



SLOVENSKI STANDARD

oSIST prEN 14243-1:2018

01-januar-2018

Snovi iz izrabljenih avtomobilskih gum - 1. del: Splošne definicije, povezane z metodami za določanje njihovih mer in nečistoč

Materials obtained from end of life tyres - Part 1: General definitions related to the methods for determining their dimension(s) and impurities

Materialien aus Altreifen - Teil 1: Allgemeine Definitionen der Methode zur Bestimmung der Abmessungen und Verunreinigungen

Matériaux produits à partir de pneus usagés non réutilisables (PUNR) - Partie 1 : Définitions générales relatives aux méthodes de détermination de leur(s) dimension(s) et impuretés

Ta slovenski standard je istoveten z: prEN 14243-1

ICS:

13.030.50	Recikliranje	Recycling
83.160.01	Avtomobilske pnevmatike na splošno	Tyres in general

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EUROPEAN STANDARD
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English Version

Materials obtained from end of life tyres - Part 1: General definitions related to the methods for determining their dimension(s) and impurities

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 366.

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.

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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 14243-1:2017) has been prepared by Technical Committee CEN/TC 366 “Materials obtained from End-of-Life Tyres (ELT)”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede CEN/TS 14243:2010.

prEN 14243, *Materials obtained from end of life tyres*, consists of the following parts:

- *Part 1: General definitions related to the methods for determining their dimension(s) and impurities;*
- *Part 2: Granulates and powders — Methods for determining their dimension(s) and impurities, including free steel and free textile content;*
- *Part 3: Shreds, cuts and chips — Methods for determining their dimension(s) including protruding filaments dimensions;*
- *Part 4: Steel wires and textile fibres — Methods for their characterization.*

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Introduction

This Standard will be used in conjunction with the other parts of the prEN 14243 series. Such series is intended to cover the testing programs needed to characterize each product category as shown on the figure below.

