

# **building an indoor compost toilet: tools, materials, planning**

Remember when building or installing a compost toilet that you will need more space than a conventional toilet because waste is stored not simply removed.

## **tools**

These are the tools that you will definitely need:

- mortar board
- shovel
- trowel
- bucket
- lump hammer
- bolster
- SDS drill
- long masonry bit
- power or hand saw
- tape measure
- pencil
- drill and bits
- paint brush
- adjustable spanner
- hammer
- screwdrivers
- masonry drill bits
- silicon sealant gun

In addition, these are the tools that you might need if taking the vent pipe through a flat roof:

- core drill
- core cutter

## materials and costs

You could save a lot of money by using second-hand materials. You may have stuff lying around yourself or you could try salvage yards (see <https://www.salvoweb.com/>) If not it's builders and plumbers merchants / DIY stores etc. Below is a list of materials and very rough prices for a two-chamber toilet:

### Materials

item	price	no.	cost £
lime putty (without delivery)	£15.00/tub	1	15.00
sand	£3/bag	4	12.00
bricks	50p	c. 200	100.00
SDS drill and long bit (hire / day)	£25	1	25.00
pre-stressed concrete lintel	£30	2	60.00
timber for hatch, seat etc			10.00
coach screws	£1	16	16.00
expanding bolts	£1	16	16.00
screws - 2" no. 8	£6/box	1	6.00
rawl plugs		50	1.00
polypipe plus bends, solvent cement etc			20.00
4x2 timber	2/m	20m	40.00
bituminous paint	£20	1 tin	20.00
3/4" ply - 8'x4' sheet	£30	1	30.00
4" vent pipe	£20/6m	12m	40.00
collars, connectors & brackets for 4" vent pipe			25.00
silicon sealant	£2.00	1	2.00
sealant gun	£5	1	5.00
toilet seat		1	12.00
draughtproof strip		1	2.00
L brackets	50p	8	4.00
cork tiles	£10/m <sup>2</sup>	4m <sup>2</sup>	40.00
polyurethane varnish		1 tin	8.00
bucket with lid		1	5.00
<b>Total</b>			<b>514.00</b>

Also, if you have a flat roof, maybe the hire of core drill and core cutter - around £25/day.

This is only a rough guide. The costs will vary depending on the size of your project, and the materials you use. The total costs above assume that you don't have any of these things, and that you will be buying them from builders' merchants. Obviously it will be much cheaper if you do have them, or if you can find them second-hand.

## **step-by-step DIY guide**

### **planning**

The first step is to sit down and plan the toilet carefully, and think where it will be. These are the basic things to think about:

- will it be indoors or outdoors?
- where will the waste be collected?
- where will the waste be emptied?
- where will the vent pipe go?
- will everything fit?
- is there room for two chambers?
- where will the drain from the chamber / urinal / handbasins go?
- where will the handbasins / urinals go?
- where will the hot and cold water for the handbasins come from?
- will disabled people use the toilet?

Measure your rooms and do diagrams, to make sure that everything will fit, including washbasins and urinals with drains. Remember that you will need room for two chambers (although they could both be in one room). An outside wall through which you could put a hatch is ideal. If the room was a toilet before, then there will be a soil pipe / sewer drain, which is even more ideal.

Is there room for the waste to drop? It could drop from the ground floor to the cellar (the compost would then have to be carried out in buckets, but this may not be too exhausting, as it is surprising how the volume shrinks as it decomposes), or from the first floor to the ground floor. Alternatively the seat and chamber could be in the same room, but the ceiling will have to be high enough to accommodate steps up to a platform where someone can stand without bumping their head. This is true whether the toilet is in the house or in an outbuilding.

An outside location is fine for your compost toilet if it's only going to be used in the summer – summer use is better than nothing. But if you want to get off mains sewerage, or you want use it in the winter, then it probably needs to be inside, unless you are very hardy. Having said that, outside loos were the norm until the twentieth century. However, the residents of self-build eco-community Lammas in Pembrokeshire ([www.lammas.org.uk](http://www.lammas.org.uk)) having jumped through several planning hoops to

be able to start building homes on their community, have fallen foul of Building Regs because some of them have built outside compost toilets. Apparently you're not allowed to have an outside loo with a new build nowadays, whatever kind of loo it is. Of course, if you live on a smallholding or farm, you'll almost certainly never be discovered, but the planners and building inspectors were watching them like hawks because of the ground-breaking nature of their project.

