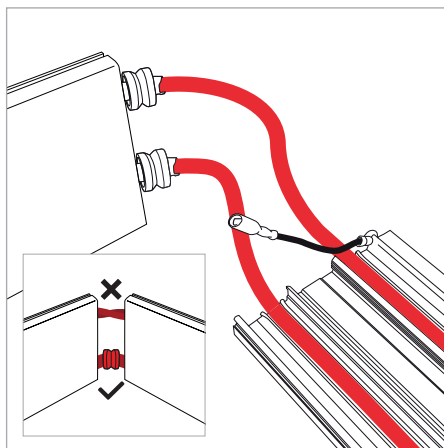
- 3** 3 channel installation. Fixing screw required to prevent movement and cable damage



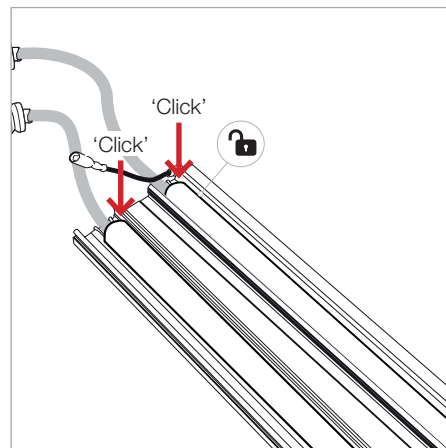
Installing the next sections



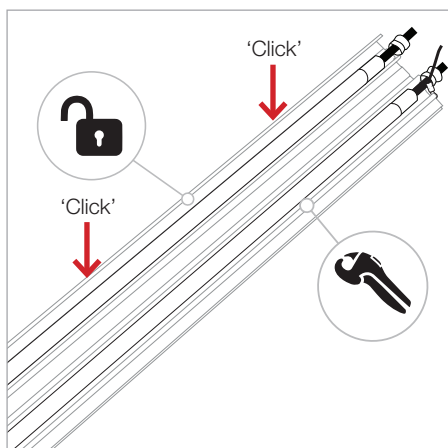
1 Ensure the earth cables are secured to each adjoining end of the skirting panel as shown using the supplied screws and washers.



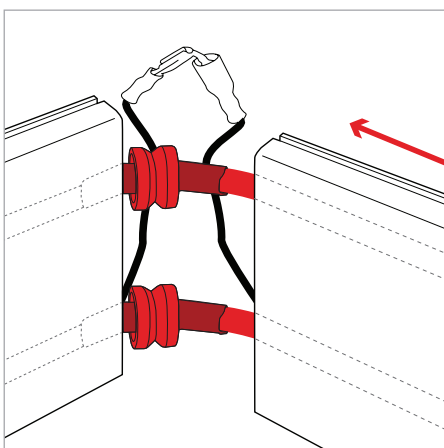
2 Place the 2nd section of ThermaSkirt-e panel face down, as close as possible to the 1st section. Without twisting the heating cable, insert the cables into the appropriate cable channel ensuring there are no bumps or kinks.



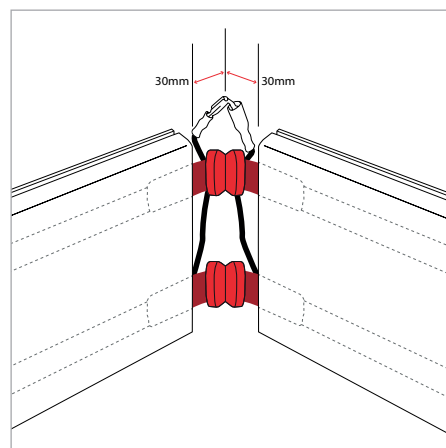
3 Retain the cable in the cable channel by using the white cable covers. NOTE: Do not push the covers fully 'home'.



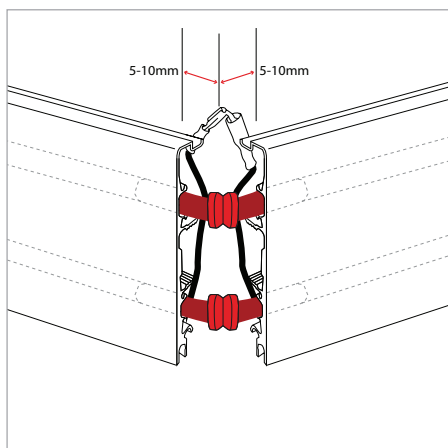
4 Using the one metre sections, cover the remaining length of cable. Trim as necessary, stopping approximately 25mm from the end. NOTE: Do not push the covers fully 'home'.



