



SLOVENSKI STANDARD
oSIST prEN 18065:2024
01-maj-2024

Polimerni materiali - Reciklirani polimerni materiali - Razvrstitev recikliranih polimernih materialov na podlagi ravni kakovosti podatkov za uporabo in (digitalno) trgovanje

Plastics - Recycled plastics - Classification of recycled plastics based on Data Quality Levels for use and (digital) trading

Kunststoffe - Kunststoff-Rezyklate - Klassifizierung von Kunststoff-Rezyklate durch Datenqualitätslevels für die Verwendung und den (internetbasierten) Handel

Plastiques - Plastiques recyclés - Classification des plastiques recyclés sur la base des niveaux de qualité des données pour l'utilisation et le commerce (numérique)

Ta slovenski standard je istoveten z: prEN 18065

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35.240.63	Uporabniške rešitve IT v trgovini	IT applications in trade
83.080.01	Polimerni materiali na splošno	Plastics in general

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ICS 13.030.50; 83.080.01

English Version

Plastics - Recycled plastics - Classification of recycled plastics based on Data Quality Levels for use and (digital) trading

Classification des plastiques recyclés par niveaux de qualité des données pour l'utilisation et le commerce (digital)

Kunststoff-Rezyklate - Klassifizierung durch Datenqualitätslevels für die Verwendung und den (internetbasierten) Handel

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 249.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 18065:2024) has been prepared by Technical Committee CEN/TC 249 “Plastics”, the secretariat of which is held by SIS.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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Introduction

This document was drafted as an umbrella standard for a series of standards for the classification of recycled plastics, pursuant to the Standardization Request of the European Commission (SReq M/584), annexed to the Commission Implementing Decision C(2022) 5372 as regards plastics recycling and recycled plastics in support of the European Strategy for Plastics in a Circular Economy. With decision from August 10, 2022, CEN and CEN Technical Boards have accepted the Standardization Request. It aims to establish a coherent classification and designation system for recycled plastics, irrespective of polymer and application type, and provides a unified framework with existing and future standards in the field of recycled plastics. It further addresses the need of creating digital product passports for recyclates in order to ensure a unified transfer of data as the material passes through the value chain and thus enable a more holistic circular economy for plastics.

This document has been developed with a view towards creating synergies between the digital and green transition. By measuring and controlling inputs, and with increased automation, technologies like robotics and the internet of things could improve resource efficiency and strengthen the flexibility of systems and networks. Digital technologies could also support monitoring, reporting and verification of greenhouse gas emissions for carbon pricing. Digital product passports enable enhanced material, component and end-to-end traceability and make data more accessible, which is essential for viable circular business models.¹

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¹ European Commission (2022), *2022 Strategic Foresight Report. Twinning the green and digital transitions in the new geopolitical context*, COM (2022), 289 final, p. 2.

1 Scope

This document defines a system for the classification of recycled plastics based on the available data depth (Data Quality Levels, DQL) and provides guidelines for the labelling of the recyclate type and recycled content in compounds.

It is intended to support parties involved in the use and trading of recycled plastics, explicitly including digital trading platforms.

2 Normative references

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

CEN/TR 15353:2007, *Plastics - Recycled plastics - Guidelines for the development of standards for recycled plastics*

CEN/TS 16010, *Plastics - Recycled plastics - Sampling procedures for testing plastics waste and recyclates*

CEN/TS 16011, *Plastics — Recycled plastics — Sample preparation*

EN 10204, *Metallic products - Types of inspection documents*

EN 17615:2022, *Plastics - Environmental Aspects - Vocabulary*

EN ISO 472:2013, *Plastics - Vocabulary (ISO 472:2013)*

EN ISO 1043-1, *Plastics - Symbols and abbreviated terms - Part 1: Basic polymers and their special characteristics (ISO 1043-1)*

EN ISO 1043-2, *Plastics - Symbols and abbreviated terms - Part 2: Fillers and reinforcing materials (ISO 1043-2)*

