

Waste management in buildings — Code of practice

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Subcommittee, B/508/1, Waste containers and associated lifting devices on refuse collection vehicles, upon which the following bodies were represented:

- Association of Refuse Vehicles Manufacturers
- BRE — Building Research Establishment
- British Plastics Federation
- CIWM — Chartered Institution of Wastes Management
- Container Handling Equipment Manufacturers
- Environmental Services Association
- Galvanizers Association
- ODPM — Represented by WRc
- Public Authority Transport Network
- Freight Transport Association
- Society of Motor Manufacturers and Traders Limited

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Foreword

This British Standard has been prepared by Subcommittee B/508 and supersedes BS 5906:1980, which is withdrawn.

In preparing this revision, the opportunity has been taken to add new clauses based upon information that is now available on non-residential buildings, and to revise the clauses dealing with residential buildings. The types of healthcare waste dealt with in this standard are those that are similar to household and non-residential waste. Due to statutory targets for recycling and legislation covering provision within buildings for disabled persons, reference to these important issues have been incorporated into the appropriate clauses.

The material with which the standard is concerned is now designated “waste” rather than “refuse”. This terminology has been adopted so as to agree with that of the Environmental Protection Act 1990 [1].

As a result of experience gained, the requirements of convenience, hygiene, amenity, sound insulation and safety from fire risk, which are accepted as common practice, are incorporated in the methods described in this code.

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

It is assumed that in the drafting of this British Standard that the execution of its provisions is entrusted to appropriately qualified and competent people.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Attention is drawn to the following statutory regulations:

- Controlled Waste Regulations 1992 [2];
- Packaging (Essential Requirements) Regulations 2003 [3];
- Manual Handling Regulations 1992 [4];
- Integrated Pollution Prevention and Control (England and Wales) Regulations 2000 [5];
- Road Vehicles (Construction and Use) Regulations 1986 [6];
- Environmental Protection Act 1990 [1];
- Control of Pollution (Amendment) Act 1989 [7];
- Disability Discrimination Act 1995 [8].

Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 26, an inside back cover and a back cover.

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1 Scope

This British Standard is a code of practice for methods of storage, collection, segregation for recycling and recovery, and on-site treatment of waste from residential and non-residential buildings and healthcare establishments. This British Standard is applicable to new buildings, refurbishments and conversions of residential and non-residential buildings, including but not limited to retail and offices. It should not be used as the only source of information.

The management of healthcare waste from hospitals and waste oil from any establishment are not included within the remit of this code of practice.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 476-21, *Fire tests on building materials and structures — Part 21: Methods for determination of the fire resistance of loadbearing elements of construction.*

BS 476-22, *Fire tests on building materials and structures — Part 22: Methods for determination of the fire resistance of non-loadbearing elements of construction.*

BS 792, *Specification for mild steel dustbins.*

BS 1703, *Specification for refuse chutes and hoppers.*

BS 4998, *Specification for moulded thermoplastics dustbins (excluding lids).*

BS 6642, *Specification for disposable plastics refuse sacks made from polyethylene.*

BS 8300:2001, *Design of buildings and their approaches to meet the needs of disabled people — Code of practice.*

BS EN 840-1, *Mobile waste containers — Part 1: Containers with two wheels with a capacity from 80 l to 390 l for comb lifting devices — Dimensions and design.*

BS EN 840-2, *Mobile waste containers — Part 2: Containers with four wheels with a capacity from 500 l to 1 200 l with flat lid(s), for trunnion and/or comb lifting devices — Dimensions and design.*

BS EN 840-3, *Mobile waste containers — Part 3: Containers with four wheels with a capacity from 770 l to 1300 l with dome lid(s), for trunnion and/or comb lifting devices — Dimensions and design.*

BS EN 840-4, *Mobile waste containers — Part 4: Containers with four wheels with a capacity from 750 l to 1 700 l with flat lid(s), for wide trunnion or BG- and/or wide comb lifting devices — Dimensions and design.*

