

JfY Y]n'dc`]a Yfb] \ 'a Uhf]Ucj 'nUnV]fUb^'[cgdX]b^g_] \ 'cXdUX_cj 'E`JfghZ
nU hYj Y]b'dfYg_i gbY'a YtcXY

Plastics sacks for household waste collection - Types, requirements and test methods

Kunststoffsäcke für die Abfallsammlung aus Haushalten - Typen, Anforderungen und Prüfverfahren

Sacs en plastique pour la collecte des déchets ménagers - Types, exigences et méthodes d'essai

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ICS:

13.030.40	Naprave in oprema za odstranjevanje in obdelavo odpadkov	Installations and equipment for waste disposal and treatment
55.080	Xi^ ^Xi^ \^	Sacks. Bags

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English version

Plastics sacks for household waste collection - Types, requirements and test methods

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Typen, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 6 December 2002.

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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 Management Centre has the same status as the official versions.

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

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Foreword

This document (EN 13592:2003) has been prepared by Technical Committee CEN/TC 261 "Packaging", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by September 2003, and conflicting national standards shall be withdrawn at the latest by September 2003.

Annex A is informative. Annex B is normative.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

In many European countries, the collection of household waste is part of a waste management system, which means that households have to separate out waste according to the final method of disposal.

This European Standard is based on the existing national standards for plastics sacks for waste collection available at the date of issue which are listed in the bibliography.

1 Scope

This European Standard specifies the general characteristics, test methods and requirements for sacks made from plastics films, used for household waste pre-collection, household waste collection, or household selective waste collection.

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).

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EN 22248, *Packaging – Complete, filled transport packages – Vertical impact test by dropping* (ISO 2248:1985).

EN ISO 527-3, *Plastics – Determination of tensile properties – Part 3: Test conditions for films and sheets* (ISO 527-3:1995).

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EN ISO 7965-2, *Sacks – Drop test – Part 2: sacks made from thermoplastic flexible film* (ISO 7965-2:1993).

ISO 1043-1, *Plastics – Symbols and abbreviated terms – Part 1: Basic polymers and their special characteristics*.

ISO 4593, *Plastics – Film and sheeting – Determination of thickness by mechanical scanning*.

3 Terms and definitions

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

3.1

standard sack

open mouthed sack

3.2

sack for selective waste collection SWC

sack used for collection of some flows of waste, separated beforehand by producers with the view of valorisation or specific treatment

3.3

tie

any item incorporated by design or added, used to close the sack

NOTE Examples include: polypropylene tape, clips and wire ties

3.4

drawtight sack

sack with a tie inserted in the top of the sack, allowing it to be closed and, in some cases, be carried

3.5

four flap sack

sack with four flaps used for closure by knotting

3.6

strapsack

sack with two straps used as ties for closure and as handles to carry the sack

3.7

household waste

non dangerous waste from household or from industrial activities or service activities, collected in the same conditions

NOTE To prevent damage to the sack, unwrapped broken glass and unwrapped sharp edges are not normally placed in them.

3.8

gusset

fold or series of folds inserted in the longitudinal edge of the sack

3.9

useful length, L

distance from the bottom to the mouth of the sack, measured inside the sack lying flat (see 9.1.2)

3.10 useful width, P

internal width of the sack, measured with gussets unfolded, if any (see 9.1.3)

3.11

nominal thickness, N_t

thickness of the film, as declared by the manufacturer or agreed upon in the contract, in micrometres, (μm) (see 9.1.4)

4 Designation

Sacks are designated using the following information:

- a) end use, i.e. household waste collection sacks, household waste selective collection sacks with their specific test loads, agreement if any between supplier and buyer according to 6.5.2 and/or 6.6.3, and if necessary any other information agreed between the supplier and buyer;
- b) the dimensions, in millimetres (mm);
- c) the type:
 - standard sacks,
 - drawtight sacks,
 - strap sacks,
 - four flap sacks,

NOTE 1 The above list of types is neither restrictive nor exhaustive. Annex A shows these different types of sacks.

- d) the symbol of the plastic material used, in accordance with ISO 1043-1, and its colour;
- e) the nominal thickness, in micrometres (μm);
- f) a reference to this European Standard i.e EN 13592.

NOTE 2 Colour is a basic information used for the designation of the sack, e.g., black, blue, green, white. When no pigment, load or coloured master batch is incorporated in the resin, it is specified as "neutral". When a more accurate definition of colour is needed, it should be specified in the contract, with reference to the relevant specification or standard.

Examples of designation:

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1) for household waste collection sack, 700 mm x 1100 mm, standard, in polyethylene, white, 40 μm thick:

"Household waste collection sack - EN 13592 - 700/1100 - Standard - PE - White - 40 μm "

2) for household selective waste collection drawtight sack, 600 mm x 800 mm, in polyethylene, neutral, 30 μm thick for specific load of 4 kg both for drop test and closing device test:

"Household selective waste collection sack for 4 kg - EN 13592 - 600/800 - Drawtight - PE - Neutral - 30 μm "

Other information could be added under agreement between supplier and buyer.

