

Selecting containers

Container choice has implications for the design, operation and performance of a bring site. Certain containers are more suitable for sites collecting high volumes, whereas wheeled bins may be suitable for sites in quieter areas or where bring sites are serviced as part of kerbside collections. When choosing containers, you should consider capacity, ease of collection and contractor preferences. This information sheet highlights a number of factors that influence choice of containers such as suitability for site, capacity required, ease of servicing, reducing contamination of materials and cost. It should be read in conjunction with the sheet on *Site Design*. A table, showing indicative dimensions, weights and volumes for a range of commonly used containers, is provided at the end of the sheet.

Issues to consider

The range of containers available for bring recycling has expanded greatly in recent years. Traditionally containers were designed almost solely to optimise ease of collection and emptying. More recently, containers have become more attractive to encourage use and reduce complaints associated with littering. Before choosing containers for a new site or as a replacement, you should always consider the overall site design and any challenges related to it including:

- site performance – are the existing containers the right size for the current volumes collected? If tonnage changes, will they still be sufficient? For new sites, choose containers based on projected tonnages;
- space available on site – both in terms of floor space and servicing requirements;
- potential to reduce the site footprint (perhaps if more car parking spaces are required) by replacing smaller containers with those of larger volume;
- ease of relocating containers to other sites if necessary – is a specialist vehicle required to relocate the container or could a standard vehicle be used?
- accessibility for all potential site users, including those with disabilities;
- whether the same type of container can be used for all materials or if different types/ sizes are needed, depending on the tonnages; and
- aesthetics of site and for street-based facilities the need to fit with the existing street



Containers with appropriately sized apertures will deter opportunities for misuse and avoiding gaps between containers can improve the look of a bring site (Source: Luton Borough Council)

- **Servicing requirements** are a vital consideration in container selection. Factors to take into account include:
 - ease of emptying – will full containers be swapped for empty ones on site, or will there be sufficient containers on the site so that there are always some with spare capacity? Alternatively, will containers be emptied on site into a vehicle?
 - frequency of emptying containers, which will relate to performance.

- **Safety and security** – safety around containers and security against vandalism and damage are important considerations. Potential issues include:
 - selecting a container with appropriately sized apertures in order to reduce contamination, littering and vandalism;
 - protection, as far as possible, from vandalism by using locks, or, from arson, through using metal containers, where needed;
 - safety for users and for collection crews.

- **Maintenance** – all containers, regardless of their size or type will need periodic maintenance which may be the responsibility of the local authority, contractor or possibly the reprocessor, if they own the containers. You will need to organise or delegate:
 - container cleaning on a regular basis, a jet wash is an effective method, and have graffiti removed;
 - repair or replacement arising from damage from arson or vandalism, or just wear and tear – particularly to aperture brushes where used; and
 - checks to ensure that any signage is clean and clear, up to date and relevant.

- **Costs** – relevant costs to consider include purchase cost of banks, servicing costs, maintenance and repair costs and costs for replacement banks. Potential ways to keep costs down include:
 - buying in bulk – can you acquire large numbers of containers of the same size/type, or are different sized containers needed at different sites? If so, can you minimise the range/diversity of options?
 - adaptation potential – can you adapt containers by changing apertures if necessary, for future collections of new materials;
 - interface with kerbside collections – could you keep emptying/servicing costs down by choosing containers which can be serviced by kerbside collection vehicles?
 - Newer approaches such as underground banks can be an expensive option in terms of site installation, but could be considered for inclusion in new developments. Some underground systems can use standard 1100l wheeled bins, that may require less maintenance, so are possibly cheaper in the long-term.

Case study: Cambridge City Council

A local environment improvement scheme allowed Cambridge City Council to locate one recycling point underground in a public area. The location underwent redevelopment in 2009 and included the development of a bring site and public conveniences. The site has four 1100L bins that operate by hydraulic lift with one 1100L bin on each platform. The site accepts glass, cans and paper. To date, no issues have been experienced at the site.

The Council chooses new site locations by surveying local recycling provision in different areas of the city to gain a measure of site use and householder behaviour. Surveys are completed at community events and can be area-specific rather than Council wide. This allows containers to be selected to fit specific local requirements.

Frequently asked questions*What containers are suitable for large volumes of cardboard?*

Cardboard needs to be kept dry, requiring an enclosed bin. It also requires careful consideration of aperture size to encourage users to flatten card before depositing it: a standard 1100L bin will not encourage flat packing, so the container will fill up too fast. However, apertures of sufficient width and depth can allow large volumes of flattened card to be deposited quickly.

The 3.2 cu metre steel 'igloo' style bank and/or hard plastic or mixed paper and card bank may be appropriate, as it has an aperture which requires the user to flatten cardboard. For busy sites, large skip type containers may be suitable.

How can containers be modified to minimise contamination and theft of materials?

Appropriately designed apertures can help reduce contamination and theft from bring containers. Many reprocessors can advise on appropriate apertures to minimise contamination and theft of materials, particularly from textile banks. Apertures should be easily reached and discourage deposit of other materials, for instance letter box apertures for paper and chutes for bottles.

How can I ensure containers are filled evenly?

Containers will fill at different rates depending on design, capacity, the materials being collected and site footfall. However, fill rates can also be affected if access to containers is restricted. For example, for cardboard bins with letter box openings on two sides of a four sided container, you will need to ensure access to both apertures is available and not restricted by other banks. All such requirements should be clarified and specified to collection contractors, to ensure bank placement is consistent and accessible.

Can I include co-mingled materials in our bring banks?