BS EN 840-5, *Mobile waste containers — Part 5: Performance requirements and test methods.*

BS EN 840-6, *Mobile waste containers — Part 6: Safety and health requirements.*

BS EN 12574-1, *Stationary waste containers — Part 1: Containers with a capacity from 1 700 l to 5 000 l with flat or dome lid(s), for trunnion, double trunnion or pocket lifting devices — Dimensions and design.*

BS EN 12574-2, *Stationary waste containers — Part 2: Performance requirements and test methods.*

BS EN 12574-3, *Stationary waste containers — Part 3: Safety and health requirements.*

BS EN 13071, *Selective waste collection containers — Above-ground mechanically-lifted containers with capacity from 80 l to 5 000 l for selective collection of waste.*

BS EN 60529:1992, *Specification for degrees of protection provided by enclosures (IP code).*

3 Terms and definitions

For the purposes of this British Standard, the following terms and definitions apply.

3.1

baler

device that compresses waste into a chamber to form bales, which are then retained in compression by a tying material prior to ejection

3.2

biodegradable waste

waste that is capable of undergoing anaerobic or aerobic decomposition

NOTE Examples include garden and kitchen waste (including fruit and vegetables peelings, meat scraps, bone, paper and dairy products).

3.3

bulky waste

single household items of such size and weight that cannot be accommodated in an individual waste container

NOTE The definition for an individual waste container is given in 3.11.4.

3.4

chute

ventilated, essentially vertical pipe passing from floor to floor of a building with openings as required to connect with hoppers, and normally terminating at its lower end at the roof of the waste storage chamber

NOTE See BS 1703.

3.5 Compactors

3.5.1

portable compactor

<for interior use>

re-usable metal container having a minimum volume of approximately 50 l and incorporating a permanently in-built compactor

3.5.2

portable compactor

<for exterior use>

re-usable metal container having a minimum volume of approximately 10 m³ and incorporating a permanently in-built compactor

3.5.3

sack/carton packer

small device for compacting lightweight dry waste into plastic or paper sacks

3.5.4

static compactor

permanent or semi-permanent installation comprising of a compactor with receiving chamber and a facility for attaching a removable compacted-waste container (see 3.11.3)

NOTE The compactor might be fed by hand, hopper or mechanically by means of a bin lift.

3.6

composting

biodegradable waste aerobically processed to form a stable, granular material containing organic matter and plant nutrients

NOTE It results in a final product that has been sanitized and stabilized, is high in humic substances and can be beneficially applied to land, to improve the soil structure, enrich the nutrient content of soil and enhance biological activity.

3.7**crusher**

device, normally stationary but can be portable, that reduces the volume of brittle waste by breaking it into smaller pieces

NOTE In a hospitality application, including pubs, clubs and hotels, it would normally be used for crushing glass bottles.

3.8**food waste disposer**

method of direct disposal of biodegradable kitchen waste, used in household and non-residential establishments, powered by electrical motors, where food waste is fed into them by a stream of water and reduced to a pulp

3.9**hopper**

fitting into which waste is placed and from it passes into a chute, waste processor or waste container

NOTE See BS 1703.

3.10**shredder**

device used for volume reduction of waste by cutting or flailing

NOTE The final particle size can be up to 150 mm depending on the material being shredded and the design of the machine.

3.11 Waste containers**3.11.1****bulk waste container**

movable container for the storage of large volumes of uncompacted waste awaiting collection

NOTE Examples of bulk waste containers are skip type containers, which have a capacity range of approximately 1.5 m³ to 20 m³, and hook type containers with a capacity range of approximately 6 m³ to 30 m³.