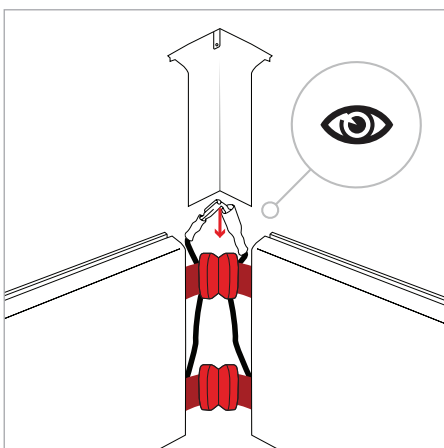
5 Stand the heating panel up right and slide any excess cable through the channels, so that the second section is in the correct position relative to the first, and ready to engage with the wall brackets.



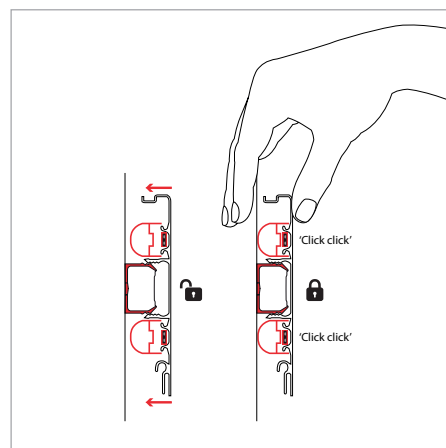
6 For an internal corner the correct position is approximately 30mm from the corner.



7 For an external corner the correct position is approximately 5-10mm from the corner.

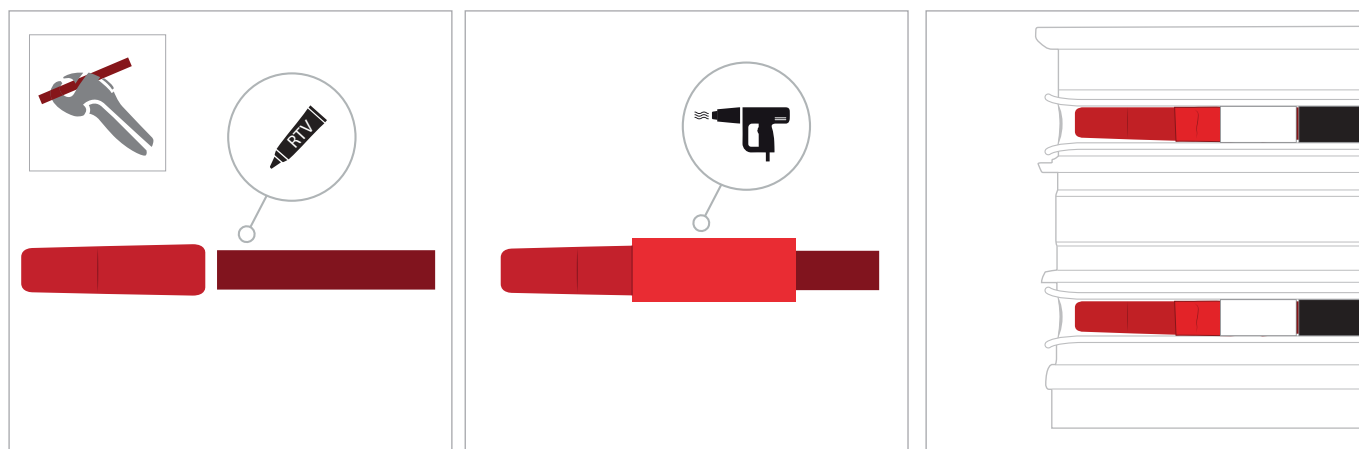


8 Double check that the heating cable and grommets will allow any corner covers to be located correctly. DO NOT install and fix covers at this stage - see later stage.



9 Locate the heating panel onto the wall brackets and push fully home, until the cable clamps reach their 2nd 'click'. This will secure the cable into the cable channels.