The answer is not straightforward. The [Non-Waste Framework Directive](#) and [Environmental Permitting Regulations 2010: S1 – Storage of waste in secure containers](#) provide information on the storage of recyclables prior to their transfer for further recovery or reprocessing. The Agency's document gives guidance on what may be exempt from environmental permitting, this includes materials collected and stored separately. The storage of mixed wastes or co-mingled dry recyclables would need to be carried out under an Environmental Permit.

From January 2015, Local authorities should also take steps to make sure that their arrangements comply with the requirements of the Waste (England and Wales) Regulations 2011 (as amended) and those of the revised Waste Framework Directive in relation to the separate collection of waste.

Checklist

- Be clear about site requirements prior to choosing a container type. Different containers are best suited to different priorities, such as: reducing contamination, vandalism, littering; increasing capture of materials (tonnage); reducing footprint of site; amending collection frequency; or improving ease of access to containers for emptying or collecting and swapping containers by collection operatives, which will be in part determined by the type of container you use.
- Ensure you have quality data regarding tonnages / volumes collected at each site, and the bulk density of the materials and material mixes. You can then use this to estimate future performance as accurately as possible to help choose the right containers – whether as replacements or for a new site.
- Assess costs of purchasing/replacing containers and available budget. If spare capacity on some sites, could containers be moved onto a different site?
- Consider maintenance costs.
- Consider required space for each bin and impact on site: will the new container(s) fit in the space required leaving no gaps, unless required for access for emptying?
- Ensure containers are attractive, suitable in the local environment and easy to use by residents.
- Make sure that you have suitable collection vehicles to collect from proposed bins. If using different contractors for different materials, ensure they are involved in any decisions about containers.
- Select containers with an appropriate aperture size to minimise theft from the banks and contamination of the materials.

Container type	Material collected	Approximate volume	Average dimensions	Average capacity weight ¹	Apertures	Fleet required
Igloo 	Paper, Card	1.6 cubic metres	1,520mm wide x 790mm deep x 1,520mm high	400 kg	'Letterbox' apertures on two sides	Lorry mounted hiab crane
	Paper, Card	3.2 cubic metres	1,520mm wide x 1,520mm deep x 1,520mm high	800 kg	'Letterbox' apertures on two sides	Lorry mounted hiab crane
Bottle banks 	Glass	1.5 cubic metres	890mm wide x 1,440mm deep x 1,480mm high	500 kg	Circular ports	Standard hiab
	Glass	2.5 cubic metres	1,165mm wide x 1,700 mm deep x 1,750mm high	1000 kg	Circular ports	Standard hiab

¹ See 'Data recording and reporting' sheet for further information

Container type	Material collected	Approximate volume	Average dimensions	Average capacity weight ¹	Apertures	Fleet required
Textile recycling bank 	Textiles Metro	2 cubic metres	1,250mm wide x 1,000mm deep x 1,664mm high	200 kg	Chute	Standard collection vehicle
	Textiles Standard	3.5 cubic metres	1,500mm wide x 1,250mm deep x 1,900mm high	315 kg	Chute	Standard collection vehicle
Continental bin 660-1280 litres 	All materials	0.66 – 1.28 cubic metres	1100 litre container – 1,270mm wide x 1,000mm deep x 1,380mm high	Material dependent	Various: standard lid or fitted aperture, dependent on material	Standard RCV

Container type	Material collected	Approximate volume	Average dimensions	Average capacity weight ¹	Apertures	Fleet required
<p>Node modular system – 800L each</p> 	All materials	0.8 cubic metres/800 litre container	800 litre container – 1302mm wide x 1050mm deep x 1465mm high	Material dependent	Various to suit material requirement	Standard RCV
<p>Street modular unit</p> 	All materials	3.4 cubic metres	1476mm wide x 1285mm deep x 1825mm high	Material dependent	Various to suit material requirement	Side loader

Container type	Material collected	Approximate volume	Average dimensions	Average capacity weight ¹	Apertures	Fleet required
<p>Cardboard beverage packaging bank</p> 	Cardboard beverage packaging	7 cubic metres	2000mm wide x 2000mm deep x 1750mm high	140 kg	Circular apertures to prevent contamination	Specialist suction vehicle
<p>Wheeled bin – 180-360 litres</p> 	All materials	0.18 – 0.36 cubic metres	240 litre container – 580 mm wide x 740 mm deep x 1100 mm high	Material dependent	Various: standard lid or fitted aperture, dependent on material	Standard RCV
<p>Front End Loader container</p> 	All materials	6 -7.6 cubic metre	6.1 cubic metre (8 cubic yard containers) – 1870 mm wide x 1890 mm deep x 2450 mm high	Material dependent	Various to suit material requirement	Front End Loader (FEL)

Container type	Material collected	Approximate volume	Average dimensions	Average capacity weight ¹	Apertures	Fleet required
Caged compartment bank ² 	Mixed plastics, cans	10 – 26 cubic metres	10.7 cubic metre (14 cubic yard skip) – 1800 mm wide x 4300 mm deep x 2100 mm high	Material dependent	Small 'cat flap' apertures to prevent contamination	Roll on/off
Compartmentalised skip 	All material, ability to collect separately e.g. different colours of glass	10 – 26 cubic metres	10.7 cubic metre (14 cubic yard skip) – 1800 mm wide x 4300 mm deep x 2100 mm high	Material dependent	Various to suit material requirement	Roll on / off or skip lift

² http://www.ecreden.com/plastics_recycling.html

Container type	Material collected	Approximate volume	Average dimensions	Average capacity weight ¹	Apertures	Fleet required
WEEE container ³ 	Low energy light bulbs	0.8 cubic metre	900mm wide x 1190mm deep x 1065mm high	50kg	Chute	Standard collection vehicle serviced by specialist company

³ <http://www.recolight.co.uk/downloads/pdf/Bulbstore%20Maxi%20spec.pdf>