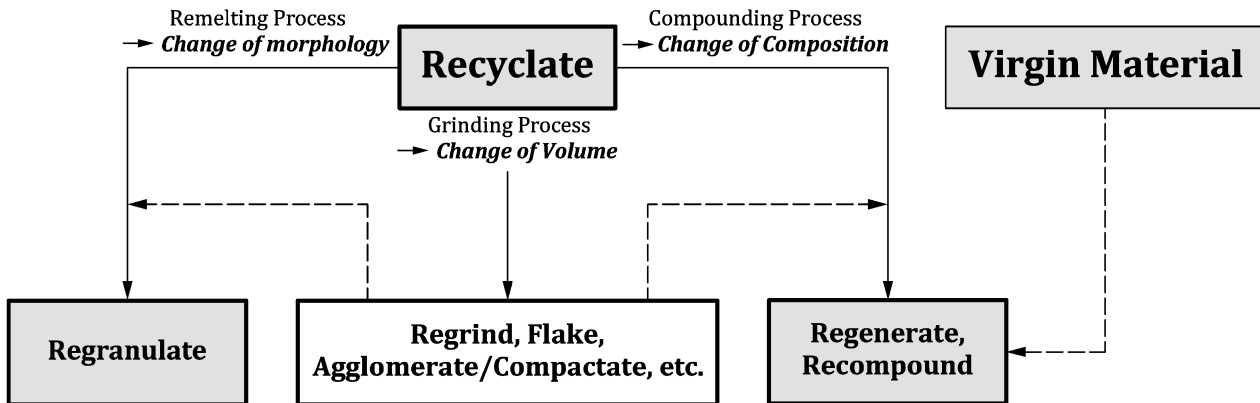
3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 472, EN 17615 and CEN/TR 15353, the abbreviated terms related to recyclates given in EN ISO 1043-1, and the following 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/>

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NOTE References to this figure are made in the relevant definitions below.

Figure 1 — Illustration of terms

3.1 additive

substance which is used to process or to modify end use properties of plastics

Note 1 to entry: Mentioned substances are normally included in carrier matrix.

Note 2 to entry: Mentioned final use properties are e.g. rigidity, flexibility, colour etc.

[SOURCE: EN 17615:2022, 3.4]

3.2 agglomerate compactate

larger particles formed by joining or binding together of smaller particles whose original identity can still be visible in the final form

Note 1 to entry: See also Figure 1.

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[SOURCE: EN 17615:2022, 3.6, modified — “compactate” was added as alternative term, Note 1 to entry was replaced by a new Note 1 to entry.]

3.3 characteristic

property (3.16) of or information (3.9) about a material

3.4 compound

intimate mixture of a polymer in melt with other ingredients such as fillers, plasticizers, polymers, catalysts, colorants or other additives

[SOURCE: EN ISO 472:2013, 2.184, modified — “in melt” was added; “of polymers” was moved towards iterative list; “and” was replaced with “or”]

3.5 contaminant non-target materials

DEPRECATED: impurity

undesired substance or material

[SOURCE: EN 17615:2022, 3.68 – modified: “non-target materials” added as synonym term]

3.6

Data Quality Level

DQL

specific combination of characteristics (3.3) about the material

Note 1 to entry: Every DQL is defined by the amount of minimum material characteristics given (3.3) (e.g. information and/or properties, application-specific characteristics) as specified in Annex A.

Note 2 to entry: DQLs are documented in form of a technical documentation. For examples of technical documentation, see below.

Note 3 to entry: Claiming ignorance of a characteristic does not meet the reporting requirement on any specific DQL.

3.7

filler

relatively inert solid material added to a plastic or to an adhesive to modify its strength, permanence, working properties or other qualities, or to lower costs

Note 1 to entry: Fillers are for example glass fibres, carbon fibres, natural fibres, talcum, and other minerals.

[SOURCE: EN ISO 472:2013, 2.369, modified — Note 1 and Note 2 to entry were removed and a new Note 1 to entry was added. The term “chalk” was substituted by the term “other minerals”.]

3.8

flake

plate-like regrind

Note 1 to entry: The shape of regrind depends both on the plastics being processed and the manner of processing.

Note 2 to entry: See also Figure 1.

[SOURCE: ISO 15270:2008, 3.15, modified — Note 2 to entry added.]

3.9

information

material characteristic that has not been validated using a scientific measurement method

Note 1 to entry: For the purpose of this document, a characteristic (3.3) of the material that has been validated via a scientific measurement method is considered as a property (3.16).