Terminating the heating cables

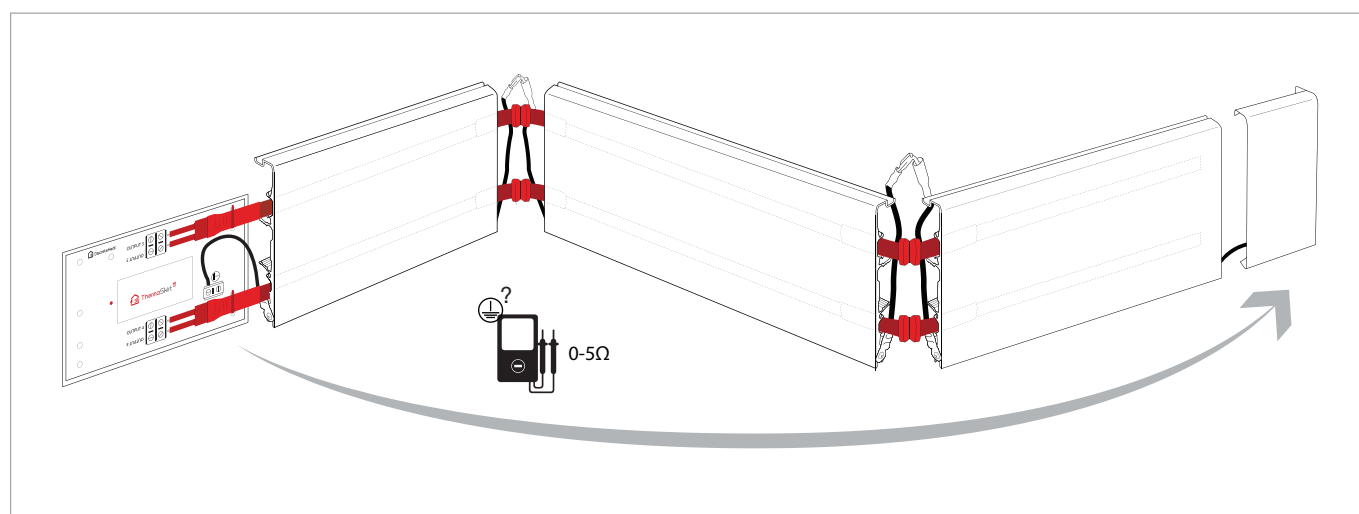


1 Using the red termination caps and a small amount of RTV silicone, make the ends of the cable safe. If required, cut any excess cable with suitable tools.

2 Secure the termination cap using the heat shrink sleeving.

3 Secure and protect the cable with the cable covers and clamps

Earth continuity testing



Without covers fitted, make a connection to the earth terminal of the last heating panel.

Make an earth test between the last heating panel earth cable and the following

- The first heating panel earth terminal
- The earth terminal on the output cable terminal side
- The earth terminal on the power input terminal side

In each case, the resistance should be no more than 5Ω and typically should be 5Ω.

If the resistance is higher than 5Ω or open circuit then check each joint connection for earth cable continuity.

Each joint is provided with a piggy back spade connector, and they should be joined together in order to provide continuity & facilitate an earth test.



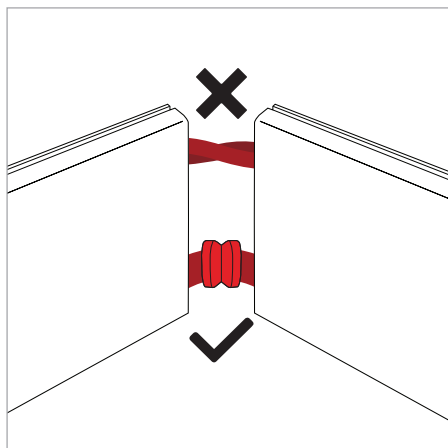
WARNING!

Electricity can be dangerous..

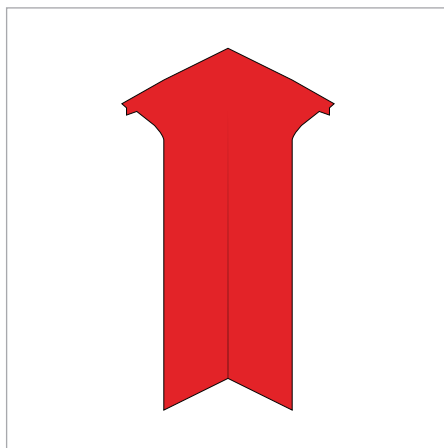
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Fitting the covers

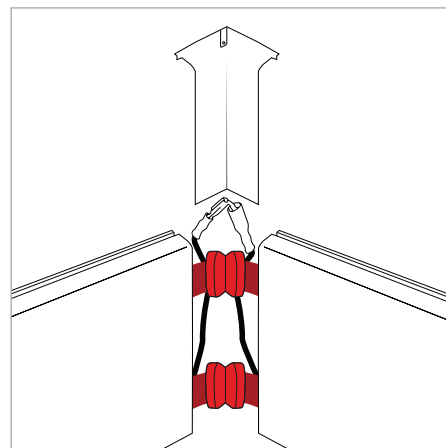


1 Attention! Check cables are not twisted between sections. If twisted, remove and straighten as twisted cables can fail prematurely.

