Mobile waste containers —

Part 2: Containers with 4 wheels with a capacity up to 1 300 l with flat lid(s), for trunnion and/or comb lifting devices — Dimensions and design

The European Standard EN 840-2:2004 has the status of a British Standard

ICS 13.030.40



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National foreword

This British Standard is the official English language version of EN 840-2:2004. It supersedes BS EN 840-2:1997 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee B/508, Waste management, to Subcommittee B/508/1, Waste containers and associated lifting devices, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 18 March 2004

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Supersedes EN 840-2:1997

English version

Mobile waste containers - Part 2: Containers with 4 wheels with a capacity up to 1 300 I with flat lid(s), for trunnion and/or comb lifting devices - Dimensions and design

Conteneurs roulants à déchets - Partie 2: Conteneurs à 4 roues de capacité jusqu'à 1300 l à couvercle(s) plat(s), pour lève-conteneurs par tourillon et/ou à peigne -Dimensions et conception Fahrbare Abfallsammelbehälter - Teil 2: Behälter mit 4 Rädern und einem Nennvolumen bis 1300 l mit Flachdeckel(n), für Zapfenaufnahme und/oder für Kammschüttungen - Maße und Formgebung

This European Standard was approved by CEN on 10 December 2003.

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Foreword

This document (EN 840-2:2004) 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of an identical text or by endorsement, at the latest by September 2004, and conflicting national standards shall be withdrawn at the latest by September 2004.

This document supersedes EN 840-2:1997.

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

- Part 1: Containers with 2 wheels with a capacity up to 400 I for comb lifting devices Dimensions and design.
- Part 2: Containers with 4 wheels with a capacity up to 1 300 l with flat lid(s), for trunnion and/or comb lifting devices Dimensions and design.
- Part 3: Containers with 4 wheels with a capacity up to 1 300 l with dome lid(s), for trunnion and/or comb lifting devices Dimensions and design.
- Part 4: Containers with 4 wheels with a capacity up to 1 700 l with flat lid(s), for wide trunnion or BG and/or wide comb lifting devices Dimensions and design.
- Part 5: Performance requirements and test methods.
- Part 6: Safety and health requirements.

Annexes A and B are informative.

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

1 Scope

BSI

This European Standard specifies dimensions and design requirements of mobile waste containers with 4 wheels, with flat lid(s) and capacity up to 1300 l to be used by trunnion and/or comb lifting device.

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 (including amendments).

EN 840-1:2001, Mobile waste containers – Part 1: Containers with 2 wheels with a capacity up to 400 l for comb lifting devices - Dimensions and design.

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

EN 840-6:2004, Mobile waste containers – Part 6: Safety and health requirements.

EN 1501-1, Refuse collection vehicles and their associated lifting devices – General requirements and safety requirements – Part 1: Rear-end loaded refuse collection vehicles.

EN ISO 11469, Plastics – Generic identification and marking of plastics products (ISO 11469:2000).

3 Terms and definitions

Terms for components of mobile waste containers and lifting devices in three languages are given in annex A of EN 840-1:2004.

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

3.1

mobile waste container

appropriately designed container fitted with wheels intended to temporarily store waste

3.2

lifting device

structure which picks-up, tilts and empties containers

3.3

comb lifting device

lifting device in which the picking-up system consists of a row of teeth and a locking system to retain the container during emptying

3.4

trunnion lifting device

lifting device in which the picking-up system consists of a pair of arms with automatic locking mechanism to fit the trunnion to retain the container during emptying

3.5

volume

total space inside the container when the lid is closed (see Table 1)

3.6

nominal volume

volume stated by the manufacturer (see Table 1 without tolerances)

3.7

capacity

for the purpose of this standard nominal volume and capacity are deemed to be the same

NOTE The English term "capacity" and the French term "capacité" are translated in the German version by the term "Nennvolumen".

3.8

nominal load

load mass, which is calculated as given in clause 6

3.9

total permissible mass

mass of the container plus the nominal load

3.10

functional and safety dimensions

essential dimensions which ensure the functionality and interchangeability of the container with the compatible lifting device and which are necessary for the operator's safety and health.

4 Volumes

This part of EN 840 identifies the two classes of containers:

- Class I small size (nominal volume up to 1 000 I);
- Class II large size (nominal volume between 1 000 I and 1 300 I).

