# Plans task

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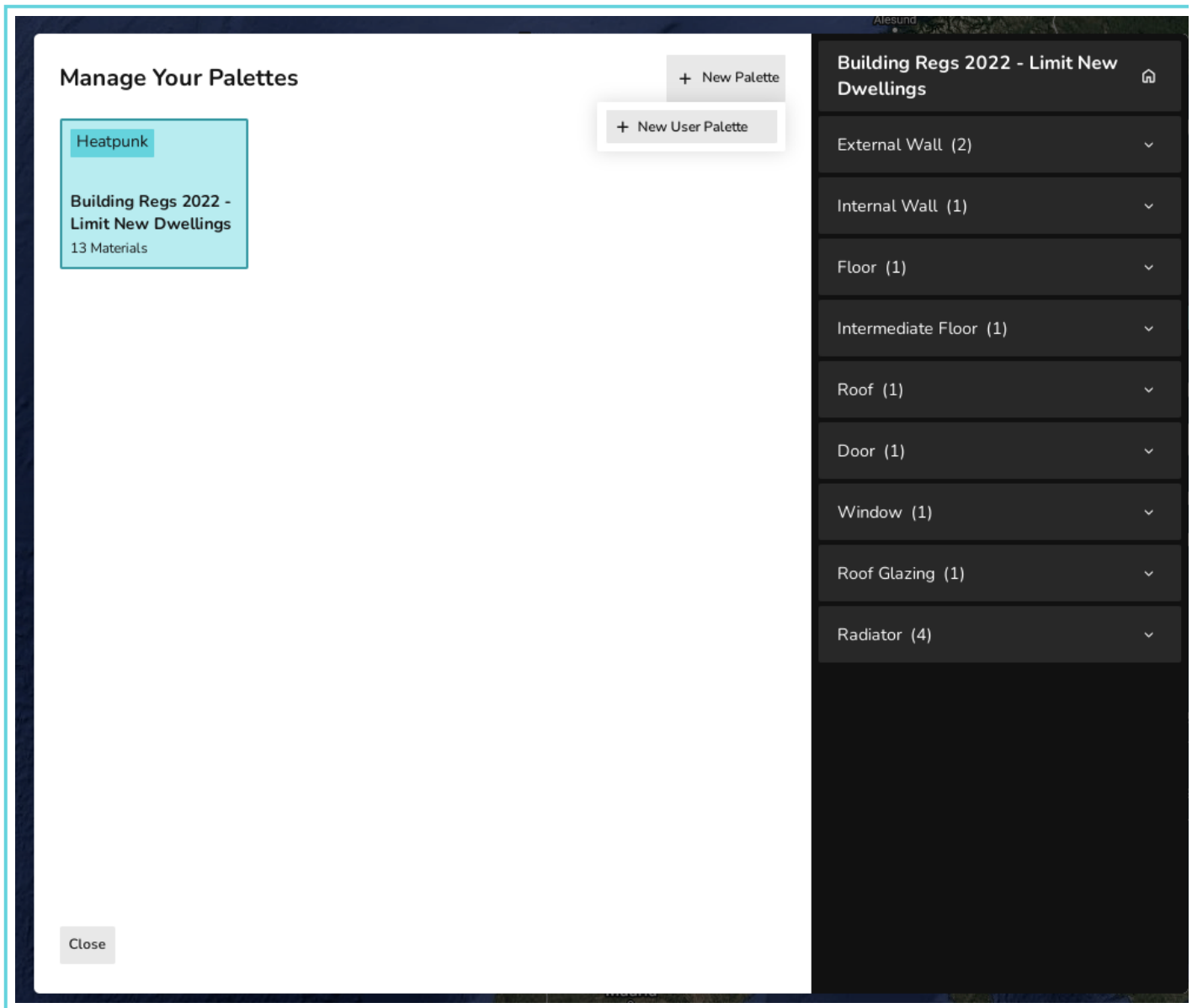- [Vaulted Ceilings and Dormers](#)