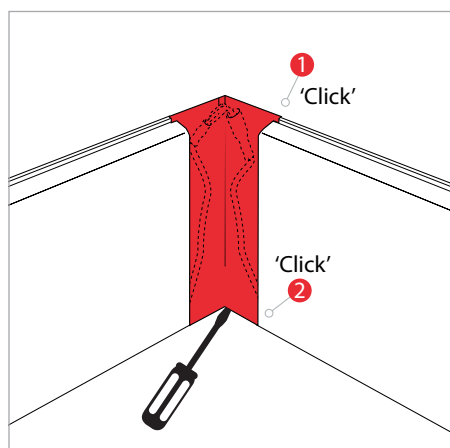


2 The ThermaSkirt-e covers are made from stainless steel and can only be removed with tools. **NOTE: An earth continuity test must be performed before the covers are fitted.**

Leave the PCB connection and termination covers until last – fit any intermediate corner covers first.

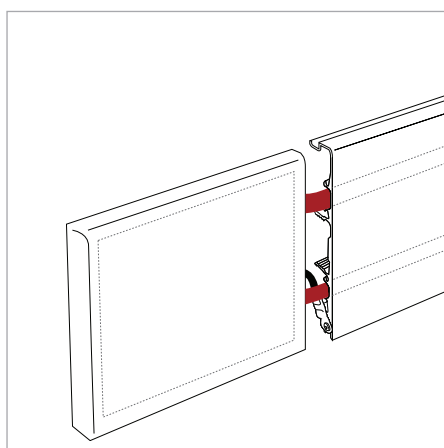


3 Make sure that at each internal or external corner, the cable grommets are located in the middle of the joint, to protect the cable from coming into contact with the corner cover.



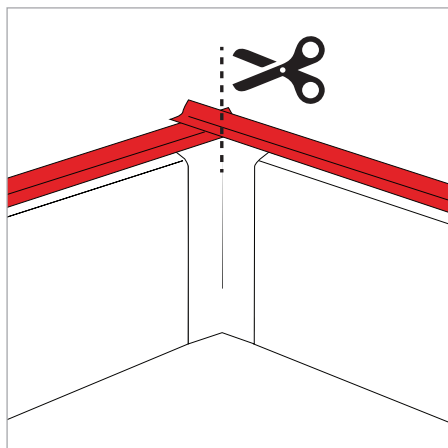
4 1. Clip the covers into place top edge first, clipping the bottom edge under the skirting heating panels. **NOTE: The earth leads must be connected to the cover earth tag.**

2. If the heating panels are tight to the floor covering, it may be necessary to lift them slightly with a screwdriver or prybar under the bottom edge.

