PD CEN/TS 17045:2020

BSI Standards Publication

Materials obtained from end-of-life tyres — Quality criteria for the selection of whole tyres, for recovery and recycling processes

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National foreword

This Published Document is the UK implementation of CEN/TS 17045:2020. It supersedes PD CEN/TS 17045:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/73, Industrial rubber products.

A list of organizations represented on this committee can be obtained on request to its committee manager.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Materials obtained from end-of-life tyres - Quality criteria for the selection of whole tyres, for recovery and recycling processes

Matériaux issus de pneumatiques usagés non réutilisables - Critères qualitatifs de sélection de pneumatiques entiers pour des procédés de récupération et de recyclage

Materialien aus Altreifen - Qualitätskriterien für die Auswahl von ganzen Reifen für Verwertung und Recycling-Prozesse

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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.

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European foreword

This document (CEN/TS 17045:2020) 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.

This document supersedes CEN/TS 17045:2017.

The main change compared to the previous edition is the addition of subclause 5.2.5 New puncture prevention technologies.

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, 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.

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Introduction

The purpose of this document is to establish general and specific criteria for the use of whole end-of-life tyres in recycling processes and in material recovery and divide them into different applications, mainly in the field of civil engineering.

This document does not provide any criteria to select whole tyres to be reused in their original purpose, i.e. to be mounted on a vehicle. See Figure 1 for an overview of the whole process.

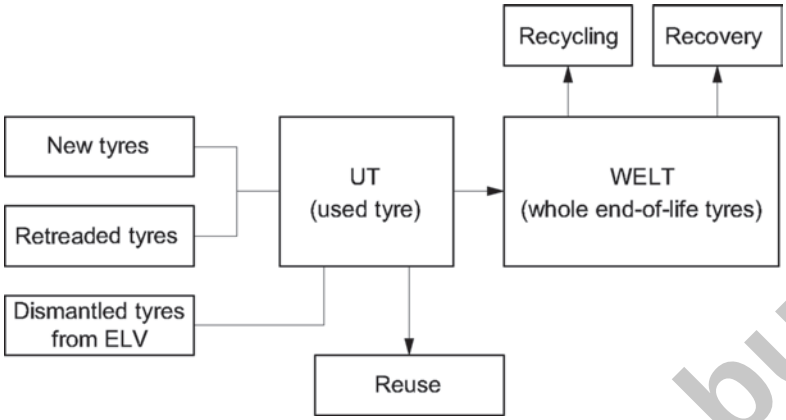

Figure 1 — General scheme of the generation process of end-of-life tyres and their final processing

The criteria established in this document focus on determining the conditions under which a whole end-of-life tyre (WELT) can be used for materials recovery and recycling process.

From a legal point of view, in Europe, end-of-life tyres are considered as waste, listed in the European Waste Catalogue with code **16 01 03**, **end-of-life tyres**.

The criteria for establishing when ELTs cease to be waste could be drafted either by EU legislation, by the relevant Directives or by any member state.

The purpose of this document is to facilitate the decision making process for establishing the end of the waste status. This document also aims to overcome the limitations of using WELTs in certain applications and to clarify the conditions under which they can be intended for recycling or recovery processes in compliance with technical conditions, ensuring no negative impact to health and environment.

This document aims to increase consumer confidence in the applications of end-of-life tyres and facilitate the development of the market by the introduction of a specific set of parameters to ensure the quality and consistency of whole end-of-life tyres to be used for both recycling and recovery applications.

Compliance with the criteria set in this document results in the protection to the human health and the environment.

WARNING — This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

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1 Scope

This document provides criteria for the sorting of whole end-of-life tyres (WELT) into different classes based on categories. It also provides criteria for the determination of their suitability to be used in recycling and material recovery processes.

The processes described in this document include sorting WELTs in order to determine their acceptance in recovery and recycling processes.

Criteria regarding the reuse of tyres to be mounted again in a vehicle are not addressed in this document.

This document does not cover the operational performance of the applications or the requirements of the materials for certain applications, which are usually agreed between the manufacturer and the customer.

Solid tyres are excluded from the scope of this document.

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.

ISO 4223-1, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 4223-1 and the following 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 https://www.iso.org/obp

3.1
aspect ratio
AA
number obtained by dividing the number expressing the nominal section height in mm by the number expressing the nominal section width in mm

3.2
bead
part of a tyre which is of such shape and structure as to fit the rim and hold the tyre on it

3.3
designated applications
collective term for the final use to which tyre-derived rubber material is put within the designated market sector

3.4
inner diameter
RR
dimension of the rim on which the tyre is mounted, usually expressed in inches

3.5
original shape
shape created by a revolution toroid, which maintains its shape in any position without any help

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