Managing Your Material Library

Materials are used in all your Heatpunk projects. They define the properties of walls, windows, door, floors, ceilings and radiators. You can access your Material Library from the Heatpunk home page.
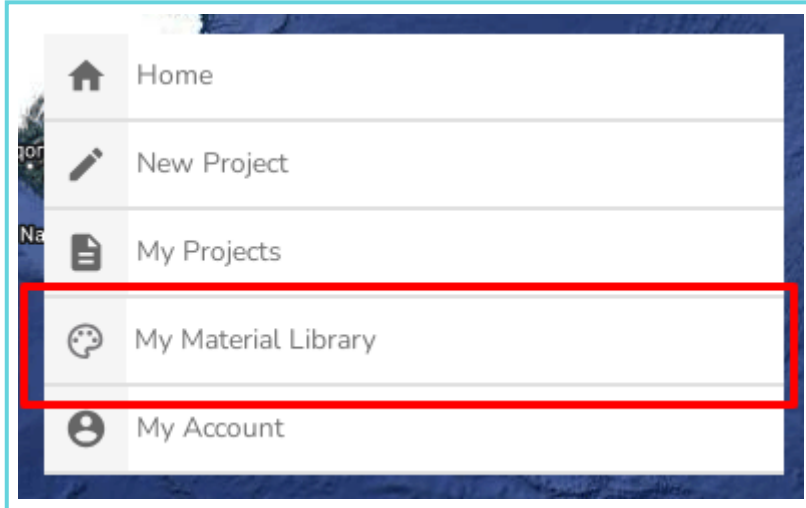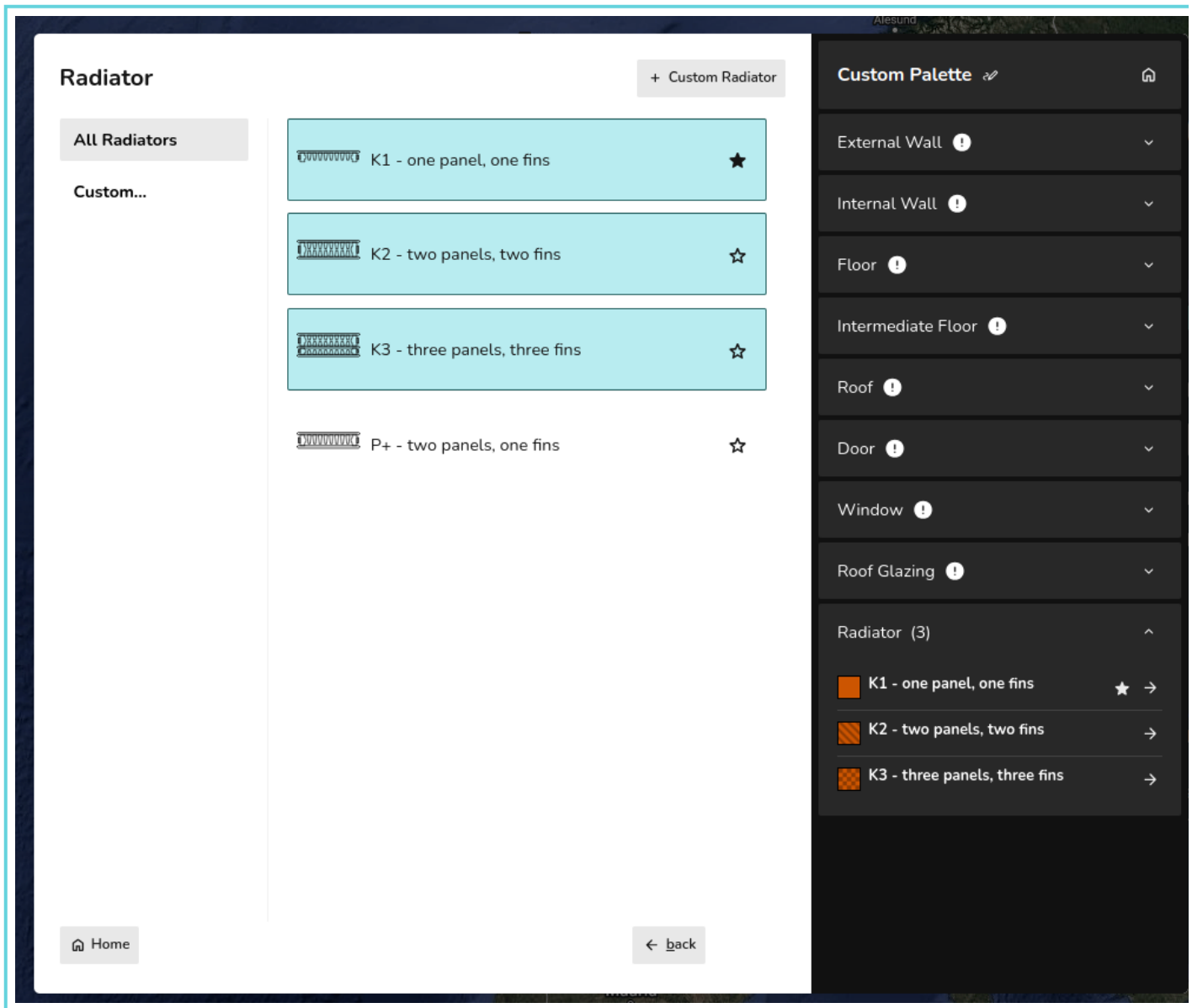

Palettes

Materials in Heatpunk are stored in palettes. At the start of each project you will select a palette which contains the materials available to you in that project. Heatpunk includes a palette with a range of standard materials for you to use or you can create your own.

Manage Your Palettes

+ New Palette

+ New User Palette

Heatpunk

Building Regs 2022 - Limit New Dwellings
13 Materials

Close

Building Regs 2022 - Limit New Dwellings

External Wall (2) ⌄

Internal Wall (1) ⌄

Floor (1) ⌄

Intermediate Floor (1) ⌄

Roof (1) ⌄

Door (1) ⌄

Window (1) ⌄

Roof Glazing (1) ⌄

Radiator (4) ⌄

In each category you can star a material to make it that palette's default for that catergory. When adding to your floor plan, the default, starred material will automatically be used. This can be editted as necessary within a project.

Adding Materials

Once you have created a palette you need to add materials. You can either add existing materials or create your own. Their are two options when creating your own material:

- Build layers - adding materials by layers.
- Enter U value - adding materials with U-value

Windows, doors and roof glazing can only be added with U-value. Adding radiators differs from other materials as described below.

Each method for adding materials is described below and demonstrated in the following video.

NOTE: You must have at least one material selected in each category (external walls, internal walls, floor, etc). An exclamation mark will show next to categories that do not have a material selected. You do not have to use all the materials in your palette within the
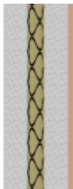
> project.

Adding materials by layers

When adding a material by layers, you need to define the Category, Material and Thickness of each layer. This will then generate a k-Factor for each layer as well as a U-value and total thickness for the wall. Adding rows will add layers. Layers can be removed using the **-** on the right.

Adding materials with U-value

When adding a material with the U-value you simply need to input the U-value and thickness.

Adding radiators

When adding a radiator you need to define the default width and height, as well as the n coefficient, and P50 of the radiator. You can edit the width and height as necessary within your project.

New Custom Radiator

Copy from ...

