

UNDERSTANDING SANITARY SYSTEMS WITHIN THE HOME

This advice guide is part of a series of guides produced by the Association of Plumbing & Heating Contractors Ltd. to provide essential basic plumbing and heating information. This guide is about understanding sanitary systems within the home.

Sanitation systems are often forgotten components of a domestic plumbing system, yet they are vital to ensure that we have a clean and safe environment to live in. Generally, the most contact we have with a sanitation system is pulling out a plug in a wash hand basin or flushing a WC. Luckily, most systems are well designed and simple in their application, meaning that very little can go wrong, however, occasionally problems can occur. This fact sheet has been designed to help you deal with small routine tasks that can keep your system running smoothly.

Sanitary Appliances and Furniture

Below is an example of the range of items you may see connected to a sanitary pipework system in a modern home. Each item is designed to remove the dirty water safely away from the home, while preventing smells building up from the drainage system that they are connected to.

WC



Wash Hand Basin



Bath



Shower



Bidet



Sink



Washing Machine



Dishwasher



Regulations

What types of sanitation items are legally required to be fitted in a home? This question is easy to answer as it is clearly laid down in the building regulations (Part G). The Law says that:

- All sanitary ware must have a smooth, easy to clean non-absorbent surface
- Every home must have a WC fitted that must be connected directly to the drainage system.
- A basin must be fitted next to the WC with a supply of hot and cold water. The basin must be connected to the drainage system.

- Each home by law must have a fixed bath or shower, which must have a supply of hot and cold water.
- All appliance connections connected to the drains must have a trap on them to prevent smells and dangerous gases building up in homes.
- All areas where food is made must have a closable door between the room and any room with a WC in it.

The drainage system in the home

Getting the used water and other waste products away from sanitary appliances is the primary purpose of the above ground drainage pipework. The pipework must be professionally designed and installed to ensure no smells enter the home from the pipework and all waste products are disposed of safely.

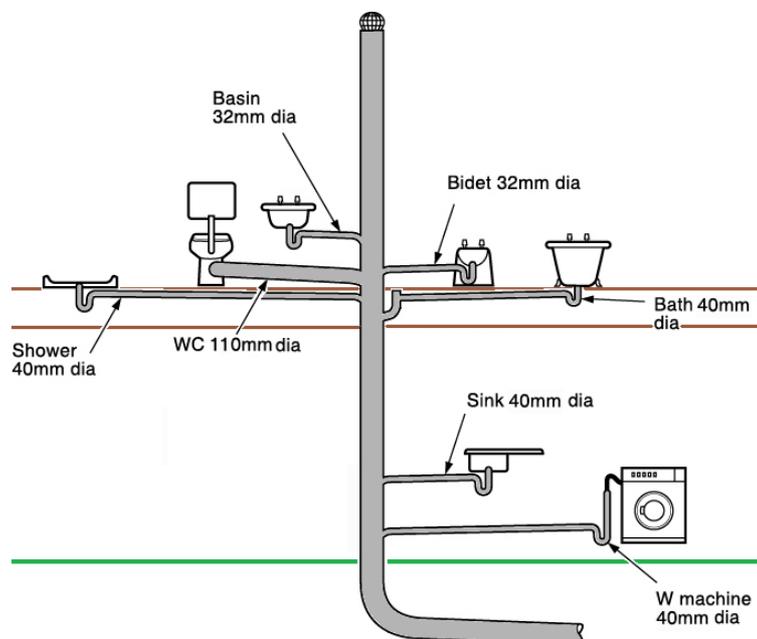
The drainage system in a house historically was made from metals such as cast iron, copper or lead but for the last 40 years PVC plastic has been used as the main drainage pipe material.

The pipes are normally connected together, as shown in the picture below, depending on what you have fitted. The WC uses a 110mm diameter pipe, and any baths, showers, sinks and other appliances like washing machines use 40mm pipes and basins and bidets using 32mm pipes.

All the pipes are laid out to a slope or 'fall' to allow the water to drain away without leaving behind any dirt or debris in the pipe.

All appliance connections to the drainage system must have a trap on them to prevent smell or gasses entering the home.

The soil pipe can be located inside or outside and the end can terminate with an open end covered in a cage (to stop birds nesting in it) or with an automatic air admittance device.



Macerators



Macerators are clever devices that allow WC's and even whole bathroom suites to be located in odd places, they work by chopping up the waste into very fine mulch and pumping it to a drain. This means they can overcome problems of locating en-suites and cloakroom toilets in odd places. Plus the pipe that comes from the macerator is much smaller gauge than the normal 110mm soil pipe so the pipe can be routed where 110mm pipe would be impossible or impractical.

The down side is that because they are designed to chop up only normal toilet waste they are prone to block up if items such as wet wipes or cotton buds are flushed into the unit which the unit then can't chop and pump. This means that they can often stop working, and when they stop working everything connected to them stops

working also.

Maintenance

Blockages

Occasionally, things can go wrong and you may find water is slow to drain away or water is not draining away from the appliance at all.

You can take some simple steps to try to remove the blockage yourself, a plunger, available from most hardware stores is a very simple but effective way to 'push' the blockage away, into larger pipework where it is no longer a problem. Simply smear petroleum jelly around the base of the plunger to help create a seal. Fill the appliance with water until the base of the plunger is covered and cover any overflow with a damp cloth, and then push down in sharp, decisive movements. If this does not work then the pipework may need to be removed and inspected, cleared and replaced. To get this completed, you should engage the services of a professional plumber. Details are at the end of this guide.

Smells

Smells coming from the pipework can occur for a number of reasons. If this happens in a bathroom that is not used regularly, then it may be rectified simply by running your taps for 5 – 10 minutes. This will flush through and re-fill the trap under the appliance outlet. If the smell returns in a short period of time then you should ask a plumber to come out and look at the system.

In Summary

Sanitation systems are not very complicated in comparison to the water side of plumbing and heating, but for public health reasons there are strictly laid out rules that stipulate what should be installed and how.

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