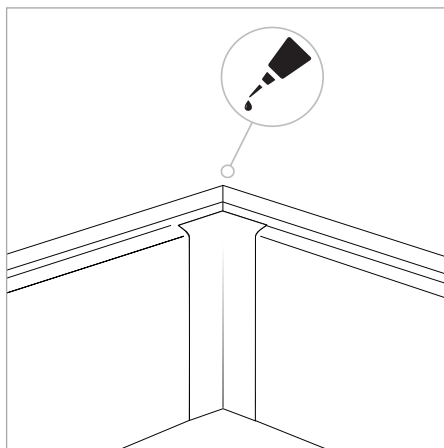


5 Fit PCB cover.

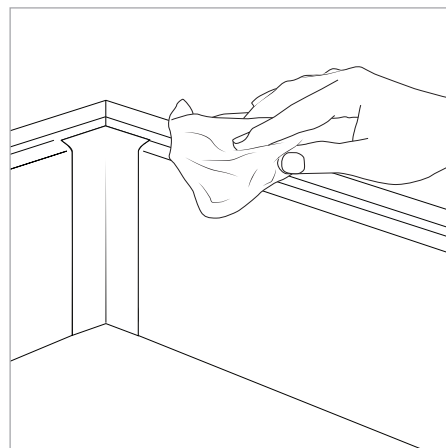
Installing the top gasket



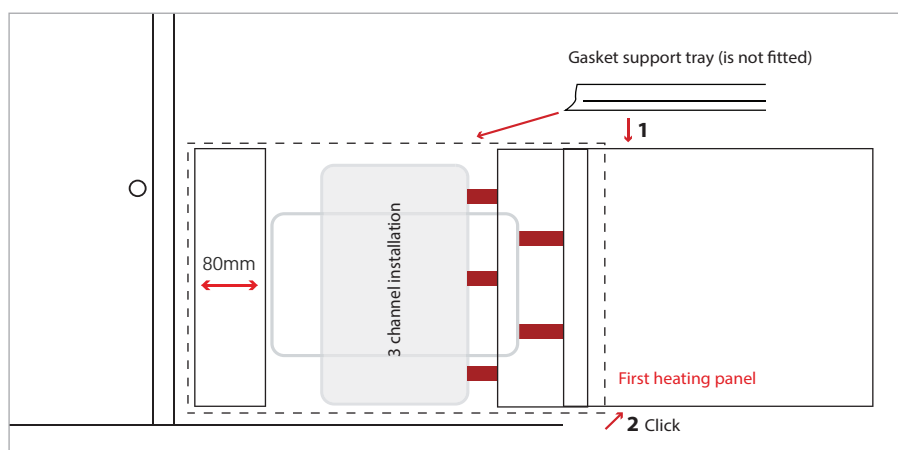
1 Ensure the top gasket is mitred at 45° (when it comes to corners) after fitting the corner cover.



2 Add a touch of super glue (activation spray can be beneficial) onto the mitre before fitting the corner cover.



3 To achieve a smooth even finish to the top gasket, smooth over the gasket with a wet wipe or similar.



4 Fit a small offcut of ThermaSkirt at the start to provide a cover support if practicable.

Powering up the system

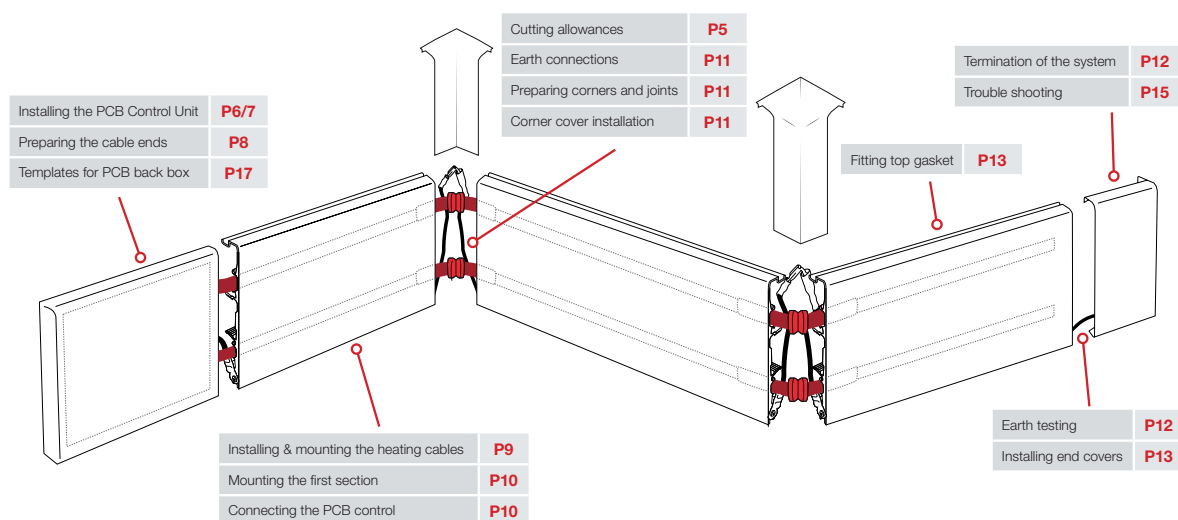
Whether controlled by a time and temperature thermostat or otherwise, the ThermaSkirt-e will begin heating up only when power is applied to the connection control PCB.

The ThermaSkirt-e control PCB has a unique power up sequence to reduce noise and electrical interference as well as maximise energy efficiency.

For the first 5 minutes it will always operate at half power so please don't expect the skirting panels to become hot straight away.

When you warm the system up for the first time, you might notice a slight odour. This is perfectly normal as the cables have an anti-stick surface powder applied during manufacturing. This odour will disappear after a few hours of operation and is not harmful.