Within the two above-mentioned classes of containers the following volumes are identified: 500 l, 660 l, 770 l, 1 000 l, 1 100 l and 1 200 l. Nominal volumes different from those referenced can be used by agreement between user and manufacturer. The tolerance of the volumes shall be \pm 5 % maximum measured according to EN 840-5.

5 Dimensions and design

5.1 The design of the containers need not correspond to the drawings given in Figure 1. The functional dimensions given in Table 1 shall be respected. Recommendations for manufacturers of lifting devices are given in annex A (see also EN 1501-1).

5.2 The container shall be constructed so that when it is unloaded or loaded with a nominal load (see clause 6), it fits on an approved compatible lifting device. It shall be automatically locked safely into the lifting device during the lifting operation. If the container is equipped with a comb receiver, it shall correspond to at least one of the options given in Figure 2 (Form A, B or C).

5.3 The lid(s) shall fit the body. It/they shall be made with at least 2 fixing points and have at least one means of opening.

5.4 Handles fitted in front of the trunnion shall have a measurement over the handles of 10 mm less than the actual measurement in Table 1, dimension N° 33. Also the handles and their location shall be designed so that they do not damage the operator.

5.5 If the container has ribs in the frontal receiver they shall meet the requirements of Figures 2 and 5.

5

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5.6 The container shall have 4 swivel castors. Each swivel castor shall be capable of withstanding 1/3 of the total permissible mass. Each castor shall meet the requirements of EN 840-5. The container shall have facilities for mounting the castor platine according to at least one of the measurements as shown in Figure 6.

5.7 All the surfaces of the container including design features shall be smooth and free of any foreign bodies or flaws.

5.8 The container should have a drain plug.

5.9 When direction locks are fitted they shall be fixed on at least 2 castors.

5.10 The container should be fitted with 2 braked wheels to requirements of EN 840-5. In case of centralized braking and locking system the brake pedal and the lock shall be fixed on a lateral side of the container. The centralized locking shall be able to be unlocked with a standard triangular key as shown in Figure 7. The effectiveness of the centralized braking system shall conform to EN 840-5.

6 Nominal Load

The container shall be constructed strongly enough to carry a load of $0.4 \text{ kg/dm}^3 \text{ x}$ nominal volume. Containers with a nominal volume of more than 1 100 I shall be constructed strongly enough to carry a load of 440 kg.

7 Safety and health requirements

The container shall meet the safety and health requirements according to EN 840-6.

8 Testing

The container shall fulfil the performance requirements and the tests of EN 840-5.

9 Marking

9.1 Each container complying with the requirements of this part of EN 840 shall be durably and readably marked on the body in a visible part with:

- number of this European Standard (EN 840-2);
- nominal volume;
- manufacturer's name or trademark;
- total permissible mass, in kilograms;
- year and month of manufacturing.

9.2 Additional marking for quality, recycling, etc. is allowed. Beginning 5 years after the publication of this standard, plastic parts of containers, lids and wheels shall be marked in accordance with EN ISO 11469. The use of recycled materials is allowed, presuming that all requirements of this standard are complied with.

10 Designation

The container complying with the requirements of this European Standard shall be designated as follows:

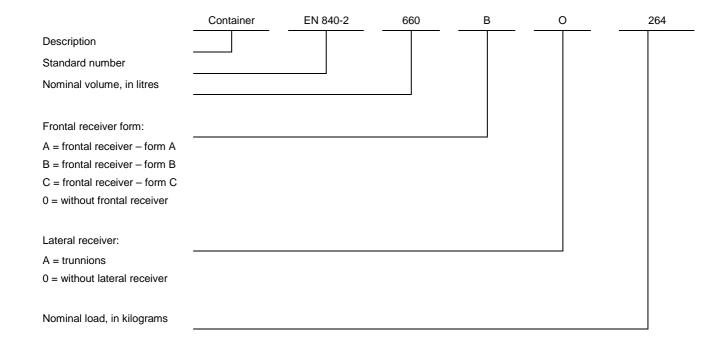
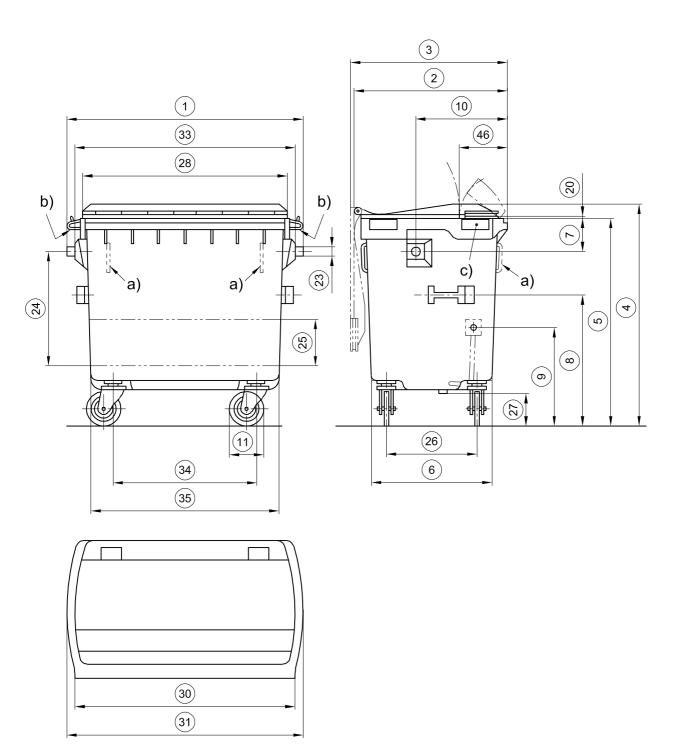