3.11.2**communal waste container**

movable wheeled container having a capacity of 500 l to 1 300 l, normally situated within a waste storage chamber into which waste is placed by hand or via a chute

NOTE The container may be of plastic, painted steel or galvanized steel. It may be fitted with a flat, hinged or curved, sliding lid and suitable handles for manoeuvring by hand. Four-wheeled containers should have foot-operated brakes fitted to at least two wheels [see BS EN 840 (all parts)].

3.11.3**compacted waste container**

closed, strengthened interchangeable container into which waste is packed under compression by means of a static compactor. The container is provided with suitable brackets for pinning to the compactor and is designed for handling and transportation by specially equipped vehicles

NOTE The containers normally have a capacity of between 10 m³ to 30 m³.

3.11.4**individual waste container**

container having a capacity of not more than 360 l in which waste is stored awaiting collection

NOTE The container may be a disposable paper or plastic sack, a galvanized steel or plastic dustbin with a loose or captive lid or a plastic wheeled bin with a hinged lid [see BS 792, BS 4998 and BS EN 840 (all parts)].

3.11.5**kerbside recycling box**

box, usually of plastic, having a capacity of up to 55 l into which recyclable materials are stored, awaiting collection. The box is provided with handles and is sized to ensure safe manual handling

NOTE The box might have a lid and one or more internal dividers (see 4.5.3).

3.11.6

underground waste container

closed container having a capacity of not more than 7 m³, situated in a specially constructed pit such that the top of the container is level with the surrounding paved area. The container top incorporates a “litter bin” or other appropriate type of chute, and a trap door to provide access to the lifting mechanism

3.12 Waste storage

3.12.1

waste storage area

place for storing waste

3.12.2

waste storage chamber

annex to a building, or a separate building, designed to accommodate one or more communal waste containers and bulky waste

NOTE The chamber might contain equipment such as a compactor, baler, crusher or shredder for on-site treatment of waste prior to collection. For the purpose of this standard, on-site treatment is limited to manual segregation, compacting, baling, crushing or shredding.

3.13 Waste

3.13.1

waste

substance which constitutes a scrap material or effluent or other unwanted surplus substance arising from the application of any process and any substance or article which requires to be disposed of as being broken, worn out, contaminated or otherwise spoiled, as defined in the Environmental Protection Act 1990 [1].

NOTE 1 It does not include a substance that is an explosive under the Explosives Act 1875 [9].

NOTE 2 Anything that is discarded or otherwise dealt with as if it were waste is presumed to be waste unless the contrary is proved.

3.13.2

clinical waste

any waste which consists wholly or partly of human and animal tissue, blood or other bodily fluids, excretions, drugs and other pharmaceutical products, swabs or dressings, or syringes, needles or other sharp instruments, being waste which unless rendered safe may prove hazardous to any person coming into contact with it; and any other waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practice, investigation, treatment, care, teaching or research, or the collection of blood for transfusion, being waste which may cause infection to any person coming into contact with it

[Controlled Waste Regulations 1992 [2]]

3.13.3

controlled waste

household, industrial and commercial waste or waste of a similar composition, as defined in the Environmental Protection Act 1990 [1]

3.13.4

healthcare waste

solid or liquid waste arising from healthcare

3.13.5

healthcare risk waste

waste that is biological (recognizable anatomical waste), infectious, chemicals, toxic or pharmaceutical (including cytotoxins) in nature, sharps or radioactive

NOTE 1 Healthcare and healthcare risk waste are definitions from the European Priority Waste Project and although they are not defined in EU Directives, they are used in general to describe healthcare waste.

NOTE 2 Examples of sharps include needles, scalpels, and broken materials.

3.13.6**household waste**

waste from:

- a) domestic property which is used wholly for the purposes of living accommodation;
- b) a caravan situated on a caravan site;
- c) a residential home;
- d) premises forming part of a university or school or other educational establishment; and
- e) premises forming part of a hospital or nursing home;

and other wastes to be treated as household waste as detailed in Schedule 1 and Schedule 2 of the Controlled Waste Regulations 1992 [2]

3.13.7**non-residential waste**

any waste other than household waste

4 General principles of the design of facilities**4.1 General**

It is essential that suitable waste management facilities be provided. Such facilities should provide adequate storage and, where appropriate, sufficient space to allow for the on-site treatment of commercial and/or household waste, recyclable waste, and equipment and containers should be accommodated to enable efficient management of waste.