SYMPTOM	CAUSE	SOLUTION
ThermaSkirt panels not warm	System not calling for heat.	Check thermostat time & temp settings.
	Going through start up sequence.	Wait 5 minutes and check again.
	No power.	Check Switch fused spur and RCD on.
		Check PCB LED power is on.
		Check wiring connections.
	Skirting temp sensor not connected or set too low.	(If fitted) adjust Thermostat settings. NB: see TherMiser TME 3E instructions.
System trips off when powered up	Earth fault.	Check PCB & ends of cables for damage.
	Damage to cable causing short.	Locate and repair damaged cable (see #13)
Unusual odour	Cable 1st time heating up.	Naturally disappears after few hours.
ThermaSkirt panels getting 'too hot'	Normal running temp. is 60~70C (typical domestic radiator temp.)	If required restrict using skirting temp sensor and TherMiser settings. NB: see TherMiser TME 3E instructions.
		Ask about our LST version of ThermaSkirt e for healthcare and supported living application
Erratic heating up and sometimes not working (especially on bi-directional install)	Twisted cable between Sections. See P13 #1.	Check voltage across output terminals at 1 minute and 6 minutes. If very different, isolate power and remove corner covers to locate twisted cable. Re-install cable correctly.



Locating, repairing and/or replacing the heating cables

If the cable has been damaged during or after installation, the system will trip out due to an earth fault. The damage to the cable needs to be located and repaired. The normal sequence would be:

- A) Isolate Power before removing any covers or skirting panels**
- B) Remove end connections and termination covers first to check the cable ends for damage**
- C) Remove any intermediate stainless covers to check the cables for damage at any junctions**
- D) Starting from one end, remove the heating panels in sequence, checking the back for any signs of damage to the cable covers and cable**
- E) Remove the cable covers in sequence and check the heating cable for signs of damage.**

Usually, any damage to the front face of the cable outer red sheath will cause an earth fault to the aluminium heating panel. Damage to the back face of the cable (cable cover side) will not ordinarily cause an earth fault as the cable covers are an insulator, unless the cable cores have been cut and exposed or compressed together.

If the damage to the heating cable is slight (red outer sheath damaged, black core exposed) then it can be repaired using the red heat shrink tubing supplied in the spares kit (see 13.1). If the heating cable is badly damaged (black core damaged, conductor cables exposed) then that section must be replaced (see 13.2).

If the outer sheath has been damaged at a junction, double check the cable channels have been opened up and deburred at each end.

13.1 Repair to outer sheath

Included in the spares kit are several lengths of toughened heat shrink sleeving which can be slid over the cable to the damaged section and heated into place. The cable will still be able to be squeezed back into the cable channel although it will be a tight fit. The cable cover may need to be modified locally in order to fit. Check the cable channel for any signs of sharp edges or debris that may have caused the damage and rectify before replacing the cable.

13.2 Replacing a section of cable

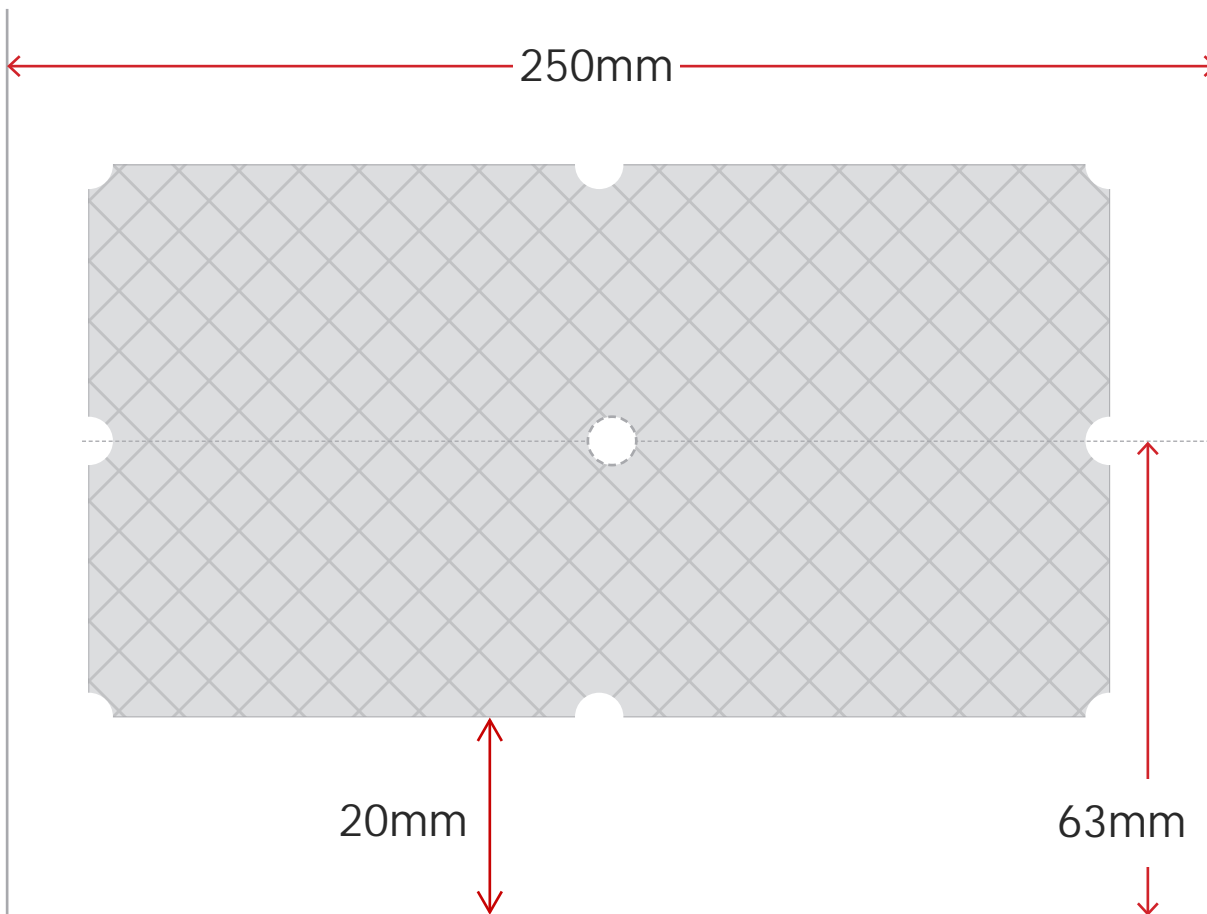
If the damage to the cable has exposed the metal conductor cores then that section must be cut out and replaced. If the damage is near to the end, it may be simpler to cut the cable short and insulate using the heat shrink sleeving and termination boots. NB: The black heating core and conductors cannot be allowed to be in contact with the aluminium or exposed to the touch as they are 'live'. If the damage is mid sections, and/or in more than one place it is recommended to replace that section of cable with a complete new piece, jointing and insulating the cables at the corner junctions.