CUSTOM

Custom Radiator Name

Custom Radiator

Radiator properties

Width

400   mm

Height

400   mm

n Coefficient

1.3

P50

1000   W

Cancel   Create

Custom Palette ✎   ⌂

External Wall ❗   ⌄

Internal Wall ❗   ⌄

Floor ❗   ⌄

Intermediate Floor ❗   ⌄

Roof ❗   ⌄

Door ❗   ⌄

Window ❗   ⌄

Roof Glazing ❗   ⌄

Radiator ❗   ⌃
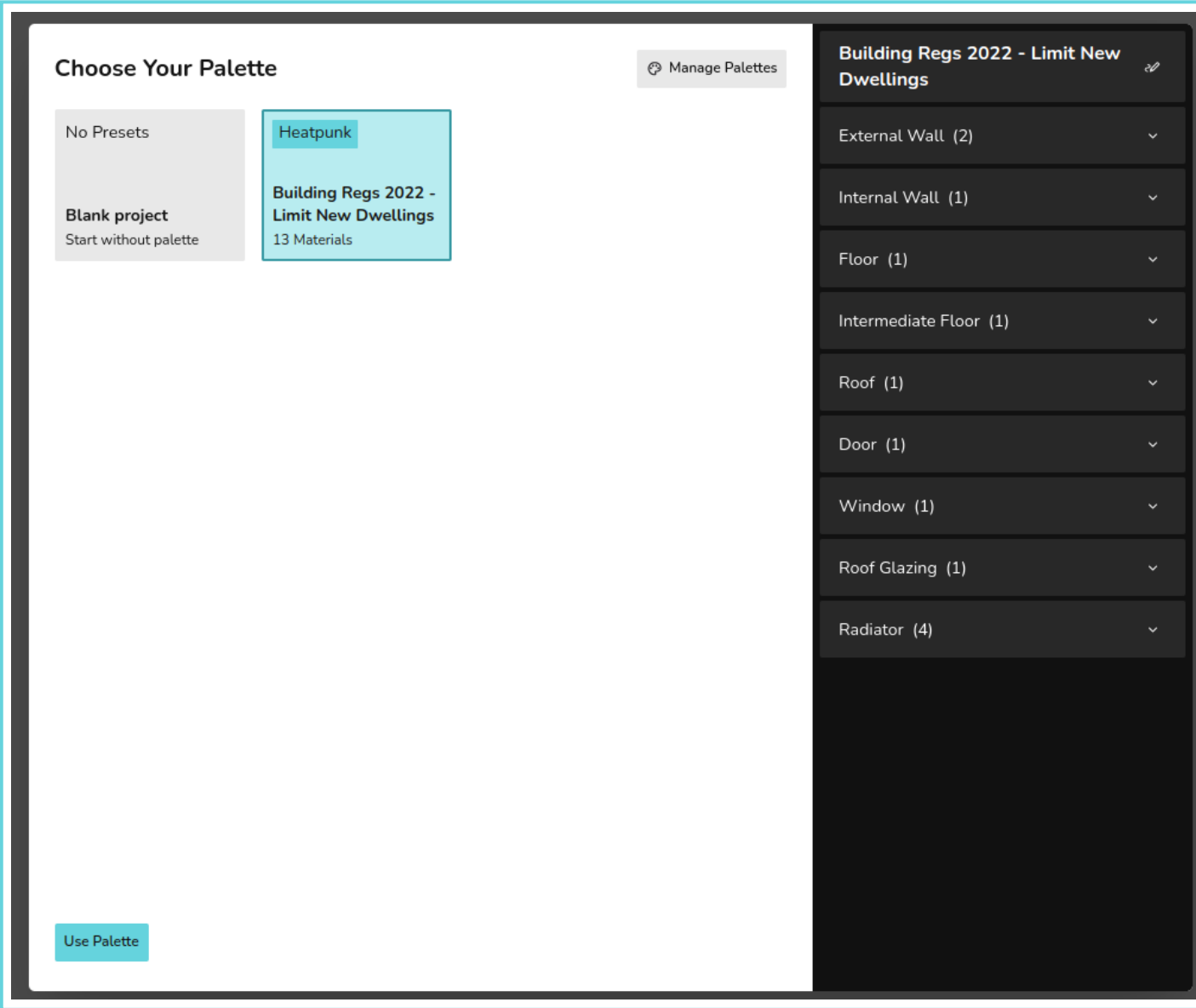
Choosing a Palette

On creating a Heatpunk project you will be asked to choose a palette. This will contain all the materials you will use in your project. You can always add materials later. We recommend choosing a palette rather than starting with a blank project.

Please see the guide on Managing Your Material Library for details on creating and editting your palettes.

PRO: Importing floor plans

A step by step guide to the importing plans feature in Heatpunk.

This feature is only accessible with a Heatpunk Pro subscription.

1. Click 'New Project' to launch a project as standard, setting the customer details, build date (affects ventilation rates used) address for the property.