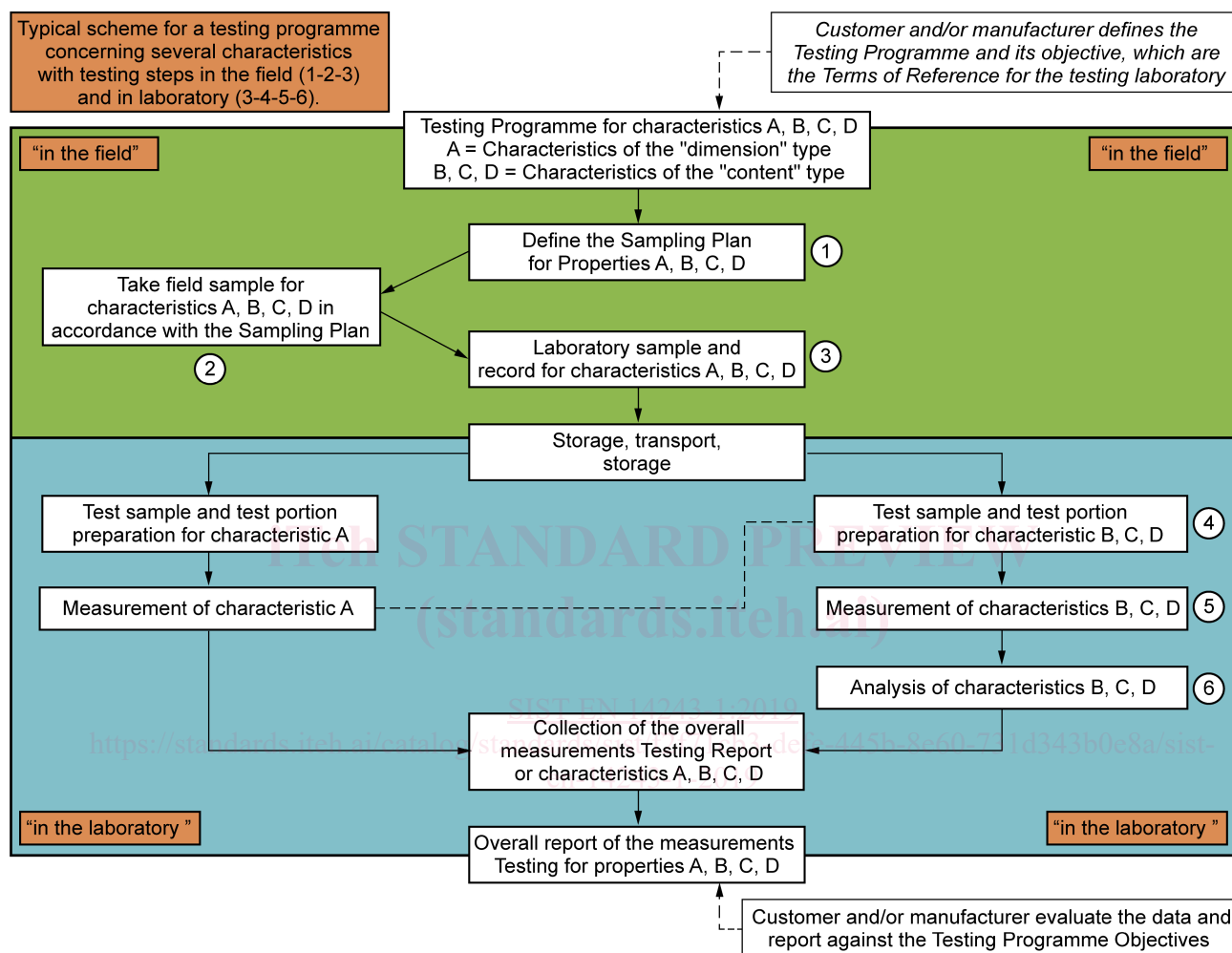


Figure 1 — Typical scheme for a testing programme concerning several characteristics with testing steps in the field and in the laboratory

End-of-life tyres consist mainly of passenger and commercial vehicle tyres, truck, earthmover and agricultural tyres manufactured for distribution in the European market that are no longer suitable for their original purpose. Products from end-of-life tyres are used as a secondary raw material finding a wide range of applications. The principal categories of materials from end-of-life tyres are defined on the basis of their dimension(s) according to this Standard.

European Standards are needed for the production, trade and use of the materials from end-of-life tyres. They are also useful for buyers, regulators, controllers and laboratories.

1 Scope

This European Standard provides general definitions for sample collection and preparation of a representative sample based on a sampling plan for the purpose of determining dimensions and impurities.

This Standard does not cover the operational performance or fitness for use of the materials which are deemed to be a function of agreements between the manufacturer and the customer.

This Standard does not purport to address all of the safety concerns, if any, associated with its use. This Standard does not establish appropriate safety and health practices and does not determine the applicability of regulatory limitations prior to use.

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.

prEN 14243-2, *Materials obtained from end of life tyres — Part 2: Granulates and powders - Methods for determining their dimension(s) and impurities, including free steel and free textile content*

prEN 14243-3, *Materials obtained from end of life tyres — Part 3: Shreds, cuts and chips - Methods for determining their dimension(s) including protruding filaments dimensions*

prEN 14243-4, *Materials obtained from end of life tyres — Part 4: Steel wires and textile fibres - Methods for their characterization*

3 Terms and definitions

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

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

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

3.1 Sampling and sample preparation:

3.1.1

sample

portion of material selected from a larger quantity of material

[SOURCE: IUPAC definition]

3.1.2

sub-sample

portion of a sample

3.1.3

increment

sub portion of material extracted in a single operation by the sampling device

[SOURCE: ISO 13909:2016, 3.15, modified]

prEN 14243-1:2017 (E)**3.1.4****characteristic**

property which helps to identify or differentiate items of a given population

Note 1 to entry: The characteristic may be either quantitative (by variables) or qualitative (by attributes).

3.1.5**lot**

defined quantity of material for which a characteristic is to be determined

Note 1 to entry: In sampling standards the lot is also designated as the “scale”.

Note 2 to entry: The lot (or the scale) is a stated weight or volume of material that is considered appropriate for assessing a given characteristic of the material. When several characteristics need to be determined, the corresponding lots may not be identical.

