SLOVENSKI STANDARD
oSIST prEN 45556:2018

01-oktober-2018

Splošna metoda za ocenjevanje deleža ponovno uporabljenih komponent v izdelkih, povezanih z energijo

General method for assessing the proportion of re-used components in energy-related products

Allgemeines Verfahren zur Bewertung des Anteils an wiederverwendeten Komponenten in einem energieverbrauchsrelevanten Produkt

Méthode générale d'évaluation de la proportion de composants 2 réutilisés dans les produits liés à l'énergie

Ta slovenski standard je istoveten z: **prEN 45556**

ICS:

13.030.50	Recikliranje	Recycling
29.020	Elektrotehnika na splošno	Electrical engineering in general
31.020	Elektronske komponente na splošno	Electronic components in general

oSIST prEN 45556:2018 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 45556

August 2018

ICS 13.030.50; 29.020; 31.020

English Version

General method for assessing the proportion of re-used components in energy-related products

Méthode générale d'évaluation de la proportion de composants 2 réutilisés dans les produits liés à l'énergie

To be completed

This draft European Standard is submitted to CENELEC members for enquiry. Deadline for CENELEC: 2018-11-09.

It has been drawn up by the Technical Committee CEN/CLC/JTC 10. If this draft becomes a European Standard, CEN and CENELEC 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.

This draft European Standard was established by CEN and CENELEC in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (prEN 45556:2018) has been prepared by CEN/CLC/JTC 10 "Energy-related products - Material Efficiency Aspects for Ecodesign".

This document is currently submitted to the Enquiry.

The following dates are proposed:

• latest date by which the existence of this document has to be announced at national level	(doa)	dor + 6 months
• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	dor + 12 months
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	dor + 36 months (to be confirmed or modified when voting)

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

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 Energy-related Products (ErP) Directive (2009/125/EC).

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

a) Extending product lifetime.

b) Ability to re-use components or recycle materials from products at end-of-life.

c) Use of re-used 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-specific or product group standards, e.g. developed by product technical committees.

The present standard is intended to be used by product technical committees when producing product-specific or product group standards.

Introduction

This documents provides a general methodology for assessing the proportion of **re-used components** in an Energy-related Product. Two calculation methods based on mass of re-used components and the number of **re-used components** are presented. While writing Product specific standards on assessing the proportion of **re-used components** product specific technical committees should apply the most suitable methods for their product group.

1 Scope

This document deals with the assessment of the proportion of **re-used components** in energy-related products on a generic level. All energy-related products are in the scope of this standard.

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 45559:-[1], *Methods for providing information relating to material efficiency aspects of Energy-related products*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply. See CLC/TR 45550:–[2] for additional definitions related to Material Efficiency.

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
component
hardware constituent of a product that cannot be taken apart without destruction or impairment of its intended use

[SOURCE: IEC 62542 definition 3.3, modified]

3.2
reuse
re-use
operation by which a product or a part is used again by another user for the same purpose or another purpose for which it was conceived, or by the same user, for another purpose

[SOURCE: EN 45554, definition 3.7]

4 Assessment method for the proportion of re-used components in an Energy-related product

4.1 General considerations

As there are no methods currently available for directly measuring via a physical test, the number of **re-used components** in a product, this can be only determined indirectly via documental proof, provided by the manufacturer. This requires

1. A consistent approach to categories **re-used components** in a product.

2. A transparent management system to trace the origin of **re-used component** inputs, including an identification number.

[1] Under preparation. Stage at the time of publication: prEN 45559:2018
[2] Under preparation. Stage at the time of publication: CLC/prTR 45550:2018

When information is missing, it is assumed the components origin is new. There is no obligation to collect information for all components, but only components that are documented with verifiable re-use as their origin can be accounted as **re-used components**.

NOTE As the amount of re-used components differ depending on the technical lifecycle state the product is in, this assessment can be done during every stage of lifecycle state or when legislation requires it.

4.2 Calculation of re-used component index

Product specific technical committees shall apply one of the here presented **re-used component** index (R_{com}, R_{con}) to calculate the proportion of **re-used components** in an energy related product in their product specific standard. Calculation and verification of the **re-used components** in an Energy-related Product can be based on balancing the mass or number of production input with the output over a certain accounting period not exceeding one year, or on product level by assessing each product on its own.

1) Mass of **re-used components** based index

$$R_{com} = \left(\frac{\sum_k m_{re\,k}}{m_{tot}} \right) \times 100\%$$

where

m_{re} is the mass of **re-used components** used to manufacture the product(s)

m_{tot} is the total mass of the product(s)

R_{com} is the **re-used component** index of a product

NOTE 1 All masses are expressed in the same unit.

NOTE 2 Component mass based calculation ensures a percentage which could be approached consistently across different products. Nevertheless, mass and economic value of components or environmental impact of components may not be well linked for some product groups.

2) Number of **re-used components** based index

$$R_{con} = \left(\frac{\sum_k n_{re\,k}}{n_{tot}} \right) \times 100\%$$

where

n_{re} is the number of **re-used components** used to manufacture the product(s)

n_{tot} is the total number of components in the product(s)

R_{con} is the **re-used component** index of a product

NOTE Component number based calculation ensures a percentage which could be approached consistently across different products. Nevertheless, it is essential that product specific TC´s agree on a common way to count components.

5 Reporting the proportion of re-used components aspects

5.1 General

The product or product-group standard writers shall ensure that their standards include requirements for reporting material efficiency aspects as follows:

- The assessment of the proportion of reused components in energy-related products prEN 45556 shall be documented in a report.
- The assessment report itself is likely to be considered as data sensitivity level <3> in accordance to EN 45559:–[1].
- The assessment report shall also include data and information of importance for any results published in data sensitivity levels <2 and / or 1>, for the different stakeholders.
- Special care shall be taken to demonstrate transparency and the correlation between information on the results of the assessment and the input data and assumptions used.

5.2 Elements of the assessment report

The product or product-group standard writers shall ensure that their standard(s) sufficiently cover that when reporting material efficiency aspects results, data, methods, assumptions, limitations and conclusions shall be completely and accurately reported.

The project report shall follow the following structure:

a. **General aspects**

1. Instigator of the assessment
2. Date of report, Place, etc.
3. List of standards applicable to the assessment

b. **Scope of assessment**

1. Description of product assessed
2. Description of cut-off rules applied

c. **Input data for the assessment**

1. Description of data and other information used/needed for the assessment
2. Calculations or scoring when relevant
3. Methods or Tools used in the assessment

d. **Output of the assessment**

1. Result of the assessment covering a list of qualitative and quantitative material efficiency content that could be reported for different stakeholders
2. List of applicable references (incl. standards, requirements and policies)

Bibliography

CLC/TR 45550:–[2], *Definitions related to material efficiency*