Maintenance

Routine maintenance if your ThermaSkirt-e system is not required, except for perhaps a wipe down to remove any dust or marks that a traditional skirting board might accrue over time.

For further assistance please contact DiscreteHeat Co. Ltd on **01942 88 00 60** or email **info@discreteheat.co.uk**

Fitting template BMe 2 Channel



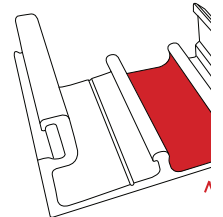
First piece of Thermaskirt-e

ATTENTION! ACHTUNG!

GB ALL CUT ENDS MUST BE PREPARED AND DEBURRED

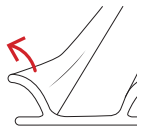
Failure to do so may result in cable damage.

Cable channels must be opened out and the rotary deburring tool used to chamfer the ends. The protective heat shrink sleeve and grommets must be used where required. Please see the instructions for full details.



F TOUTES LES EXTRÉMITÉS COUPÉES DOIVENT ÊTRE PRÉPARÉES ET ÉBARBÉES.

Le non respect de cette procédure peut causer des dommages aux câbles. Les passages de câbles doivent être élargis en utilisant l'ébarbeur rotatif pour chanfreiner les extrémités. Les manchons thermorétractables et les passe-câbles de protection doivent être utilisés partout où c'est nécessaire. Merci de lire attentivement les instructions pour plus de détails.



DE ALLE SCHNITTENDEN MÜSSEN ENTGRATET UND ABGERUNDET WERDEN.

Andernfalls kann es zu Kabelbrüchen führen. Der Schrumpfschlauch und die Hülse müssen verwendet werden. Bitte lesen Sie die Anweisungen für weitere Informationen.



REMOVE PROTECTIVE FILM ONLY AFTER COMPLETION

SCHUTZF

Fold along dotted line and sit on the floor to gauge position.

3 channel clockwise install shown

First piece of Thermaskirt BME3

ATTENTION! ACHTUNG! ATENCION!

**GB ALL CUT ENDS MUST BE
PREPARED AND DEBURRED**

Failure to do so may result in cable damage.

