SLOVENSKI STANDARD
SIST-TP CLC/TR 45550:2021

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Definicije, povezane z učinkovitostjo materiala

Definitions related to material efficiency

Definitionen zur Materialeffizienz

Définitions relatives à l'utilisation rationnelle des matériaux

Ta slovenski standard je istoveten z: **CLC/TR 45550:2020**

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Definitions related to material efficiency

Définitions relatives à l'utilisation rationnelle des matériaux

Definitionen zur Materialeffizienz

This Technical Report was approved by CEN and CENELEC on 30 November 2020.

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European Committee for Electrotechnical Standardization
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European foreword

This document (CLC/TR 45550:2020) has been prepared by CEN-CLC/JTC 10 “Energy-related products - Material Efficiency Aspects for Ecodesign”, the secretariat of which is held by The Netherlands.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

The dual logo CEN-CENELEC standardization deliverables, in the numerical range of 45550 – 45559, have been developed under standardization request M/543 of the European Commission and are intended to potentially apply to any product within the scope of the Directive 2009/125/EC concerning energy-related products (ErP).

Topics covered in the above standardization request are linked to the following material efficiency aspects:

a) Extending product lifetime;

b) Ability to reuse components or recycle materials from products at end-of-life;

c) Use of reused components and/or recycled materials in products.

These standards are general in nature and describe or define fundamental principles, concepts, terminology or technical characteristics. They can be cited together with other product publications, e.g. developed by product technical committees.

This document is intended to be used by technical committees when producing horizontal, generic, and product-specific, or product-group, publications.

NOTE CEN-CENELEC JTC 10 uses either CEN or CENELEC foreword templates, as appropriate. The template for the current document is correct at the time of publication.

Introduction

When multiple groups work in parallel on different but closely related topics, it is important to have a common vocabulary to avoid confusing the reader.

Given the extent of Standardization Request M/543 in terms of product coverage and number of deliverables, a common vocabulary is a key asset for all involved parties. Therefore, Standardization Request M/543 requires the following: “Definition of parameters and methods relevant for assessing durability, upgradability and ability to repair, re-use and re-manufacture of products”.

This Technical Report “Definitions related to material efficiency” constitutes a collection of common terms used in deliverables prepared in accordance with Standardization Request M/543. The purpose of such a collection is to provide a single definition of key terms used in different standards developed under M/543.

The source of the terms and definitions is the standards developed under M/543 or any other document referenced by such standards.

Whenever possible, the proposed definitions are consistent with the ones given in European and International standards dealing with environmental aspects of products in scope of M/543.

1 Scope

This document provides a compendium of all terms which been agreed for use in CEN-CLC standards, in the numerical range of 45552-45559.

Such terms are intended to be used in other standards about material efficiency, developed based on CEN-CLC standards, in the numerical range of 45552-45559, or intended to complement that series. They also constitute the basis for development of new definitions used in product-specific material efficiency standards.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

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 http://www.electropedia.org/

4 Terms and definitions related to material efficiency

4.1 General

Terms and definitions in following subsections are sorted according to the various topics covered in CEN-CLC standards, in the numerical range of 45552-45559.

Note 1: terms are listed under the CEN-CLC standard (from the numerical range of 45552-45559) where they were first defined or referenced from other CEN-CLC standards (outside the numerical range of 45552-45559).

Note 2: terms having their source of definition in another CEN-CLC standard from the numerical range of 45552-45559 are not repeated, unless the context requires minor adaptation of the definition.

4.2 Terms and definitions related to the general method for the assessment of the durability of energy-related products (from EN 45552:2020)

4.2.1 Terms related to durability and reliability

4.2.1.1
durability
<of a part or a product>
ability to function as required, under defined conditions of use, maintenance and repair, until a limiting state is reached

Note 1 to entry: The degree to which maintenance and repair are within the scope of durability will vary by product or product-group.

Note 2 to entry: The user of EN 45552:2020 has to define the criteria for the transition from limiting state to end-of-life (EoL). For more information see Figure D.1 in EN 45552:2020 [13].

