

Mobile waste containers —

Part 5: Performance requirements and test methods

The European Standard EN 840-5:1997, with the incorporation of amendment A1:2000 has the status of a British Standard

ICS 13.030.40

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/508, Waste management, 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
- British Plastics Federation
- Container Handling Equipment Manufacturers
- Department of the Environment (Building Research Establishment)
- Environmental Services Association
- Institute of Wastes Management

This British Standard, having been prepared under the direction of the Sector Board for Materials and Chemicals, was published under the authority of the Standards Board and comes into effect on 15 July 1997

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National foreword

This British Standard has been prepared by Subcommittee B/508/1 and is the English language version of EN 840-5:1997, *Mobile waste containers — Part 5: Performance requirements and test methods*, including amendment A1:2000, published by the European Committee for Standardization (CEN).

EN 840-5 was published as a result of international discussion in which the UK took an active part.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

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English version

Mobile waste containers — Part 5: Performance requirements and test methods

(includes amendment A1:2000)

Conteneurs roulants à déchets —
Partie 5: Exigences de performance et méthodes
d'essai
(inclut l'amendement A1:2000)

Fahrbare Abfallsammelbehälter —
Teil 5: Anforderungen an die Ausführung und
Prüfverfahren
(enthält Änderung A1:2000)

This European Standard was approved by CEN on 1997-01-16. Amendment A1:2000 was approved by CEN on 2000-05-03. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 183, Waste management, the Secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 1997, and conflicting national standards shall be withdrawn at the latest by August 1997.

This European Standard is one part of the series of standards of EN 840 about "Mobile waste containers" comprising the following parts:

- Part 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;
- Part 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 lifting devices, dimensions and design;
- Part 3: Mobile waste containers —*
Part 3: Containers with four wheels with a capacity from 770 l to 1 300 l with dome lid(s), for trunnion and/or comb lifting devices, dimensions and design;
- Part 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;
- Part 5: Mobile waste containers —*
Part 5: Performance requirements and test methods;
- Part 6: Mobile waste containers —*
Part 6: Safety and health requirements.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Foreword to amendment A1

This amendment EN 840-5:1997/A1:2000 to EN 840-5:1997 has been prepared by Technical Committee CEN/TC 183, Waste management, the Secretariat of which is held by DIN.

This amendment to the European Standard EN 840-5:1997 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by

November 2000, and conflicting national standards shall be withdrawn at the latest by November 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This part of EN 840 gives the test methods for mobile waste containers according to EN 840-1 to EN 840-4. It also gives the levels to be reached during the tests or after they have been done.

This standard is applicable to mobile waste containers with capacities from 80 l to 1 700 l.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 840-1:1997, *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.*

EN 840-2, *Mobile waste containers — Part 2: Containers with four wheels, with a capacity from 500 l to 1 200 l with flat lids for trunnion and/or lifting, dimensions and design.*

EN 840-3, *Mobile waste containers — Part 3: Containers with four wheels, with a capacity from 770 l to 1 300 l with dome lids, for trunnions and/or comb lifting devices, dimensions and design.*

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 device, dimensions and design.*

EN 840-6, *Mobile waste containers — Part 6: Safety and health requirements for solid waste containers.*
prEN 1029, *Hot dip galvanized coatings on fabricated ferrous products — Specification.*

prEN 1501-1, *Refuse collection vehicles and their associated lifting devices — General requirements and safety requirements — Part 1: Rear-end loaded refuse collection vehicle.*

ISO 2081, *Metallic coatings — Electroplated coatings of zinc on iron or steel.*

3 Definitions

Terms for components of waste containers and lifting devices in three languages are given in annex A of EN 840-1:1997.

For the purposes of this European Standard the definitions according to EN 840-1 to EN 840-4 apply.

4 Tests

4.1 General

Before and after the tests a visual inspection of the container has to be done for the purpose of:

- a) checking that the container is not damaged and has no visual defect;
- b) checking that the manufacturing characteristics of the container to be tested are those specified in the standards applying to the container according to EN 840-1 to EN 840-4;
- c) comparing the condition of the container before and after the sequence of the tests.

After having finished the test deformations are allowed, however, the entire functionality of the container shall be kept.

4.2 Control before the tests

4.2.1 Visual aspects

No obvious damages, no cracks, bubbles, large flashes or sharp edges in handgrip areas. No surfaces defects (unsmooth areas; trails in colour) perceptible from a distance of 1 m by a normal eye.

4.2.2 Correspondence with EN 840-1 to EN 840-4

4.2.2.1 Components

Body, lid, wheels and other fittings shall be in line with the relevant container standard.

4.2.2.2 *Sizes and dimensions*

Functional dimensions as per drawings and tables respectively, attached to EN 840-1 to EN 840-4 (length, width, height, rims, trunnions) for the whole container and for the components and the basic functional details.

4.2.2.3 *Capacities*

The capacities of container parts and the total capacity shall be measured:

- a) for the body, by tank method, up to 1 700 l;
- b) for the lid, if possible by tank method;
- c) total volume results in a) and b) minus interferences.

Ensure within the tolerances on capacity according to EN 840-1 to EN 840-4.

4.2.2.4 *Tank method*

The test equipment shall consist of a tank with sufficient capacity to receive the container to be tested.

The test procedure goes as follows:

- place the empty container in a tank, the container shall not be inclined;
- simultaneously fill the tank and the container with water at a temperature of $(15 \pm 5) ^\circ\text{C}$;
- measure the quantity of water inside the container.

Accuracy of measurement shall be ± 1 % of the measured capacity of the container.

4.2.3 *Deflection for comb lifting system*

In areas involved by the comb-rim, interface shall have no more deflection than:

- a) 1,5 % of the length of the frontal receiver for plastic;
- b) 0,6 % of the length for steel.

NOTE For other systems the values have to be defined when the systems are standardized.

4.2.4 *Masses*

The tolerances on the container mass claimed are as follows: for plastic containers ± 5 % and for metal containers ± 10 %.

4.2.5 *Colour*

The colour has to be defined and agreed between customer and supplier. Colour measurement, differences and tolerances refer to existing international standards.

4.2.6 *Marking*

It shall be inspected according to EN 840-1 to EN 840-4.

4.3 *Control after the tests*

In spite of variations in deflection and sizes, it shall be possible to lift and tilt the container loaded according to 4.5 with nominal weight safely on the designated lifting equipment and to move the container on its wheels.

4.4 *Conditions of the tests*

Plastic containers shall be tested under the following conditions:

$$t_1 = (23 \pm 5) ^\circ\text{C} \text{ (temperature of the room);}$$

$$t_2 = \begin{pmatrix} 18 & 0 \\ & -2 \end{pmatrix} ^\circ\text{C} \text{ (cold for some impact tests when made on plastic products).}$$

Before testing the specimens have to be in the cold room for at least 12 h. The tests have to be made in the cold room or within 5 min outside the cold room.