2. Choose your material palette: select from your own user or team palettes, Heatpunk defaults or start from fresh with the blank project palette to set the construction type (u-values) for all the building elements.
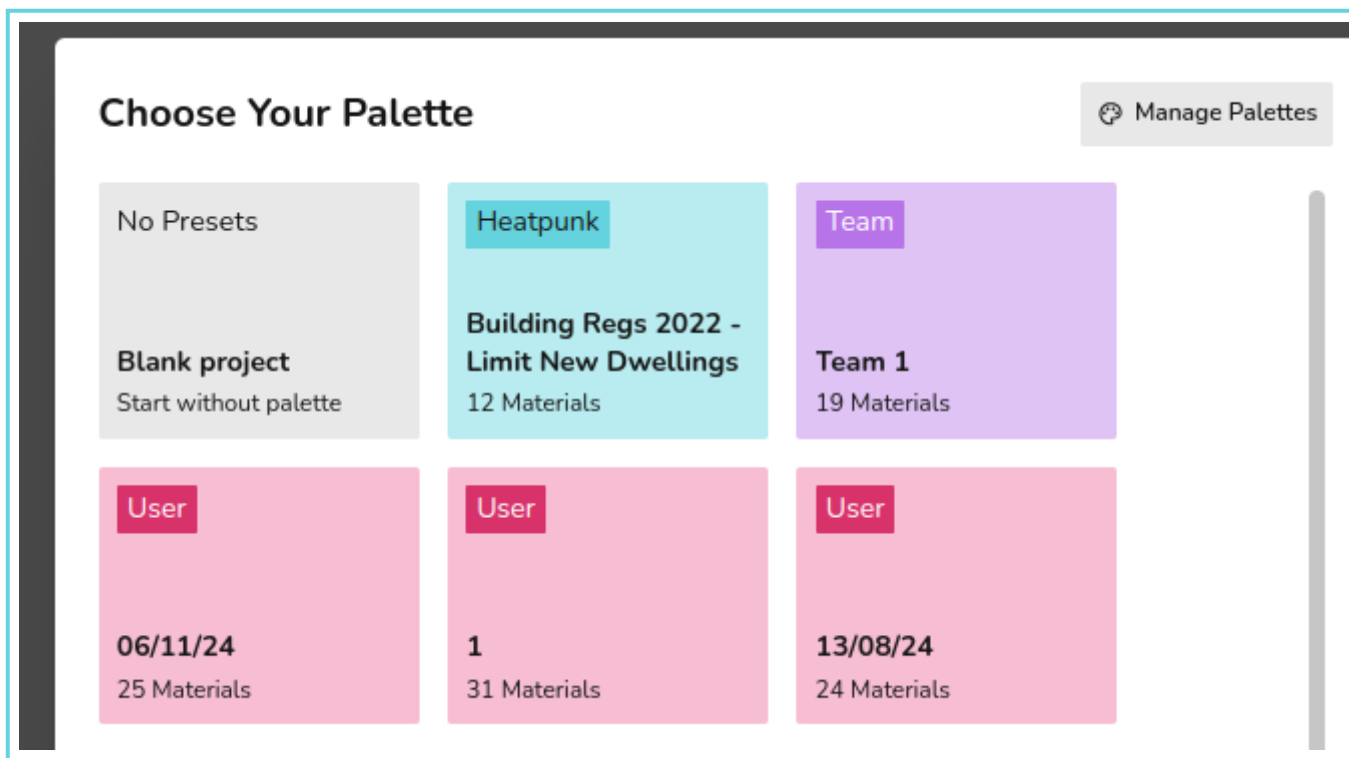
3. Set default ceiling height and the floor name

Level Description

Fill out the details for this level. Add or edit the level name, and enter the default ceiling height.

Floor Name

Ground floor

Room Ceiling Height

2400   mm

Cancel   **Confirm**

4. Once at the start, on the building stage in the plans task, click on the 'Plan' Icon on the left hand side of the page:

5. Choose a PDF file to upload:

6. Use the purple reference length bar to set the scale: drag the reference length bar over to the plans scale or an object of known length. Set the size to match and then click on the dimension to enter the relevant value. Ex: below the scale represents 5m, I've set the purple ref length bar against it and set it's dimensions to 5m.

0   5 M

5.00 m Scale: 1:100

7. Start adding in the rooms: you can drag on your rooms as you normally would in Heatpunk, but now you can overlay them onto the background plans. Once you've aligned the walls will automatically scale to be the correct size.

2300 mm   Independent   2400 mm
                    Bedroom

                    3752 mm
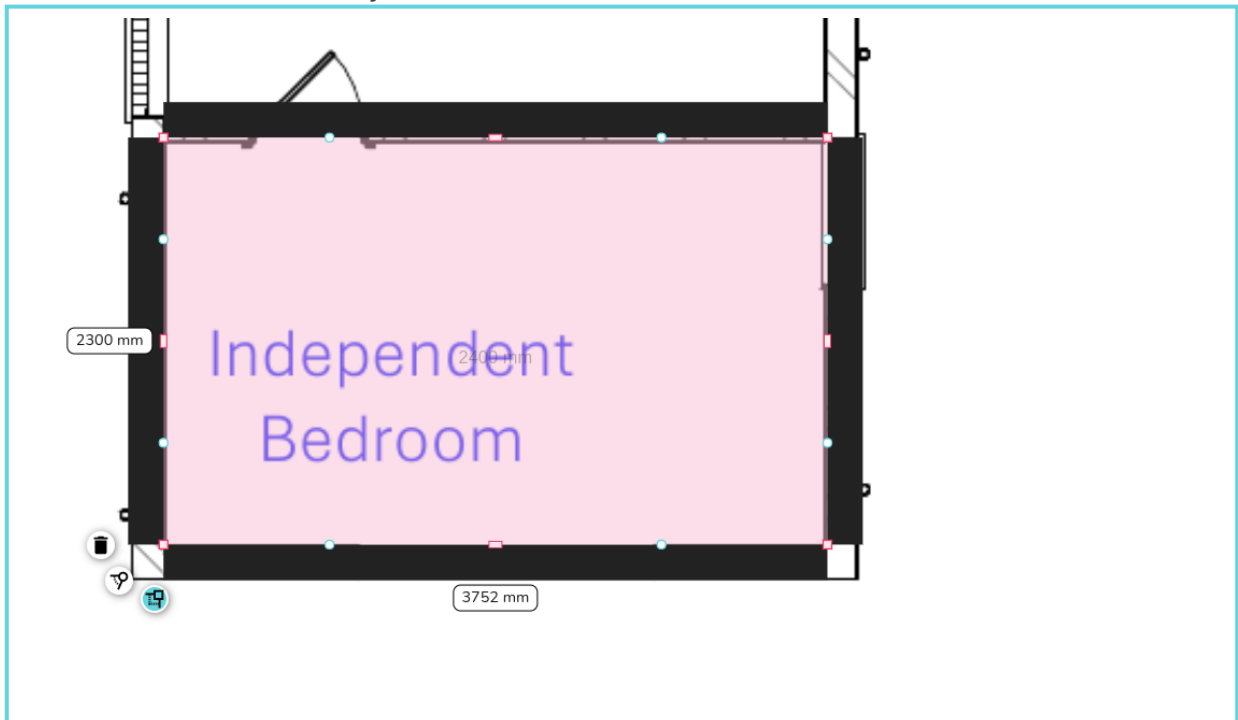
8. Continue adding rooms to build up your floor plans. Clicking to the side of rooms, or on walls will turn off the transparency and allow you to see the rooms as normal to select wall type, room type, etc. Clicking a holding for 2 sec on the room will turn it back to the transparent mode so you can see the plans behind again.
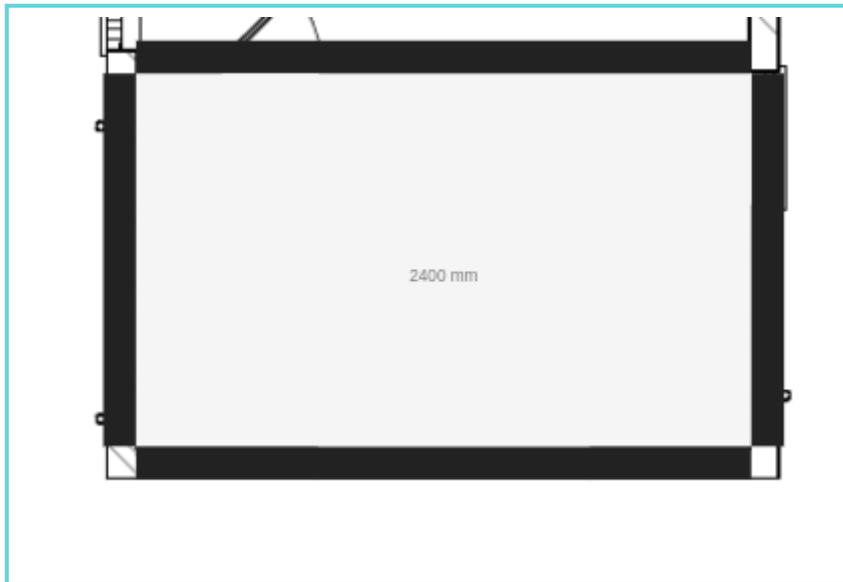
9. Once you've done your ground level, you can add in a level above. When you add a new level, click the 'Plan' button to import the relevant PDF.
10. Once your plan is uploaded you will need to align this with the rooms below. To do this, double click on the plans to select them, once selected you can move them. As you move the plans they will become transparent allowing you to see the outline of the rooms below. This should allow you to line up the plans correctly.
11. Then it is just a case of checking your scale is still correct (if the two PDF's have the same scale it should already be correct), and then continuing to create your plans.
12. Once you've finished, you can set wall types, room types, add windows, doors and existing rads before proceeding to the heat pump task.