Waste storage areas should be located in a position that provides easy and safe access for both waste producers and collectors. Special consideration needs to be given to access and ease of use for older persons, persons of short stature and people with disabilities (see Clause 5).

Facilities should be designed so as to minimize the potential for nuisance to occupants and neighbouring premises. The waste storage area should be maintained at the highest practical standard of hygiene, and be clearly designated as a waste storage area through the use of signage and/or floor markings.

Designers should consider:

- easy and safe access for waste producers, including older persons or persons with disabilities;
- easy and safe access for collectors and collection vehicles;
- location and space (including avoidance of opportunity to cause nuisance or injury);
- protection against animal scavenging of waste;
- aesthetics of the development;
- noise (e.g. glass handling);
- ease of maintenance, including cleaning;
- robust construction;
- safety from fire risk and smoke;
- lighting;
- ventilation;
- sound insulation; and
- special requirements (e.g. separate storage and collection of healthcare waste and bulky waste).

NOTE 1 Attention is drawn to Section 34 (Duty of Care) of the Environmental Protection Act 1990 [1], which places a duty on non-domestic waste producers to ensure that controlled waste is managed properly and recovered or disposed of safely, and that suitable facilities are provided to meet this duty.

NOTE 2 With regards to suitable facilities for assisting in managing controlled waste, attention is also drawn to the Packaging (Essential Requirements) Regulations 2003 [3].

4.2 Initial consultation

Waste management issues can have a major impact on the layout of any residential or non-residential development. To ensure that storage space for the efficient management of waste and recyclable material is incorporated into the layout it is essential that liaison between planning authorities and architects, as

well as collection authorities, takes place. The developer or his agent should reach agreement with all appropriate authorities, particularly upon the following points.

- a) The methods of storage, segregation, on-site treatment and collection of waste, including recyclable material, to be used for the form of layout and building density adopted.
- b) A designated location for waste including recyclable material storage, segregation and treatment areas to be provided and means of access to them for waste collection staff and vehicles.
- c) The storage capacity to be provided with allowance for the frequency of collection specified by the collection authority, the volume and nature of waste including recyclable material expected and the size and type of containers to be used.
- d) The responsibility for cleansing and maintenance of storage facilities.
- e) Environmental aspects, e.g. air pollution, indoor air quality, noise control, and litter abatement.
- f) The discharge of waste into sewers (e.g. food waste disposers).
- g) Means of escape and fire-fighting arrangements in waste and recyclable material storage and collection areas.
- h) Appropriate arrangements for older persons and persons with disabilities.

4.3 Consultees

To ensure that all relevant issues are addressed, the developer or his agent should consult the following bodies:

- a) local authority planning department;
- b) local authority environmental health department;
- c) waste collection authority;
- d) local authority building control department;
- e) local authority highways department;
- f) fire brigade;
- g) sewerage undertaker.

This list is not intended to be fully exhaustive and consideration should be given in respect of consulting on other related issues.

4.4 Sustainable waste management

4.4.1 Introduction

Increased industrial production and increased wealth and consumer spending, coupled with population growth, has generally lead to increased waste. This is exacerbated by societal behaviour that favours the best and most up-to-date equipment but is reluctant to retain old or worn items, or to repair or reuse them, leading to the unsustainable management of waste.

Sustainable waste management should take responsibility for the waste produced, the way it is managed, and reducing its impact on the environment. In doing this, the environment is protected now and for future generations.

4.4.2 Waste hierarchy

By ranking different waste management options into a hierarchy, a broad indication of their relative environmental benefits can be illustrated (see Figure 1).