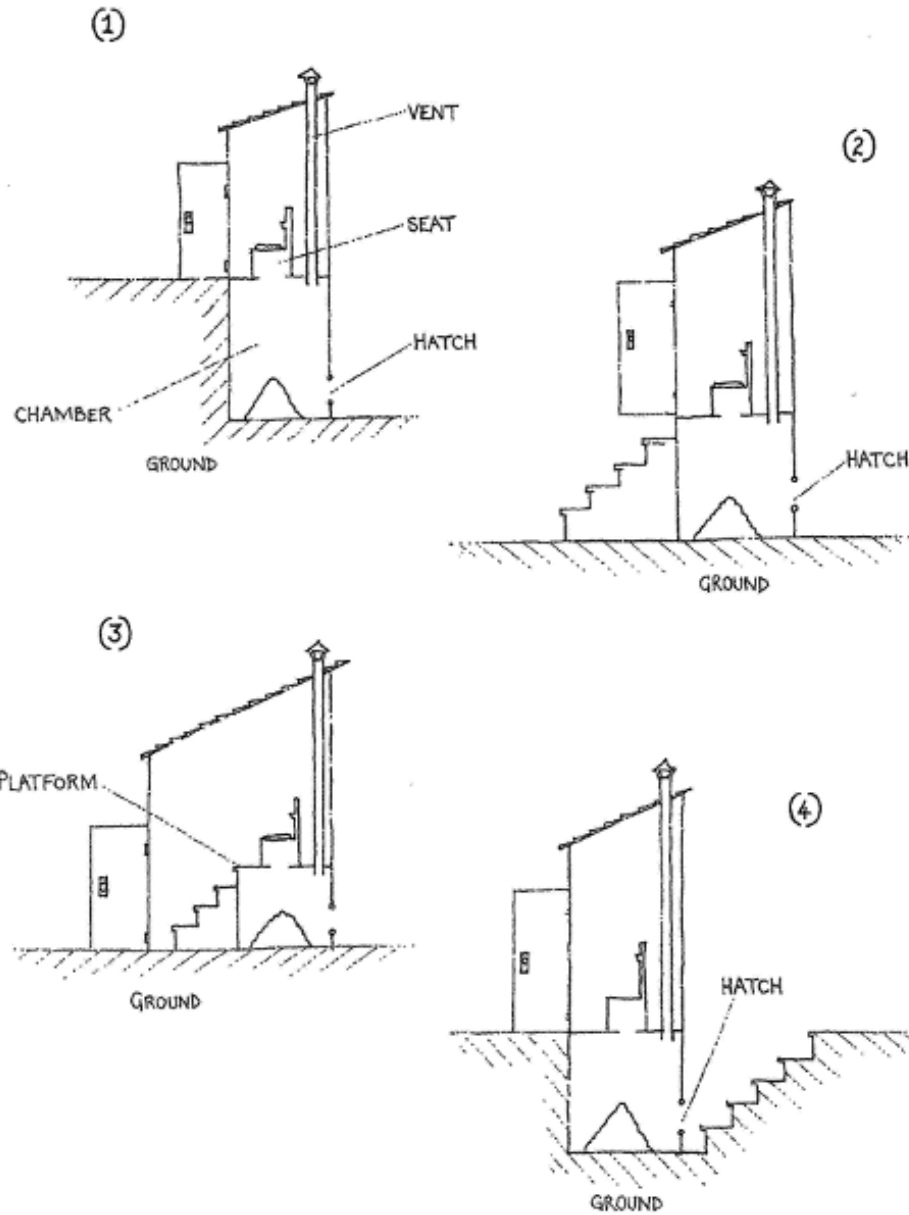
The toilet could be in a purpose-built outbuilding, or better still, an extension, and then you can design it so that there is plenty of ceiling height, or the seat overhangs a natural drop to a chamber that can be emptied at a lower level.

If you think that any of the tasks described are too much for you, you could get a builder / plumber in to do them. A good rule of thumb when cutting either pipes, timber, metal or anything else is 'measure twice, cut once'. It can't hurt to measure something twice just to make sure, but it can be disastrous if you cut something without measuring properly first.

