SLOVENSKI STANDARD
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Polimerne cevi in fitingi - Uporaba recikliranih plastomerov - 1. del: Terminologija

Plastics pipes and fittings - Utilisation of thermoplastics recyclates - Part 1: Vocabulary

Kunststoff-Rohrleitungen und -Formstücke - Verwendung von thermoplastischen Rezyklaten - Teil 1: Begriffe

Tubes et raccords en plastique - Utilisation de recyclats thermoplastiques - Partie 1 : Vocabulaire

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English Version

Plastics pipes and fittings - Utilisation of thermoplastics recyclates - Part 1: Vocabulary

Tubes et raccords en plastique - Utilisation de recyclats thermoplastiques - Partie 1 : Vocabulaire

Kunststoff-Rohrleitungen und -Formstücke - Verwendung von thermoplastischen Rezyklaten - Teil 1: Begriffe

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 14541-1:2022) has been prepared by Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems”, the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by November 2022, and conflicting national standards shall be withdrawn at the latest by November 2022.

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.

This document, together with Part 2 of the EN 14541 series, supersedes CEN/TS 14541:2013.

This document is part of the new EN 14541 series, which will consist of the following parts under the general title *Plastics pipes and fittings - Utilisation of thermoplastics recyclates*:

a) *Part 1: Vocabulary* (this document);

b) *Part 2: Recommendations for relevant characteristics*.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

Introduction

The EN 14541 series is intended to give recommendations to the value chain of thermoplastics piping systems to stimulate the use of thermoplastics recyclates (e.g. PVC-U, PVC-C, PE, PP, and ABS) as defined in the European circular economy policy.

This part of the EN 14541 series defines the relevant terms and definitions related to the use of thermoplastics recyclates in thermoplastics pipes and fittings. The commonly used terms and definitions are reviewed, and as much as possible aligned with the practises within the thermoplastics pipes and fittings value chain and the vocabulary used in European policy documents (e.g. circular economy, sustainability) and existing international standards.

Part 2 is a CEN/TS document in which recommendations are given about the relevant characteristics for defining (e.g. fingerprinting) commonly used thermoplastics recyclates intended to be used in thermoplastics pipes and fittings.

NOTE These characteristics are intended for use within an agreed specification.

CEN/TC 249 “Plastics” developed a series of CEN publications on “Plastics Recycling” which consists of:

EN 15343 [1], EN 15344 [2], EN 15345 [3], EN 15346 [4], CEN/TS 16010 [5] and CEN/TS 16011 [6].

Other documents that discuss recycling are e.g. ISO 15270 [7] and Waste Framework Directive [8].

1 Scope

This document specifies the general terms and definitions relevant for the utilization of thermoplastics recyclates in thermoplastics pipes, fittings and ancillaries for both pressure and non-pressure piping systems.

This document is intended to be used by specification writers in conjunction with CEN/TS 14541-2 when preparing normative documents under the scope of CEN/TC 155.

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.

EN ISO 472:2013[1], *Plastics - Vocabulary (ISO 472:2013)*

CEN/TS 14541-2, *Plastics pipes and fittings - Utilisation of thermoplastics recyclates - Part 2: Recommendations for relevant characteristics*

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 472:2013[1] and CEN/TR 15353, the abbreviated terms related to recyclates given in EN ISO 1043-1 and the following apply.

ISO and IEC maintain terminological 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
virgin material
plastics material in the form of pellets, granules, powder, floc, etc. that has not been subjected to use or processing other than that required for its initial manufacture

Note 1 to entry: Does not contain any reworked plastics material and/or plastics recyclate.

Note 2 to entry: Sometimes also referred to as “primary material” or “primary plastics feedstock”.

Note 3 to entry: It is understood that the addition of additives such as stabilizers and pigments is still resulting into a virgin (plastics) material.

[SOURCE: ISO 472:2013, 2.1231, modified – Note 1 to entry, Note 2 to entry and Note 3 to entry added]

[1] As impacted by EN ISO 472:2013/A1:2018.