Note 3 to entry: Durability can be expressed in units appropriate to the part or product concerned, e.g. calendar time, operating cycles, distance run, etc. The units should always be clearly stated.

4.2.1.2
reliability
probability that a product functions as required under given conditions, including maintenance, for a given duration without limiting event

Note 1 to entry: The intended function(s) and given conditions are described in the information for use provided with the product.

Note 2 to entry: Duration can be expressed in units appropriate to the part or product concerned, e.g. calendar time, operating cycles, distance run, etc. The units should always be clearly stated.

4.2.1.3
limiting event
occurrence which results in a primary or secondary function no longer being delivered

Note 1 to entry: Examples of limiting events are failure, wear-out failure or deviation of any analogue signal.

4.2.1.4
limiting state
condition after one or more limiting event(s)

Note 1 to entry: A limiting state can be changed to a functional state by maintenance or repair of the ErP.

Note 2 to entry: A limiting state can change to EoL-status, if maintenance or repair is no longer viable due to socio-economic or technical reasons.

4.2.1.5
wear-out failure
failure due to cumulative deterioration caused by the stresses imposed in normal use

Note 1 to entry: The probability of occurrence of a wear-out failure typically increases with the accumulated operating time, number of operations, and/or stress applications.

Note 2 to entry: In some instances, it may be difficult to distinguish between wear-out and ageing phenomena.

[SOURCE: IEV 192-03-15]

4.2.2 Terms related to functions

4.2.2.1
primary function
function fulfilling the intended use

Note 1 to entry: There can be more than one primary function.

4.2.2.2
secondary function
function that enables, supplements or enhances the primary function(s)

[SOURCE: EN 62542:2017; 5.14]

4.2.2.3
tertiary function
function other than a primary or a secondary function

[SOURCE: EN 62542:2017; 5.16, modified examples deleted]

4.2.2.4
functional analysis
process that describes the functions of a product and their relationships, which are systematically characterised, classified and evaluated

4.2.3 Terms related to the uses

4.2.3.1
normal use
use of a product, including its transport and storage, or a process, in accordance with the provided information for use or, in the absence of such, in accordance with generally understood patterns of usage

Note 1 to entry: Normal use should not be confused with intended use. While both include the concept of use as intended by the manufacturer, intended use focuses on the purpose while normal use incorporates not only the purpose, but transport and storage as well.

[SOURCE: IEV 871-04-22]

4.2.3.2
intended use
use in accordance with information provided with a product or system, or, in absence of such information, by generally understood patterns of usage

Note 1 to entry: Intended use should not be confused with normal use. While both include the concept of use as intended by the manufacturer, intended use focuses on the purpose while normal use incorporates not only the purpose, but transport and storage as well.

[SOURCE: ISO/IEC Guide 51:2014, 3.6, modified Note 1 to entry added]

4.2.3.3
normal operating conditions

characteristic in operation which may affect performance of the product during intended use

Note 1 to entry: Examples of operating conditions are modified environmental conditions when the product operates (self-heating, condensation), characteristics of the power supply, duty cycle, load factor, vibration due to operation.

Note 2 to entry: Given normal operating conditions and defined operating conditions of use, maintenance and repair, refer to a specified subset of normal operating conditions which are used for the assessments.

4.2.3.4
maintenance
action carried out to retain a product in a condition where it is able to function as required

Note 1 to entry: Examples of such actions include inspection, adjustments, cleaning, lubrication, testing, software update and replacement of a wear-out part. Such actions could be performed by users in accordance with instructions provided with the equipment (e.g. replacement or recharging of batteries); or the actions could be performed by service personnel in order to ensure that parts with a known time to failure are replaced in order to keep the product functioning.

4.2.4 Other terms

4.2.4.1
normal environmental conditions
characteristics of the environment in the immediate vicinity of the product during transport, storage, use, maintenance and repair, which may affect its performance during normal use

Note 1 to entry: Examples of environmental conditions are pressure, temperature, humidity, radiation, vibration.

Note 2 to entry: Given normal environmental conditions and defined environmental conditions of transport, storage, use, maintenance and repair, refer to a specified subset of normal environmental conditions which are used for the assessments.