Creating Rooms

Rooms can be dragged and dropped in from the menu of the left.
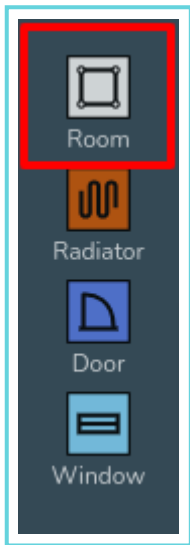

When editting a room you can:

- Click the square corner handles to show dimensions of the associated walls. You can then click on the values to manually change these.
- Click on the pink corner handles to toggle between a square and circle handle:
  - Use the square corner handles to resize the room whilst keeping the adjacent walls at the same angle.
  - Use the circle corner handles to move that point independently of the other points to create angled walls.
- Click and drag the blue circle handles to allow you to split a wall and create irregular shapes.
- Click on the pink rectangular handles to toggle between a square and curved cornered handles:
  - Use the square cornered handle to extend a wall out.
  - Use the curved cornered handle to extend the adjoining wall independently of the others.

These tools are demonstrated in the video below.

https://www.youtube.com/embed/0e9BZdiPJgc?t=154s
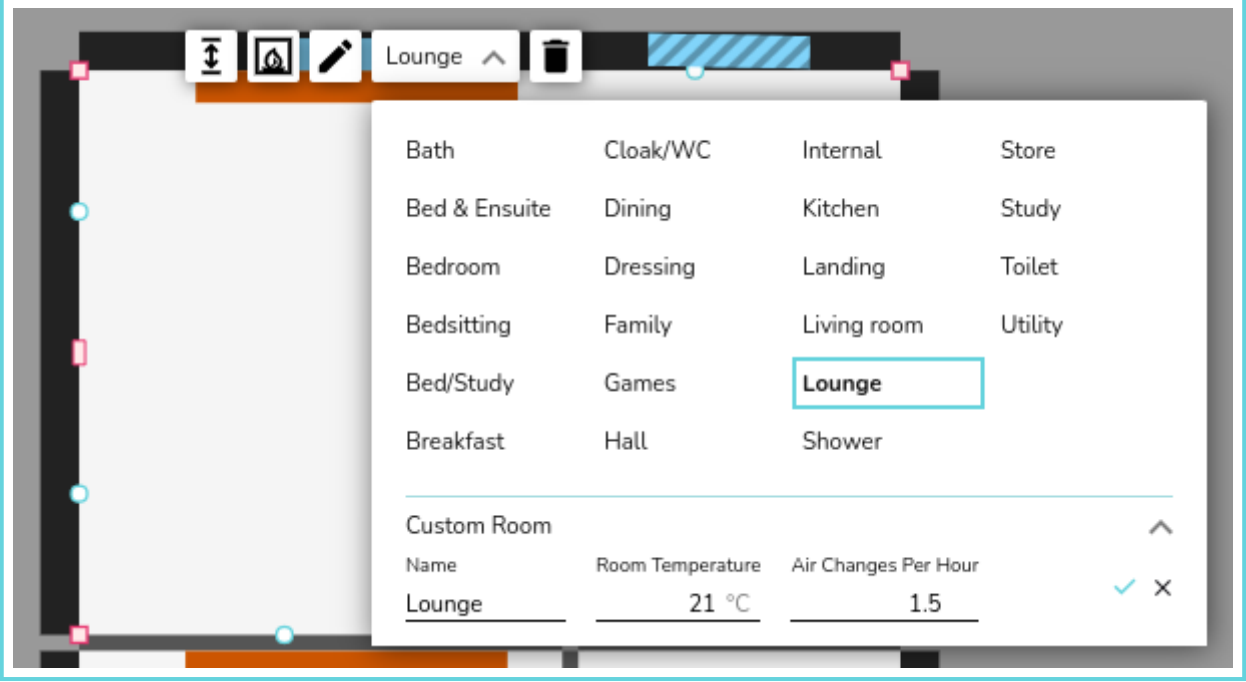
Editing Room Properties