Table 1 — Dimensions

sion		s I - Small sizes < 1 000 I			- Large sizes <u>></u>	-	Remarks
N°	500 I	660 I	770	1 000 I	1 100 I	1 200 I	
_a 1	1 370 ± 10	1 370 ± 10	1 370 ± 10	1 370 ± 10	1 370 ± 10	1 370 ± 10	In case of trunnions
2	680 max.	780 max.	800 max.	1 115 max.	1 115 max.	1 115 max.	Total width lid(s) closed
3	740 max.	850 max.	870 max.	1 190 max.	1 190 max.	1 190 max.	When lid open
4	1 170 max.	1 250 max.	1 370 max.	1 470 max.	1 470 max.	1 470 max.	
_a 5	860 min.; 1290 max.	860 min.; 1290 max.	860 min.; 1290 max.	860 min.; 1290 max.	860 min.; 1290 max.	860 min.; 1290 max.	Tipping edge
6	480 ± 50	585 ± 50	585 ± 50	870 ± 50	885 ± 50	885 ± 50	
_a 7	135 min.; 280 max.	135 min.; 280 max.	135 min.; 280 max.	135 min.; 280 max.	135 min.; 280 max.	135 min.; 280 max.	In case of trunnions and min 850 from ground
a 8	700 to 850	700 to 850	700 to 850	700 to 850	700 to 850	700 to 850	Handle position if present
9	600 to 850	600 to 850	600 to 850	600 to 850	600 to 850	600 to 850	Lock position if present
_a 10	$460 \begin{array}{c} 0\\-45\end{array}$	460 ⁺⁶⁵ -45	$460 \begin{array}{c} +65 \\ -45 \end{array}$	500 ⁺¹⁵ -40	500 ⁺¹⁵ -40	500 ⁺¹⁵ -40	In case of trunnions
_a 11	Ø 200 ^{*)}	Ø 200 ^{*)}	Ø 200 ^{*)}	Ø 200	Ø 200	Ø 200	$^{*)} \varnothing$ min 160 optional according to 5.3 of EN 840-6:2004
_a 12	19 min.	19 min.	19 min.	19 min.	19 min.	19 min.	In case of frontal receiver
_a 13	13 ⁺⁵ _3	13 ⁺⁵ _3	13 ⁺⁵ _3	13 ⁺⁵ _3	13 ⁺⁵ _3	13 ⁺⁵ _3	In case of frontal receiver
a 14	21{-2}^{+2}	21^{+2}_{-2}	21_{-2}^{+2}	21_{-2}^{+2}	21^{+2}_{-2}	21^{+2}_{-2}	In case of frontal receiver
15	-	-	-	-	-	-	This dimension is used no more
_a 16	26 ± 1	26 ± 1	26 ± 1	26 ± 1	26 ± 1	26 ± 1	In case of frontal receiver
_a 17	58 max.	58 max.	58 max.	58 max.	58 max.	58 max.	In case of frontal receiver
_a 18	20 min.	20 min.	20 min.	20 min.	20 min.	20 min.	In case of frontal receiver
19	130 max.	130 max.	130 max.	130 max.	130 max.	130 max.	When ribs are fitted
20	15 max.	15 max.	15 max.	15 max.	15 max.	15 max.	
_a 21	33 ⁺⁸ -1	33 ⁺⁸ -1	33 ⁺⁸ -1	33 ⁺⁸ -1	33 ⁺⁸ -1	33 ⁺⁸ _1	In case of frontal receiver
_a 22	40 ⁺⁵ -7	40 +5	40 ⁺⁵ -7	40 +5	40 ⁺⁵ -7	40 ⁺⁵ -7	In case of frontal receiver
_a 23	\oslash 40 ± 2	\varnothing 40 ± 2	arnothing 40 ± 2	\oslash 40 ± 2	arnothing 40 ± 2	\varnothing 40 ± 2	In case of trunnions
_a 24	670 ⁺³⁰ 0	670 ⁺³⁰ 0	670 ⁺³⁰ 0	670 ⁺³⁰ 0	670 ⁺³⁰ 0	670 ⁺³⁰ 0	
_a 25	350 ± 10	350 ± 10	350 ± 10	350 ± 10	350 ± 10	350 ± 10	Clearance for lifting device
26	380 ± 30	480 ± 30	480 ± 30	750 ⁺⁵⁰ -40	750 ⁺⁵⁰ -40	750 ⁺⁵⁰ -80	
27	130 min.	130 min.	130 min.	130 min.	130 min.	130 min.	Ground clearance

