
Embalaža - Načrtovanje za recikliranje plastične embalaže - 1. del: Definicije in načela za načrtovanje za recikliranje plastične embalaže

Packaging - Design for recycling of plastic packaging - Part 1: Definitions and principles for design-for-recycling of plastic packaging

Verpackung - Recyclingorientierte Gestaltung von Kunststoffverpackungsprodukten - Teil 1: Definitionen und Grundsätze für die recyclingorientierte Gestaltung von Kunststoffverpackungen

Emballages - Conception des emballages plastiques en vue de leur recyclage - Partie 1 : Définitions et principes liés à la conception des emballages plastiques en vue de leur recyclage

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13.030.50	Recikliranje	Recycling
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83.080.20	Plastomeri	Thermoplastic materials

SIST EN 18120-1:2026

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

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ICS 13.030.50; 55.020

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European foreword

This document (EN 18120-1:2026) 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of an identical text or by endorsement, at the latest by September 2026, and conflicting national standards shall be withdrawn at the latest by September 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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EN 18120-1:2026 (E)**Introduction**

The EN 18120 series, under the general title *Packaging — Design for recycling of plastic packaging*, which aims via a series of guidelines and protocols to establish consistency and improvement for the design for recycling of household, industrial and commercial plastic packaging, consists of the following parts:

- Part 1: Definitions and principles for design-for-recycling of plastic packaging
- Part 3: Evaluation processes for the sortability of plastic packaging
- Part 4: Guideline for PET bottles
- Part 5: Guideline for PET rigid packaging (except bottles)
- Part 6: Guideline for PE and PP rigid packaging
- Part 7: Guideline for PE and PP flexible packaging
- Part 8: Guideline for PS and XPS rigid packaging
- Part 9: Guideline for EPS packaging
- Part 10: Recyclability evaluation process for plastic packaging — Protocols for PET bottles
- Part 11: Recyclability evaluation process for plastic packaging — Protocols for PET rigid packaging (except bottles)
- Part 12: Recyclability evaluation process for plastic packaging — Protocols for PE and PP rigid packaging
- Part 13: Recyclability evaluation process for plastic packaging — Protocols for PE and PP flexible packaging
- Part 14: Recyclability evaluation process for plastic packaging — Protocols for PS and XPS rigid packaging
- Part 15: Recyclability evaluation process for plastic packaging — Protocols for EPS packaging

Design for recycling guidelines are a common way of evaluating the compatibility with plastic-packaging collection, sorting and recycling which enables the use of secondary raw materials that are of sufficient quality when compared to the original material, in state-of-the-art facilities.

They provide guidance on the level of compatibility, defined as:

- green: packaging constituents and components with full compatibility with state-of-the-art collection, sorting and recycling;
- yellow: packaging constituents and components with limited compatibility with state-of-the-art collection, sorting and recycling;
- red: packaging constituents and components which are not compatible with state-of-the-art collection, sorting and recycling.

The design for recycling guidelines provided in the EN 18120 series cover the design for recycling based on the knowledge available at the time of the development of this document and are representative of the

state-of-the-art. They consider packaging waste collection, sorting and recycling, so that the recycled plastic can substitute primary raw materials in packaging application or other applications. Compliance with the design guidelines in the EN 18120 series does not guarantee that the recycled plastic quality will be fit for purpose for a specific targeted end application or compliant with applicable regulations.

Packaging recyclability is the combination of design of recycling, proven collection, sorting and recycling in practice.

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EN 18120-1:2026 (E)

1 Scope

This document provides a framework and principles for design for recycling documents for assessing the identification of the level of compatibility of plastic-packaging feature with the applicable collection, sorting and recycling processes, describing the level of compatibility.

This document covers any packaging predominantly made of plastic and separate components predominantly made of plastic. It aims to provide a consistent approach for the guidelines and protocols for each polymer and format.

2 Normative references

The following standards are referred to in the text in such a way that some or all of their content constitutes requirements of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced standard (including any amendments) applies.