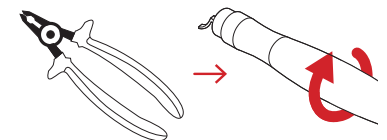
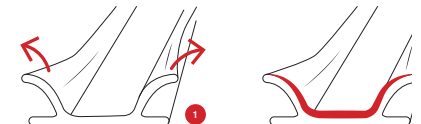
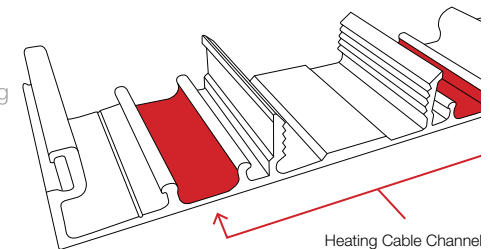
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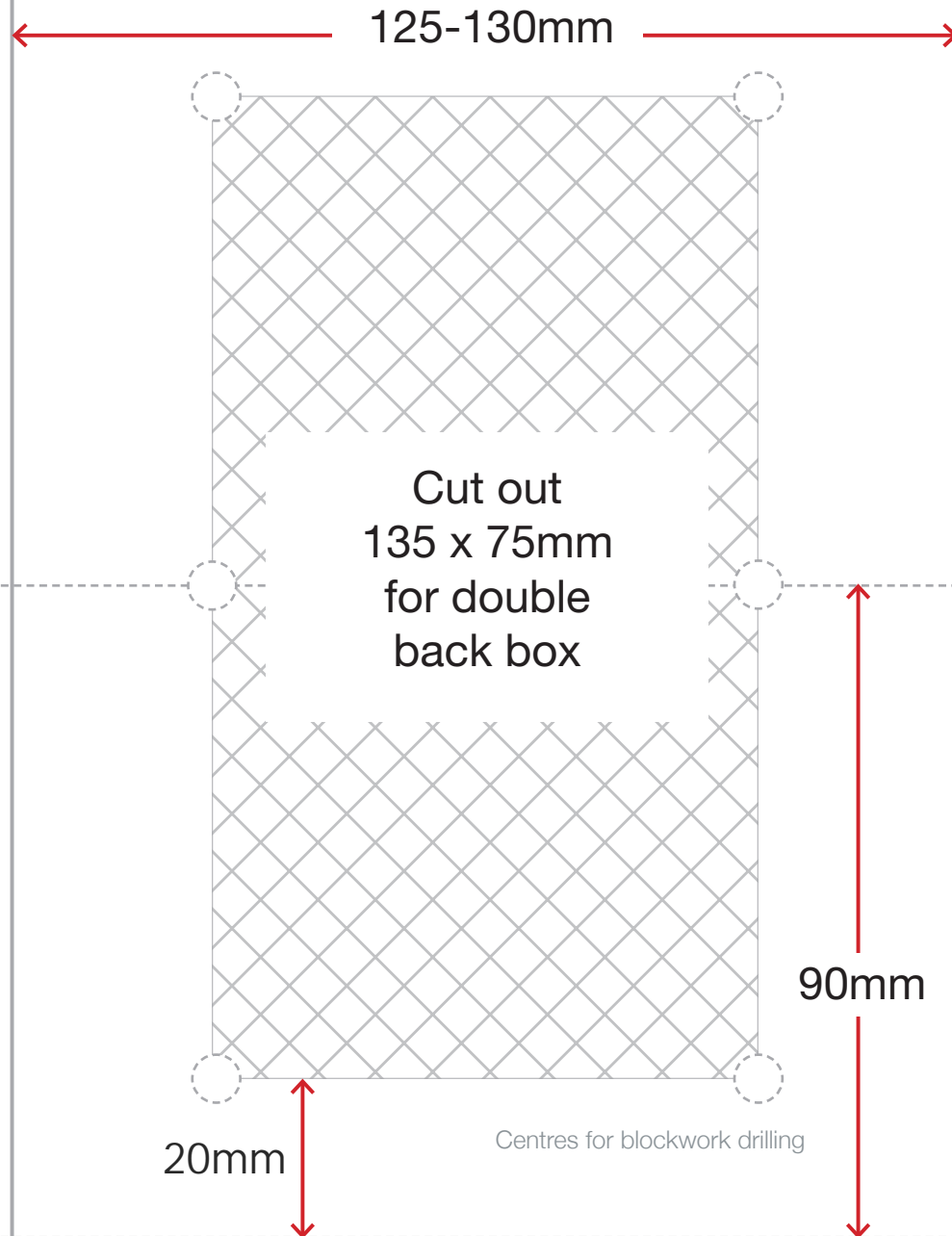
**DE ALLE SCHNITTENDEN MÜSSEN ENTGRATET
UND ABGERUNDET WERDEN.**

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REMOVE PROTECTIVE FILM ONLY AFTER COMPLETION

SCHUTZFOLIE ERST NACH DER



Fold along dotted line and sit on the floor to gauge position.



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0845 123 8367