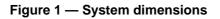
Dimen sion N°	Class I - Small sizes < 1 000 I			Class II - Large sizes <u>></u> 1 000 I			
	500 I	660 I	770 I	1 000 I	1 100 I	1 200 I	Remarks
_a 28	1 275 max.	1 275 max.	1 275 max.	1 275 max.	1 275 max.	1 275 max.	Lid
a 29	1 185 min.	1 185 min.	1 185 min.	1 185 min.	1 185 min.	1 185 min.	Inside operating length of frontal receiver
_a 30	1 200 ⁺¹⁵ ₀	1 200 ⁺¹⁵ ₀	1 200 ⁺¹⁵ 0	1 200 ⁺¹⁵ 0	1 200 ⁺¹⁵ 0	1 200 ⁺¹⁵ 0	Overall frontal receiver
_a 31	1 265 max.	1 265 max.	1 265 max.	1 265 max.	1 265 max.	1 265 max	Overall length of the top rim or handles
32	5 ⁺⁸ ₀	5 ⁺⁸ ₀	5 ⁺⁸ ₀	5 ⁺⁸ ₀	5 ⁺⁸ ₀	5 ⁺⁸ ₀	Optional
a 33	1 260 +20 -10	1 260 ⁺²⁰ -10	1 260 ⁺²⁰ -10	1 260 ⁺²⁰ -10	1 260 ⁺²⁰ -10	1 260 ⁺²⁰ -10	In case of trunnions around the centre lifting trunnion there sha be a radius of 150 mm. There shall not be any projection beyond the trunnion boss (see Figure 3).
34	880 ⁺⁷⁰ -50	880 ⁺²⁰ -50	880 ⁺²⁰ -50	880 ⁺²⁰ -50	880 ⁺²⁰ -50	950 ± 120	
35	1 090 ⁺⁸⁰ -70	1 090 ± 70	1 090 ± 70	1 090 ± 70	1 090 ± 70	1 090 ± 70	
a 36	150 ± 3	150 ± 3	150 ± 3	150 ± 3	150 ± 3	150 ± 3	When ribs are fitted stiffeners can be placed at intervals from each side of the center of the lifting bar, equally spaced at/or multiples of 150 mm.
a 37	7 max.	7 max.	7 max.	7 max.	7 max.	7 max.	When ribs are fitted
a 38	6 ⁺² _{-4,5}	$6^{+2}_{-4,5}$	6 ⁺² _{-4,5}	6 ⁺² _{-4,5}	6 ⁺² _{-4,5}	6 ⁺² _{-4,5}	In case of frontal receiver
_a 39	130 max.	130 max.	130 max.	130 max.	130 max.	130 max.	In case of frontal receiver
_a 40	R 4 max.	R 4 max.	R 4 max.	R 4 max.	R 4 max.	R 4 max.	In case of frontal receiver
41	10 min.	10 min.	10 min.	10 min.	10 min.	10 min.	
42	\varnothing 16 max.	\varnothing 16 max.	\varnothing 16 max.	Ø 16 max.	Ø 16 max.	Ø 16 max.	
43	Ø 6,6 +0,2 0	Ø 6,6 +0,2 0	Ø 6,6 +0,2 0	Ø 6,6 +0,2 0	Ø 6,6 +0,2 0	Ø 6,6 +0,2 0	
44	8,3 ^{+0,1} 0	8,3 ^{+0,1} 0	8,3 ^{+0,1} 0	8,3 ^{+0,1} 0	8,3 ^{+0,1} 0	8,3 ^{+0,1}	
45	≈ 50	≈ 50	≈ 50	≈ 50	≈ 50	≈ 50	
_a 46	360 max.	360 max.	360 max.	360 max.	360 max.	360 max.	If two or more part lids are fitte they shall enable the comb and trunnion lifting device to operat correctly