EN 18120-3:2026, *Packaging — Design for recycling of plastic packaging — Part 3: Sorting evaluation process for plastic packaging*

EN 18120-4, *Packaging — Design for recycling of plastic packaging — Part 4: Guideline for PET bottles*

EN 18120-5, *Packaging — Design for recycling of plastic packaging — Part 5: Guideline for PET rigid packaging (except bottles)*

EN 18120-6, *Packaging — Design for recycling of plastic packaging — Part 6: Guideline for PE and PP rigid packaging*

EN 18120-7, *Packaging — Design for recycling of plastic packaging — Part 7: Guideline for PE and PP flexible packaging*

EN 18120-8, *Packaging — Design for recycling of plastic packaging — Part 8: Guideline for PS and XPS rigid packaging*

EN 18120-9, *Packaging — Design for recycling of plastic packaging — Part 9: Guideline for EPS packaging*

EN 18120-10, *Packaging — Design for recycling of plastic packaging — Part 10: Recyclability evaluation process for plastic packaging — Protocols for PET bottles*

EN 18120-11, *Packaging — Design for recycling of plastic packaging — Part 11: Recyclability evaluation process for plastic packaging — Protocols for PET rigid packaging (except bottles)*

EN 18120-12, *Packaging — Design for recycling of plastic packaging — Part 12: Recyclability evaluation process for plastic packaging — Protocols for PE and PP rigid packaging*

EN 18120-13, *Packaging — Design for recycling of plastic packaging — Part 13: Recyclability evaluation process for plastic packaging — Protocols for PE and PP flexible packaging*

EN 18120-14, *Packaging — Design for recycling of plastic packaging — Part 14: Recyclability evaluation process for plastic packaging — Protocols for PS and XPS rigid packaging*

EN 18120-15, *Packaging — Design for recycling of plastic packaging — Part 15: Recyclability evaluation process for plastic packaging — Protocols for EPS packaging*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

packaging

any item, irrespective of the materials from which it is made, that is intended to be used by an economic operator for the containment, protection, handling, delivery or presentation of products to another economic operator or to an end user, and that can be differentiated by packaging format based on its function, material and design

[SOURCE: REGULATION (EU) 2025/40, modified to adapt from “an item” to “any item” and shortcut the definition]

3.2

sales packaging

packaging conceived so as to constitute a sales unit consisting of products and packaging to the end user at the point of sale

[SOURCE: REGULATION (EU) 2025/40]

3.3

grouped packaging

packaging conceived so as to constitute a grouping of a certain number of sales units at the point of sale irrespective of whether that grouping of sales units is sold as such to the end user or whether it serves as a means to facilitate the restocking of shelves at the point of sale or create a stock-keeping or distribution unit, and which can be removed from the product without affecting its characteristics

[SOURCE: REGULATION (EU) 2025/40]

3.4

transport packaging

packaging conceived so as to facilitate handling and transport of one or more sales units or a grouping of sales units, in order to prevent damage to the product from physical handling and transport, but which excludes road, rail, ship and air containers

[SOURCE: REGULATION (EU) 2025/40]

EN 18120-1:2026 (E)**3.5****packaging unit
unit of packaging**

unit, including any integrated or separate components, that as a whole serves a packaging function, such as the containment, protection, handling, delivery, storage, transport or presentation of products, and includes independent units of grouped or transport packaging that are discarded prior to the point of sale

Note 1 to entry: When considered the combination of sales packaging, grouped packaging and transport packaging used for the delivery, storage, supply and consumption of packed products, each one of these are to be understood as forming, on their own and by themselves, a packaging unit. A packaging unit is not to be understood as a combination of sales packaging, grouped packaging and transport packaging.

[SOURCE: REGULATION (EU) 2025/40, modified – Note 1 added]

3.6**rigid packaging**

packaging whose shape remains essentially unchanged after the contents are added or removed

Note 1 to entry: Collective description for packaging types are assigned to the so-called “rigid fractions” in the waste classification, for example bottles, cups, trays, tubes, tins, buckets, canisters, pots, jars, jerrycans, drums, in bulk containers (IBCs) and boxes.

[SOURCE: ISO 21067-1:2016, 2.2.20, modified – ‘Note 1 to entry added’]

3.7**flexible packaging**

packaging whose shape is likely to change after the contents are added or removed

Note 1 to entry: Collective description for packaging types that are assigned to the so-called “flexible fractions” in the waste classification, for example bags, pouches, envelopes, sachets, removable lidding/liners, wraps and similar flexible packaging items.

Note 2 to entry: Flexible packaging structures can be single or multi-layered using a variety of materials, e.g. plastic film, non woven, paper, aluminium foil or any combination of these. The construction can be plain, printed, coated and/or laminated.