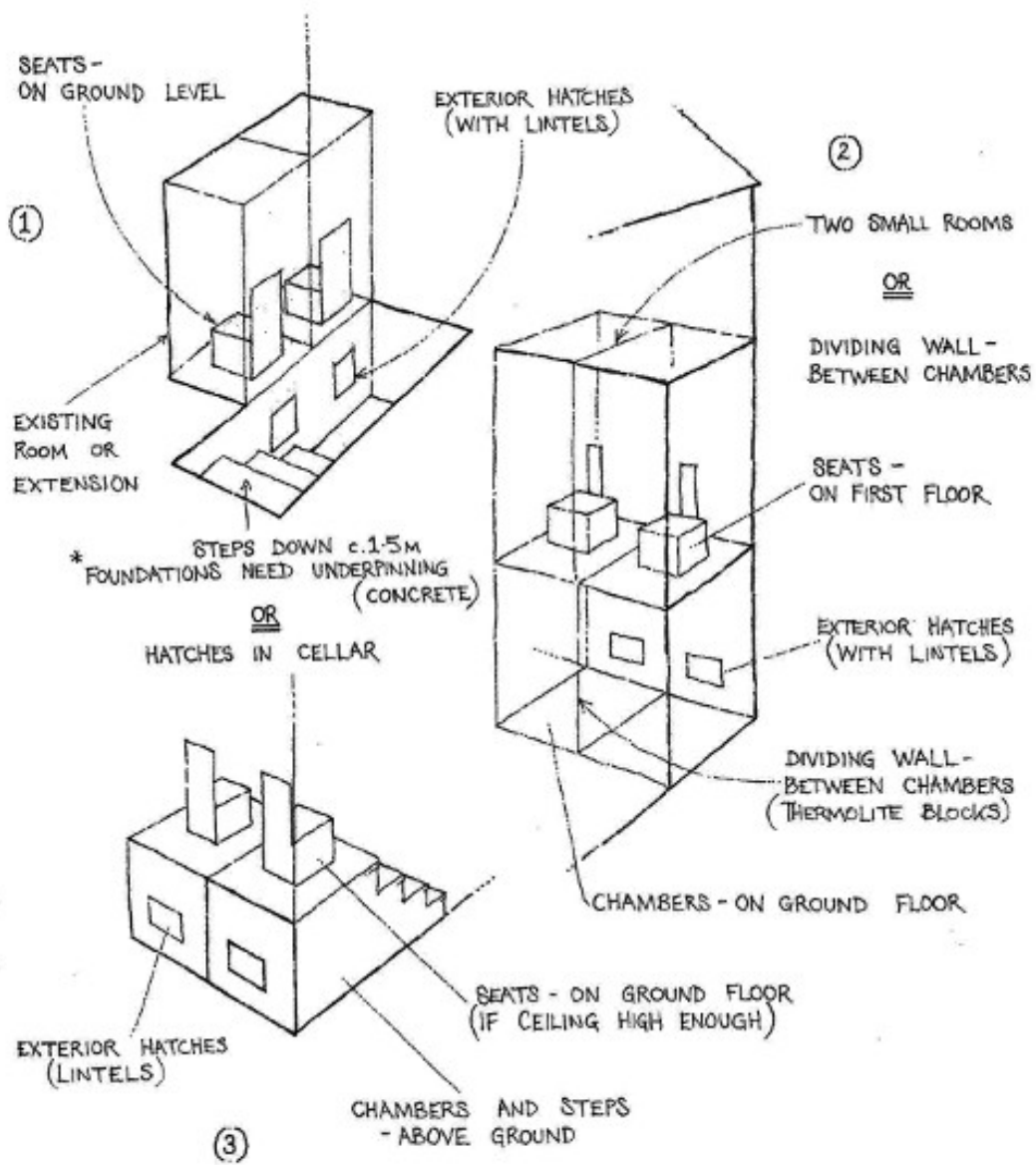
The following two pages show different ideas for potential compost toilets, indoors and outdoors.

You have to make sure that the waste can drop somewhere, and be emptied easily.

NB: only some of these scenarios will work for disabled people.



Various plans for locating compost toilets in an outbuilding; in no. 4, the steps will need some sort of cover or they will flood.



Various plans for locating compost toilets indoors; in no. 1, the steps will need a cover to prevent flooding. A better option might be to empty the chambers into the cellar.