Note 3 to entry: Variations occurring in the material on a smaller scale than the defined lot are not taken into account and are deemed not to be of relevance.

3.1.6**combined sample**

sample consisting of all the increments taken from a lot

Note 1 to entry: A combined sample is a quantity of material, representative of the lot for which the quality is to be determined.

3.1.7**field sample**

sample taken in the field and from which laboratory samples are produced

3.1.8**laboratory sample**

sample or sub-sample sent to or received by the laboratory

[SOURCE: IUPAC definition]

Note 1 to entry: When the laboratory sample has been prepared (reduced) by subdivision, mixing, or crushing, or by a combination of these processes, it becomes the test sample. A laboratory sample that requires no preparation can be used directly as the test sample. A test portion is removed from the test sample for testing or analysis purposes. The laboratory sample is the final sample from the point of view of sample collection but it is the initial sample from the point of view of the laboratory testing and analysis.

Note 2 to entry: Several laboratory samples can be prepared and sent to different laboratories or they can be sent to the same laboratory for different purposes. In the latter case, they are generally considered to be a single laboratory sample and documented as such.

3.1.9**test sample**

sample prepared from the laboratory sample, from which the test portions are removed for testing or for analysis

[SOURCE: IUPAC definition]

3.1.10**test portion**

quantity or volume removed from the test sample for analysis purposes

[SOURCE: IUPAC definition]

3.1.11**population**

totality of items, or total volume of material, to be investigated by sampling

Note 1 to entry: The population will generally be a convenient, well-defined subset of the overall population (e.g. a year's production of material) that is believed to be typical of that wider population.

3.1.12**representative sample**

sample resulting from a sampling plan that can be expected to adequately reflect the properties of interest of the parent population

[SOURCE: IUPAC definition]

Note 1 to entry: This sample is expected to reflect adequately the properties of interest in the parent population.

3.1.13**probabilistic sampling**

sampling conducted according to the statistical principles of sampling

3.1.14**judgement based sampling**

sampling undertaken from a practically convenient (perhaps relatively small) sub-population, not conducted fully in accordance with the statistical principles of sampling

3.1.15**sample division**

reduction of the mass of a sample or sub-sample

3.2 Materials derived from ELTs:**3.2.1****end-of-life tyre**

tyre no longer suitable for its original purpose

3.2.2**cut**

result of mechanical processes by which end-of-life tyres are fragmented, ripped or torn into irregularly formed pieces typically larger than 300 mm in size

3.2.3**shred**

result of mechanical processes by which end-of-life tyres are fragmented, ripped or torn into irregular pieces of typically 20 mm to 400 mm in any dimension

prEN 14243-1:2017 (E)**3.2.4****format**

range of shreds size based on the distribution of the maximum projected length of shreds produced from end-of-life tyres

3.2.5**chip**

result of mechanical processes by which end-of-life tyres are fragmented, ripped or torn into irregularly shaped pieces of typically 10 mm to 50 mm in size

3.2.6**granulate**

ELT derived rubber particles typically between 0,8 mm and 20 mm obtained from a granulation process

3.2.7**powder**

ELT derived rubber particles typically less than 0,8 mm obtained from a granulation process

3.2.8**impurity**

substance that is not part of the polymeric matrix in granulates and powders, such as steel, textile and remaining other substances

3.2.9**steel wires**

result of processing end-of-life tyres that can be separated from textile and rubber fractions

3.2.10**textile fibres**

result of processing end-of-life tyres that can be separated from steel and rubber fractions

3.2.11**bonded textile**

textile which is bounded or partially bounded to rubber matrix (such as granulates, chips etc.)

3.2.12**filament**

steel wire or textile fibre protruding from pieces of shreds, cuts and chips

3.2.13**residual rubber**

rubber part remaining attached to steel wires or textile fibre after the process of separation

3.2.14**free steel**

fraction of the steel not embedded in granulates or powders which can be separated with a magnetic process

Note 1 to entry: This fraction can still contain some protruding steel wires.

3.2.15**protruding steel wire**

fraction of steel wire extending from granulates