3.2
reworked material
plastics material from rejected unused products or trimmings capable of being reclaimed within the same process that generated it

Note 1 to entry: Reworked material does not change the status of the feedstock.

Note 2 to entry: This definition does not cover the conditions for the use of reworked material, which can be found in the applicable product standard.

Note 3 to entry: Previously referred to as "own reprocessed material".

3.3
pre-consumer material
plastics material diverted from the waste stream during a manufacturing process, excluding reworked (plastics) material

Note 1 to entry: Previously referred to as "post-industrial material".

Note 2 to entry: Different categories of pre-consumer material may be considered in the applicable product standard.

[SOURCE: ISO 14021:2016, 7.8.1.1 modified – "plastics" added, text deleted after "rework" and 2 Notes to entry introduced]

3.4
post-consumer material
plastics material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose

Note 1 to entry: This includes returns of material from the distribution chain.

Note 2 to entry: Different categories of post-consumer material may be considered in the applicable product standard.

[SOURCE: ISO 14021:2016, 7.8.1.1 modified – "plastics" added, last sentence changed into Note 1 to entry and Note 2 to entry introduced]

3.5
recyclate
plastics material resulting from the recycling of pre-consumer and post-consumer plastics products

Note 1 to entry: Also referred to as "secondary raw material" or "recycled plastics" or "regenerate".

Note 2 to entry: Recycling can be chemical, physical or mechanical.

[SOURCE: ISO 472:2013, 2.1705, modified – Note 1 to entry and Note 2 to entry deleted, new Note 1 to entry and Note 2 to entry introduced and "plastic waste" changed into "pre-consumer and post-consumer plastics products"]

3.6
recycled content
proportion, by mass, of recyclate in a product

[SOURCE: ISO 14021:2016, 7.8.1.1 modified – second sentence deleted]

3.7
recycling
processing of plastics products into recyclate, for the original purpose or for other purposes, excluding energy recovery

[SOURCE: ISO 472:2013, 2.1706, modified – "Waste materials" changed into "Plastics products"]

3.8
mechanical recycling
processing of plastics products into recyclate without significantly changing the chemical structure of the material

[SOURCE: ISO 472:2013, 2.1697, modified – "waste into secondary raw material or products" changed into "products into recyclate"]

3.9
chemical recycling
conversion to monomer or production of new raw materials changing the chemical structure of plastics products/materials by cracking, gasification or depolymerization, excluding energy recovery and incineration

[SOURCE: ISO 472:2013, 2.1690, modified – Note 1 to entry deleted]

3.10
micronized material
plastics material finely ground into powder

[SOURCE: CEN/TR 15353]

3.11
compound/formulation
clearly defined homogenous mixture of substances used for the manufacture of the product

Note 1 to entry: In general, the term "compound" is used for polyolefins and the term "formulation" for PVC.

Note 2 to entry: For metals and when dealing with water and food contact regulations the term "composition" is often used instead of compound/formulation.

3.12
granulate
relatively small particle produced in various sizes and shapes in operations such as cutting, grinding and granulation

Note 1 to entry: Often also referred to as "pellet" or "granules".

[SOURCE: ISO 472:2013, 2.450, modified – "crushing, precipitation and polymerization" deleted, Note 1 to entry deleted and new Note 1 to entry introduced]

3.13
batch
definite quantity of some commodity manufactured or produced under conditions that are presumed uniform

Note 1 to entry: Batch can apply to material and products.

[SOURCE: ISO 472:2013, 2.560, modified – definition name changed from "lot" to "batch"]

3.14
contaminant
unwanted substance or material

[SOURCE: ISO 472:2013, 2.1684, modified – Note 1 to entry deleted]

3.15
agreed specification
specification of the relevant material characteristics agreed between the supplier of the recylate and the pipe and/or fitting manufacturer

Note 1 to entry: The agreed specification is often considered in the context of certification by a third party organization.

4 Abbreviations

PE: polyethylene

PP: polypropylene

PVC-C: chlorinated poly(vinyl chloride)

PVC-U: unplasticized poly(vinyl chloride)

ABS: acrylonitrile butadiene styrene