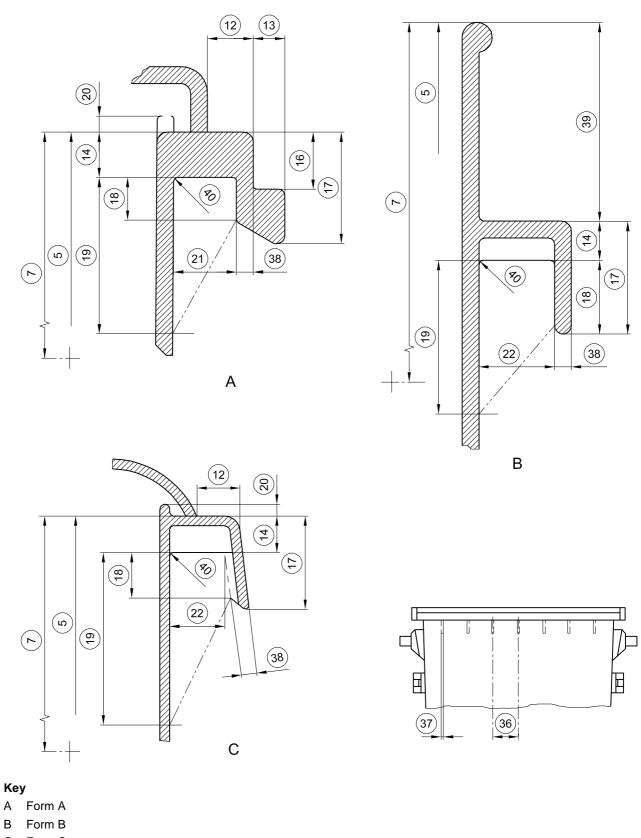
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Key

- a) Handles to be fitted if the container is without frontal receiver.
- b) Requirements for handle if it is above trunnion (see figure 3).
- c) Requirements for handle if in front of trunnion (see 5.4).