5 Dimensions

The dimensions of the sack shall be agreed between supplier and buyer.

The different dimensions of sacks are given by two separate numbers in millimetres, the first specifying the useful width (see 3.10 and 9.1.3) and the second the useful length of the sack (see 3.9 and 9.1.2). Table 1 gives examples of sack dimensions.

Table 1 — Examples of sack dimensions

Reference	Useful width, <i>P</i> , in mm	Useful length, <i>L</i> , in mm
400×450	400	450
500×700	500	700
700×1100	700	1 100

6 Requirements

6.1 Useful width and useful length

The minimum useful width measured shall not be less than: $P - 2,5 \%$.

The minimum useful length measured shall not be less than: $L - 2,5 \%$.

No defective sacks shall be permitted out of 10 sacks tested according to 9.1.3.

6.2 Film thickness

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6.2.1 Individual values for thickness

No defective sack shall be permitted out of 10 sacks (or strips) tested according to 9.1.4 for individual values of each sack (or strip) and the overall average value of the 10 measurements.

6.2.2 Individual values

No individual thickness measured in micrometres (μm), according to 9.1.4 shall be less than $N_t - x$ where

$$X = \frac{15 N_t}{25 + N_t}$$

rounded to the nearest upper or lower unit (μm) (1,4 as 1 μm ; 1,5 as 2 μm ; 1,6 as 2 μm)

6.2.3 Average value

The arithmetic average value of the measurements made in accordance with 9.1.4 shall be:

- greater than $N_t - 5 \%$, when N_t is greater than 20 micrometres.
- greater than $N_t - 8 \%$, when N_t is less or equal to 20 micrometres.

6.3 Opacity

6.3.1 General

Unless otherwise specified the level of opacity, as measured in accordance with 9.2, shall be:

- greater than or equal to 60 % for household waste collection sacks;
- less than or equal to 40 % for household selective waste collection sacks.

No defective sack shall be permitted out of 10 sacks (or strips) tested according to 9.2 for individual values of each sack (or strip) and the overall value of the 10 measurements.

6.3.2 Individual values

No individual opacity measured in % according to 9.2 shall be:

- a) less than or equal to $(60 - 5 = 55)$ % for household waste collection sacks;
- b) greater than or equal to $(40 + 5 = 45)$ % for household selective waste collection sacks.

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6.3.3 Average value

The arithmetic average value of the measurements made in accordance with 9.2 shall be:

- a) greater than or equal to 60 % for household waste collection sacks;
- b) less than or equal to 40 % for household selective waste collection sacks.

6.4 Resistance to leakage

No defective sack shall be permitted out of 5 sacks tested according to 9.3.

6.5 Drop impact resistance

6.5.1 Sacks for household waste collection

Not more than 3 defective sacks shall be permitted out of 30 sacks tested according to 9.4.

6.5.2 Sacks for selective waste collection

For these sacks there can be a specific agreement between supplier and buyer for different test loads (see 9.4.2.2). Without any specific agreement test loads according to Table 3 of 9.4.2.2 apply. In any case, not more than 3 defective sacks shall be permitted out of 30 sacks tested according to 9.4.

6.6 Resistance of the closing device

6.6.1 Tensile strength of the tie

In the case of sacks provided with an incorporated or added tie, the tensile strength measured according to 9.5.1 shall not be less than 40 N.

Not more than one failure out of 10 ties tested is permitted.

When the tie is not integral with the sack, the number of ties shall not be less than the number of sacks.

6.6.2 Resistance of the closing device of drawtight sacks

Not more than 1 defective sack out of 10 is permitted when tested according to 9.5.2

6.6.3 Resistance of closing device of drawtight sacks for selective waste collection

For these sacks, if there is a specific agreement between supplier and buyer for different test loads, as defined in 6.5.2, the same test loads shall be applied. Without any specific agreement test loads according to Table 4 of 9.5.4 apply. In any case, not more than 1 defective sack out of 10 is permitted when tested according to 9.5.2.

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7 Sampling

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Samples shall be selected according to annex B.

8 Conditioning for testing

Sacks shall be tested at room temperature between 10 °C and 30 °C and the temperature shall be recorded.

9 Test methods

9.1 Measurement of dimensions

9.1.1 Apparatus

- a) **Rule**, capable of measuring lengths to an accuracy of 1 mm;
- b) **Micrometer**, as specified in ISO 4593.

All the measurements expressed in millimetres or in micrometres are rounded to the nearest unit. For values of 0,5, measurements are rounded up.