
**Snovi iz izrabljenih avtomobilskih gum (ELTs) - Določanje prave gostote
granulatov - Metoda, ki temelji na vodni piknometriji**

Materials obtained from end of life tyres (ELTs) - Determination of the true density of
granulates - Method based on water pycnometry

Materialien aus Altreifen - Bestimmung der tatsächlichen Dichte von Granulaten -
Methode auf der Grundlage von Wasser-Pyknometrie

Matériaux obtenus à partir de pneus usagés non réutilisables (PUNR) - Détermination de
la densité vraie des granulats - Méthode basée sur la pycnométrie à eau

Ta slovenski standard je istoveten z: CEN/TS 17189:2018

[SIST-TS CEN/TS 17189:2024](https://standards.sist.si/cen-ts-17189-2024)

ICS:

13.030.50	Recikliranje	Recycling
83.160.01	Avtomobilske pnevmatike na splošno	Tyres in general

SIST-TS CEN/TS 17189:2024**en,fr,de**

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 17189

June 2018

ICS 13.030.50; 83.160.01

English Version

**Materials obtained from end of life tyres (ELT) -
Determination of the true density of granulates - Method
based on water pycnometry**

Matériaux obtenus à partir de pneus usagés non
réutilisables (PUNR) - Détermination de la densité
vraie des granulats - Méthode basée sur la pycnométrie
à eau

Materialien aus Altreifen (ELTs) - Bestimmung der
tatsächlichen Dichte von Granulaten - Methode auf der
Grundlage von Wasser-Pyknometrie

This Technical Specification (CEN/TS) was approved by CEN on 2 March 2018 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Document Preview

[SIST-TS CEN/TS 17189:2024](https://standards.iteh.ai/catalog/standards/sist/3aba81e2-60ff-46cc-bddf-68e73f26ccc0/sist-ts-cen-ts-17189-2024)

<https://standards.iteh.ai/catalog/standards/sist/3aba81e2-60ff-46cc-bddf-68e73f26ccc0/sist-ts-cen-ts-17189-2024>



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

CEN/TS 17189:2018 (E)

Contents		Page
European foreword.....		3
Introduction		4
1	Scope.....	5
2	Normative references.....	5
3	Terms and definitions	5
4	Principle	5
5	Apparatus.....	6
5.1	Scales	6
5.2	Pycnometer	6
5.3	Vacuum chamber.....	6
6	Procedure.....	6
6.1	Sampling.....	6
6.2	Method	6
7	Expression of results.....	7
8	Test report.....	8
Bibliography.....		9

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST-TS CEN/TS 17189:2024](https://standards.iteh.ai/catalog/standards/sist/3aba81e2-60ff-46cc-bddf-68e73f26ccc0/sist-ts-cen-ts-17189-2024)

<https://standards.iteh.ai/catalog/standards/sist/3aba81e2-60ff-46cc-bddf-68e73f26ccc0/sist-ts-cen-ts-17189-2024>

European foreword

This document (CEN/TS 17189:2018) 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.

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.

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

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[SIST-TS CEN/TS 17189:2024](https://standards.itih.ai/catalog/standards/sist/3aba81e2-60ff-46cc-bddf-68e73f26ccc0/sist-ts-cen-ts-17189-2024)

<https://standards.itih.ai/catalog/standards/sist/3aba81e2-60ff-46cc-bddf-68e73f26ccc0/sist-ts-cen-ts-17189-2024>

CEN/TS 17189:2018 (E)

Introduction

True density is a key measurement for product characterization of size-reduced materials such as granulates. This Technical Specification defines a specific method for granulates taking into account that, to obtain an accurate value of true density, a representative sample of the material to be tested has to be taken according to the principle that every particle of the sample that represents the lot will have an equal probability of being included in the sample.

Sampling criteria to assess characteristics of granulates and powders at different stages of a production process by size reduction of end-of-life tyres are given in prEN 14243-2:2017, Clause 5.

Measurement of true density could be useful to identify the nature of particles of different origin, for example, when a customer needs to check if he received granular material derived from End-of-Life Tyres (ELTs) or from products mainly based on EPDM polymers. True density is different between these two products and could be a reliable element to discriminate.

Typical values are:

- ELT granulates: 1.16 - 1.22;
- EPDM granulates: 1.4 - 1.6.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST-TS CEN/TS 17189:2024](https://standards.iteh.ai/catalog/standards/sist/3aba81e2-60ff-46cc-bddf-68e73f26ccc0/sist-ts-cen-ts-17189-2024)

<https://standards.iteh.ai/catalog/standards/sist/3aba81e2-60ff-46cc-bddf-68e73f26ccc0/sist-ts-cen-ts-17189-2024>