3.10

lot

definite quantity of some commodity manufactured or produced under conditions that are presumed uniform

Note 1 to entry: The term “batch” is sometimes used synonymously.

[SOURCE: EN ISO 472:2013, 2.560, modified — Note 1 to entry added.]

prEN 18065:2024 (E)**3.11****machine-readable**

set of data or information that can be read, processed or altered by a computer without human intervention

Note 1 to entry: For the purpose of this document, a PDF-format is not considered “machine-readable”.

Note 2 to entry: Such data will generally be stored in a format that it can be read and processed by software and hardware, often using standardized formats such as XML, JSON, CSV or RDF.

3.12**original use of material**

intended and/or realized use-case of the material

Note 1 to entry: “Original use of material” does not indicate the waste stream from which the material stems. For this, see post-consumer (3.12) and post-industrial (3.13) respectively.

Note 2 to entry: Examples for “original use of material”: stretch foil for packaging industry; rigid packaging for cosmetics industry.

Note 3 to entry: If the original use of the material is not known, it can be indicated as stemming from “mixed waste”.

3.13**post-consumer plastic waste**

plastic waste, generated by the end-users of products, that has fulfilled its intended purpose and can no longer be used for its intended purpose

Note 1 to entry: The term “post-use” is sometimes used synonymously.

[SOURCE: EN 17615:2022]

3.14**post-industrial plastic waste****pre-consumer plastic waste**

plastic material or product which the holder discards or intends or is required to discard before it has been put in use

Note 1 to entry: This term excludes re-utilized material that has been generated in a given process and is capable of being reclaimed within that same process (for example in the form of rework, regrind or scrap).

Note 2 to entry: This term excludes in-house-scrap.

Note 3 to entry: Discarded material can still be recycled in-house.

[SOURCE: EN 17615:2022]

3.15**product**

resins, material or objects/articles resulting from a production process

Note 1 to entry: The product can be a material, semi-finished or final product, for example Polyethylene resin derived from petroleum or biomass, bioPE film, PET resins, PET bottles, monomers, plasticizers.

[SOURCE: ISO 16620-1:2015, 3.1.8]

3.16**Product Data Sheet****PDS**

overview that provides basic and – depending on DQL level – additional information about the material, the source and the recycling process as well as, in addition, properties as guide values that are based on a certain number of single measurements

Note 1 to entry: Due to the fundamentally different content, it is no Material Safety Data Sheet (MSDS), e.g. based on EC1907/2006 or any other legal requirement.

3.17**property**

material characteristic that has been determined using a scientific measurement method

Note 1 to entry: For the purpose of this document, a characteristic (3.3) of the material that has not been validated via a scientific measurement method is considered as information (3.9).

3.18**recyclate****recycled plastic****secondary raw material**

plastics material resulting from recycling of plastic waste, that ceased to be waste and can be used for the manufacturing of new articles or products

Note 1 to entry: Recyclates may be reformulated using additives.

Note 2 to entry: the terms “secondary raw material” and “recyclate” are commonly used synonymously with “recycled plastic”.

Note 3 to entry: A Recyclate generated from post-industrial plastic waste is called post-industrial recyclate (PIR), a recyclate generated from post-consumer plastic waste is called post-consumer recyclate (PCR).

Note 4 to entry: Throughout the document, the term recyclate is used as a an abbreviated term for plastic recyclate.

[SOURCE: EN 17615:2022, 3.209 – modified: Notes 2, 3 and 4 to entry were added]

3.19**recycled content**

proportion, by mass, of recycled material in compounds or a product or proportion, by mass, of recycled material attributed to a product

Note 1 to entry: Only recycled post-industrial plastic waste and recycled post-consumer plastic waste shall be considered as recycled content.

Note 2 to entry: Recycled content can be attributed through various chain of custody models outlined in ISO 22095:2020.

[SOURCE: EN ISO 14021:2021, 7.8.1.1, a), modified —, added “or recycled material attributed to a product” Adapted to fit style rules, “in a product or packaging” was replaced by “in compounds or a product”, in Note 1 to entry “pre-consumer” was replaced by “recycled post-industrial”, “recycled” was added before “post-consumer”, added Note 2. Note 2 to entry was modified, the term “material” was replaced by “plastic waste”]