→ YOUR WATERLESS COMPOSTING TOILET – FACT SHEET

In unsewered areas, the proper on-site treatment and reuse of human wastes and household wastewater is critical in preserving the health of the public and the environment. Waterless composting toilets have been developed as one system of waste treatment which can achieve this aim.

What is a waterless composting toilet?

Waterless composting toilets, also known as Humus Closets or Biological Toilets, are waterless systems which rely on the principles of composting by micro-organisms to decompose human waste, paper and other materials into humus which can be returned to the soil.

Composting toilet systems are either "continuous" or "batch". Continuous systems contain one chamber, whilst batch systems contain several bins, with rotation occurring after each bin is filled. In both systems, chambers or bins are installed below floor level.

Waterless composting toilets do not treat wastewater from other sources such as showers, sinks and washing machines (also knows as "greywater", so an alternative disposal system is required for this wastewater. The advantage of composting toilets is that they can be used on difficult sites as they do not require any water. Some of the toilet designs are suited to sites with a natural slope to allow access to the chamber/s for the required maintenance.

How does a waterless composting toilet work?

There are several types of waterless composting toilets available, but the principles they use are basically the same.

Excreta, both urine and faeces, is collected in a sealed chamber beneath the toilet pedestal. Extra organic matter such as wood-shavings, paper, or lawn clippings are added to create an ideal composting environment. Naturally occurring micro-organisms decompose the material, with around three quarters of it being converted to carbon dioxide and water vapour. Air drawn through the composting pile removes these gases and assists the micro-organisms. A friable compost is formed within the humus chamber after about a year. Any excess liquids are drained and treated with the greywater disposal system. The compost produced is typically buried on-site in the garden.

Before a composting toilet is installed at any site the owner/occupier should assess the site. Once satisfied that the site conditions will allow for a composting toilet, an approval can be sought from Council. Houses may need to be specially designed to accommodate the units.

Maintenance Requirements

Maintenance is the responsibility of the owner/occupier and is not normally subject to a maintenance contract. The owner/occupier needs to be committed to the principles of composting. Maintenance varies among composting toilets. If maintenance is not undertaken properly there is increased health risk and increased odour generation.

Householders should be aware of the stringent maintenance requirements of composting toilets.

The factors of water content, temperature, air flow patterns, pH, toilet usage rate, surface area of compost and oxygen penetration depth, all influence the rate and effectiveness of the biological breakdown of the waste materials.

Correct operation of composting toilets requires the addition of carbon rich materials to the compost heap. Vegetable scraps and lawn clippings will assist the decomposition process through the addition of organic matter, and reduction in moisture content. Newspaper, sawdust and other absorbent materials provide bulk and spaces which allow increased aeration and ensures appropriate conditions are maintained. Unless otherwise directed by Council, the composted humus material must be buried within the confines of the premises with the cover of soil over the deposited humus at least 75mm in depth.

▪ **Address:** Wollongong City Council, 41 Burelli Street, Wollongong NSW 2500 ▪ **Postal:** Locked Bag 8821 Wollongong DC NSW 2500
▪ **Phone**: (02) 4227 7111 ▪ **Fax**: (02) 4227 7277 ▪ **Email:** council@wollongong.nsw.gov.au ▪ **Web**: www.wollongong.nsw.gov.au
▪ **ABN** 63 139 525 939 – GST Registered

Compost must not be buried in an area used for the cultivation of crops for human consumption, unless:

- Compost is placed in a separate lidded composting bin providing aeration, for at least three months with no further addition; or
- Compost has "seasoned" underground for at least three months.

Surface area in which the compost is spread should be large enough to allow composting to be completed before it is buried too deeply. Also when there are high moisture levels in the compost, a very unpleasant odour is released.

It is recommended that units be serviced annually by an approved contractor. Annual servicing should include a check of the operations of the fan and the amount and spread of the compost within the composting chamber/s.

Maintenance Tips

Poorly maintained composting toilets are a serious source of water pollution and may present health risks, cause odours and attract vermin and insects. The following is a guide on how to achieve the most from your system through good maintenance procedure:

- Record the commissioning date of each chamber for multi chamber systems;
- Always close the toilet lid when the toilet is not in use to control fly breeding and ensure proper aeration of the pile;
- Ensure that the material is spread evenly over the compost heap;
- Always clean the pedestal by hand with minimal use of water and no use of disinfectants;
- Consult the service agent if odour or vermin become an obvious problem;
- Check moisture and temperature conditions regularly to maintain optimum conditions for the composting process; add organic and bulking material when required; and don't put large quantities of bleaches, disinfectants, whiteners, chemicals, nappy soakers and spot removers into your system.

Conclusion

By looking after your treatment system you can do your part in helping to protect the environment and the health of you and your family.

Disclaimers

This Fact Sheet was believed to be correct at the date of its approval.

This Fact Sheet is for general information purposes only.