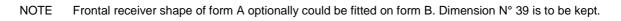


Figure 2 - Options for frontal receivers

Dimensions in mm

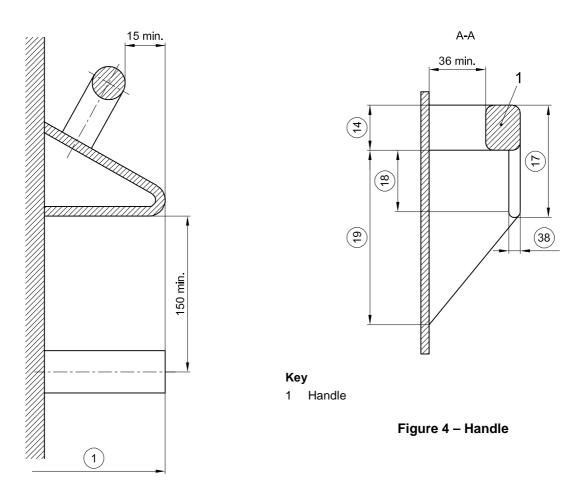


Figure 3 — Handle and clearance at trunnion

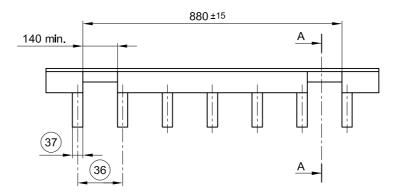


Figure 5 — Frontal receiver with integrated handles

Dimensions in mm

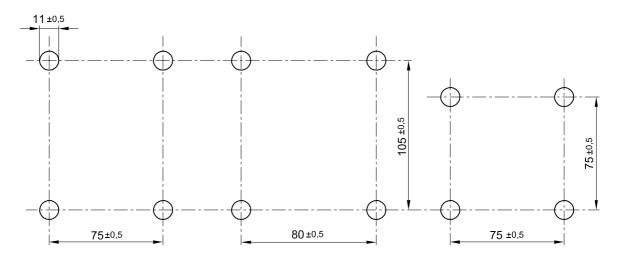
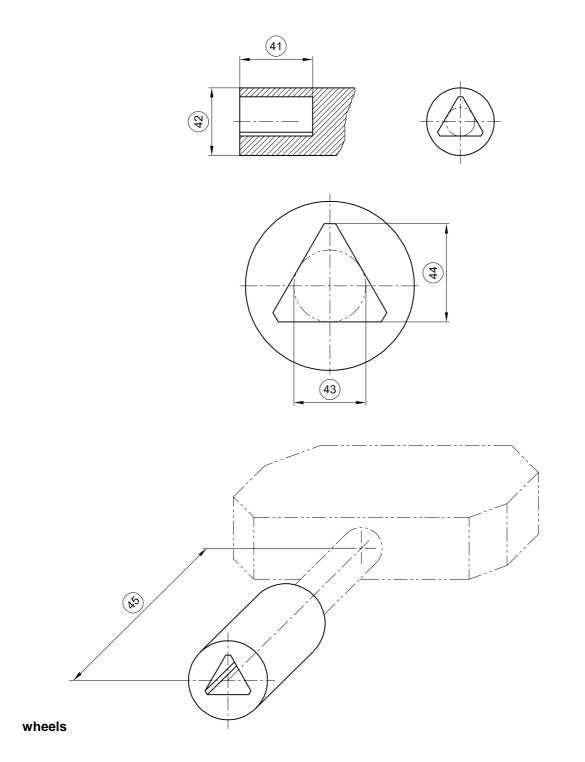


Figure 6 — Distance between centres of castor wheels

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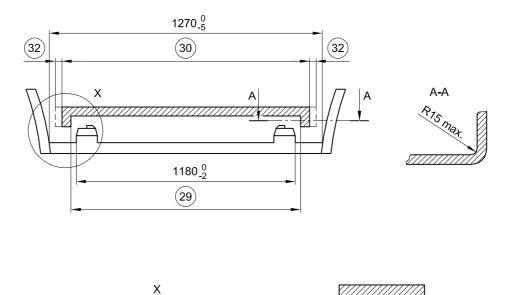


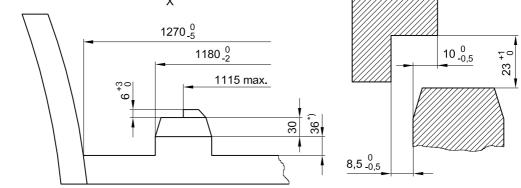


Annex A (informative)

Recommendations for manufacturers of lifting devices

Dimensions in mm





Key

*) Nominal

Figure A.1 — Form D, general

For any single container not exceeding dimension N° 30 and any combination of containers (maintaining a minimum gap between them of 10 mm) which do not exceed a dimension of 1200 mm

Dimensions in mm

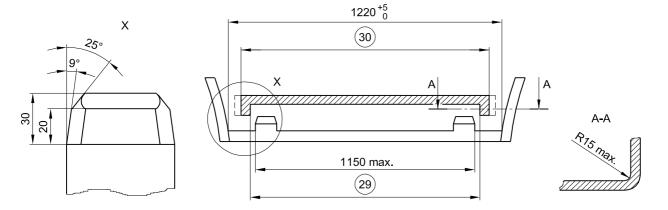


Figure A.2 — Form E

Annex B (informative)

A-Deviations

A-Deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC-member.

This European Standard does not fall under any Directive of the EC. In the relevant CEN/CENELEC-countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

DENMARK

The EN 840-1 to EN 840-6 do not fulfil the national Danish legislation regarding requirements for health and safety. This legislation is based on *EEC-Directive 89/391/EC of 12 June 1989 and EEC-Directive 90/269/EEC of 29 May 1990*.

The Danish legislation is written down in "Executive Order No. 867 of 13 October 1994 concerning Performance of Work" and in "Executive Order No. 1164 of 16 December 1994 concerning Manual Handling" both given by the Minister of Work. The Legal understanding of the Executive Orders are written in the Danish Working Environment Service (WES) guidelines. WES-guideline No. 4.1.0.1 of 1993 describes "Manual handling and transportation of domestic garbage" and No. 4.1.0.2 describes "Construction of technical systems and equipment for handling domestic garbage" (former WES circular-order No. 10/1990).

Therefore the manual handling and use of containers described in EN 840-1 to EN 840-6 can be met in Denmark with additional requirements.

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