Note 3 to entry: Flexible packaging structures are generally used to package and protect consumer and other products. These can include Fast Moving Consumer Goods (FMCG) products such as confectionery, snack foods, frozen foods, produce, bakery, meat, dairy, pet foods, processed food, cosmetics, personal care, household detergents, beverage bottle/can wrapping, pharmaceuticals, medical and other technical products such as utensils and tools which might not be included in the definition of FMCG.

[SOURCE: ISO 21067-1:2016, 2.2.20, modified – ‘Notes to entry added’]

3.8**composite packaging**

unit of packaging made of two or more different materials which are part of the weight of the main packaging material and cannot be separated manually and therefore form a single integral unit, unless one of the materials constitutes an insignificant part of the packaging unit and in any event no more than 5 % of the total mass of the packaging unit and excluding labels, varnishes, paints, inks, adhesives and lacquers

[SOURCE: REGULATION (EU) 2025/40]

3.9

packaging component

part of packaging that can be separated by hand or by using simple physical means

[SOURCE: ISO 21067-2:2015, definition 2.1.1]

3.10

main body of the packaging unit

packaging part of the packaging unit with the highest share, by weight, except closure on flexible packaging

3.11

integrated component

packaging component, whether or not of the same material as, or distinct from, the main body of the packaging unit, that is integral to the packaging unit and its functioning, that does not need to be separated from the main body of the packaging unit in order to ensure the functionality of the packaging unit and that is typically discarded at the same time as the main body of the packaging unit, although not necessarily via the same disposal route

[SOURCE: REGULATION (EU) 2025/40]

3.12

separate component

packaging component, whether or not from the same material as the main body of the packaging unit, that is distinct from the main body of the packaging unit, that needs to be disassembled completely and permanently from the main body of the packaging unit and that is typically discarded prior to and separately from the main body of the packaging unit, including packaging components that can be separated from each other simply through mechanical stress during transportation and sorting

[SOURCE: REGULATION (EU) 2025/40]

3.13

predominant material

material (whether a specific polymer type, paper, metal, glass or other) with the highest share, by mass, in the main body or a separate component

3.14

packaging constituent

part from which packaging or its components are made and which cannot be separated by hand or by using simple physical means

[SOURCE: ISO 21067-2:2015, definition 2.1.2]

3.15

recyclability

compatibility of packaging with the management and processing of waste by design, based on separate collection, sorting in separate streams, recycling at scale and the use of recycled materials to replace primary raw materials

[SOURCE: REGULATION (EU) 2025/40]

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3.16

compatibility

degree to which a material or component or constituent can be processed without negatively impacting the quality, the process or the yield of the process.

3.17

design for recycling

design of packaging, including individual components of packaging, that ensures the recyclability of the packaging with established collection, sorting and recycling processes proven in an operational environment

[SOURCE: REGULATION (EU) 2025/40]

3.18

technically recyclable

packaging design for material recycling, described in the green and the yellow columns, state-of-the-art collection, sorting and recycling

3.19

green category

category for identifying components or constituents of a plastic package that is in the scope of the design for recycling guidelines of a given packaging type and are recognized as compatible with state-of-the-art collection, sorting and recycling processes or are demonstrated as suitable for recycling through technical evaluation and can fully meet the quality requirements of secondary raw material in the recycling process

3.20

yellow category

category for identifying components or constituents of a plastic package that is in the scope of the design for recycling guidelines of a given packaging type and are recognized as acceptable with limited compatibility with state-of-the-art collection, sorting and recycling processes, or are demonstrated as having limited compatibility through technical evaluation or will not meet all the quality requirements for secondary raw material in the recycling process

3.21

red category

category for identifying components or constituents of a plastic package that is in the scope of the design for recycling guidelines of a given packaging type and generally leads to rejection of the packaging item in state-of-the-art sorting or recycling processes or are generally recognized as detrimental (disrupting) for recycling or are demonstrated as disrupting for recycling through technical evaluation or are demonstrated as unacceptably downgrading the yield or the quality of plastic secondary raw materials

3.22

state-of-the-art

generally recognized good practice in the European market

Note 1 to entry: Preferably technology openly available for the market.

Note 2 to entry: State-of-the-art fulfilling the following non-exhaustive criteria, proven and commercially available, technology at TRL9, delivering sufficient results in terms of yield and quality, already in use in the European market, affordable to relevant economic operators in the EU.