Once you have created a floor plan you can change the properties of each room by clicking on it.
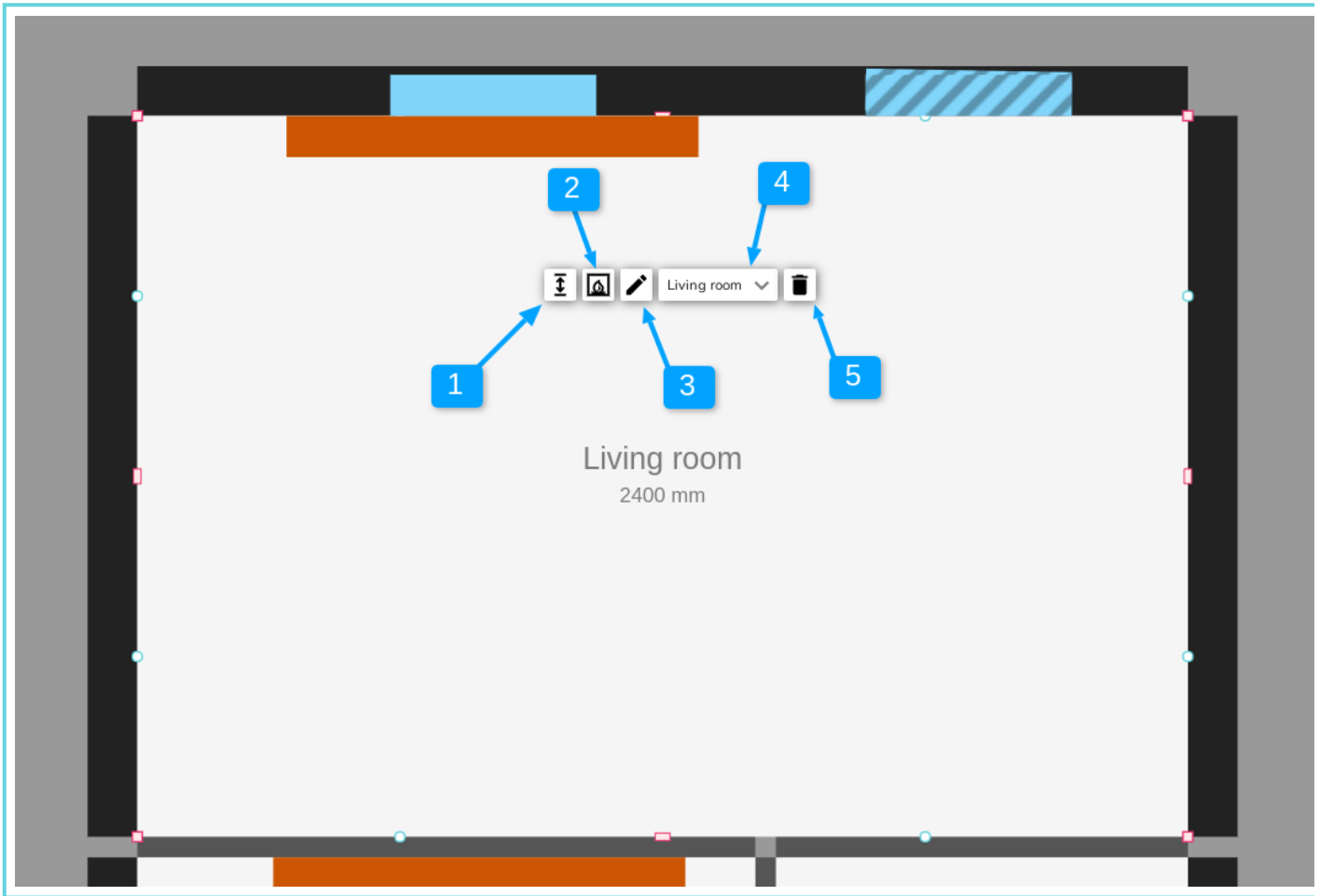
1. Use this tool to change the height of the ceiling. Note, this is for the selected room only.

   See our guide on [Floors and Ceilings](#) for how to edit the ceiling height for the whole floor.
2. Use this tool to toggle whether there is a flue or not in this room.
3. Use this tool to change the name of the room.
4. Use this menu to change the room type. This will also change the air changes and design temperature for the room in line with the room type chosen. See below for custom room types.
5. Use this button to delete the room.

Custom room types

If you need custom air changes and design temperatures for a room you can do this by using a custom room type. When choosing the room type from the drop down menu, select *Custom Room* and edit the *Name*, *Room Temperature* and *Air Changes Per Hour* as necessary.

Lounge ^

Bath | Cloak/WC | Internal | Store
Bed & Ensuite | Dining | Kitchen | Study
Bedroom | Dressing | Landing | Toilet
Bedsitting | Family | Living room | Utility
Bed/Study | Games | Lounge
Breakfast | Hall | Shower

Custom Room ^

Name | Room Temperature | Air Changes Per Hour
Lounge | 21 °C | 1.5

Walls, Windows, Doors and Radiators

To add windows, doors and radiators, drag and drop the relevant icon from the left hand menu.


