
Embalaža - Načrtovanje za recikliranje plastične embalaže - Smernica za načrtovanje za recikliranje toge embalaže iz biorazgradljive plastike

Packaging - Design for recycling for plastic packaging products - Guideline for design for recycling of rigid packaging made of biodegradable plastics

Verpackung - Recyclingorientierte Gestaltung von Kunststoffverpackungsprodukten - Leitfaden für die recyclingorientierte Gestaltung von starren Verpackungen aus biologisch abbaubaren Kunststoffen

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ICS:

13.030.50	Recikliranje	Recycling
55.020	Pakiranje in distribucija blaga na splošno	Packaging and distribution of goods in general
83.080.20	Plastomeri	Thermoplastic materials

kSIST-TS FprCEN/TS 18382:2026 **en,fr,de**

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This draft Technical Specification is submitted to CEN members for Vote. It has been drawn up by the Technical Committee CEN/TC 261.

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European foreword

This document (FprCEN/TS 18382:2026) has been prepared by Technical Committee CEN/TC 261 “Packaging”, the secretariat of which is held by AFNOR.

This document is currently submitted to the Vote on TS.

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Introduction

Biodegradable plastics are polymeric materials with the special intrinsic property that is determined by the composition and structure of a material allowing them to biodegrade under specific environmental conditions. Biodegradability of polymeric materials is determined by the chemical structure responsible for functional group stability, reactivity, hydrophilicity and swelling behaviour. The rate and extent of biodegradation depend on the polymer's chemical composition, crystallinity, molecular weight, and environmental parameters such as temperature, moisture, pH, and microbial community composition.

From this perspective, biodegradable plastics are very different from other plastics in that they have several end-of-life options and should not be treated together with the general group. While compostability was in the focus for many years, biodegradable plastics are also recyclable as was proven in numerous studies.

This is especially true for the biodegradable polyesters like PLA, PBAT, PHA, PBS and the like, which behave similar to PET. However, separate sorting and recycling at scale is still to be built up and recycling technologies are not mature yet. Therefore, this Technical Specification (TS) is based on the best available knowledge and expertise at the time of drafting, including experience from companies currently engaged in biodegradable plastics recycling and from ongoing European projects related to the scale up of sorting and recycling procedures for these materials and from other plastics. **This document provides guidance based on current technological capabilities and does not represent state-of-the-art collection, sorting and recycling as defined in EN 18120.** As technical developments progress and further consensus is achieved the content of this Technical Specification may be subject to modification, review and revision.

The objective of this TS is to facilitate consistent design for recycling criteria for rigid packaging made from biodegradable plastics, ensuring that when technologies mature and/or are brought to a larger scale, these specifications can be smoothly incorporated into the broader standard framework.

This technical specification (TS) intends to follow the philosophy of EN 18120. Given the early market implementation in Europe of packaging made from biodegradable plastics and the low volumes of such packaging currently in the waste streams, existing material recycling technologies for packaging waste made from biodegradable plastics (with levels of maturity varying depending on the polymer type) do not currently fit into the "state-of-the-art" definition as set in EN 18120. Therefore, these TS are proposed outside the scope of EN 18120 at this stage, while maintaining its philosophy and structure as closely as possible. EN 18120 aims via series of guidelines and protocols to establish consistency and improvement for the Design for recycling for household, industrial and commercial plastic packaging products.

Design for recycling guidelines are a common way of describing compatibility with plastic packaging collection, sorting and recycling into recycled plastic. They provide guidance on the level compatibility, defined as:

- Green: Packaging constituents with full compatibility with collection, sorting and recycling;
- Yellow: Packaging constituents with limited compatibility with collection, sorting and recycling;
- Red: Packaging constituents which are not compatible with collection, sorting and recycling.

These categories reflect compatibility under current technological conditions and do not represent state-of-the-art recycling performance as defined in EN 18120. Recyclability guidelines will require regular review and improvement to reflect innovations in design, collection, sorting and recycling.

The Design for Recycling Guidelines provided in this series of documents are representative of the European market and cover all steps from design for recycling, packaging waste collection, sorting, recycling into recycled plastic and to use in a new application. Compliance with the design guidelines 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 for recycling, proven collection, sorting, and recycling.

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