Click on walls, windows, doors and radiators to change their material. The materials shown will be those chosen in your palette. The default defined in your palette will be used initially. If the material you need is not in your chosen palette, you can add a custom material at this stage.

Please see the guide on [Managing Your Material Library](#) for more details on this topic.
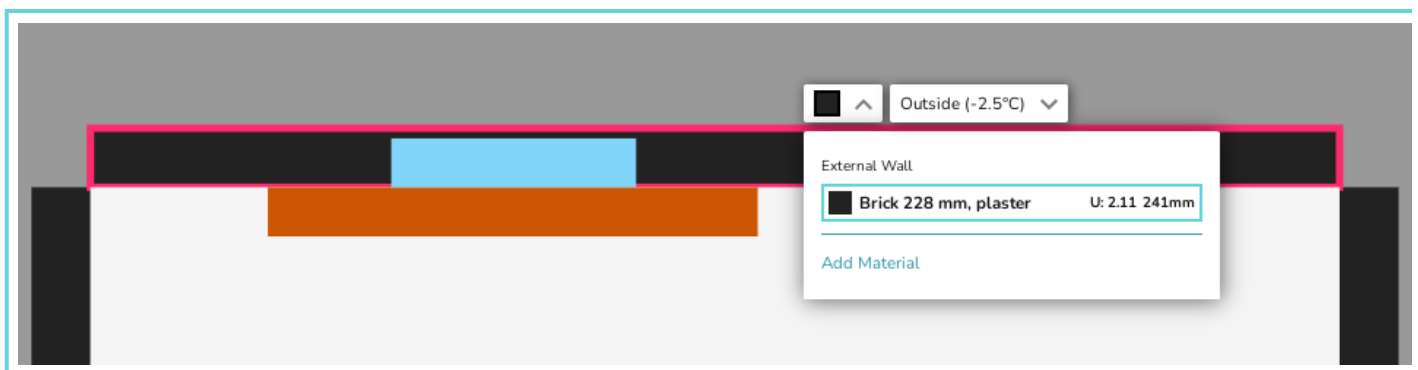
To change the width on windows, doors and radiators you can click and drag the pink handles at each end. Alternatively, you can also click on windows, doors, and radiators, then select the *dimensions* icon to change their dimensions, including height.
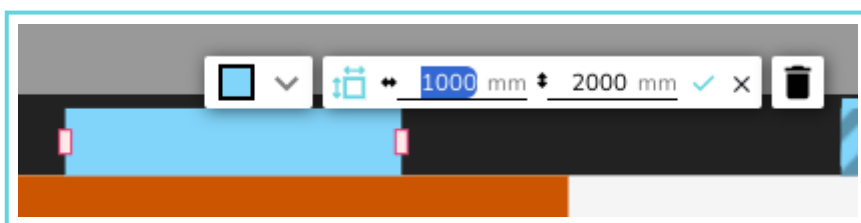

External Walls

You will need to define what is on the other side of your external walls. Heatpunk will automatically set this as *Outside*. To change this, click on walls and use the drop down menu to define what is on the otherside. This is particualrly important for parting walls.
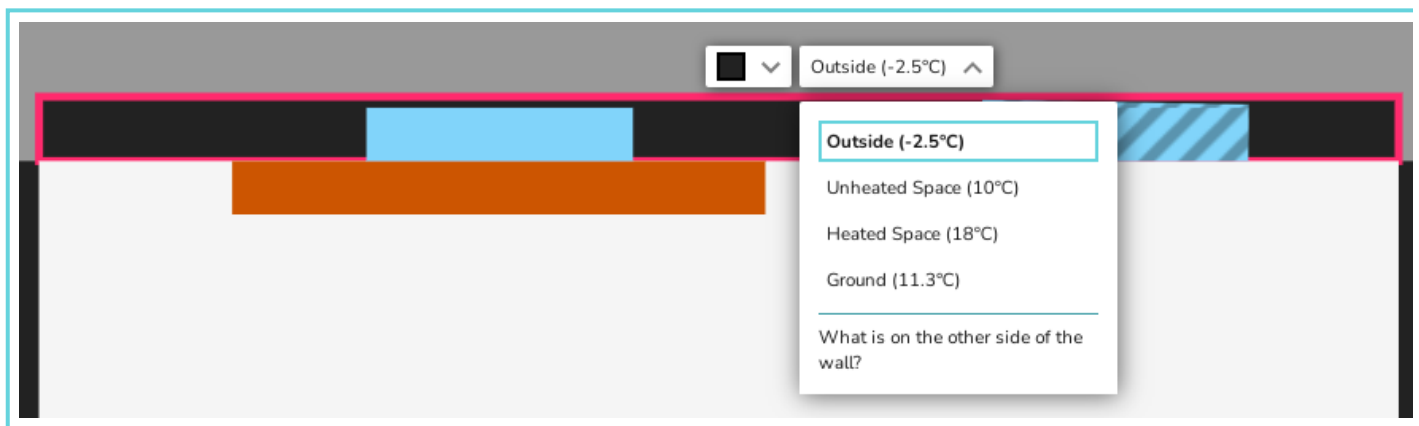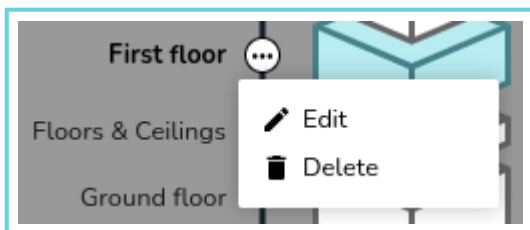
Floors and Ceilings

You can add different floors and move between them using the expanded view in the bottom right.
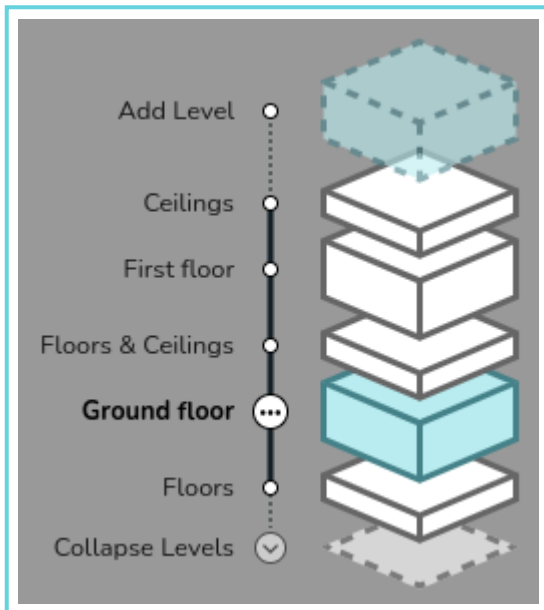
You can change the ceiling height on the whole floor by clicking on the three dots to the right of the relevant floor, and selecting *edit*. You can also change the name of the floor here. To delete an entire floor, select *delete*.

Editing the Properties of Floor and Ceilings

Heatpunk will automatically set the material of floors and ceilings to those defaults defined in your palette (see Managing Your Material Library for more information).

If a different material from your default is used, you will need to add a *region*.

1. **Navigate to the relevant floor/ceiling** in the bottom right of the screen.
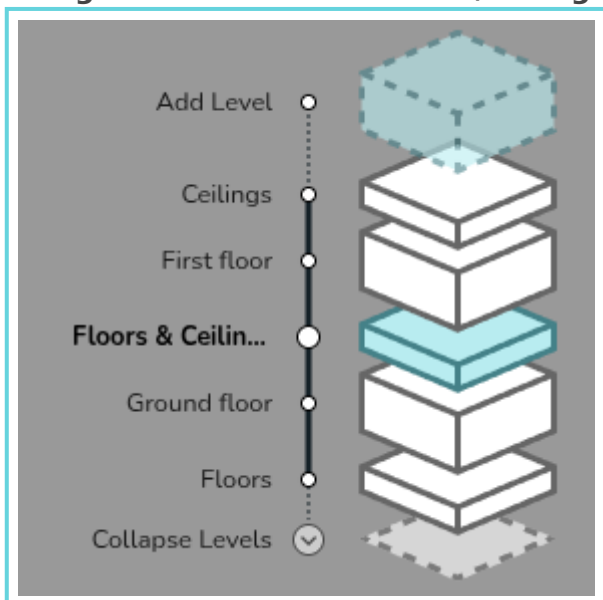
2. **Create the *region***: Drag and drop a *region* in from the menu on the left. The shape of *regions* can be edited using the same handles as for rooms (see [Creating Rooms](#)).

3. **Set material of *region***: Once you have added a *region*, click anywhere on it and use the drop down menu to change the material as required.
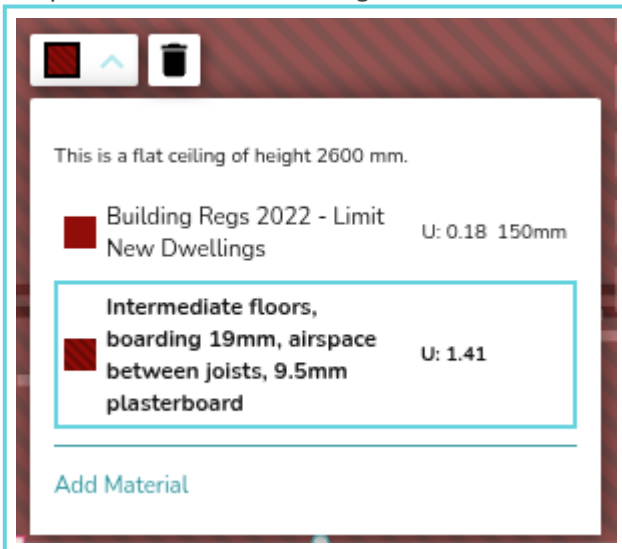
4. **Set what's on the other side**: If on the ground floor or the ceiling in the top floor, you should also define what is on the other side of the floor/ceiling (heated, unheated, ground), for intermediate floors, Heatpunk will do this for you.
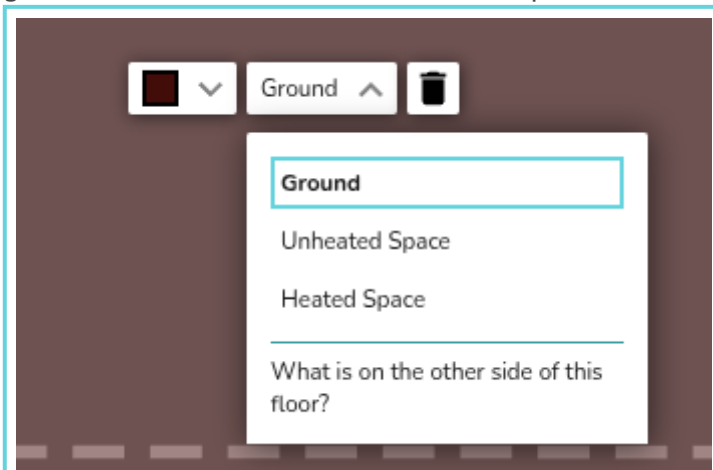
Unheated and heated spaces are taken to be 10°C and 18°C respectively. The ground temperature is based on your postcode.

Create as many *regions* as are necessary to correctly define each area of the floor/ceiling. *Regions* can be set to cover the entirety of the floor/ceiling, or only certain areas. For areas where a *region* isn't defined, the palette defaults will be used.

Note: make sure you only have **one** *region* covering any given area on your floor plan or this will lead to errors in your heat loss calculations.

Vaulted Ceilings and Dormers

Please see the video below to learn how to add vaulted ceilings and dormers.

https://www.youtube.com/embed/YcBzf_2g_98?t=154s